THINK BEEF.CA

#BEEFBELONGS

REGIONAL TOOLKIT

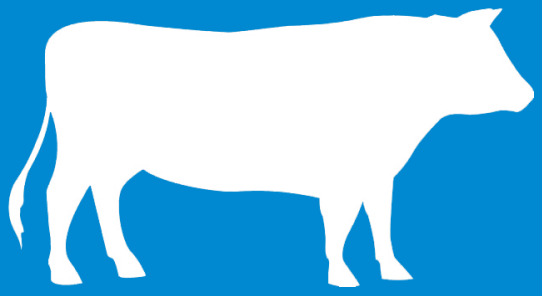


TABLE OF CONTENTS

SITUATION OVERVIEW

#BEEFBELONGS

Health Canada will be releasing a revised Canada's Food Guide this year, which will be the first update since 2007.

The new guide is expected to reflect the guiding principles and considerations that were released last year during the public consultation phase. These included an emphasis on a regular diet of vegetables, fruit, whole grains and protein-rich foods – especially plant-based sources of protein, and explicitly warn against processed foods high in sodium, sugar and saturated fat. It also de-emphasized the importance of animal meats and dairy and advised that food selection and eating patterns take into consideration the environmental impacts – i.e. health of the planet as well as individual health and wellness.

In anticipation of the new Canada Food Guide, and in order to raise awareness of the nutritional and environmental benefits of beef a media and influencer relations plan has been put together to show Canadians that **#BEEFBELONGS** as part of a healthy, balanced diet. The **#BEEFBELONGS** plan includes telling a compelling narrative anchored in fact-based nutritional and environmental impact information to demystify the negative misconceptions that surround beef. The remainder of this document includes the tools and resources used to ensure our message breaks-through across national and regional media.

#BEEFBELONGS MESSAGING

KEY MESSAGES

OVERARCHING RESPONSE PLAN MESSAGING

Beef belongs. As part of a balanced diet for Canadians, beef has an important role to play in the health of the Canadian population along with other foundational foods like fish, legumes, dairy, and fruits and vegetables. We live in a society that is overfed yet undernourished. There is no reason to reduce or eliminate beef. Beef is a nourishing food that is important for good health when eaten in balance with other naturally nutrient rich foods.

Canadians eat beef in moderate amounts. According to the latest government nutrition survey, Canadians eat between 3 to 4 servings of fresh red meat per week or 288 grams on average[1] – which works out to be 3 to 4 meals – a lunch and 2 dinners for example.

This amount is well below the 500-gram limit for cooked fresh red meat as recommended by the World Cancer Research Fund (WCRF).[2] Considering Canada's Food Guide advises two (2) servings of meat and alternatives a day for women, and three (3) servings a day for men, the amount of fresh red meat that we eat on average is well within both global and Canadian recommendations. A serving of cooked beef is 75 grams, about the size of your palm.

- **Canadians have already reduced meat consumption** in their diets and have increased calories derived from highly processed ready-to-eat foods – foods that tend to be calorie dense, nutrient poor. At less than 200 calories per serving, beef remains one of the most nutrient-dense foods available and belongs as part of a balanced healthy diet. **There is no reason to reduce or exclude beef (or meat) from a healthy diet.**
    - Many Canadians are undernourished yet overfed. Dietary trends show that obesity rates have soared while the percent of energy from foods naturally rich in high-quality protein such as milk, beef and eggs fell. Meanwhile, an increasing percentage of energy from highly processed, ready-to-eat foods has replaced energy from more nutritious, protein-rich food choices.[3]
    - Between 2004 and 2015, the daily consumption of fresh and processed red meat declined from 75 grams to 61 grams on average.[4] Canadians do not even consume one (1) full serving of red meat daily (one serving = 75 g cooked meat).
    - More than 56% of adolescent males, 48% of women 31-50 years of age and 69% of females older than 70 years of age are consuming less than the current recommended number of servings for meat and alternatives[5], putting these populations at risk of deficiencies for several key nutrients: protein, iron, zinc and vitamin B12.

1. As Canadians, we are fortunate to have a wide range of protein options. Meat (like beef) is among the most nutrient-rich quality protein sources available. Beef is one of the most efficient sources of a variety of key nutrients that some of the population is at risk of under-consuming.

- High-quality protein sources include red meat, poultry, fish, eggs and dairy – foods that contribute to overall diet quality.
  - Beef is one of the most nutrient dense foods we have, providing a variety of essential vitamins and minerals for a modest number of calories.
  - With a serving of beef that is the size of your palm, you get 26 grams of high quality protein at just 184 calories. To get the equivalent amount of protein from black beans, you would need to eat 2.5 servings, about 1 ¾ cups, at 420 calories.
  - Beef is typically eaten as a complete meal, not an isolated food. Therefore, eating beef fosters healthy meals and eating patterns that are recommended by Health Canada: dinners at the table with a plate filled with other whole fresh foods like vegetables, fruit and whole grains.
  - The many essential nutrients found in beef include: high-quality complete protein, all essential amino acids, iron and zinc – both in a form that is the easiest for the body to absorb – and several key nutrients such as riboflavin, niacin, selenium and vitamins B6 and B12.

2. According to Canada's Food Guide, healthy diets consist of whole, nutrient-rich foods like meat, fish, dairy, whole grains, fruits and vegetables, with fewer processed foods like chips and sugary drinks.

- In the 1980's dietary guidance focused on reducing total fat which resulted in individuals replacing fats in their diet with carbohydrates, particularly refined carbohydrates, a pattern which is associated with the current elevated rates of obesity and metabolic syndrome.[6]
- In 2012 to 2013, 31% of children and youth ages 5 to 17 years and 62% of adults ages 18 to 79 were overweight or obese.[7]
- Recent research commissioned by the Canadian Heart and Stroke Foundation shows that ultra-processed food consumption in Canada is alarmingly high, and continues to increase, accounting for **almost half** of our daily caloric intake. Ultra-processed foods provided 48% of the total daily energy intake[8], whereas fresh red meat contributes only 5% of total energy intake. What's most troubling is that children ages 9 to 13 get 57% of their calories from these energy-dense, nutritionally lacking, ultra-processed foods. [21]

3. When paired together, foods can produce greater health benefits, like increased iron absorption from vegetable, grain and pulse iron-sources when consumed along with meat.

- Food synergy is all about foods working together to produce greater health benefits than what's possible when eaten on their own.
  - A great example of this is iron. There are two types of iron in food: heme iron and non-heme iron. Meat, poultry and fish contain heme iron, while plant food sources of iron (beans, tofu, eggs, veggies, grains, etc.) contain non-heme iron. Heme iron is more easily absorbed than non-heme iron.
  - Known as "The Meat Factor", when meat and plant food sources of iron are eaten together, the absorption of non-heme iron from the plant foods is enhanced by **150%.**[9]

ENVIRONMENT

1. Canadian farmers and ranchers are leaders in environmental stewardship and sustainability. Canadians should be proud of the fact that beef production in this country has one of the lowest greenhouse gas footprints in the world, accounting for only 0.04% of the world's greenhouse gas (GHG) emmissions.[10]

- Raising beef cattle in Canada accounts for 2.4% of Canada's GHG emissions.[11,12] For some perspective, transportation in Canada accounts for 28% of Canada's total GHG emissions. On a global scale, GHG emissions from Canadian beef production accounts for 0.04% of global GHG emissions.
  - There is a commitment to further reduce greenhouse gas emissions with technology, innovation, and production efficiencies such as improvements in cattle feeds . The Canadian beef industry saw a 14% decline in greenhouse gas emissions per kg of beef produced from 1981 to 2011.[13]
  - The Canadian Cattleman's Association recognizes Canada's beef cattle producers each year with The Environmental Stewardship Award (TESA). The award is granted to leaders in stewardship who have made outstanding contributions to conservation practices. Each nominee exemplifies significant innovation and attention to a wide range of environmental stewardship aspects in their farm or ranch operation.

2. Cattle farming and ranching play an important role across the country in preserving grasslands and supporting healthy soils, biodiversity and the habitats of local wildlife.

- Unfortunately, 74% of Canada's native grasslands like the Prairies have been lost due to cultivation or development. Grazing cattle plays an essential role in preserving grasslands and improving grassland health and function. This includes enhancing soil carbon storage, biodiversity, wildlife habitat and migration, water filtration, and nutrient recycling.[14] Just as the bison kept grasslands healthy and viable for centuries, cattle grazing has the same effect.

- Much of the land that is used to raise cattle is not suitable for farming crops and vegetables. Thus, beef farming and ranching gives us the benefit of gaining nourishing food from land that is too rocky, hilly or dry for growing crops for food.[15, 16] In many places in Canada, raising cattle is the best and most environmentally beneficial use of the land.
- Only 9% of annual cropland is used for growing cattle feed in Canada.[17] Much of the crops fed to cattle come from foods that were intended for human use but were not deemed suitable. Cattle play an important role in reducing food waste by consuming crops and crop bi-products that can't be used as human food.
- As cattle in Canada are primarily raised on grass-based pasture and grasslands, 80% of their feed comes from grass-based forage over their lifetime.[18]
- Although cattle production uses 33% of Canada's agricultural land, it provides 68% of the Wildlife Habitat Capacity of all agricultural land in Canada (CRSB, 2016)
- Cattle ranchers and farmers work with conservation programs and groups to take steps to conserve wildlife and ecosystems (e.g. Cows and Fish, MultiSar, Ducks Unlimited).

3. Water is a precious resource and Canadian beef farmers and ranchers are committed to supporting responsible water use from field to table.

- In an effort to support beef ranching and farming today and for many generations to come, strong progress has been made and will continue to be made in advancing efficiency and sustainability when it comes to water use for cattle.
- A study conducted by the University of Manitoba and Agriculture and Agri-Food Canada (AAFC) assessed the water footprint of Canadian beef production over the period of 1981 to 2011 and found that the amount of water required to produce on kilogram of Canadian beef has decreased 17%.[19] The study looked at both "blue" water (surface + ground water) and "green" water (precipitation or rain water).
    - Blue water use in Canada in 2011 was 459 litres/kg of beef produced.
    - The decrease was even greater, at 20%, when looking only at blue water – which is arguably the most significant component of the beef production water footprint to focus on, because it represents decisions to use that water for a specific purpose.
    - Green water is a form of water use that those involved with cattle do not directly control. How much rain is produced and where it falls is controlled by natural climatic factors.
    - Remember, water cycles through the environment and does not disappear forever.

Evaluating the environmental impact of a food production system is complex with no clear food system having more positive or least negative effects.

- The same food will have a wide variety of different food production systems depending on where and how it is grown/raised

- There are positive and negative effects for each food production system. For example, as cattle are ruminants, they do contribute to GHG emissions. But the natural grasslands cattle use to graze play a significant role in sequestering carbon.
- The UN has identified 14 environmental areas of concern as Sustainable Development Goals. A broad literature review concludes that generally, only 3 of the 14 factors are considered in environmental impact assessments. (Ridoutt, et al.)
- A reduction in beef consumption with the purpose of reducing GHGs could have very significant unintended negative environmental impacts, including further loss of native grasslands and stored soil carbon due to farming. These impacts could outweigh any perceived gains in reducing Canada's GHG emissions.

FOUNDATIONAL FOODS, HEALTHY EATING PATTERNS & FOOD SKILLS

1. As a foundational food for Canadians, beef plays an important role in encouraging the preparation of balanced meals and healthy meal patterns. Home cooking (and enabling food skills) is key to ensuring this is possible.[20]

- It's the quality of our food choices that counts over time. A healthy diet is one that prioritizes whole, fresh foods: lots of fruits and vegetables, high fibre grains and lean, fresh proteins, referred to as 'foundational foods'. Healthy eating means choosing foundational foods most of the time. Discretionary, or treat foods, should be occasional.
- Raised in every province, beef has been a part of our Canadian food culture. Beef satisfies a crave-factor, is easy to prepare and represents a variety of different seasonal dishes and food traditions.
- Cooking with foundational foods like beef encourages a balanced healthy plate approach to meals: half the plate dedicated to vegetables and fruits, ¼ for whole grain sides and ¼ for high quality protein like beef.
- Beef is not usually a 'grab and run' type of meal. Eating at the table is the better meal pattern that beef encourages.
- Beef is actually one of the simplest foods to prepare, since it has a flavour that is bold enough to stand on its own without the support of complex sauces or seasonings. Simple salt and pepper prior to cooking is basically all that is required for beef to taste amazing. Try this experiment: Season beef short ribs all over with salt and pepper. Brown in a pan and add enough red wine or broth to just about cover the ribs. Cover the pan and slowly simmer for 2 to 3 hours until fork-tender. That's it. Easy and delicious.
- Canadians looking for meal inspiration, recipes and tips for cooking beef should visit ThinkBeef.ca

REFERENCES & SOURCES

[1] Canadian Community Health Surveys (Nutrition) 2004 and 2015

[2] A Closer Look at Red Meat, World Cancer Fund International, www.wcrf-uk.org/sites/default/files/closer-look-red-meat-fact-sheet.pdf

[3] The growing Canadian energy gap: more the can than the couch? Public Health Nutrition: 12(11), 2216–2224 https://www.ncbi.nlm.nih.gov/pubmed/19531279

[4] Canadian Community Health Surveys (Nutrition) 2004 and 2015

[5] Evidence Review for Dietary Guidance, Technical Report, 2015, Health Canada

[6] Ravnskov U, DiNicolantonio JJ, Harcombe Z, Kummerow FA, Okuyama H, Worm N. The questionable benefits of exchanging saturated fat with polyunsaturated fat. Mayo Clinic Proceedings 2014;89(4):451-53.

[7] Canadian Health Measures Survey: Household and physical measures data; October 2014, http://www.statcan.gc.ca/daily-quotidien/141029/dq141029c-eng.htm

[8] Fresh and Processed Meat Intake: A Canadian Perspective; November 2017, http://thinkbeef.ca/wp-content/uploads/2018/02/Fresh-and-Processed-Meat-Intake_TB.pdf

[9] Engelmann, M, Davidsson, L, Sandstrom, B, Walczyk, T, Hurrell, R, & Michaelsen, K. (1998). The influence of meat on non-heme iron absorption in infants. Pediatric Research, 43(6), 768-773.

[10] Government of Canada. (2016). National Inventory Report: Greenhouse Gas Sources and Sinks in Canada: 1990-2014; The Canadian Government's Submission to the UN Framework Convention on Climate Change. http://unfccc.int/national/reports/annexighginventories/nationalinventoriessubmissions/items/9492.php

[11] Legesse, G., Beauchemin, K. A., Ominski, K. H., McGeough, E. J., Kroebel, R., MacDonald, D., McAllister, T. A. (2015, December 23). Greenhouse gas emissions of Canadian beef production in 1981 as compared to 2011. Animal Production Science.

[12] Canadian Roundtable for Sustainable Beef. (2016). National Beef Sustainability Assessment and Summary Report. Calgary: https://crsb.ca/assets/Uploads/About-Us/Our-Work/NBSA/290ae9c611/NBSA_and_Strategy_summary_report_web1.pdf

[13] Legesse, G., Beauchemin, K. A., Ominski, K. H., McGeough, E. J., Kroebel, R., MacDonald, D., McAllister, T. A. (2015, December 23). Greenhouse gas emissions of Canadian beef production in 1981 as compared to 2011. Animal Production Science.

[14] Canadian Roundtable for Sustainable Beef. (2016). National Beef Sustainability Assessment and Summary Report. Calgary: https://crsb.ca/assets/Uploads/About-Us/Our-Work/NBSA/290ae9c611/NBSA_and_Strategy_summary_report_web1.pdf

[15] Canadian Roundtable for Sustainable Beef. (2016). National Beef Sustainability Assessment and Summary Report. Calgary: https://crsb.ca/assets/Uploads/About-Us/Our-Work/NBSA/290ae9c611/NBSA_and_Strategy_summary_report_web1.pdf

[16] Statistics Canada. Human Activity and the Environment: Annual Statistics 2009. Table 1.2. Global availability of agricultural and arable land, 2005. http://www.statcan.gc.ca/pub/16-201-x/2009000/t230-eng.htm

[17] Roussell MA et al. Beef in an Optimal Lean Diet Study: effects on lipids, lipoproteins, and apolipoproteins. Am J Clin Nutr, 2012; 95(1):9-16.

[18] Roussell MA et al. Beef in an Optimal Lean Diet Study: effects on lipids, lipoproteins, and apolipoproteins. Am J Clin Nutr, 2012; 95(1):9-16.

[19] Legesse, G., Cordeiro, M.R.C., Ominski, K.H., Beauchemin, K.A., Kroebel, R., McGeough, E.J., Pogue, S., McAllister, T. A. (2017, November) Water use intensity of Canadian beef production in 1981 as compared to 2011. Elsevier. Science of the Total Environment 619-620 (2018) 1030-1039

[20] Caraher, M. & Lang, T. 1999, 'Can't cook, won't cook: a review of cooking skills and their relevance to health promotion', International Journal of Health Promotion and Education, vol. 37, no. 3, pp. 89–100.

[21] Ultra-processed foods in Canada: consumption, impact on diet quality and policy implications, December 2017, Heart and Stroke Foundation of Canada

DINNER CONVERSATION Q & A'S

NUTRITIONAL TALK

WHAT TO SAY IF SOMEONE IS QUESTIONING THE NUTRITIONAL VALUE OF BEEF:

- Beef actually offers lots of vital nutrients in a very small package - for a portion the size of your palm, beef delivers a powerful package of iron, zinc and Vitamin B12.
- You generally don't eat steak by itself. A beef meal is usually paired with vegetables and grains as sides - a balanced meal. A beef meal with veggies and grains is a better dinner than a slice of pizza for example.
- Research shows that eating a high-quality protein such as beef will actually help you feel full longer, so it is less likely that you will want to snack after a meal.
- Did you know that when you pair meat with plant food sources of iron, such as beans or spinach, you actually increase the amount of iron your body can absorb from those plant food iron sources by 150%? It's called the meat factor – and it demonstrates why these foods are best eaten together, instead of choosing one or the other.

WHAT TO SAY IF SOMEONE SAYS WE NEED TO REDUCE OUR RED MEAT CONSUMPTION:

- Beef consumption has been declining since the 1970's, yet obesity has tripled in that time. According to the latest government survey, red meat consumption is down almost 20% since 2004.
- Many Canadians are actually overfed yet undernourished – close to 50% of our calories come from processed foods such as chips, candy or soda – causing us to miss out on foods that matter – like fruit, vegetables, dairy products, grains and meat.
- As red meat accounts for just 5% of our daily calories, it's unlikely that beef is the source of the obesity problem we face in Canada.
- Most Canadians do not overconsume meat. In fact, on average, Canadians consume less than 1 portion of fresh meat per day. Most notably, ***more than 56% of adolescent boys are consuming less than the recommended number of servings for meat and alternatives***, putting them at risk nutritionally. Health Canada recommends Canadians eat 2 servings of meat and alternates daily for women and 3 servings daily for men. The rally cry should be to reduce the amount of foods that we eat that offer little to no nutritional value.

WHAT TO SAY IF SOMEONE QUESTIONS WHETHER BEEF HAS A VALUABLE CONTRIBUTION TO MAKE TO EATING WELL:

- Beef offers many nutrients ESSENTIAL to health in a very compact package - meaning that you get a lot of nutrients for a modest amount of calories.

SOME QUICK STATS ON HOW BEEF COMPARES VERSUS OTHER PROTEIN FOODS:

- To get the same amount of protein from a piece of beef the size of your palm, you'd need to eat about a can of beans (19 oz/540 mL), or 2.5 servings (3/4 cup each). That's close to 2 cups of beans, at 420 calories - that's a lot of beans! And beef protein provides all the amino acids your body needs while vegetable protein sourced foods do not.
- By comparison, to get the same amount of the following nutrients that you find in a single 75 g serving of beef you would need to eat:
  - 6x the amount of salmon to get equivalent levels of iron
  - 7x the amount of chicken breast to get equivalent levels of vitamin B12
  - Almost one dozen (11) eggs to get equivalent levels of zinc
  - 7 tablespoons (3.5 servings) of peanut butter (at 644 calories) versus 184 calories for a single serving of beef (75 grams) to get the same amount of protein

ENVIRONMENTAL TALK

WHAT TO SAY TO SOMEONE WHO QUESTIONS THE SUSTAINABILITY OF CATTLE FARMING PRACTICES IN CANADA:

- Did you know that McDonald's selected Canada as the pilot country for its Global Sustainable Beef initiative?
- Raising cattle in Canada has one of the lowest greenhouse gas footprints in the world.
- Canadian beef farmers and ranchers are leaders in animal welfare and sustainability in agriculture; their livelihood depends on the cattle, land and water resources in their care and so they treat it as such.
- There are also Codes of Practice in place for raising cattle humanely. Unlike other forms of animal husbandry, cattle are raised outside on pasture or range for most of their lives, free to express their natural behaviors. Even in feedlots, cattle are comfortable together as this is their herd instinct.
- Did you know that each year, cattle ranchers and farmers honour those who are leaders in their conservation practices with The Environmental Stewardship Award (TESA).
- Canadian beef farmers are committed to adapting new technologies and practices that reduce their environmental footprint. The Canadian Roundtable for Sustainable Beef is a group open to stakeholders involved in Canada's beef industry and helps to measure and monitor efforts to improve.
- Conserving water and protecting creeks and streams from bank erosion and run-off are actually some of the key conservation efforts that beef farmers and ranchers do. In Ontario you often see Environmental Farm Plan signs out at the end of farm lane ways.

AND:

WHAT TO SAY WHEN SOMEONE SAYS EATING BEEF IS BAD FOR THE ENVIRONMENT:

- There are 14 environmental areas of concern that the UN identifies when assessing sustainability goals for the foods we grow and raise, but the media tends to focus mainly on Greenhouse gas emissions and water use. Beef has many environmental benefits that seem unheard of, such as the role it plays in preserving our native prairie grasslands.
- Ultimately, sustainability is a complex discussion, and the answer to which foods are more or less sustainable isn't black and white – we need to look at the whole picture.
- The production of any food has an environmental impact – but it's been found that changing our dietary food pattern to consume one food over another has no positive change on these impacts.

WHAT TO TELL SOMEONE WHO IS INTERESTED IN REDUCING THEIR ENVIRONMENTAL FOOTPRINT THROUGH THEIR EATING HABITS:

- Eat less: reduce your portion sizes, and the amount of food you eat on the whole
- Eat quality: choose foods that give you the most nutrients for the amount of food you eat
- Eat local: select foods that are in season and/or grown close to you so there's less transportation involved in getting it to your table
- Waste less: Canadians waste $3 billion worth of food each year – this means we incur the environmental cost to grow and raise the food, and then also dispose of it

TOUGH QUESTIONS AND ANSWERS

WHAT IS A 'PLANT-BASED' DIET – SHOULD I BE SWITCHING TO THAT?

Plant-based diets have certainly become trendy in recent years, but it's vital we remember the unique benefits that both animal and plant-based foods have to offer and how, ideally, they work better together. For example, adding just a small amount of meat to a bean-based meal can increase iron absorption from the beans by 150%. Beef is a super-efficient protein with iron that is easy to absorb, zinc and vitamin B12, a vitamin that is unique to animal foods.

Plant foods are great sources of dietary fibre which is critical for gut health.

OR:

Beef is a more nutrient-dense source of quality protein than plant-based protein foods. And beef's protein provides a complete set of the essential amino acids your body needs. Plant sources of protein do not.

OR:

ARE MEAT ALTERNATIVES AND PLANT-BASED PROTEINS A VIABLE SUBSTITUTE FOR MEAT?

We could all benefit by having more fruits and vegetables in our diet for sure. But we need to consider that each nourishing food has its own unique nutrition benefits – it's not a matter of one versus the other. Animal and plant-based proteins offer different nutrients and ideally, they should be eaten together.

ISN'T THE WORLD HEALTH ORGANIZATION ADVISING THAT WE STEER CLEAR OF MEAT?

No. The World Health Organization has said meat provides a number of essential nutrients and has a place in a healthy diet.

IS IT TRUE THAT EATING RED MEAT CAN CAUSE CANCER?

No single food can protect against or cause cancer. Choosing fresh meat over processed foods, eating foods in moderation, living a healthy active lifestyle with no smoking and limited alcohol -- these are the most important considerations for health and wellness.

I'VE HEARD THAT ON A GLOBAL PERSPECTIVE, RAISING LIVESTOCK CONTRIBUTES MORE GREENHOUSE GAS EMISSIONS THAN ALL OF THE WORLD'S TRANSPORTATION SYSTEMS COMBINED. IS THIS TRUE?

- Livestock production practices vary greatly around the world. Beef raised in Canada has one of the lowest greenhouse gas footprints in the world – accounting for much less than 1% of the world's greenhouse gas emissions at 0.04%.
- To compare, transportation in Canada contributes about 28% of Canada's total greenhouse gas emissions.

COMPARED TO OTHER PROTEIN SOURCES (BOTH ANIMAL- AND PLANT-BASED), ISN'T IT TRUE THAT BEEF HAS THE HIGHEST WATER CONSUMPTION FOOTPRINT?

You can't compare the environmental footprint of one protein to another; it's a complex topic to consider with no clear answers that one food is 'better' than the other when it comes down to environmental impacts and sustainability.

A recent study by The University of Manitoba found that the beef production in Canada is very efficient in terms of water use. The water that is used to raise cattle doesn't go away but gets recycled in natures water cycle.

Beef farmers and ranchers are always looking to adopt new technologies the help reduce their water footprint.

THERE'S A PERCEPTION THAT LIVESTOCK LIVING CONDITIONS ARE INHUMANE, IS THIS TRUE? AND WHAT ARE CANADIAN FARMERS DOING ABOUT THIS?

- The key to producing the best quality of beef possible is for farmers to care for the cattle's health and comfort.
- There's also the Canada's National Farm Animal Care Council which creates best practices and guidelines for farmers and ranchers to follow.
- Farmers and Ranchers live in a community where your family practices get measured against each other constantly. Your reputation is what your business is built on.

WHY IS BEEF SO EXPENSIVE?

- Beef is one of natures most nutrient-dense foods so you get a powerful nutrient 'bang for the buck'. Compared to chicken breast for example, beef delivers 200% more iron, 600% more vitamin B12, and 700% more zinc.
- If there are less cattle available in the marketplace a shortage of supply will increase the price - the basic supply and demand equation.
- Beef is not one single price – there are a lot of other cuts available beyond say a tenderloin that are different price points per pound.
- Chicken is ready for market in 6 weeks time and raised indoors under controlled conditions. Cattle can take up to 2 years to get to market, so it is a longer term investment to raise cattle.
- Since cattle are raised out on pasture or rangeland, drought or other natural conditions can effect how many cattle a farmer or rancher can raise. Herd-size will be reduced if less feed is available. Since it takes 2 years for cattle to mature, it will take 2 years for the herd size to rebound.

SCHOOL LETTER TEMPLATE RE: ENVIRONMENT

DATE

To the Administration of School Name

I am writing today to talk about an incident that happened yesterday in my daughter's class. During a presentation on the current state of the environment, the impact of cattle farming was mentioned as a key factor causing climate change and damage to the environment. We are a family of sustainable cattle farmers and my daughter has always been brought up to understand that we are stewards of the land and work hard to preserve the resources in our care.

Considering the above, I want to share some insight into the issue and I hope that you will share with your students as another side of the story -- please read the information below. I would hope that you consider having a beef farmer/rancher into the class room to hear first-hand about the environment protection practices in place. Or better yet, make a school trip out to a beef farm.

Canadian farmers are leaders in environmental stewardship and sustainability and are committed to further reducing greenhouse gas emissions with technology, innovation, and production efficiencies such as improvements in cattle feeds. In fact, the Canadian beef industry saw a 14% decline in greenhouse gas emissions per kilogram of beef produced from 1981 to 2011. Beef production in this country also has one of the lowest greenhouse gas footprints in the world, accounting for only 0.04% of the world's greenhouse gas (GHG) emissions. For context, livestock production accounts for 3.6% of Canada's total GHG emissions, well below that of transportation (28% of Canada's total emissions). While reducing meat consumption may present reductions in GHG in some countries, it will have minimal impact in Canada.

One thing to remember, especially when discussing this issue with our children, is that we must look at the impacts and benefits to the environment as a whole. Although livestock do produce GHGs and use larger amounts of water, these are only two metrics in a complex system that is used to assess the environmental footprint. There are also environmental benefits to raising cattle. For example, cattle help to graze marginal lands that can't be farmed and grazing improves the health of the soils and grasses on that land. So cattle actually contribute to a healthy landscape, which fosters greater biodiversity of plants and wildlife. Raising cattle also contributes to water and nutrient recycling.

Only 9% of annual cropland is used for growing cattle feed in Canada. Much of the crops fed to cattle come from foods that were intended for human use but were not deemed suitable in the end. Cattle play an important role in reducing food waste by recycling crops and crop bi-products that can't be used as human food, and converting that food waste into a nutrient dense protein.

The environmental impacts of this practice are very complex and it would be appreciated if when discussing these impacts with our children, that we consider the whole picture. There is a significant risk of unintended consequences to only focusing on GHG emissions, which often doesn't shed light on the positive impacts of cattle farming. Reducing cattle and other livestock on our landscape could have more detrimental impacts to biodiversity, wildlife habitat, and loss of soil carbon, outweighing any reductions in GHG emissions from reduced livestock.

I hope that you will consider the above when talking about how our farming practices impact the environment. I would be happy to come in or find someone to come in to do a presentation to balance out what has already been shared with our students.

Thank you for your time.

Sincerely,

Jane Doe

Resource: http://thinkbeef.ca/wp-content/uploads/2018/03/Plant-versus-Animal-Proteinf.pdf

LETTER TO THE SCHOOL RE: NUTRITION

EMAIL SUGGESTION:

Subject Line: Letter of Concern: health/nutrition presentation in the class of xxxx

Dear SCHOOL ADMINISTRATOR,

It has come to my attention from one of your students at XXXX SCHOOL that a health and nutrition talk was delivered to the XXX CLASSROOM students which I believe, in my opinion, was highly inappropriate.

I have put my thoughts into the attached letter to ensure you are aware of what transpired. As you will see, I have serious concerns about what was presented and believe this needs to be addressed.

I would be eager to hear your thoughts on the matter. Please don't hesitate to reach out if you have any questions.

Most sincerely,
xxxxx

FORMAL EMAIL WORD DOCUMENT ATTACHMENT:

DATE

SCHOOL NAME
TOWN AND PROVINCE

Dear XXX (SCHOOL ADMINISTRATOR),

I am writing to express serious concerns about a class activity that happened this past XXX at your school; specifically a health and nutrition presentation, delivered by a XXXX, promoting the adoption of vegan/meatless diets by the students.

The incident was brought to my attention by one of your students who attended the session and left with information that seems erroneous and unbalanced. DESCRIBE STUDENT REACTION: EXAMPLE HERE: *He came home very worried that eating meat may in some way harm him. As we eat a balanced, healthy diet which includes many fruits, vegetables and of course fresh meat, he was very confused about whether this was a 'safe' thing to be doing. He also reported that several of the students were now also worried about eating meat and were planning to stop.*

Although I was not present, I believe it is important for the administration to know what HIS/HER 'understanding' was of what was said. This included: EXAMPLE HERE -

- *Eating meat would shorten your life*
- *Being vegan would keep you thinner*
- *Eating meat was the cause of the world's environmental issues*
- *The presenter apparently assuaged the kids by commenting that Oreo cookies could still be eaten as they are a vegan food*

My concerns are multiple and as such, I have outlined them here for your consideration. The nutrition information I am presenting here is sourced from a Canadian registered dietitian:

1. Firstly, the presentation did not seem to present balanced and fair content on the topic. When speaking of environmental impacts of agriculture, you should also bring in an expert from the agricultural side of the story. A farmer for example. If you are looking for resources for your classes about Canadian agriculture, Farm & Food Care have good resources and they may be able to help find a farmer to come into the class. Farm & Food Care has an excellent resource that I picked up in the Toronto Star – The Real Dirt on Farming. It is on-line at www.farmfoodcare.org

2. The classroom presentation is was in ***direct conflict with guidance from the Government of Canada.*** The Canadian Food Guide includes meat as part of the meat and alternatives food group, and nowhere does Health Canada recommend a vegan diet, especially for children.
3. A vegan diet is very difficult to execute safely. Unless meticulously planned and adhered to, vegan diets put followers at risk of many nutritional deficiencies, including inadequate intake of protein, omega-3 fatty acids, iron, calcium, zinc, iodine, vitamins D and B12. These are extremely important nutrients for growing bodies.
4. Adolescent research shows that dieting is the most important predictor of developing an eating disorder. This age group is highly vulnerable to messages about food and eating, and it is irresponsible to be delivering radical messages about food that promote fear and avoidance.
5. Of all demographics, adolescent girls 12-19 years of age have the highest prevalence of insufficient iron. As iron is critical to proper brain and body development during the adolescent years, this is extremely significant. It is very difficult to obtain sufficient iron from a vegan diet and meat is nature's best source.
6. Most Canadians do not overconsume meat. In fact, on average, Canadians consume less than 1 portion of fresh meat per day. Most notably, ***more than 56% of adolescent boys are consuming less than the recommended number of servings for meat and alternatives,*** putting them at risk nutritionally. Recommending a vegan diet would only heighten this concerning statistic.

Decades of research shows that nutritionally there is no one best diet, only best dietary patterns. This includes eating mostly whole fresh foods, and avoiding processed, nutritionally poor junk foods. Alarmingly, recent research from the Heart and Stroke Foundation shows that ***young people get more than 1/2 their calories from highly processed, ultra-processed foods*** – more than any other age group. The highest consumers are children ages 9–13 who get 57% of their calories from energy-dense, nutritionally-lacking products, like pop, pizza, fries and snack foods.

It is highly irresponsible, dare I say reckless, to confuse our children about what are healthy foods, especially in an environment where children are eating more highly processed, empty calorie foods than ever and getting mixed messages about what to eat and what is a healthy body weight. It's bad enough that they are being hyped up by the media to source their protein from powdered supplements and energy from caffeine laced drinks.

In an environment that should be teaching critical thinking and delivering positive messages, the decision to deliver a presentation that frankly borders on propaganda and brain-washing is greatly concerning.
I would hope that qualified registered dietitians would be contacted to speak about nutrition and healthy eating in the future.

Respectfully,

xxxxx

POSITIONING PAPERS

Red Meat Nutrition Brief

THINKBEEF.CA

January 2018

INTRODUCTION

Meat makes an important contribution to food security and diet quality through the provision of high-quality protein and a variety of essential micro-nutrients – for example, vitamin B_{12}, iron and zinc – that can be difficult to obtain in adequate quantities from plant-source foods alone.

The purpose of this brief is to provide factual information about red meat and beef. Enjoy these wholesome foundational foods to nourish body and soul.

HEALTH CRISIS IN CANADA

Many Canadians are undernourished or overfed. Dietary trends show that obesity rates have soared while the percent of energy from foods naturally rich in high quality protein such as milk, beef and eggs fell. Meanwhile, an increasing percentage of energy from highly processed ready-to-eat foods has replaced energy from more nutritious protein-rich food choices.[ii]

Growing rates of obesity place the majority of Canadians adults at greater risk of cardiovascular disease, diabetes and cancer. It makes sense to prioritize nutrient-dense foods rich in high quality protein which are modest in calories in an era when the majority of Canadians consume more calories than they should.

	The Stats	Key Facts
Obesity	62% of Canadians (18-79 years) 31% of children and youth (5-17 years) were classified as overweight or obese[iii]	Evidence suggests that protein-rich foods - like meat - can play an important role in promoting healthy weights due to their beneficial effects on satiety, energy metabolism and body composition.[iv]
Diabetes	More than half of Canadians with diagnosed diabetes were between 25 and 64 years of age[v]	Diets with increased protein and reduced carbohydrates actually help prevent type 2 diabetes by facilitating fat loss and improve body weight maintenance after weight loss.[vi, vii, viii, ix]
Heart Disease	22% of Canadian adults aged 20-79 years had hypertension.[x]	High quality studies consistently show that eating lean beef, as part of a healthy and balanced diet, improves cholesterol and supports heart health.[xi]

MOST CANADIANS CONSUME MODERATE AMOUNTS OF MEAT

Beef and and other red meats have been traditional foods for generations. Meat is part of our Canadian culture.

There is a common misconception that red meat is consumed in amounts that exceed recommended levels. In fact, according to Statistics Canada data, meat consumption declined 14 grams between the 2004 and 2015 Canadian Community Health Surveys.[xii]

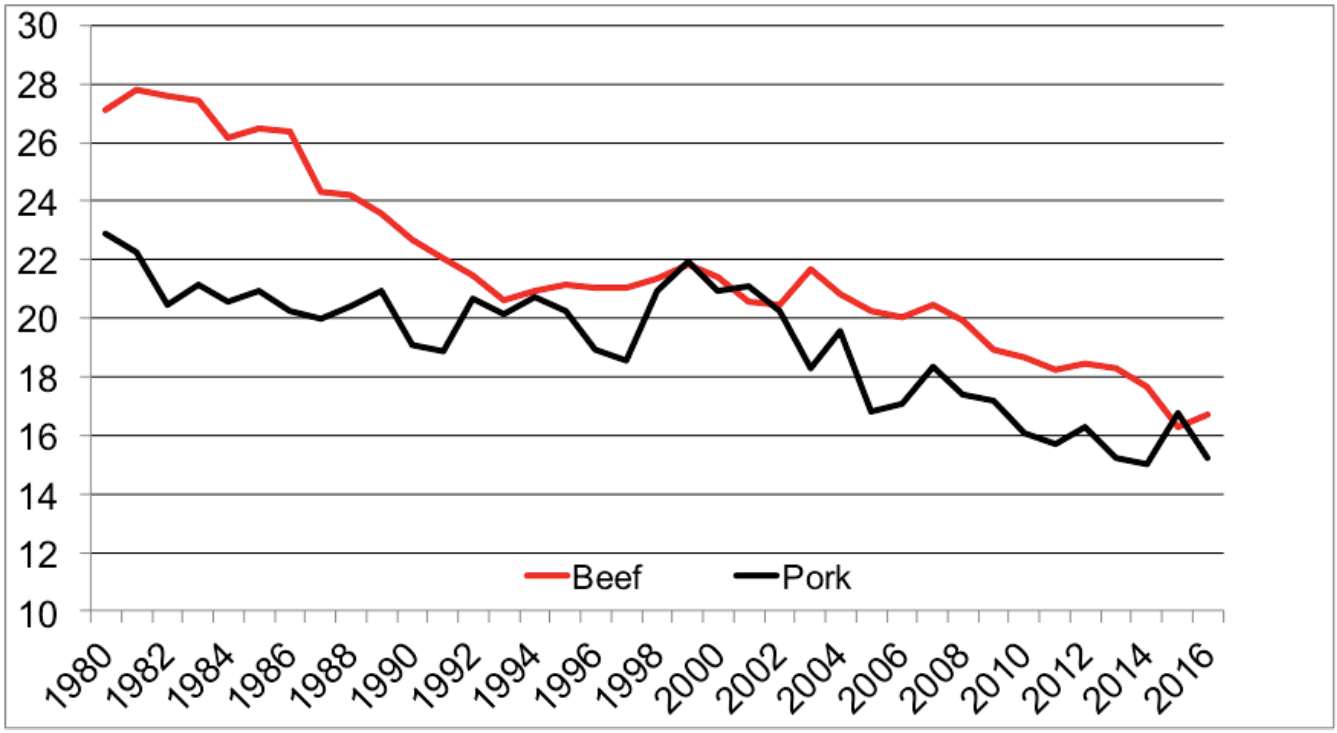
Average Grams Per Day 2004 vs 2015

	2004			2015		
	Both sexes	Males	Females	Both sexes	Males	Females
Fresh red meat[1]	53.5	68.6	38.6	41.1	52.3	30.3
Processed red meat[2]	21.9	27.9	16.1	19.9	26.5	13.5
TOTAL	**75.4**	96.5	54.7	**61.0**	78.8	43.8

[1] includes beef, veal, pork and lamb including ground meat and burgers
[2] includes salted beef, bacon (but not turkey or chicken bacon), ham, sausages (not turkey or meatless), and luncheon meats (not considered poultry)

This decline in meat consumption is validated by Statistics Canada's disappearance data, which cites a decline in both beef and pork by 16.7 and 15.2 kilograms per person annually, respectively, since 1980.[xiii]

Statistics Canada Canadian Meat Disappearance 1980 – 2016



PERCEPTION CANADIANS OVER CONSUME MEAT YET INTAKES ARE WELL WITHIN CANADA'S FOOD GUIDE RECOMMENDATIONS

Most of us would benefit from more whole grains, vegetables and fruits in the diet, but that doesn't mean we must cut back on meat. On average, Canadians are already consuming red and processed meat within the amounts recommended in Canada's Food Guide. On average, Canadians consume less than a serving of fresh meat a day.

Canadian Meat Intake Relative to a Food Guide Serving

Meat Category	Mean intake for all Canadians (grams/day)	Number of Food Guide servings	Food Guide serving
Fresh red meat	41.1	just more than half	75 grams
Processed red meat	19.9	1/4 serving	75 grams
Total Red Meat	61.0	less than 1	

Source: Canadian Community Health Survey 2015

For most people, balance needs to come from swapping refined grains and empty calories for whole grains and vegetables, not reducing meat. The current buzz to eat a plant based diet is an updated version of your mother's advice to eat your veggies.
Meat's high quality protein, iron and zinc strengthen a balanced diet and are a perfect complement to the nutrients found in plant foods.

SOME CANADIANS WOULD BENEFIT FROM EATING MORE MEAT

More than 56% of adolescent males, 48% of women 31-50 years of age and 69% of females older than 70 years of age are consuming less than the recommended number of servings for meat and alternatives. Perhaps not surprisingly, some Canadians – especially women and older citizens - have inadequate intakes of essential nutrients: [v]

Prevalence of inadequate intakes for **iron** was greater than 10% for:

- females 14-50 years of age
- highest prevalence among females 31-50 years old (18%)

Prevalence of inadequate intakes for **zinc** was greater than 10% for:

- males older than 30 years of age
- females 9-50 years of age and older than 70 years of age
- highest prevalence among males and females older than 70 (41% and 25% respectively)

Inadequate intakes of **vitamin B_{12}** most prevalent among females:

- 16% for 14-18 year-olds
- 14% for 31-50 year-olds
- 15% for women over 70 years old

Freshly prepared dishes combining unprocessed or minimally processed foods with processed culinary ingredients and modest amounts of processed foods are the basis of healthy meals.

New research commissioned by the Canadian Heart and Stroke Foundation shows that ultra-processed food consumption in Canada continues to increase and is alarmingly high, accounting for almost half of our daily calorie intake. Ultra-processed foods provided 48% of the total daily energy intake whereas meat and poultry contributed 8% of total energy intake.[xv]

Most troubling is that young people get more than half their calories from ultra-processed foods – more than any other age group. The highest consumers are kids ages 9–13 who get 57% of their calories from these energy-dense, nutritionally-lacking products. Clearly Canadians have shifted their eating habits away from enjoying whole foods – like meat and vegetables - to highly processed frozen and ready-to-eat foods.

DECIPHERING NEWS HEADLINES … AND THE SCIENCE BEHIND THEM

Headlines rely on being sensational or they are no longer a headline. Case in point – the buzz that red meat consumption causes colorectal cancer.

No cause and effect has ever been established between any single food and cancer. Much of science relies on observational studies which can only show associations and are not able to draw cause and effect conclusions. It is difficult to disentangle the independent effects of meats, from other diet and lifestyle factors. In 1997 and 2007 the World Cancer Research Fund (WCRF) and in 2015 the International Agency for Research on Cancer (IARC) published reports on diet and cancer linking red meat and processed meat consumption to colorectal cancer.

Subsequently, WCRF's most recent report in 2017, indicated that the association between red meat and colorectal cancer risk is weak and weakening over time. The report identified 13 studies on colorectal cancer incidence that compared high versus low intakes of red meat. None of the 13 studies found statistically significant associations, meaning they can't rule out chance or confounding factors, such as total diet and lifestyle.

WCRF recommends adults eat a maximum of 500 grams, or approximately a pound (cooked weight) of red meat, a week to reduce the risk of colorectal cancer. Most Canadians eat well below that amount. According to the most recent Statistics Canada data, on average, Canadians are consuming 288 grams of fresh red meat, such as beef, pork, lamb and veal, a week. Even men, who we typically consider heavier red meat consumers, on average eat 366 grams a week; women far less at 212 grams.

Mean grams per week

Meat Category	Both Sexes	Males	Females
Fresh red meat[1]	288	366	212

[1] includes beef, veal, pork and lamb including ground meat and burgers

Canadians consume one ounce (28 grams) a day, on average, of processed red meat and processed poultry.

Mean grams per day

Meat Category	Both Sexes)	Males	Females
Processed red meat[1]	19.9	26.5	13.5
Processed poultry[2]	8.2	10.7	5.6
TOTAL	**28.1**	**37.2**	**19.1**

[1] includes salted beef, bacon (but not turkey or chicken bacon), ham, sausages (not turkey or meatless), and luncheon meats (not considered poultry)
[2] includes chicken nuggets, all chicken wings, patties, and poultry-related sausages and deli meats

The large body of evidence indicates that maintaining a healthy weight, eating a well-balanced diet, being physically active, consuming alcohol in moderation, and not smoking reduces the risk of chronic disease.

RED MEAT: PROTEIN-RICH AND SO MUCH MORE

Many Canadians appear to recognize that increased vegetable and fruit intakes could have important health benefits. However, there appears to be less awareness about the many essential nutrients found in meat including: high quality protein, highly bioavailable iron and zinc, riboflavin, thiamin, niacin, vitamins B_6, and B_{12}.

- Meat provides high quality "complete protein" with all 9 indispensable amino acids in proportions that closely match human needs. Plant proteins tend to have a limited amount of one or more of the indispensable amino acids and are therefore considered "incomplete".
- Many plant-based proteins, particularly nuts, seeds and legumes, do not meet the conditions for any protein claim (e.g., excellent, high, source, contains) as stated in the Food and Drug Regulations and cannot be referred to as "protein-rich" or even "protein foods."
- Plant-based protein sources are less protein-dense per serving and calorie contribution. For example, to get the same amount of protein from a 1 serving of beef at 184 calories (75 g - the size of the palm of your hand) ,one would need to eat 2.5 servings of black beans at 420 calories (1-3/4 cups) or 3.5 servings of peanut butter at 644 calories (7 tablespoons).
- The absorption of the essential minerals iron and zinc is superior from meat compared to absorption from plant sources.
- Meat enhances the absorption of iron from vegetable sources, a phenomenon called the 'meat factor.'
- Advice to reduce red meat consumption could put some Canadians at risk of iron, zinc, vitamin B_{12} deficiencies and inadequate protein intake leading to sarcopenia, an age-related loss of muscle mass, strength and function.

Health Consequences of Inadequate Intakes of Essential Nutrients Found in Meat[xvi, xvii]

Nutrient	Important Sources	Health Consequences of Inadequate Intakes
Iron	Meat, poultry and fish are the only sources of highly bioavailable heme iron. Plant foods contain only non-heme iron which is less well absorbed by the body. Meat helps the body absorb iron from plant foods.	• Low birth weight • Impaired mental function • Impaired learning ability • Impaired energy metabolism • Fatigue • Reduced work capacity • Depression • Lower resistance to infections
Zinc	The zinc from foods of animal origin, rich in high quality protein, is more easily absorbed by the body than the zinc from plant foods. Meat helps the body absorb zinc from plant foods.	• Low birth weight • Impaired mental function • Impaired learning ability • Delayed development • Growth stunting in children • Lower resistance to infections
Vitamins B_{12} & B_6	Foods of animal origin are the primary natural source of vitamin B_{12} and an important source of vitamin B_6.	• Impaired energy metabolism • Poor brain growth • Delayed development • Impaired mental function • Impaired learning ability

ANIMAL AGRICULTURE, FOOD SYSTEMS AND ENVIRONMENTAL IMPACTS

The way our food is produced, processed, distributed, and consumed – including the losses and waste of food – can have environmental implications, such as greenhouse gas emissions (GHG), soil degradation, decreases in water quality and availability, and wildlife loss.

Recent research found a lack of evidence to base diet recommendations on environmental factors citing a disconnect between the science informing strategic climate action in the agriculture sector and the science informing public health nutrition. Based on the available evidence, little can be concluded about dietary strategies to reduce environmental impact.[viii]

INDIVIDUAL EATING HABITS THAT CAN MAKE A DIFFERENCE TO ENVIRONMENTAL IMPACTS

The dietary change which will have the greatest impact on health and planet is to reduce intake of ultra-processed foods. Here are some mindful habits individuals can make to adjust their eating habits and make a difference to environmental impacts:

Eat recommended serving sizes

- Over-eating is a form of food waste. Data suggests that greenhouse gas emissions are positively cor related with total energy intake – that is, the larger the portion size, the higher the greenhouse gas emissions.
- Super-sizing' can considerably impact the environmental footprint and doesn't do any good for your body either. It's time to re-think the value and amount of resources that go into our food.

Eat real foods and reduce ultra-processed foods

- Consumption of discretionary foods impact the environment negatively from a need for resource input for development and health negatively as well.
- Eat real (core) foods and reduce 'discretionary' or ultra-processed food consumption. Many developed countries dietary patterns have changed to incorporate a higher proportion of discretionary foods as part of the daily diet with a growing proportion of calories coming from these empty-nutrient foods: such as alcohol, chocolate and baked goods, cakes and biscuits, savoury snacks like potato chips and French fries, sugar sweetened beverages, snack bars, ice cream.
- Enrich food skills, such as planning meals and cooking know-how to take advantage of basic core foods that are better for health and the environment

Buy What You Need And Use What You Buy

- Food wastage directly relates to environmental impact because of the amount of energy and resources that are needed to inputs required to manufacture ultra-processed foods. In 2014, the value of food waste and loss in Canada was estimated at $31 billion. Reducing food waste is an immediate way to ensure we aren't wasting resources.
- When grocery shopping, buy what you can use so you don't have food spoil. Some handy tips are to plan your meals, and use a shopping list when going to the grocery store.
- When eating out order what you can eat, split meals or take home what you can't eat in order to eat it later.

EAT FOR HEALTH CHECK LIST

Assess yourself. The best way to minimize your risk of chronic disease is to live a healthy lifestyle as no one food is a cause or cure

- Do not smoke, maintain a healthy weight, and enjoy regular physical activity.
- Serve your meals with plenty of vegetables and whole grains.
- Drink alcohol responsibly.
- Do I have the food skills to prepare healthy meals or do I need to bone up?

Look in your cart. Are most of the items whole foods or minimally processed foods verses ultra-processed?

- Is there a variety of vegetables and fruit, whole grains and fresh, high quality proteins?
- A healthy balanced diet does not include highly processed and highly refined foods, confectionaries, sugary drinks, and snack foods.
- Am I buying what I need?
- Will I use what I'm buying?

Track your food intake. Are you under, over or within Canada's Food Guide recommendations?

- Keep a food diary for a few days to track what you eat.
- Children, teen girls and women of childbearing age, may benefit from an additional serving of meat.
- Other people, particularly men, may benefit from keeping their meat portions to 225 grams a day, and replacing some of their meat calories with additional vegetables, fruit and whole grains.
- Have I wasted the food I bought?

GLOSSARY OF TERMS

Canadian Community Health Survey (Nutrition) – a national survey conducted in 2004 and 2015 by Statistics Canada for Health Canada which included a 24-hour diet recall.

Disappearance data - the net supply is divided by the Canadian population at July 1 to obtain per capita values or disappearance per person.

Essential amino acids - the nine protein building blocks which must come from the diet or supplements since the body cannot manufacture. Also referred to as indispensable amino acids.

High Quality (Complete) Protein - protein sourced foods that contain all 9 indispensable amino acids in proportions that closely match human needs. Animal proteins are complete proteins. Plant proteins have a limited amount of one or more of the essential (indispensable) amino acids.

Nutrient Content Claim Terms - claims are based on the percentage of Daily Value content of a food. The percent Daily Value is the amount of a nutrient a food contains compared to the amount the average adult requires for optimal health. Claims that can be made are defined and regulated by Health Canada and CFIA:

% DV	OPTION A	OPTION B	OPTION C
4 to 14%	source of	contains	
15 to 24%	good source of	high in	
25% or more	excellent source of	very high in	rich in

Plant Based Diet – a dietary pattern that includes more plant than animal foods. Can range from 100% plant foods (fruits, vegetables, whole grains, and legumes) to a combination of plant and animal foods. No plant based or plant/animal combination based diets are inherently healthy. Both need to follow a balanced pattern of eating.

[i]Meat Proteins Study, Gandalf Group, 2016
[ii]The growing Canadian energy gap: more the can than the couch? Public Health Nutrition: 12(11), 2216–2224 https://www.ncbi.nlm.nih.gov/pubmed/19531279
[iii]Canadian Health Measures Survey: Household and physical measures data, 2012 to 2013. http://www.statcan.gc.ca/daily-quotidien/141029/dq141029c-eng.htm
[iv]Protein 'requirements' beyond the RDA: implications for optimizing health. Appl Physiol Nutr Metab. 2016 https://www.ncbi.nlm.nih.gov/pubmed/26960445
[v]Evidence Review for Dietary Guidance, Technical Report, 2015, Health Canada
[vi]Westerterp-Plantenga MS, Lejeune MP. Protein intake and body-weight regulation. Appetite 2005;45:187–90.
[vii]Westerterp-Plantenga MS, Lejeune MP, Nijs I, van Ooijen M, Kovacs EM. High protein intake sustains weight maintenance after body weight loss in humans. Int J Obes Relat Metab Disord 2004;28:57–64.
[viii] Layman DK. Protein quantity and quality at levels above the RDA improves adult weight loss. J Am Coll Nutr 2004;23:631S–6S.
[xi]Layman DK, Evans E, Baum JI, Seyler J, Erickson DJ, Boileau RA. Dietary protein and exercise have additive effects on body composition during weight loss in adult women. J Nutr 2005;135:1903–10.
[x]Canadian Health Measures Survey: Household and physical measures data, 2012 to 2013. http://www.statcan.gc.ca/daily-quotidien/141029/dq141029c-eng.htm
[xi]Beef in an Optimal Lean Diet study: Effects on lipids, lipoproteins, and apolipoproteins
American Journal of Clinical Nutrition, 95 (1) (2012) https://www.ncbi.nlm.nih.gov/pubmed/22170364
[xii]Fresh and Processed Meat Intake: A Canadian Perspective, https://www.cmc-cvc.com/sites/default/files/Fresh%20and%20Processed%20Meat%20Intake_ENG_CMC.pdf
[xiii]Statistics Canada. Food available in Canada http://www5.statcan.gc.ca/cansim/a26?lang=eng&id=20011
[xiv]World Nutrition Volume 7, Number 1-3, January-March 2016 (http://archive.wphna.org/wp-content/uploads/2016/01/WN-2016-7-1-3-28-38-Monteiro-Cannon-Levy-et-al-NOVA.pdf)
[xv]Moubarac JC. Ultra-processed foods in Canada: consumption, impact on diet quality and policy implications. Montréal: TRANSNUT, University of Montreal; December 2017. http://www.heartandstroke.ca/-/media/pdf-files/canada/media-centre/hs-report-upp-moubarac-dec-5-2017.ashx?la=en&hash=9FB9794C42D6B6BA93AB91335E2B6A612656C586
[xvi]Institute of Medicine. 2001. Dietary Reference Intakes for Vitamin A, Vitamin K, Arsenic, Boron, Chromium, Copper, Iodine, Iron, Manganese, Molybdenum, Nickel, Silicon, Vanadium, and Zinc https://www.nap.edu/read/10026/chapter/1
[xvii]Institute of Medicine. 2001. Dietary Reference Intakes for Thiamin, Riboflavin, Niacin, Vitamin B6, Folate, Vitamin B12, Pantothenic Acid, Biotin, and Choline https://www.nap.edu/read/6015/chapter/1
[xviii]Dietary Strategies to Reduce Environmental Impact: A Critical Review of the Evidence Base, American Society for Nutrition. Adv Nutr 2017 http://advances.nutrition.org/content/8/6/933.abstract?sid=a7eda8ee-cb1d-4fe2-925a-f6caa8cd78f9
[xiii]Source:https://blogs.csiro.au/ecos/low-environmental-impact-diet/?utm_source=ECOS-2017-11&utm_medium=newsletter&utm_campaign=ECOS

Brought to you by Canada Beef

How much meat do we eat - the reality check

THINKBEEF.CA

January 2018

We continue to hear the message 'reduce red meat for health'. Apparently, there is the perception Canadians are eating too much meat. However, if you look at Statistics Canada data, this is a misnomer.

In actual fact, most Canadians consume a quantity of red meat that is well within Canada's Food Guide recommendations. As a refresher, the Food Guide advises teen girls and adult women have 2 servings of meat and alternatives a day, whereas it is 3 servings a day for males. A serving of fresh meat is 75 grams.

Let's look at the data from Statistics Canada surveys to get a handle on how much red meat Canadians actually eat.

The Canadian Community Health Surveys, conducted in 2004 and 2015 using 24-hour dietary recalls, found red meat (fresh and processed) declined 14 grams from 75 grams to 61 grams. On average, Canadians are consuming red and processed meats within the amounts recommended in Canada's Food Guide.

Average Grams per Day CCHS 2004 vs 2015

	2004	2015
Fresh red meat[1]	53.5	41.1
Processed red meat[2]	21.9	19.9
TOTAL	**75.4**	**61.0**

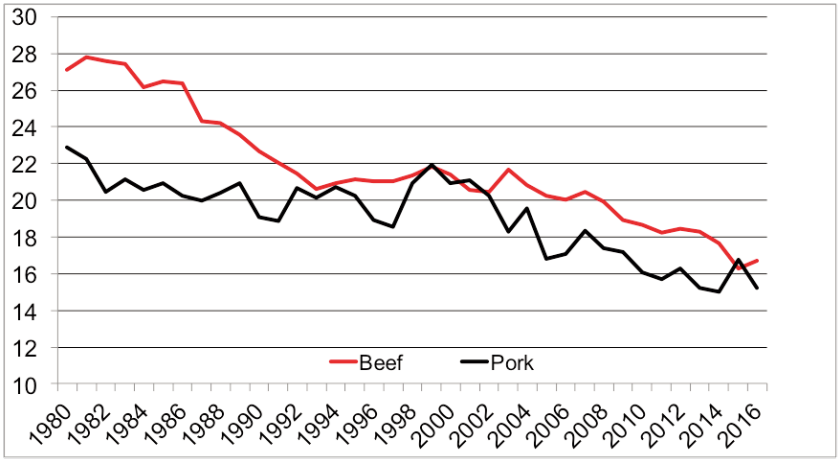
2015 Meat Intake Relative to Food Guide

Food Serving Guide	Number of Food Guide servings (2015)
75 grams	Just more than half
75 grams	1/4 serving
	Less than 1

[1] includes beef, veal, pork and lamb including ground meat and burgers
[2] includes salted beef, bacon (but not turkey or chicken bacon), ham, sausages (not turkey or meatless), and luncheon meats (not considered poultry)

This decline in meat consumption is validated by Statistics Canada's disappearance data where the net supply is divided by the Canadian population.

Statistics Canada Canadian Meat Disappearance 1980 – 2016



So, what would be the harm if Canadians further reduced their red meat intake as touted in the popular press? It could certainly exasperate an already concerning situation of inadequate intakes of essential nutrients; especially for women.

According to Health Canada's Evidence Review for Dietary Guidance, a significant number of women - 48% of women 31-50 years of age and 69% of females older than 70 years of age - are already consuming less than the recommended number of servings for meat and alternatives. Incidentally, so are 56% of adolescent males.

Perhaps not surprisingly, the same report noted some Canadians – especially women and older adults – have inadequate intakes of iron, zinc, and vitamin B12. Iron and zinc are available in red meat in the form that the body can most easily absorb and vitamin B12 is found only in foods of animal origin. Of concern, is that further reductions in red meat consumption by these population groups may lead to deficiencies affecting mental health, energy levels, and infant birth weight. Certainly some Canadians would benefit from eating more meat.

The real public health concern should be the astonishing consumption of ultra-processed foods.

New research commissioned by the Heart and Stroke Foundation of Canada shows that ultra-processed food consumption in Canada continues to increase and is alarmingly high, accounting for almost half of our daily calorie intake. This includes fast food, sugary drinks, snacks, chips, candies, cookies, sweetened milk products, sweetened cereals, and sauce and dressings. Ultra-processed foods provided 48% of the total daily energy intake whereas fresh and processed red meats contributed only 8% of total energy intake.

For most people, balance needs to come from swapping refined grains and empty calories for whole grains and vegetables; not reducing meat.

Many Canadians, especially women and older adults, are not eating too much red meat. The rallying cry should be to reduce consumption of ultra-processed foods.

References:

Apparent disappearance data, Statistics Canada
Canadian Community Health Surveys (Nutrition) 2004 and 2015, Statistics Canada
Evidence Review for Dietary Guidance Technical Report, 2015, Health Canada
Ultra-processed foods in Canada: consumption, impact on diet quality and policy implications, December 2017, Heart and Stroke Foundation of Canada

Brought to you by Canada Beef

Fresh and Processed Meat Intake:
A CANADIAN PERSPECTIVE

THINKBEEF.ca

November 2017

TABLE 1. Fresh Red Meat and Processed Meat Eaten per Day 2004 vs 2015 (mean gram weight)
(By Canadian household populations aged 1 or older – excluding territories)

	2004			2015		
	Both sexes	Males	Females	Both sexes	Males	Females
Fresh red meat[1]	53.5	68.6	38.6	41.1	52.3	30.3
Processed red meat[2]	21.9	27.9	16.1	19.9	26.5	13.5
Processed poultry[3]	n/a	n/a	n/a	8.2	10.7	5.6
TOTAL	**75.4**[4]	96.50[4]	54.7[4]	**69.2**	89.50	49.4

[1] includes beef, veal, pork and lamb including ground meat and burgers
[2] includes salted beef, bacon (but not turkey or chicken bacon), ham, sausages (not turkey or meatless), and luncheon meats (not considered poultry)
[3] includes chicken nuggets, all chicken wings, patties, and poultry-related sausages and deli meats
[4] excludes processed poultry
Source: 2004 Canadian Community Health Survey - Nutrition; 2015 Canadian Community Health Survey - Nutrition

TABLE 2. Percent of Total Calories, Fat and Protein Eaten per Day (2015)
(By Canadian household populations aged 1 or older – excluding territories)

	Calories	Fat	Protein
Fresh red meat[1]	4.90	7.17	12.94
Processed red meat[2]	2.48	4.33	4.60
Processed poultry[3]	0.78	1.07	2.14
TOTAL	**8.16**	**12.57**	**19.68**

[1] includes beef, veal, pork and lamb including ground meat and burgers
[2] includes salted beef, bacon (but not turkey or chicken bacon), ham, sausages (not turkey or meatless), and luncheon meats (not considered poultry)
[3] includes chicken nuggets, all chicken wings, patties, and poultry-related sausages and deli meats
Source: 2015 Canadian Community Health Survey - Nutrition

Brought to you by Canada Beef

Meat Consumption Data –
NOODLING THE NUMBERS

THINKBEEF.CA

February 2018

There are two main tools that Statistics Canada uses to report on meat consumption in Canada: the Canadian Community Health Survey (Nutrition) and Meat Availability (Disappearance) Data.

Canadian Community Health Survey (Nutrition) – CCHS gathers data using 24-hour recalls which can be analyzed by age, gender, province, and by foods allowing an examination of food quantity and diet quality.[1] Data is collected 'as consumed' meaning raw foods are reported as 'cooked'. This is an important distinction since a 125 gram raw steak yields about a 75 gram cooked portion.

Meat Availability (Disappearance) Data - Reports meat consumption on an annual basis derived by calculation:[2]

Total supply (inventory of meat at the beginning of the year + production + imports)
minus
outputs (exports, waste, and inventory of meat at the end of the year)
= net supply ÷ Canadian population (as of July 1st)
= meat available per person (in that given year)

Comparing the Numbers – Here's how the numbers stack up using these two data measurements.

Red Meat[1] Consumption as Reported by Statistics Canada, 2015 (Disappearance Measures vs CCHS data)

Data Description	Average daily grams per person		Notes
Carcass weight (49.2 kg/person/year)	134.8		Doesn't reflect consumption since the inedible portions of the carcass and hide are included
Retail weight (36.9 kg/person/year)	101.1		Raw weight and bones are included such as a standing rib roast or T-bone steak
Retail weight, boneless weight equivalent (34.3 kg/person/year)	94.0		Raw weight with all bones excluded
CCHS, fresh red meat	41.1	30.3 females 52.3 males	Cooked amount
CCHS, processed red meat	19.9	13.3 females 26.5 males	Cooked amount
CCHS, total red meat	61.0	43.8 females 78.8 males	Cooked amount

[1] Includes beef, veal, pork, and lamb.

Given the various permutations for reporting meat consumption data, it is understandable why there are different numbers. The key is have the detailed description of the data then interpret them correctly.

Further Resources
Meat Consumption: http://thinkbeef.ca/much-meat-eat-reality-check/

References:
[1]Canadian Community Health Survey - Nutrition, www23.statcan.gc.ca/imdb/p2SV.pl?Function=getSurvey&Id=201486
[2]Food Availability (per person) www23.statcan.gc.ca/imdb/p2SV.pl?Function=getSurvey&SDDS=3475

Brought to you by Canada Beef

Food Synergy –
More Reason to Celebrate Whole Foods

THINKBEEF.CA

February 2018

Surprisingly, we still have so much to learn about food and nutrients. Nutrition is a young science, and our understanding still grows year over year. In early days, we explored the fundamentals like vitamins and minerals and their role in human health: that without sufficient amounts of these essential nutrients, diseases such as scurvy without vitamin C, rickets without vitamin D, goiter without iodine, etc., would develop.

As nutrition knowledge evolves, we uncover more about the complex elements of food.

One emerging and exciting area of nutrition is that of "food synergy". Leslie Beck, a Toronto-based Registered Dietitian and regular contributor to the Globe and Mail, recently wrote an excellent piece about this important concept.

In her article, Ms. Beck writes that food synergy is "the idea that the naturally occurring compounds in a whole food work together to create greater health benefits than can be achieved by any of its individual components..." In other words, eating certain whole foods together may be more beneficial than eating them separately.

Food Synergy – The "Meat Factor"

There are many examples of food synergy, and Ms. Beck highlights several of them in her article. One example of food synergy where meat is concerned is iron absorption.

In food, iron exists in two forms: heme and non-heme. Heme iron is found only in meat, fish and poultry. All other iron sources (from beans, tofu, eggs, veggies, grains, etc.) are of the non-heme type.

Heme iron is better absorbed by the body than iron from plant sources; in isolation, non-heme iron is not well absorbed. But that is not the full story. In a classic example of food synergy, combining a heme iron food with a non-heme iron food significantly increase the amount of non-heme iron absorbed. In beef circles, we call this the "meat factor".

The "meat factor" means that adding some ground beef to your bean chili allows you to absorb more iron from the beans than if you ate a vegetarian version of the dish. Without the influence of meat factor in their diets, vegetarians need almost 2 times more iron in their diets than meat eaters. Since iron is a critical nutrient, particularly at certain key life stages, this effect is not without significance. That is the power of food synergy!

In her article, Leslie Beck reminds us of the very unique power of whole foods. According to her, "you won't find this orchestrated web of beneficial compounds in highly processed foods, a vitamin pill or a nutrition supplement." Whole foods win every time.

We continue to learn that the food we eat is greater than the sum of its parts. Food synergy is another great example of this.

Some interesting facts about iron and the "Meat Factor"

- Iron is an essential mineral found in every cell of your body.
- Not all dietary iron is created equal. There are two types of iron in food: heme iron and non-heme iron. Meat, poultry and fish contain heme iron while other sources (beans, tofu, eggs, veggies, grains, etc.) contain non-heme iron. Heme iron is more easily absorbed than non-heme iron.
- The "Meat Factor" helps your body absorb more non-heme iron. For example, when you eat meat and veggies together, you absorb more iron from the vegetables than if you eat the vegetables alone.
- If you don't eat meat, fish or poultry you need almost twice as much iron as someone who does.
- Iron deficiency in infancy and during pregnancy can cause lifelong developmental delays to the growing child.
- Young children, teenage girls and women of child bearing age are at highest risk of not consuming enough iron.

Brought you by Canada Beef.
Written by By Karine Barlow RD

Mistaken Advice on Red Meat and Cancer

THINKBEEF

February 2018

All scientific study is not created equal – there is sound science and junk science. Critical thinking should be applied every step of the way when reviewing evidence that informs policy. This article written by Dr. Guyatt of McMaster University, as published in the Financial Times November 24, 2015. Epidemiologist Dr. Dominque Alexander discusses the difference of Cause and Association: https://vimeo.com/258311649

The World Health Organization (WHO) announced recently that processed meats, such as salami and bacon, are on par with cigarettes as a "convincing" cause of cancer and that fresh red meat, like steak, is a "probable" cause. These statements overstate the evidence and mislead the public about their cancer risk from eating meat.

The determination of whether a substance causes cancer has traditionally relied upon three sources of evidence: animal models, data looking at possible mechanisms, and epidemiology. In the case of meat, the WHO committee determined that the evidence from animals was inadequate - simply put, feeding animals a diet rich in red meat does not give them cancer. The mechanistic evidence was strong-to-moderate, but these data alone cannot determine a mutagenic agent. Driving the WHO conclusion was the epidemiological data.

Epidemiology is a science that can establish associations (being in hospital is associated with death) but seldom cause and effect (being in hospital does not cause death). The great success story of epidemiological science was its ability to link smoking to cancer, with WHO designating tobacco as a "convincing" carcinogen in 1986. In that case, heavy smokers had a 9-to-25 times greater risk of contracting lung cancer than did non-smokers[1] a "relative risk" big enough to give researchers confidence that the association was a real. Ever since, however, standards for these risks in policy making have been dropping. This week's decisions on meat were based on relative risks of 1.17 to 1.18, a tiny fraction of those for smoking.

To keep things in perspective: for colon cancer, which was the focus of the WHO report, the absolute risk of contracting this cancer in one's lifetime is less than 4.5%. An increased relative risk of 1.17 raises the absolute risk to no more than 5.3%.

As two of the leaders in evidence based medicine, we were involved in the development an evidence ranking system, called "GRADE," adopted by over 90 groups world-wide, including the WHO. GRADE notes that unless relative risks are greater than 5, epidemiological studies typically provide only low-quality evidence. Although the smoking studies easily met that threshold, those used in the meat decision fell far below. Low-quality evidence means that the results are not trustworthy, and may well be proven wrong by future evidence. In such cases, the evidence is not convincing, and any recommendations would ordinarily be we would make a "weak",or "optional" recommendation, since the benefits do not clearly outweigh the potential harms.

The WHO has done the public a disservice in abandoning GRADE in its evaluation of the evidence, and greatly overstating confidence in a causal connection between red meat and cancer. Recent decades are littered with policies based on weak relative risks which, when properly tested in clinical trials, had to be reversed. For example, advice to take the antioxidant vitamins A and E was originally based on epidemiological data with modest reductions in relative risks of cancer in those who took the vitamins. The same was true with hormone replacement therapy and reduction in cardiovascular risk. Yet when randomized trials were conducted, they showed no benefit of antioxidant vitamins for cancer reduction, and no benefit–indeed, possible harm-of hormone replacement therapy on cardiovascular disease.

We see the same story with dietary guidelines: recommendations to restrict dietary cholesterol and limit fat to fight cancer were originally based principally on epidemiological data that clinical trials failed to confirm. Longstanding advice to restrict saturated fats has recently been challenged for the same reason. Now, it looks like we gained no benefit by eating egg white omelets, embarking on a low-fat diet, or quite possibly, giving up whole

milk for low-fat milk, let alone non-fat or skim.
The reason that weak associations are untrustworthy is that they could very well be due to bias associated with any number of factors in diet or lifestyle. With antioxidant vitamins, for instance, people who take vitamins do have lower rates of cancer, but it has noting to do with the vitamins: factors related to genetics, lifestyle, and socioeconomic status are responsible. The same is true for eating meat. Vegetarians tend to be more alert to good health: they smoke less, exercise more, and have a higher socioeconomic status. By contrast, meat-eaters over the past 30-plus years are people who ignore their doctor's orders and are likely to be engaging in other insalubrious behaviors,a ll of which alone or in combination might explain the small relative risks associated with meat-eating.

Bias against red meat is another factor easily observable in the scientific literature and the popular press. Scientists try to adjust for these "confounding" variables, but measurements are incomplete and adjustments inadequate. Small relative risks are therefore just as likely to reflect bias as any true effect.

Randomized clinical trials provide far more trustworthy evidence regarding cause and effect. It is therefore perplexing that this week's WHO document does not even mention the relevant data: two large, multi-year RCTs, both funded by the National Institute of Health.

The first was Polyp Prevention Trial, which tested a high-fiber, high-fruit-and-vegetable, low-fat diet on more than 2,079 people for four years. In this multi-center trial, the intervention group significantly decreased red meat and processed meats, replacing them instead with chicken, yet researchers found no effect of this intervention, at the end of the trial or at the eight-year follow up, on the recurrence of colorectal cancer.

The second was the Women's Health Initiative, one of the largest randomized controlled trials ever conducted. The WHI tested a diet high in fruits and vegetables and low in fat, on nearly 49,000 women over 8 years. At year three, the only one for which the food data was published, the women on the low-fat diet reduced red meat by 20% compared to controls, a statistically significant amount, yet at the end of the trial, there was no effect on any of type of cancer, including colorectal cancer, ovarian cancer, endometrium cancer, or breast cancer.

It's possible that these trials didn't last long enough to see cancer develop, but they were both designed as cancer trials. They remain the most rigorous data to date, and neither support the hypothesis that red or processed meat causes cancer.

Sometimes we have little choice but to rely on epidemiological evidence. For instance,with potential toxins, such as inorganic arsenic, conducting clinical trials is unethical. On environmental issues, such as air pollution, such trials are impossible. However, for red and processed meat, the clinical trial evidence exists but has been unaccountably disregarded.

Ultimately, the WHO data might support a weak recommendation that the cautious among us might reduce our meat consumption, but certainly not a strong one of the sort we can legitimately make for smokers to reduce their cancer risk by quitting. And whereas smoking has no health benefit, meat is good source of nutrition, meaning that the trade-off for even the cautious among us might not be worth it. To say that red or processed meat is equivalent to smoking is profoundly misleading.

The consequences of the WHO decision may be be vast. The government might decide to eliminate processed meat from federally funded programs and public institutions. Meat products may have to carry cancer warning labels. For scientists, the implications are that we cannot conduct clinical trials on any known carcinogen, and if we adopt the WHO conclusions, we will no longer be able to test the effects of processed meat on health. Such misguided conclusions create a dismal state of affairs for science and for public health policy. To prevent these

References:
[i] http://monographs. iarc.fr/ENG/Monographs/vol 1-42/mono38.pdf, Table p. 215-216
https://www.ft.com/content/42259e20-92b5-11e5-bd82-c1fb87bef7af

Brought to you by Canada Beef.
Written by Gordon Guyatt, Distinguished Professor, Department of Clinical Epidemiology & Biostatistics, Joint Member, Department of Medicine, McMaster University, Ontario; Benjamin Djulbegovic, Associate Dean, College of Internal Medicine; Professor,Department of Oncological Sciences; Distinguished Professor, Clinical and Translational Institute, Director, Evidence-based Medicine Research Group, University of South Florida.

Plant versus Animal Protein
WHY THE DEBATE?

THINKBEEF.CA

January 2018

INTRODUCTION

From both the perspective of an individual's health as well as the environmental impacts of our food systems, the benefits of plant versus animal sourced protein foods has often been a topic of debate and will likely gain momentum as Health Canada releases a revised Food Guide this year.

In October 2016, Health Canada announced a Healthy Eating Strategy which included revising Canada's Food Guide, a document that is used to shape public policy recommendations and education for healthy eating. There are two primary concerns with the proposed new Food Guide:

1. The guiding principle[1] that encourages intake of a primarily plant-based diet with a focus on increased reliance on plant protein and less on animal based protein.
2. The consideration of environmental benefits in shifting towards diets higher in plant-based foods.

While traditionally, the primary focus of public health dietary strategies has been to develop recommendations that promote health and well-being, recent global dietary strategies are also including controls of environmental impacts on the food system. This trend is seemingly driving Health Canada's decision to include the assumed environmental benefits of increasing plant-based foods in the diet as a Food Guide consideration.

As part of Health Canada's public consultation process for the Food Guide, Canada Beef provided input on the Guide considerations (see Appendix for detail).

BACKGROUND

Protein is important for healthy growth, maintenance and repair throughout all life stages, especially for infants, children, aging adults and physically active individuals. Protein can be sourced from plant sources such as cereals, legumes, nuts and pulses – e.g. whole wheat bread, lentils, beans and almonds, as well as animal sourced proteins such as dairy (milk, yogurt and cheese) and poultry, fish, pork and beef for example. As such, Canada's Food Guide has traditionally had Meat and Alternatives as one of the four recommended daily food groups.

The environmental impacts of dietary patterns is complex and not well supported by evidence for sound policy development and nutritional recommendations. Based on an extensive literature review, researchers conclude that although the number of journal articles on the subject of environment and diet has grown enormously in recent years, this remains a relatively new area of research and the evidence base to inform dietary interventions for reduced environmental impact is incomplete and scant.[2]

BEEF FOR HEALTH

There are four food groups in Canada's Food Guide: Meat and Alternatives, Dairy, Fruits and Vegetables and Grains.

The contributions of these food groups to the diet vary, each bringing their own unique set of nutrient benefits. It is important to consider that it is not a matter of 'either/or' when it comes to plant or animal sources of protein, but rather fitting a combination of the foods from each food group as part of meals for optimal nutrition.

As recently as 2015, the World Health Organization cites that meat provides a number of essential nutrients and, when consumed in moderation, has a place in a healthy diet.[3]

The many essential nutrients found in meat include: high quality protein, highly bioavailable iron and zinc, riboflavin, thiamine, niacin, vitamins B_6 and B_{12}.

Canadians are consuming red meat in moderate amounts. On average, Canadians consume 288 grams of fresh red meat per week.[4] That is less than 1 portion of red meat per day. Dietary advice to to reduce red meat consumption could put some Canadians at risk of iron, zinc, vitamin B_{12} deficiencies and inadequate protein intake which contributes to sarcopenia, an age-related loss of muscle mass, strength and function.

- Meat provides high nutritional quality with all nine indispensable amino acids in proportions that closely match human needs. Plant proteins tend to have a limited amount of one or more of the indispensable (essential) amino acids.
- Many plant-based proteins, particularly nuts, seeds and legumes, do not meet the conditions for any protein claim (e.g., excellent, high, source, contains) as stated in the Food and Drug Regulations and can not be referred to as "protein-rich" foods.
- Plant-based protein sources are less protein-dense per serving and calorie contribution. For example, one 75 gram serving of beef, the size of the palm of your hand, has 28 grams of protein (at 184 calories). To get this same amount of protein, you would need to eat 2.5 servings of black beans, about 1 3/4 cups at 420 calories, or 3.5 servings of peanut butter, about 7 tablespoons, at 644 calories.[5]
- The absorption of the essential minerals iron and zinc is superior from meat compared to absorption from plant sources.
- Meat enhances the absorption of iron from vegetable, grain and pulse sources, a phenomenon called the 'meat factor.'
- Canadians are not over-consuming red meat. On average, Canadians consume 288 grams of fresh red meat per week. Even men, who we typically consider heavier red meat consumers, on average eat 366 grams a week; women far less at 212 grams. More than 56% of adolescent males and 48% of women 31 to 50 years of age consume less than the 2 to 3 recommended daily servings of Meat and Alternatives.[6]
- Many Canadians are undernourished or overfed. Whereas red meat consumption has declined 24% over the last four decades, according to government statistics, obesity doubled in 30 years and diabetes tripled in 20 years.[6,7]
- In relation to heart disease, the Heart and Stroke Foundation of Canada recommends that Canadians eat a healthy, balanced diet and not focus only on any one nutrient as a concern such as saturated fat. Rather enjoy more vegetables and fruit, a variety of protein sources (including lean meat), whole grains, fewer highly processed foods, preparing foods at home as often as possible, and watching portion sizes.[8]
- A simple way to have optimal healthy meal patterns is follow the Healthy Plate Model: For each meal, dedicate 1/2 the plate to Fruits & Vegetables, 1/4 to Whole Grains/starches, ¼ to high quality protein like Meats and Alternatives and include a serving of Dairy.[9]

BEEF, FOOD SYSTEMS AND ENVIRONMENTAL IMPACTS

The way our food is produced, processed, distributed, and consumed – including the losses and waste of food – can have environmental implications, such as greenhouse gas emissions (GHG), soil degradation, decreases in water quality and availability, and wildlife loss. As such, Health Canada and international governments are considering the integration of food choice patterns as part of their healthy eating recommendations such as Canada's Food Guide.

A recent literature review study published by Australian researchers of Commonwealth Scientific and Industrial Research Organisation (CSIRO), demonstrated a lack of evidence to support this approach. This research cites a disconnect between the science informing strategic climate action in the agricultural sector and the science informing public health nutrition."Taking all of the available evidence, there is little that can be concluded, at this time, about dietary strategies to reduce environmental impact".[2,10]

Other important strategies identified to effect environmental impacts from food systems include:

- Efficiencies in production and food transportation
- Reductions in food waste
- Sourcing food locally[10]

BEEF AND ENVIRONMENTAL ISSUES

Cattle in Canada are raised primarily on a grass-based pasture system (80% of their feed comes from forage over their lifetime). Typically, cattle are then finished in a feedlot where they are fed a high-energy diet including grains for about 90 to 120 days (3 to 4 months).[11]

- Cattle production utilizes marginal land that is not suitable for growing other food crops. In many areas in many areas across Canada it is not feasible, or friendly to the environment, especially in native grasslands, to grow food other than livestock. Cattle graze this land, and turn it into high quality protein. In Canada, cattle are typically raised on marginal lands and soils that can't be used to grow other crops. 70% of Canada's native grasslands have been cultivated or developed, with only 30% left. Cattle are the main users of these grasslands and help preserve their ecosystem function and health, including soil carbon storage, biodiversity, wildlife habitat and migration, water filtration, and nutrient recycling.[12,13]
- Canadian beef production accounts for only 0.04% of global Greenhouse Gas (GHG) emissions. In Canada, livestock represent about 3.6% of Canada's total GHG's, while transportation accounts for 28%.[14]
- Land used for cattle production represents 33% of agricultural land in Canada, while creating 68% of the wildlife habitat capacity.[15,16]
- Canadian beef production helps preserve 1.5 billing tonnes of carbon in Canada. If regulatory frameworks were to put a dollar value on this carbon storage, it would be approximately $82.5 billion.[15,16]
- Cattle grazing keeps grasslands healthy by reducing invasive plant species and providing nutrients for soil.
- Grazing lands helps to preserve wildlife biodiversity and helps to maintain bird migratory patterns.
- Manure is a very important source of fertilizer to grow crops and replenish soils. Without it, more chemical fertilizer would need to be manufactured, which increases the carbon footprint of crop production. Manure is well managed in Canada under strict regulations to prevent and minimize runoff and eutrophication into water. Environmental Farm Plans and nutrient management plans help beef ranchers and farmers to maintain healthy soils and healthy stream systems.
- Only 9% of annual cropland is used for growing cattle feed in Canada. Much of the grain or other forage used in feeding cattle was intended for human use, but doesn't meet the standards necessary for human consumption, a secondary benefit of helping to control food waste. Cattle are also fed the by-products, essentially waste, from human food processing, such as pea screenings and distiller's grains.[17]
- Environmental footprint research showed that there was a 15% reduction GHGs between 1981 and 2011, and carbon footprint from beef production is 24% lower due to research innovation and improved production practices. Improved efficiencies also improved land use, with 25% less land being used to produce the same amount of beef.[18]
- Similar research shows that the amount of water required to produce one kilogram of beef in Canada has decreased 17% over 30 years, from 1981 to 2011.[19] This positive change is attributed to improved cattle management, genetics and crop yields. The majority of water from precipitation and groundwater is used for crops and pasture, with less than a quarter for cattle to consume, and only 1% for beef processing.

INDIVIDUAL EATING HABITS THAT CAN MAKE A DIFFERENCE TO ENVIRONMENTAL IMPACTS

Here are some mindful habits individuals can make to adjust their eating habits and make a difference to environmental impacts:

Eat recommended serving sizes

- Over-eating is a form of food waste. Data suggests that GHG are positively correlated with total energy intake – that is, the larger the portion size, the higher the greenhouse gas emissions.
- 'Super-sizing' can considerably impact the environmental footprint and doesn't do any good for your body either. It's time to re-think the value and amount of resources that go into our food.[10]

Eat real foods and reduce ultra-processed foods

- In addition to negative health impacts, consumption of discretionary foods impact the environment negatively from a need for resource development input.
- Canadian Heart and Stroke Association insights reveal that half our daily calories come from ultra-processed and discretionary foods, and that kids ages 9 to 13 are the biggest consumers, with over 57% of their calories coming from these low-nutrient, high-calorie food sources – across ALL socio-economic brackets. The more processing involved in food production, the more pronounced environmental impacts from the food system. As a personal control measure, choose to eat real foods – those minimally processed/closest to their natural state, and reduce 'discretionary' food consumption.[8]
- Many developed countries' dietary patterns have changed to incorporate a higher proportion of discretionary foods as part of the daily diet with a growing proportion of calories coming from these empty-nutrient foods: such as alcohol, chocolate and baked goods, cakes and biscuits, savoury snacks like potato chips and French fries, sugar sweetened beverages, snack bars, ice cream. Choose foods that contribute to health and well-being so their production impacts count as a benefit.[20]
- Enrich food skills, such as planning meals and cooking know-how to take advantage of basic foundational foods that are better for health and the environment.

Buy What You Need And Use What You Buy

- Food waste directly relates to environmental impacts. In 2014, the value of food waste and loss in Canada was estimated at $31 billion. Reducing food waste is an immediate way to ensure we aren't wasting resources.[21]
- When grocery shopping, buy what you can use so you don't have food spoil. Some handy tips are to plan your meals, and use a shopping list when going to the grocery store.
- When eating out order what you can reasonably eat, split meals or take home what you can't eat in order to eat it later

WRAP UP:

It's important to remember no one food is the panacea of all nutrients. Beef should be consumed and valued for its high quality protein, content of zinc, iron, selenium, B-vitamins and more. Beef is lean when trimmed, satiating (fills you up with high quality nutrients for very few calories), delicious and fits into a heart- healthy diet. But we should enjoy eating other sources of protein for their unique package of nutrients as well. Healthy eating is truly a matter of balance and moderation.

As Canadians, we are lucky to have a variety of choices in the marketplace when it comes to the foods we have available. We encourage you to make your own decisions about what foods you eat for health, but remember that variety and moderation are key!

Appendix:

Canada Beef Guidance on Public Consultative Input to Canada's Food Guide 2017:

1. Plant vs Animal Proteins and Health

To promote legumes, nuts and seeds as the rich sources of protein is incorrect and misleading information, as these foods provide less and lower quality protein than do animal foods, often with higher calories per serving needed.

There is no need to promote/encourage eating plant based proteins vs animal based proteins as both can be part of a healthy diet. It seems to be a disservice to our health to insinuate that beans or tofu are equivalent to meat and meat products from a nutrition and health perspective because they just simply are not. The availability of iron and zinc and the quality of protein in plant based protein sources is inferior or not as accessible to our bodies as the same nutrients found in beef. I would worry that certain demographics would be at risk of being deficient in iron and zinc by being encouraged to reduce the amount of red meat they eat.

2. Plant vs Animal Proteins and Environmental Impacts

The environmental impacts of growing food would be best to focus on reducing food waste, which will have the most significant impact both for the environment and for individuals. The sustainability data on foods grown is not proven or measurable and can help perpetuate misinformation. Grazing livestock helps preserve Canada's grassland habitats, sequester carbon and promote biodiversity. There is also a large difference in the types of foods that can be sustainably grown in Canada vs other parts of the world, and the Food Guide should promote Canadian foods wherever possible. It is important to consider the unique nature of Canada's landscape and population and not define sustainability or healthfulness on data from other countries.

Links:

[1]https://www.foodguideconsultation.ca/guiding-principles-detailed

Austrailian Blog post Ridoutt: https://blogs.csiro.au/ecos/low-environmental-impact-diet/?utm_source=ECOS-2017-11&utm_medium=newsletter&utm_campaign=ECOS

Water use intensity of Canadian beef production in 1981 as compared to 2011, GetahunLegessea1Marcos R.C.Cordeirob1Kim H.OminskiaKaren A.Beauchem-inbRolandKroebelbEmma J.McGeoughaSarahPoguebTim A.McAllisterb, Science of the Total Environment, Volumes 619–620, 1 April 2018, Pages 1030-1039 https://doi.org/10.1016/j.scitotenv.2017.11.194. Link for water study: https://www.sciencedirect.com/science/article/pii/S0048969717332527

References:

[1]Source: https://www.foodguideconsultation.ca/guiding-principles-detailed
[2]Dietary Strategies to Reduce Environmental Impact: A Critical Review of the Evidence Base, Bradley G Ridoutt,1,2 Gilly A Hendrie,3 and Manny Noakes3, 2017 American Society for Nutrition. Adv Nutr 2017;8:933–46; https://doi.org/10.3945/an.117.016691
[3]Source: http://www.who.int/mediacentre/news/statements/2015/processed-meat-cancer/en/
[4]Red Meat Nutrition Brief. January 2018. Data derived from the 2015 Canadian Community Health Survey – Nutrition
[5]Source of nutrient values: Health Canada, Canadian Nutrient File, 2015, food codes: Beef 6172, Peanut Butter 6289, Black Beans 3377
[6]Source: Evidence Review for Dietary Guidance, Technical Report, 2015, Health Canada https://www.canada.ca/en/health-canada/services/publications/food-nutrition/evidence-review-dietary-guidance-summary-results-implications-canada-food-guide.html
[7]Canadian Standing Senate Committee on Social Affairs, Science and Technology. Obesity in Canada. A Whole-of-Society Approach for a Healthier Canada. Ottawa: The Standing Senate Committee on Social Affairs, Science and Technology; 2016. 56p.
[8]Source: https://www.heartandstroke.ca/-/media/pdf-files/canada/position-statement/saturatedfat-eng-final.ashx
[9]Source: http://www.diabetes.ca/diabetes-and-you/healthy-living-resources/diet-nutrition/basic-meal-planning
[10]Source: https://blogs.csiro.au/ecos/low-environmental-impact-diet/?utm_source=ECOS-2017-11&utm_medium=newsletter&utm_campaign=ECOS
[11]Source:Commission for Envrionmental Cooperation (CEC) 2015
[12]Statistics Canada. Human Activity and the Environment: Annual Statistics 2009. Table 1.2. Global availability of agricultural and arable land, 2005.http://www.statcan.gc.ca/pub/16-201-x/2009000/t230-eng.htm
[13]Canadian Roundtable for Sustainable Beef (CRSB). (2016). National Beef Sustainability Assessment and Strategy Summary Report. https://crsb.ca/assets/Uploads/About-Us/Our-ork/NBSA/290ae9c611/NBSA_and_Strategy_summary_report_web1.pdf
[14]Environment Canada. (2015). National Inventory Report: Greenhouse Gas Sources and Sinks in Canada Executive Summary, 1990-2013; The Canadian Government's Submission to the UN Framework Convention on Climate Change. Government of Canada, Environment Canada. Gatineau: Her Majesty the Queen in Right of Canada. Retrieved from www.ec.gc.ca: https://www.ec.gc.ca/ges-ghg/default.asp?lang=En&n=5B59470C-1&printfullpage=true
[15]Canadian Roundtable for Sustainable Beef. (2016). National Beef Sustainability Assessment and Summary Report. Calgary: CRSB
[16]Canadian Roundtable for Sustainable Beef (CRSB). (2016). National Beef Sustainability Assessment and Strategy Summary Report. https://crsb.ca/assets/Uploads/About-Us/Our-ork/NBSA/290ae9c611/NBSA_and_Strategy_summary_report_web1.pdf
[17]Source: CRSB 2016 https://crsb.ca/about-us/our-work/sustainability-benchmark/
[18]Source: http://www.beefresearch.ca/blog/our-environmental-hoofprint-is-shrinking-but-our-reach-is-growing/
[19]Source: http://www.beefresearch.ca/blog/the-canadian-beef-industrys-water-footprint-is-shrinking
[20] Time to curb our appetite for ultra-processed food. Heart & Stroke Foundation News Release. Dec. 5, 2017.
[21]Source: http://www.cbc.ca/news/business/canada-food-waste-1.3813965

Brought to you by Canada Beef

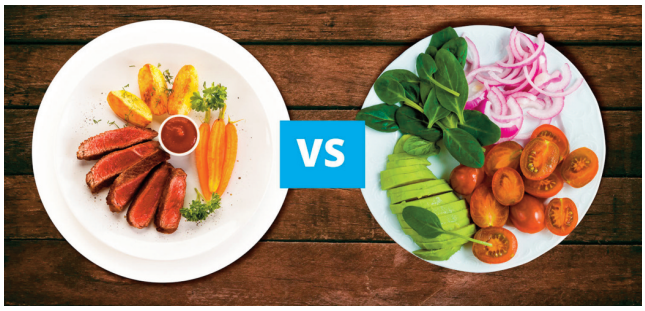
Does your 'plant-based diet' include meat?
HERE'S WHY IT SHOULD.

THINKBEEF.ca

January 2018

There is a great deal of talk, and dare I say, perhaps confusion over the term 'plant-based' diet, which is big news these days. Most of us don't eat enough fruits, veggies or fibre, so encouraging more consumption of plant foods may indeed provide health benefits in the prevention and treatment of certain diseases.

But confusion arises when we equate a plant-based diet with one that excludes meat.



What is a plant-based diet, anyway?

Simply put, a plant-based diet is one that includes more plant than animal foods. A person can eat a plant-based diet ranging from eating 100% plant foods (fruits, vegetables, whole grains, and legumes) to eating some plant- and some animal-based foods.

Any diet pattern, whether it be meat-containing or not, can be healthful if diligently planned and executed. Of course, just because a food is plant-based doesn't necessarily make it healthy. Cookies, French-fries, potato chips and pop are all plant-based foods, but eating too many of these, or other refined, processed and nutrient-poor foods will not contribute to your health!

What people eat is a very personal choice. However, at present, we live in an environment of negative messaging around many foods and nutrients – especially, lately, about foods of animal origin.

I believe it's important to educate people on what they are giving up when they choose to give up meat. Meat gives us high quality protein, easily-absorbed iron and zinc, an impressive range of B vitamins, and more – nutrients that are difficult to get enough of from plant foods. And you don't need to eat a large amount of meat to reap the benefits. A serving of meat is only about the size of your palm or a deck of cards.

Consider some examples... Since iron is not well absorbed from plant-based foods, vegetarians need almost twice as much iron as meat eaters. See our iron brochure for more information about this topic. Vitamin B_{12} is found only in animal products, so if you don't consume animal foods, you need to take a vitamin B_{12} supplement to prevent deficiency. Meat is also particularly protein dense. You would need to eat 3.5 servings of almonds (over 700 calories) to get the same amount of protein you would get in 1 portion of beef (less than 200 calories). And since nuts, unlike meat, are not a source of complete protein, you need to combine them with other protein foods to get the full protein benefit. See this blog for more examples of how meat stacks up against plant proteins.

Nature has given us a basket of foods to enjoy, chockfull of health-giving nutrients that support our optimal health. I believe this is no mistake. The nutrient content of nature's whole foods differ immensely and it's why our grandmothers told us to emphasize variety.

Planning a healthy plant-based meal? For maximum nutrition, flavour and satisfaction, use the 'balanced plate' method: put vegetables and/or fruit on ½ of your plate, whole grains or unprocessed starchy food on ¼ of the plate, and lean protein, such as beef, on the other ¼ of your plate.

Brought to you by Canada Beef. Written by Karine Barlow, RD

Beef and Fat
BEEF'S PLACE IN HEART HEALTH

THINKBEEF.CA

February 2018

Canadians are consuming red meat in moderate amounts. On average, Canadians consume 288 grams of fresh red meat per week.[1] That is less than 1 portion of red meat per day.

On average, fresh red meat contributes only 7% of the fat consumed in the diet of Canadians.[2]

More than half of the fat in beef is unsaturated. In fact, most of the unsaturated fat in beef is oleic acid, the same type of healthy fat found in olive oil.[3]

A typical 75 gram portion of cooked beef contains only 3 grams of saturated fat.[3] That is approximately the same amount of saturated fat you would find in a 75 gram portion of cooked Atlantic salmon.[4]

Research supports including beef in a heart healthy diet. Over 10 years of research shows that eating fresh red meat does not increase heart disease risk, and may actually help decrease cholesterol levels.

- The European Prospective Investigation into Cancer and Nutrition (EPIC) found no association between eating red meat and any cause of death, including cancer or heart disease. This study followed close to half a million people for more than 12 years.[5]
- The BOLD study, published in the American Journal of Clinical Nutrition, demonstrated that heart healthy diets which included lean beef were as effective as the DASH diet for cholesterol management.[6]

Early studies found an association between heart disease and saturated fat. However, more recent studies have found no such association.[7]

Red meat consumption is down; according to Statistics Canada data, red meat consumption declined 14 grams per day between 2004 and 2015.[8]

In contrast, consumption of highly processed ready-to-eat foods is increasing and now accounts for almost 50% of our daily calorie (energy) intake.[9] Fresh red meat contributes only 5% of total calorie intake.[2]

Results from the latest government nutrition survey show that the majority of the calories in the diets of Canadians come from pre-prepared, ready-to-eat dishes such as pizza, burgers, sandwiches and frozen dishes, followed by packaged breads and sweetened drinks. These foods are typically calorie dense and nutritionally poor, and they displace nutrient-rich, whole foods in our diets.[9]

According to the Heart & Stroke Foundation, consuming a balanced diet that includes plenty of vegetables and fruit, whole grains or alternatives, and proteins from various sources (including lean meats), contributes to a decreased risk of heart disease, stroke and other chronic diseases.[7]

Further Resources:
Cholesterol Card: http://thinkbeef.ca/wp-content/uploads/2018/03/Cholesterol-Card_REV_3.2018_3.pdf
Beef Benefits Infographic: http://thinkbeef.ca/wp-content/uploads/2017/03/Beef-Benefits-1024x762.jpg
Plant-Based Diet: http://thinkbeef.ca/wp-content/uploads/2018/02/Plant-based-Diets-1.pdf
Meat Consumption: http://thinkbeef.ca/wp-content/uploads/2018/03/How-much-meat-do-we-eat-the-reality-check_3.2018-5.pdf
Saturated Fat: https://canadabeef.ca/makeitbeef/as-the-world-turns-heart-and-stroke-foundations-new-position-on-saturated-fat/
Beef and Your Heart: https://canadabeef.ca/beef-and-your-heart/

References:

[1]Red Meat Nutrition Brief. January 2018. Data derived from the 2015 Canadian Community Health Survey – Nutrition.
[2]Fresh and Processed Meat Intake: A Canadian Perspective (2018). Data derived from the 2015 Canadian Community Health Survey – Nutrition.
[3]Health Canada, Canadian Nutrient File, 2015. Food code 6172, beef, composite cuts, steak/roast, lean and fat, cooked.
[4]Health Canada, Canadian Nutrient File, 2015. Food code 3183, salmon, Atlantic, farmed, baked or broiled.
[5]Rohrmann S et al. Meat consumption and mortality – results from the European Investigation into Cancer and Nutrition (EPIC). BMC Medicine 2013; 11: 63 (e-pub).
[6]Roussell MA et al. Beef in an Optimal Lean Diet Study: effects on lipids, lipoproteins and apolipoproteins. Am J Clin Nutr 2012; 95(1): 9–16.
[7]Heart & Stroke Foundation Position Statement: Saturated Fat Heart Disease and Stroke. August, 2015.
[8]Fresh Red Meat and Processed Meat Eaten per Day: 2004 vs 2015. Source: 2004 Canadian Community Health Survey - Nutrition; 2015 Canadian Community Health Survey - Nutrition A Canadian Perspective.
[9]Time to curb our appetite for ultra-processed food. Heart & Stroke Foundation News Release. December 5, 2017.

Brought to you by Canada Beef

BRIEFING NOTE
Mandatory Front-of-Package (FOP) Labelling for Foods

THINKBEEF.CA

February 2018

INTRODUCTION

On February 10, 2018, regulations amending the Food and Drug Regulations (Nutrition Symbols, Other Labelling Provisions, Partially Hydrogenated Oils and Vitamin D) were posted in Canada Gazette Part I. These regulations are part of the government's Healthy Eating Strategy which also includes revising Canada's Food Guide and restrictions on marketing food and beverages to children.

Public consultations on the FOP labelling are open until April 26, 2018 for Canadians to weigh in on which front-of-package nutrition symbol they will find most useful. Canada Beef's submission on the FOP symbol is detailed in the Appendix of this document.

NUTRIENTS OF CONCERN

Health Canada states saturated fat, sodium and sugars are nutrients of concern based on association with chronic diseases such as diabetes for example. Dietary survey data indicates that Canadians consume these nutrients in excess of recommended limits. The World Health Organization recommends that saturated fat intake not exceed 10% of total energy intake, which is approximately 20 grams per day for a 2000 calorie reference diet.

THRESHOLDS FOR FOP LABELS

FOP labelling will be triggered if the saturated fat, sodium and sugars in prepackaged foods represent 15% of the daily value (DV) per reference amount.

Reference Amounts for FOP Labels Thresholds[ii]

Meat Category	Reference Amount[1]	15% DV threshold
Ground beef, raw	125 grams	3 grams saturated fat 350 mg sodium 15 grams sugars
Deli meats – fully cooked	55 grams	
Uncooked sausage	75 grams	
Fully cooked sausage	55 grams	

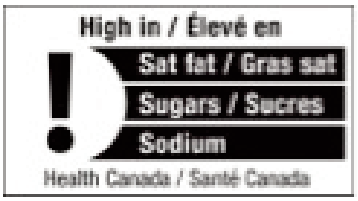
[1]reference amounts in Schedule M of the Food and Drug Regulations

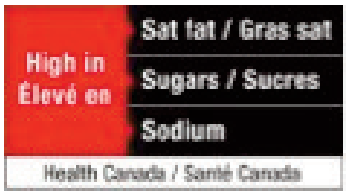
EXEMPTIONS FROM FOP LABELLING

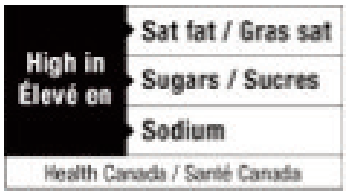
The proposed changes to the Food and Drug Regulations do not require single-ingredient foods, like meat, poultry, fish, vegetables and fruit, to carry a Nutrition Facts table. These foods remain exempt; therefore, are excluded from FOP labelling. However, as is currently in the regulations, all ground meats – beef, chicken, turkey, veal, and pork – require a Nutrition Facts table. Ground beef will require a FOP label for saturated fat.

PROPOSED FOP SYMBOLS

Progress has been made in tempering the fear-mongering visuals of the initial 'skull & bone' and 'stop sign' suggestions. The proposed FOP symbols are:







These symbols are not currently in the regulations however, the nutrition symbol chosen as a result of the online consultation process will be included in the final Regulation that will be published in Canada Gazette, Part II, and will be inserted directly in the *Food and Drug Regulations*.

Health Canada states the estimated Canadian population average intake of saturated fat is approximately 10% of energy (20 grams). Based on Canadian consumption patterns, it would appear that saturated fat should not fall into the category of 'nutrients of concern'.

Of concern is these nutrients were identified based on an analysis of the 2004 Canadian Community Health Survey data; not the most recent iteration in 2015. This is important since dietary patterns have changed since 2004. Saturated fat consumption may be less than previously understood, which questions the validity of being identified as a nutrient of concern. Furthermore, the science around saturated fat and health outcomes has evolved. Heart and Stroke Canada has taken a new position on saturated fat stating "...recommendations do not include a threshold or limit for saturated fat and instead focus on a healthy balanced dietary pattern, which can help Canadians reduce consumption of saturated fats", with a focus on a variety of minimally processed foods, which include lean meats.

SUMMARY

Government policy should be developed using the most current consumption data and science available.

The objective to provide quick and easy guidance to encourage consumers to make informed choices, while well-intended, is not achieved in this proposed policy. In fact, some nutrient-poor and highly processed foods would not have to display a FOP label since they do not meet the thresholds for sodium, saturated fat and sugar like some cookies, chips and diet soda.

On the other hand, many wholesome, nutritious foods, like ground beef, are above the thresholds for these nutrients and would have to display one. It is a negative approach to dealing with foods that are meant to nourish.

Appendix:
Canada Beef reply to Health Canada's Front of Pack Label Public Consultation
https://www.healthyeatingconsultations.ca/front-of-package?utm_source=ehq_newsletter&utm_medium=email&utm_campaign=ehq-Health-Canada%E2%80%99s-Food-Front-of-Package-Nutrition-Symbol-Consultation-&utm_campaign=website&utm_source=ehq&utm_medium=email

Submitted by Canada Beef Feb 14 2018

Process:
• 4 images are presented and you are asked to pick which of the 4 you would prefer to see on pack – you are not given the option to pick NONE and you cannot skip the question.
• You are then asked to explain your preference from a selection of 4 options – of note, you are not allowed to give a comment. You can select more than 1 reason.

Response:
The image with the magnifying glass was selected as it at least demonstrates one should consider the nutrient in question marked on the label and seems to be less of a 'warning' label. It encourages consideration and thoughtfulness – not dismissal and warning.

Response Submitted in the Comment Box:
"We should stop villainizing foods based on single nutrients and labelling them with Warning Signs is not going to make a difference to health. The single nutrient focus of nutrition messages in the past has only served to distract us from this far more important issue – we have faulty eating patterns of snacking instead of meals, eating alone, eating on the run, eating portions that are super-sized and skipping meals (like breakfast). We have become over reliant on over-processed foods, with close to 50% of calories for Canadians coming from these foods (according to studies sited by Heart & Stroke). Encouraging and enabling Canadians to cook meals at home with our basic wholesome foods in proper proportions would be a better strategy than nutrient warning labels – nutrient contributions of the food as a whole should be the consideration and healthier eating patterns."

Brought to you by Canada Beef

Revising Canada's Food Guide – What the Doctor(s) Said

THINKBEEF.CA March 2018

During the open consultation period to gather opinions for the Canada's Food Guide revamp, physicians across Canada took it upon themselves to write an open letter to Health Canada at www.changethefoodguide.ca . Over 700 Canadian physicians and allied health officials signed their names to endorse the letter. Considering the science, these health professionals took a stand to refute many of the Health Canada's revisions for our Food Guide. Read on...

Office of Nutrition Policy and Promotion
Laboratory Centre for Disease Control (LCDC) Building # 6 Address Locator: 0603C
Tunney's Pasture Ottawa, Ontario K1A 0L2

July 24, 2017

RE: Dietary Guidelines

Dear Mr. Hutchinson, Dr. Philpott, and the Office of Nutrition Policy and Promotion;

During phase one of your public consultation on the new dietary guidelines, we submitted an open letter on behalf of 190 Canadian physicians and allied health professionals outlining our recommended changes to the food guide. Today we are submitting a revised version of the letter, now signed by 717 physician and allied health professionals. We actually represent a much larger group of approximately 2,600 Canadian clinicians, mostly physicians, all whom are greatly concerned about the drastic deterioration in our nation's health over the last four decades of poor dietary advice. As such, we have been using food as medicine to reverse disease.

We believe that our input, as doctors, is crucial for your committee to consider. Not only are we on the frontlines of dealing with the epidemics of obesity and diabetes, but we represent a group of doctors who have found a sustainable, evidence-based and groundbreaking way to successfully reverse these conditions through diet alone. If Canada wants to begin reversing its epidemics of chronic diseases and restore the health of Canadians using the most updated evidence available, authorities should at least hear the testimony of doctors who are actually accomplishing that.

We would like to applaud you and your team for recognizing that sugar is a massive problem in our population, especially for kids. We have reviewed the proposed changes to the dietary guidelines; we believe that shifting the focus away from sugar and processed food will have a dramatic impact on the incidence of obesity, diabetes and other nutritional diseases. We also applaud the decision to start working towards legislation that would stop the marketing of junk food to children. Rather than decide which food items are of concern, we would encourage adopting the recommendations of the Canadian Heart and Stroke Foundation, which are to eliminate the marketing of all food and beverage products to children and youth under 17.

Although we see many positive and needed changes in your proposed guiding principles, we feel that key critical areas are missing which should be addressed, specifically the continued, perceived impact of saturated fats on cardiovascular risk, and the failure to address the science demonstrating that high carbohydrate diets unfavorably impact nutritional diseases. To issue guidelines which continue to caution against saturated fat and which do not caution against excessive refined carbohydrates would be a tremendous missed opportunity to give Canadians the advice they need to reverse our current nutritional disease epidemic.

Fat and saturated fat

It appears that your committee remains focused on the perceived need to reduce saturated fat. In the recent CBC report on food packaging planned by Health Canada (1), there was report on front-of-package warnings for items containing sugar, salt and saturated fat. While we absolutely agree with warnings on high-sugar items, we are greatly concerned about the suggestion that warnings might be placed on nutrient dense whole dairy products, such as full fat cheese and yogurt. Sweetened yogurt should be cautioned based on the sugar content, but unsweetened yogurt and other full fat dairy products are not only harmless, but very likely have a protective effect against heart disease (2, 3). One study found that children are less likely to be obese later in life if they drink full-fat milk rather than skim (4). This study showed a reduced incidence of Type 2 diabetes with increased concentration of dairy fats (5). Numerous other studies have shown that higher dairy fat is either associated with decreased obesity or is cardioprotective (6, 7, 8).

In order to reduce the incidence of Type 2 diabetes and cardiovascular disease, one should caution against the agents actually implicated in these diseases, which are sugar and refined carbohydrates - not natural saturated fat. In this review article (9), the authors examine the evidence linking saturated fats and sugars to coronary heart disease and conclude "Dietary guidelines should shift focus away from reducing saturated fat, and from replacing saturated fat with carbohydrates, specifically when these carbohydrates are refined. To reduce the burden of CHD, guidelines should focus particularly on reducing intake of concentrated sugars, specifically the fructose-containing sugars like sucrose and high-fructose corn syrup in the form of ultra-processed foods and beverages." Again, we fully support front-of-package cautionary symbols on items containing added sugar and refined carbohydrates, but it would be an unfortunate mistake to caution against nutritious, whole foods such as full fat dairy.

Although we understand that it is difficult to overcome four decades of entrenched teaching about the long held beliefs of the harms of dietary saturated fat, we have essentially overwhelming evidence now that saturated fat is not harmful in the diet and does not cause heart disease, but rather that the low fat dietary pattern has very likely caused harm (10, 11, 12, 13, 14, 15, 16, 17). A recent review by Hooper et al seems to have supported the ongoing fear of saturated fat (18), but a critical review of this study shows that there was no effect of reducing saturated fat on all-cause mortality, cardiovascular mortality, myocardial infarctions, non-fatal MI's, stroke, coronary heart disease mortality or coronary heart disease events (17). There were reduced combined cardiovascular events, but the authors state in the paper that it was not statistically significant when subjected to a sensitivity analysis. The recent review on saturated fats by the American Heart Association is an outlier and must be viewed in the context that this organization launched the very first dietary recommendations against saturated fat (and cholesterol) in 1961 and has been vigorously defending this position ever since. We encourage you to read the recent article published on Medscape by Nina Teicholz and Dr. Eric Thorn (19), where the anomaly of the American Heart Association report is explained. They conclude that "over the past half century, the diet-heart hypothesis has been tested more than any other hypothesis in the history of nutrition, and thus far the results have been null."

Dr. Salim Yusuf of McMaster University who signed our open letter, recently presented results from the PURE study (20), which is an ongoing high level epidemiological study involving 14,000 people in 17 countries. While not yet published, the results of this critical study go directly against the current dietary guidelines and the proposed ongoing caution against saturated fat. This data showed that dietary fat is protective against cardiovascular disease, and specifically showed that saturated fat was not harmful and probably beneficial. As well, saturated fats from dairy sources were protective and those from meats were neutral. **Red meat in moderate quantities was neutral.** Importantly, increased carbohydrates were associated with increased cardiovascular disease. The weight of evidence indicates that saturated fat is not harmful, and that it is harmful to replace saturated fat with either carbohydrates or polyunsaturated fatty acids high in omega 6 fatty acids (21, 22).

It is extremely noteworthy that the **Canadian Heart and Stroke Association in 2015 reviewed the same evidence covered by the AHA in its recent review, and instead of an ongoing caution, they decided to eliminate any percentile caps on saturated fat, judging that they were not warranted**. In their Position Statement on Saturated Fat in Heart Disease (23), they state "While the discussions and dialogue continue, it is important to note that the overall quality of one's diet, combined with the types and quantity of food, have more impact on health than any single nutrient such as saturated fat." While we do not suggest Canadians seek out large quantities of

saturated fat, there is no good evidence of its harm, and as such, there is no need for a cap or any caution related to eating the saturated fat found in whole food.

The problem is not saturated fat/cholesterol but insulin resistance

By focusing on saturated fat and LDL-cholesterol as prime drivers of cardiovascular disease, authorities are missing the bigger picture of what has caused our disease epidemics. Researchers over the past decade have discovered that the root cause of obesity and diabetes is the state of insulin resistance. Recent studies have shown that approximately 50% of the adult population in the US is insulin resistant, which is manifested by diabetes or prediabetes (24). We now have good evidence that insulin resistance is strongly related to cardiovascular disease (25), and that insulin resistance improves when carbohydrates are reduced.

The previous dietary guidelines included carbohydrates as the foundation of the diet. Although it admirable that you now advise using whole foods, cooking at home and avoiding processed food, we believe you should also caution against consuming too many refined carbohydrates, which have contributed to our obesity and diabetes epidemics through the mechanism of insulin resistance. Food availability data show that over the last four decades, our intake of whole grains has decreased while our intake of refined carbohydrates has increased (26). The authors of this large epidemiological food consumption study concluded that "the undisputable finding of our paper is the fact that the highest CVD prevalence can be found in countries with the highest carbohydrate consumption, whereas the lowest CVD prevalence is typical of countries with the highest intake of fat and protein" (27). We have also seen a dramatic increase in the use of fructose, especially high fructose corn syrup, and we can show this has caused harm; excessive fructose intake is linked to dyslipidemia, non alcoholic fatty liver disease (NAFLD), metabolic syndrome, obesity and Type 2 diabetes. Alarmingly, many of these conditions are now presenting in children (28). Pediatric endocrinologist Dr. Robert Lustig documented improvement in triglycerides, LDL-C, blood pressure, insulin resistance and glucose tolerance in adolescents with metabolic syndrome within just 9 days of substituting fructose with non-sugar starch (29). Given that two thirds of items in Canadian grocery stores contain added/hidden sugars (often fructose) (30), we feel a specific comment regarding their detrimental effects is warranted. These effects are especially harmful in populations that are already insulin resistant, which includes anyone who suffers from obesity, Type 2 diabetes or prediabetes. This is also a critical reason to ensure that food labels clearly state the amount of 'added sugar' in addition to the total sugar content. By incorporating these ideas, the next food guide can lead Canadians to reverse many processed food diseases.

Low carbohydrate diet, backed by "gold standard" research

Our colleagues are physicians who are successful in reversing chronic nutritional diseases. The health of patients improves dramatically in every possible way when they adopt a diet lower in carbohydrates and higher in fat than what the government recommends. Patients who are obese or diabetic can no longer tolerate large amounts of carbohydrates, and for them, the current recommendation of 6+ servings of carbohydrates daily is too much. Of crucial importance is the fact that this approach is now supported by a large body of rigorous science. Low-carbohydrate diets have been evaluated in nearly 100 clinical trials, which show that the diet not only results in greater weight loss than any other diet, but also improves cardiovascular risk factors. Fifty-seven randomized controlled clinical trials have been performed comparing weight loss in low-fat versus low-carbohydrate diets; 48 of these trials showed more weight loss among patients in the low-carbohydrate arm (29 of these results were statistically significant), while 7 trials showed more weight loss in the low-fat arm (zero were statistically significant) (31). From a cardiovascular standpoint, a low carbohydrate diet consistently lowers triglycerides, increases HDL-cholesterol, decreases plasma insulin, decreases hemoglobin A1c--all of which are signs of decreased heart-disease risk, with no significant changes to LDL-cholesterol or total cholesterol (32, 33).

On lower-carbohydrate diets, patients not only lose weight without hunger, but their diabetes starts to reverse, such that many patients get off all their medications within months. The results on a pioneering trial of a very low-carbohydrate diet on some 330 diabetic patients found that 98% of them had reduced or eliminated their insulin after one year, and nearly 60% of them had reversed their diabetes diagnosis (34). Many other trials have shown similar results (35, 36, 37, 38).

Problem of a one-size-fits-all diet

We are entering the era of personalized medicine and our nutritional advice must change to account for that. Here is an example of what we see in our family and friends, and what our colleagues see in their patients every day. Just one year ago, a 36 year old male family member of one of the authors weighed 270 lbs and had nearly lifelong, 'poorly controlled' Type 2 diabetes with an A1c of 11.0, a fasting glucose of 15 mmol/L, and a blood pressure of 180/130 mmHg. He was on three oral diabetes medications and two antihypertensive medications. He found out about eating a whole food, low carbohydrate, high/healthy fat diet to treat his disease, and within three days of changing only the food he was eating, his blood pressure came down to 140/95 mmHg, and his fasting sugar was down to 8 mmol/L. Within 3 months, his A1c was down to 8.0, and his most recent A1c (after 9 months) was 6.0. He is now coming off his medications with medical supervision, is 40 lbs lighter, and feels like his life was saved by removing the sugar and refined carbohydrates that had been continually raising his blood sugar and insulin levels. This man has a much lower tolerance for carbohydrates than someone who is not as inherently insulin resistant, and so his food intake for optimal health will look very different than a healthy, insulin sensitive and active person. This shows that we cannot offer one-size-fits-all nutritional advice.

So many Canadian physicians have looked at the modern evidence and are changing the course of people's lives away from disability and early death by using individualized therapeutic nutrition, often in the form of low carbohydrate, high natural fat diets. As so clearly illustrated in the above example, this highly effective, sensible and groundbreaking nutritional approach can reverse disease and has the unparalleled potential to salvage our healthcare system. It is time that Canada's dietary guidelines catch up with today's medicine and endorse the use of low-carbohydrate diets as an important treatment option for chronic nutritional diseases.

The problem with issuing dietary guidelines meant for the average healthy Canadian, is that half our population is already insulin resistant, and 30% are obese or overweight (39), an epidemic which began when the original low fat, high carbohydrate dietary guidelines were issued. People who are already sick with metabolic dysfunction require a different set of dietary guidelines as compared to the healthy Canadian. The proposed changes to the dietary guidelines also do not take into account the issue of cultural diversity. Your proposed guiding principles state that "Traditional foods and the harvesting of traditional foods are intrinsically linked to identity and culture, and contribute to overall health." We could not agree more, but your advice to reduce saturated fat goes against traditional diets. The traditional diet of some populations in Canada is comprised mainly of animal fat and meat, which is certainly not low in saturated fat. We know that populations who maintain their traditional diet have low-to-non-existent rates of heart disease and Type 2 diabetes.

Science on other dietary issues (red meat, salt)

By including cautions against red meat, you are relying on epidemiological, or associational, studies. These do not stand up to more rigorous clinical trial data which **does not demonstrate any negative health consequences from eating meat**. Here, for example, is a recent review which shows no negative influence on cardiovascular risk factors with red meat intake of more than 0.5 servings per day (40). **The advice to eat less red meat may already be having some unintended consequences. A recent report by Public Health England shows that 25% of working age women do not have enough iron in their diet, and that almost half of teenage girls are at risk of iron-deficiency anemia. "Encouraging all population groups to eat less red and processed meat, as the current Eatwell Guide does, is not helpful and places women at risk of iron deficiency and related anaemia**" (41).

As well, it appears that your report retains a recommendation for lower salt intake, but this another area where recent evidence shows that the guidelines have been incorrect. There are more than four large, high-quality studies published in top medical journals showing that less is not better and in fact can be harmful (42, 43, 44). These studies confirm that a moderate amount of salt is optimal.

Summary

Overall, it sounds like the dietary guidelines committee will be making some important changes to our Canadian guidelines, specifically in relation to sugar and processed food, which is excellent. However, we are concerned that your committee is relying on older evidence reviews that do not capture the most updated information available regarding salt, saturated fat and the impact of insulin resistance, all of which have undergone drastic paradigm shifts in the last several years. If previous guidelines were deemed not to be evidence based (45), then why would we go back to that poor evidence base and simply rehash old concepts which support outdated ideas? We now have four decades of conclusive population-based evidence that the low fat movement has failed, resulting in an alarming increase in the burden of nutritional diseases which threatens to bankrupt our medical system. We need to re-evaluate the evidence by which these recommendations have been made to make sure this type of catastrophic mistake is not repeated.

We strongly recommend using language about saturated fat which is similar to the Heart and Stroke Foundation position statement. We know that food with natural fats nearly always includes a mixture of saturated as well as mono- and polyunsaturated fats; for example, olive oil contains 14% saturated fat, and sirloin steak contains equivalent amounts of saturated and monounsaturated fats. Thus it is important to focus on nutritious whole food rather than individual macronutrients.

Lastly, we wonder if you and/or some of your guidelines committee might entertain a meeting to discuss the guidelines and our concerns, at a location of your choice. We would bring many interested physicians who are reversing chronic disease with food, from all over Canada; Nina Teicholz, the author of 'The Big Fat Surprise' and The BMJ article cited above, is also willing to come speak. We could do this anytime you might have an opening in your schedule, but some of us are already speaking on Therapeutic Nutrition and a real/whole food way of eating to reverse chronic disease at the Physician Assistant conference in Ottawa in October, so that would certainly be a convenient time.

We thank you for your consideration, and we look forward to further engagement regarding our letter.

Thank you kindly for your time,

Dr. Barbra Allen Bradshaw Anatomical Pathologist Vernon, BC
Dr. Carol Loffelmann Anesthesiologist Toronto, ON
Contributions by: Nina Teicholz

References:
1. CBC News. June 21, 2017. New federal healthy eating strategy may lead to warning symbols on your cheese. [homepage on the Internet]. [Cited 2017 June 26]. Available from:
http://www.cbc.ca/beta/news/politics/federal-food-guide-chanages-healthy-eating-1.4170 245
2. Alexander DD, JP Fryzek et al. Dairy consumption and CVD: a systematic review and meta-analysis. Br J Nutr. 2016 Feb 28;115(4):737-50.
3. Guo, J, S Soedamah-Muthu et al. Milk and dairy consumption and risk of cardiovascular diseases and all-cause mortality: dose–response meta-analysis of prospective cohort studies. Eur J Epidemiol. (2017) 32: 269.\
4. Vanderhoot S, J Macguire et al. Relation between milk-fat percentage, vitamin D, and BMI z score in early childhood. Am J Clin Nutr 2017 105: 1567.
5. Yakoob M, D Mozzafarian et al. Circulating Biomarkers of Dairy Fat and Risk of Incident Diabetes Mellitus Among US Men and Women in Two Large Prospective Cohorts. Circulation. 2017 Jul 11;136(2).
6. Kratz M et al. The relationship between high-fat dairy consumption and obesity, cardiovascular, and metabolic disease. Eur J Nutr. 2013 Feb;52(1):1-24.
7. Holmberg S, A Thelin. High dairy fat intake related to less central obesity: a male cohort study with 12 years' follow-up. Scand J Prim Health Care. 2013 Jun;31(2):89-94.
8. Scharf RJ, Demmer RT, DeBoer MD. Longitudinal evaluation of milk type consumed and weight status in preschoolers. Archives of Disease in Childhood Published Online First: 18 March 2013.
9. DiNicolantonio JJ, JH O'Keefe et al. The Evidence for Saturated Fat and for Sugar Related to Coronary Heart Disease. Prog Cardiovasc Dis. 2016 Mar-Apr.
10. de Souza R, S Anand et al. Intake of saturated and trans unsaturated fatty acids and risk of all cause mortality, cardiovascular disease, and type 2 diabetes: systematic review and meta-analysis of observational studies. BMJ 2015;351.

References continued:

11. Schwingshackl L, G Hoffmann. Dietary fatty acids in the secondary prevention of coronary heart disease: a systematic review, meta-analysis and meta-regression. BMJ Open 2013;4(4).
12. Harcombe Z, F Grace et al. Evidence from randomised controlled trials did not support the introduction of dietary fat guidelines in 1977 and 1983: a systematic review and meta-analysis. Open Heart 2015;2.
13. Leosdottir M, G Berglund et al. Dietary fat intake and early mortality patterns--data from The Malmö Diet and Cancer Study. J Intern Med. 2005 Aug;258(2):153-65.
14. Mozzafarian D, EB Rimm, DM Herrington. Dietary fats, carbohydrate, and progression of coronary atherosclerosis in postmenopausal women. Am J Clin Nutr. 2004 Nov;80(5):1175-84.
15. Siri-Torino P, R Krauss et al. Meta-analysis of prospective cohort studies evaluating the association of saturated fat with cardiovascular disease. Am J Clin Nutr 2010;91:535–46.
16. Howard B, J Hsia et al. Cardiovascular Disease: The Women's Health Initiative Randomized Controlled Dietary Modification Trial. JAMA. 2006;295(6):655-666.
17. Harcombe Z. Dietary fat guidelines have no evidence base: where next for public health nutritional advice? Br J Sports Med 2017;51:769-774.
18. Hooper L, D Smith et al. Effect of cutting down the saturated fat we eat on our risk of heart disease. Cochrane Database of Systematic Reviews 2015, Issue 6.
19. Teicholz N, E Thorn. Commentary - Saturated Fats and CVD: AHA Convicts, We Say Acquit. Medscape, July 12, 2017. [homepage on the Internet]. [Cited 2017 July 16]. Available from: http://www.medscape.com/viewarticle/882564
20. Cardiobrief from MedPage Cardiology. Feb 27, 2017. [homepage on the Internet]. [Cited 2017 June 16]. Available from: https://www.medpagetoday.com/cardiology/cardiobrief/63427
21. DiNicolantonio J. The cardiometabolic consequences of replacing saturated fats with carbohydrates or Ω-6 polyunsaturated fats: Do the dietary guidelines have it wrong? Open Heart 2014 1(1).
22. Hamley S. The effect of replacing saturated fat with mostly n-6 polyunsaturated fat on coronary heart disease: a meta-analysis of randomised controlled trials. Nutrition Journal 201716:30.
23. Canadian Heart and Stroke Foundation: Position Statement on Saturated Fat, Heart Disease and Stroke, August 2015. [homepage on the Internet]. [Cited 2017 June 15]. Available from:
http://www.heartandstroke.ca/-/media/pdf-files/canada/2017-position-statements/saturate dfat-ps-eng.ashx
24. Menke A, L Geiss et al. Prevalence of and Trends in Diabetes Among Adults in the United States, 1988-2012. JAMA 2015;314(10):1021-1029.
25. Reaven G. Insulin resistance and coronary heart disease in nondiabetic individuals.
Arterioscler Thromb Vasc Biol. 2012 Aug;32(8):1754-9.
26. Gross L, S Liu et al. Increased consumption of refined carbohydrates and the epidemic of type 2 diabetes in the United States: an ecologic assessment. Am J Clin Nutr May 2004; 79(5): 774-779.
27. Grasgruber P, J Cacek et al. Food consumption and the actual statistics of cardiovascular diseases: an epidemiological comparison of 42 European countries. Food and Nutrition Research. Vol 60 (2016).
28. Havel P. Dietary Fructose: Implications for Dysregulation of Energy Homeostasis and Lipid/Carbohydrate Metabolism. Nutr Rev 2005; 63 (5): 133-157.
29. Lustig R, J Schwarz et al. Isocaloric fructose restriction and metabolic improvement in children with obesity and metabolic syndrome. Obesity 2016; 24(2): 453-460.
30. Acton R, D Hammond et al. Added sugar in the packaged foods and beverages available at a major Canadian retailer in 2015: a descriptive analysis. CMAJO January 12, 2017; 5(1): E1-E6.
31. PHCUK, Summary of Randomized Controlled Trials Comparing Low Carb to Low Fat Diets. [homepage on the Internet]. [Cited 2017 July 16]. Available from: https://phcuk.org/wp-content/uploads/2017/03/Summary-Table-Of-Randomised-Controlle d-Trials-Comparing-Low-Carb-To-Low-Fat-Diets-13.03.2017.pdf
32. Santos FL, JPL Nunes et al. Systematic review and meta-analysis of clinical trials of the effects of low carbohydrate diets on cardiovascular risk factors. Obesity Reviews 2012, 13: 1048–1066.
33. McKenzie MR, S Ilingworth. Should a Low Carbohydrate Diet be Recommended for Diabetes Management? Proceedings of the Nutrition Society. 2017 (76) OCE1 (E19).
34. Hallberg et al. One year results of Virta Health's remote care low carbohydrate diet, unpublished. [homepage on the Internet]. [Cited 2017 July 19]. Available from: http://blog.virtahealth.com/remote-care-promotes-low-carbohydrate-diet-adherence-and- glycemic-control-allowing-medication-reduction-in-type-2-diabetes-abstract/
35. Saslow LR, JT Moskowitz et al. An Online Intervention Comparing a Very
Low-Carbohydrate Ketogenic Diet and Lifestyle Recommendations Versus a Plate Method Diet in Overweight Individuals With Type 2 Diabetes: A Randomized Controlled Trial. J Med Internet Res. 2017 Feb 13;19(2).
36. Goday A, FF Casaneuva et al. Short-term safety, tolerability and efficacy of a very
low-calorie-ketogenic diet interventional weight loss program versus hypocaloric diet in patients with type 2 diabetes mellitus. Nutr Diabetes. 2016 Sep 19;6(9).
37. Hussain TA, HM Dashti. Effect of low-calorie versus low-carbohydrate ketogenic diet in type 2 diabetes. Nutrition 2012 Oct;28(10):1016-21.
38. Tay J, GD Brinkworth et al. Comparison of low- and high-carbohydrate diets for type 2 diabetes management: a randomized trial. Am J Clin Nutr. 2015 Oct;102(4):780-90.
39. Twells, LK, Midodzi W, et al. Current and predicted prevalence of obesity in Canada: a trend analysis. CMAJ Open. Mar 3, 2014. Vol 2 (1), E18-E26.
40. O'Connor LE, JE Kim, WW Campbell. Total red meat intake of ≥0.5 servings/d does not negatively influence cardiovascular disease risk factors: a systemically searched
meta-analysis of randomized controlled trials. Am J Clin Nutr. 2017 Jan;105(1):57-69.
41. Sandeman, George. Women being put at risk of anaemia by following health advice to eat less red meat. The Sun article, July 9. 2017. [homepage on the Internet]. [Cited 2017 July 16]. Available from:
https://www.thesun.co.uk/news/3979250/women-being-put-at-risk-of-anaemia-by-followin g-health-advice-to-eat-less-red-meat/
42. Experimental Biology 2017. "Low-sodium diet might not lower blood pressure: Findings from large, 16-year study contradict sodium limits in Dietary Guidelines for Americans." ScienceDaily. 25 April 2017.
43. Mancia G, J Narula et al. The technical report on sodium intake and cardiovascular disease in low- and middle-income countries by the joint working group of the World Heart Federation, the European Society of Hypertension and the European Public Health Association. Eur Heart J. 2017 Mar 7;38(10):712-719.
44. O'Donnell M, S Yusuf et al. Urinary sodium and potassium excretion, mortality and cardiovascular events. N Engl J Med 2014; 371: 612-623.
45. Teicholz N. The scientific report guiding the US dietary guidelines: is it scientific? BMJ 2015;351.

Brought to you by Canada Beef

UNDERSTANDING BEEF: HEALTH & WELLNESS

KNOW YOUR BEEF

CANADIAN BEEF™

As Canadians, we are fortunate to have a variety of foods to choose from. It's important to remember that every food we eat is unique. No one food is a cure-all and each food contributes to health in its own distinct way. Healthy eating is truly a matter of variety, balance and moderation.

So just how does beef stack up nutritionally? It's important to consider the role that beef plays in a healthy diet.

THE BIG PICTURE

It's the quality of our food choices that count over time. A healthy diet is one that prioritizes whole, fresh foods: lots of fruits and vegetables, high fibre grains and lean, fresh proteins. We call these 'foundational foods'. Healthy eating means choosing foundational foods most of the time. Discretionary, or treat foods, should be occasional.

One simple way to maximize nutrition, flavour and satisfaction in a meal is to use the 'balanced plate' visual: put vegetables and/or fruit on ½ of the plate, whole grains or other starches on ¼ of the plate, and lean fresh protein, such as beef, on the remaining ¼ of the plate.

A UNIQUE NUTRIENT PACKAGE

Red meats, like beef, are nutritious and play an important role in a balanced diet. Beef offers a variety of essential nutrients that support good health. Beef is one of the best sources of high quality protein, iron, zinc and B vitamins. Canada's Food Guide includes beef and other red meats as part of a healthy diet.[1]

Very few foods can match the nutrient density of beef. Beef is a concentrated source of nutrients providing a variety of essential vitamins and minerals for a modest number of calories. For example: one cooked serving of beef is the size of your palm (75 grams) and has as much protein as 3.5 servings of almonds - almost a full cup. For the same amount of iron in 1 serving of beef, you would need to eat 6.5 times the amount of salmon, for the same amount of vitamin B_{12} you would need to eat 7 times the amount of chicken, and for an equivalent amount of zinc, you would need to eat 11 eggs.[2] When it comes to quality calories, with beef you get a great amount of nutrients for a small amount of food. Beef is a powerful nutritional package.

HOW MUCH DO WE EAT?

Canadians eat beef in moderate amounts. According to the latest government nutrition survey, Canadians eat between 3 to 4 servings of fresh red meat per week or 288 grams on average[2] – which works out to be 3 meals – a lunch and 2 dinners for example.

This amount is well below the 500 gram per week limit for cooked fresh red meat as recommended by WCRF24. Considering Canada's Food Guide advises 2 servings of meat and alternatives a day for women, and 3 servings a day for men, the amount of fresh red meat that we eat on average is well within both global and Canadian guidance. A serving of cooked beef is 75 grams, about the size of your palm. On average, fresh red meat contributes only 5% of the total calorie intake of Canadians.[15]

BEEF IN HEALTH RESEARCH

The relationship of beef and health has been extensively studied. Over 10 years of research has found no association between eating fresh red meat and any cause of death, including heart disease or cancer.[3-4] Additionally, research over this time has uncovered some other interesting findings – namely that adults who ate red meat more often: (1) tended to eat vegetables more often;[3] (2) tended to have smaller waists and lower body weights;[3] and (3) eating some red meat was more beneficial for health than eating none.[4]

PROTEIN POWER

Protein is vital at every age and stage. Protein is needed to support children's healthy growth and development as well as optimal bone and muscle strength as we age.[5-7] Plus, research shows protein can help keep you feeling full longer.[8-9]

The protein in beef and other meats is what we call 'complete', meaning it contains all the essential amino acids, whereas plant-based proteins do not. This makes meat more "efficient" at delivering the protein your body requires.

Canadians do not over-consume protein. In fact, Canadians are getting about 17% of their calories from protein.[10] That is at the lower end of the recommended 10-35% of calories from protein.[11]

One portion of beef delivers 26 g of protein and less than 200 calories.[12] Getting the same amount of protein from black beans will cost you about 400 calories, about 600 calories from hummus and about 640 calories from peanut butter.[13] While these are all extremely healthful foods with their own distinct benefits, these comparisons demonstrate how very few other foods deliver as much protein for so few calories. The size of a beef portion is 75 grams of cooked beef – just the size of your palm.

WHAT ABOUT PROTEIN SUPPLEMENTS?

Protein supplements are manufactured from isolated components of whole foods. These are highly processed, refined products. Stated simply, they lack the naturally occurring benefits that come standard with whole foods. When you eat meat, fish, poultry or other protein-dense real foods, you benefit from high-quality, complete-protein, as well as the plentiful vitamins and minerals that come naturally with them – a nutritional 'buy-one-get-one free' scenario of sorts. And all this with a 'clean' ingredient label: nothing added.

WHAT ABOUT SATURATED FAT?

The most recent studies have found no association between heart disease and saturated fat.[14] The contribution beef makes to the fat/saturated fat intake of Canadians is often a topic of discussion. Here are some surprising facts that should be part of the conversation:

- More than half of the fat in beef is *unsaturated*. Most of the unsaturated fat in beef is oleic acid, the same type of healthy fat found in olive oil.[12]
- A typical 75 gram portion of cooked beef contains only 3 grams of saturated fat.[12] That is the same amount of saturated fat you would find in an equal portion of roasted chicken thigh.[16]
- One unique property of beef is that much of the fat can be seen and trimmed prior to eating. Once trimmed, most cuts of beef are lean.
- On average, fresh red meat accounts for just 7% of the calories from fat on average in the Canadian diet.[15]

WHAT ABOUT 'PLANT-BASED' DIETS?

Most of us don't eat enough fruits, vegetables or fibre, and eating more of plant foods may provide health benefits. But a plant-based diet is not the same as one that excludes meat.

Animal based foods like meat, fish and poultry provide high quality protein, easily-absorbed iron and zinc and an impressive range of B vitamins - nutrients that are difficult to get enough of from plant foods. And you don't need to eat a large amount of animal protein to reap the benefits. A serving of meat, fish or poultry is only about the size of your palm or a deck of cards.

Meat also helps the body to better absorb certain nutrients from plant-based foods. For example, in the presence of meat, the iron absorbed from a plant food increases by 150%.[17] Without the presence of meat in their diets, vegetarians need almost 2 times more iron in their diets than meat eaters.[18] We call this synergistic relationship the 'meat factor' and it demonstrates why eating whole foods together may be more beneficial than eating them separately. The benefits are not additive, they are compounded. 'Plant-based' diets work best when accompanied with moderate amounts of animal-based proteins.

FLAWED FOOD PATTERNS

Many Canadians are undernourished yet overfed. Dietary trends show that obesity rates have doubled since the late 1970's[20] while the percent of energy from foods naturally rich in high quality protein such as beef, milk and eggs fell in the same period of time.[21] Meanwhile, an increasing percentage of energy from highly processed ready-to-eat foods has replaced energy from more nutritious protein-rich food choices.[22]

Like several animal based foods, red meat consumption is down; according to Statistics Canada data, red meat consumption declined 14 grams per day between 2004 and 2015.[19] In contrast, consumption of highly processed ready-to-eat foods is increasing and now accounts for almost 50% of our daily calorie (energy) intake.[22] Results from the most recent nutrition survey on diet quality in Canada show that the majority of our calories come from pre-prepared, ready-to-eat dishes such as pizza, and sweetened drinks.[22] These foods are typically calorie dense and nutritionally poor, and they displace nutrient-rich, whole foods in our diets.

BEEF BELONGS

Beef delivers quality calories. Beef is a single ingredient food that satisfies the appetite and is loaded with vital nutrients, all for a moderate number of calories. Beef is a cornerstone to balanced meals as it is usually served with other nutrient-rich, foundational foods such as vegetables and grains to round out the plate. It fosters the healthy eating pattern of eating at the table versus eating on the run. These high quality staple foods are precisely the types of foods people need to eat most often for health and wellness. As an efficient, concentrated and nutritious protein source, beef belongs in the diet of Canadians.

REFERENCES

1. Health Canada. Eating Well with Canada's Food Guide, 2007. Available at: www.healthcanada.gc.ca/foodguide.

2. Per 75 grams cooked beef: 26 g protein, 2.5 mg iron, 1.83 ug vitamin B12, 6.5 mg zinc. Per 1/4 cup almonds: 8 g protein. Per 75 g cooked salmon: 0.38 mg iron. Per 75 g cooked chicken: 0.26 ug vitamin B12. Per 2 eggs: 1.16 mg zinc. Health Canada, Canadian Nutrient File, 2015. Food codes: Beef 6172, Almonds 2534, Salmon 3053, Chicken 842, Eggs 130.

3. Kappeler R, Eichholzer M, and Rohrmann S. Meat consumption and diet quality and mortality in NHANES III. Eur J Clin Nutr, 2013; 67(6):598-606.

4. Rohrmann S et al. Meat consumption and mortality – results from the European Prospective Investigation into Cancer and Nutrition. BMC Medicine, 2013; 11:63.

5. Heaney RP and Layman DK. Amount and type of protein influences bone health. Am J Clin Nutr, 2008; 87(5):1567-70.

6. Paddon-Jones D and Leidy H. Dietary protein and muscle in older persons. Curr Opin Clin Nutr Metab Care, 2014; 17(1):5-11.

7. Symons TB et al. A moderate serving of high-quality protein maximally stimulates skeletal muscle protein synthesis in young and elderly subjects. J Am Diet Assoc, 2009; 109(9):1582-6.

8. Westerterp-Plantenga MS, Lemmens SG, and Westerterp KR. Dietary protein – its role in satiety, energetics, weight loss and health. Br J Nutr, 2012; 108(S2):105-12.

9. Larsen TM et al. Diets with High or Low Protein Content and Glycemic Index for Weight-Loss Maintenance. N Engl J Med 2010;363(22):2102-13.

10. Canadian Community Health Survey (Nutrition) 2015, Statistics Canada.

11. Institute of Medicine. Dietary Reference Intakes for Energy, Carbohydrate, Fiber, Fat, Fatty Acids, Cholesterol, Protein, and Amino Acids. Washington, DC: The National Academies Press. 2005.

12. Health Canada, Canadian Nutrient File, 2015. Food code 6172, beef, composite cuts, steak/roast, lean and fat, cooked.

13. Per 75 grams cooked beef: 184 calories, 26 g protein. Per ¾ cup black beans: 168 calories, 11 g protein. Per ¾ cup hummus: 302 calories, 14 g protein. Per 2 Tbsp. peanut butter: 184 calories, 7 g protein. Health Canada, Canadian Nutrient File, 2015. Food codes: Beef 6172, Black Beans 3377, Hummus 4870, Peanut Butter 6289.

14. Heart & Stroke Foundation Position Statement: Saturated Fat Heart Disease and Stroke. August, 2015.

15. Fresh and Processed Meat Intake: A Canadian Perspective (2018). Data derived from the 2015 Canadian Community Health Survey – Nutrition.

16. Health Canada, Canadian Nutrient File, 2015. Food code 851, Chicken, broiler, thigh, meat and skin, roasted.

17. Engelmann M, Davidsson L, Sandstrom B, Walczyk T, Hurrell R, and Michaelsen K. The influence of meat on nonheme iron absorption in infants. Pediatric Research, 1998; 43(6):768-773.

18. Institute of Medicine. Food and Nutrition Board. Dietary Reference Intakes for Vitamin A, Vitamin K, Arsenic, Boron, Chromium, Copper, Iodine, Iron, Manganese, Molybdenum, Nickel, Silicon, Vanadium, and Zinc : a Report of the Panel on Micronutrients. Washington, DC: National Academy Press; 2001.

19. Red Meat Nutrition Brief. January 2018. Data derived from the 2015 Canadian Community Health Survey – Nutrition.

20. Canadian Health Measures Survey: Household and physical measures data, 2012 to 2013. http://www.statcan.gc.ca/daily-quotidien/141029/dq141029ceng.htm.

21. The growing Canadian energy gap: more the can than the couch? Public Health Nutrition: 12(11), 2216–2224.

22. Time to curb our appetite for ultra-processed food. Heart & Stroke Foundation News Release. Dec. 5, 2017.

UPDATED: March 2018

Canada Beef strives to present the facts around nutrition, culinary and farming practices based on the most current scientific research and tests at hand. As research on these topics is ever changing, we monitor and update these topics as necessary. Recognizing that a healthy discussion is the best way for us all to gain knowledge and understanding, we welcome your comments and conversation.

THE CANADIAN BEEF CENTRE OF EXCELLENCE

Located in Calgary, Alberta, The Canadian Beef Centre of Excellence is a showcase and focal point for all those working with Canadian beef and veal, providing education, leadership, training and idea generation.

The Centre demonstrates Canada's commitment to world class standards of quality and safety.

CONNECT, INNOVATE AND INSPIRE.

CANADABEEF.CA

CANADIAN BEEF

Cows & GHG Emissions

The Objective of a Truth Lab

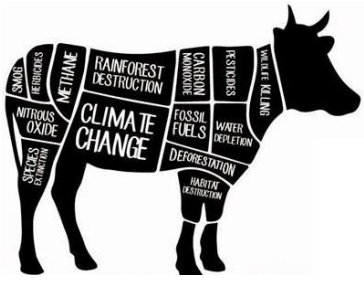
A Truth Lab is meant to dissect and analyze a current belief, issue or "fact" in the industry and come to what AGR Partners is calling the "real truth". This lab is meant to debunk common misconceptions around a certain topic. The lab will present not only the current state of the arguments but also data that supports the "real truth". This truth lab is intended to provide information and a stance to support AGR Partner's investment decisions and their investors.

Topic Background

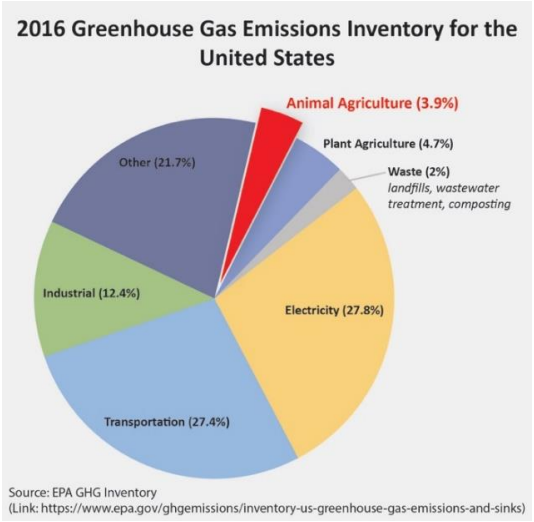
Greenhouse Gases (GHG's) are gases that trap heat in the atmosphere and therefore, raise the temperature of the surface of the Earth. GHG's are 81% Carbon Dioxide (CO_2), 10% Methane, 6% Nitrous Oxide and 3% Other gases. Methane is released through many different processes such as the production and transportation of coal, natural gas and oil. Methane emissions also result from livestock and other agricultural practices and from the decay of organic waste[1]. Cows produce Methane during their digestion, through a process called Enteric Fermentation. Enteric Fermentation is most prevalent in ruminant animals such as cows, sheep, buffalo, etc[2]. Although the majority of GHG emissions consist of CO_2, Methane has roughly 28 times the warming potential of CO_2 over a 100-year time span, that is what makes Methane gas such a serious concern. Cow burps and farts, and the breakdown of their manure all contribute to Methane.

The Current State of the Arguments

In 2006, the FAO (the United Nations' Food & Agriculture Organization) published a study titled "Livestock's Long Shadow" that claimed that livestock contribute 18% to the world's GHG emissions. They stated that this was greater than the entire transportation sector. Naturally this sparked outrage towards the livestock industry and inspired a call for less meat in our food system. It also gave the anti-meat and animal-rights activists some potent fodder to discredit the beef industry and spark a movement for total vegetarian diets. Trends such as Veganism, Meatless Mondays, and other Vegetarian/Anti-meat dietary choices have gained traction and are often supported by claims that it is better for the environment.



The FAO's study, "Livestock's Long Shadow", was painfully distorted due to the unequal boundaries they used for the two analyses of the carbon footprints for livestock versus transportation. They apologized for this misrepresentation after experts criticized their report[8]. For their analysis of livestock, they conducted a full life-cycle assessment of the industry. This means that the assessment included everything involved from the fertilizers and growing management of the feed given to the cows, to the transportation and processing of the meat for the grocery store. Although this type of thorough assessment is commendable, when compared to their report on transportation it far exceeded the reasonable boundaries. For their analysis of transportation, they simply used the direct emissions from tailpipes. They neglected to include the part production and assembly of the vehicles, the maintenance, etc. This presented a largely skewed report that was unfortunately taken as fact. The results were that news outlets and activist groups began to attack the beef industry and even in some cases waged expensive lawsuits against companies to weaken them.



In actuality, the livestock industry only contributes to 3.9% of the US GHG emissions and 14% globally[3]. Neither of these statistics are greater than transportation's contributions (which are 27.4% in the US and 16% globally)[4].

A study published by the National Academy of Sciences of the USA, modeled the effects of completely cutting meat out of the US Agriculture industry. The study found that a system that solely relies on plant-based foods would see an increase of total food production by 23% while also altering the foods available and would have the high probability of creating nutrient deficits therefore threatening food security. Although this shift would reduce the amount of agriculture's contribution to US GHG emissions by 28%, it would only reduce the total US GHG emissions by 2.6%[5].

Another well-used argument is that livestock consume and use scarce resources (such as land, water and edible food) and therefore increase competition unnecessarily. Although livestock do use all of these resources, livestock are considered up-cyclers[6]. They convert low-value resources into high-value, nutritional products. Less than 10% of what cattle eat is human-edible and the majority of land used for grazing livestock is marginal. This means that this land cannot and should not be tilled or farmed. If we were to convert this land we would not only be decreasing the amount of natural terrain for wildlife and watersheds, but also increase the rate of erosion since much of this land is steep and hilled[6].

Summary

Livestock and namely cows are not the major culprits of GHG emissions. Although the media and loud activist groups try to paint the picture that if we cut out meat from our diets we can fix global warming, this is false. In a study done in the US[5], if we completely cut out all meat and resorted to a plant-based diet we would only decrease the US's GHG emissions by a mere 2.6%. Compared to the transportations contribution of 27.4% to GHG's, we can see that simply stating it's one industry's problem is not going to fix the issue. The 'Real Truth' is that the livestock industry has decreased its emissions by 11.3% since 1961[6] and it is still working to decrease them through investing in innovative[7] and efficient processes. There is a symbiotic relationship between the plant and meat industries (ie. Cow manure is the majority of organic fertilizers, food processing byproduct feeds cows, etc.) and a strong need for a well-balanced, nutritional diet for all. To create a sustainable food system, we should be looking at a holistic approach that includes all facets of the industry and how they can better work together not fight against each other.

Footnotes

1. https://www.epa.gov/ghgemissions/overview-greenhouse-gases
2. https://www3.epa.gov/ttnchie1/ap42/ch14/final/c14s04.pdf
3. https://climatenexus.org/climate-issues/food/grazing-cattle-climate-change/
4. https://www.c2es.org/content/international-emissions/
5. http://www.pnas.org/content/early/2017/11/15/1707322114
6. UC Davis Professor, Frank Mitloehner http://animalscience.ucdavis.edu/faculty/mitloehner/
7. https://www.ucdavis.edu/news/can-seaweed-cut-methane-emissions-dairy-farms/
8. https://www.telegraph.co.uk/news/earth/environment/climatechange/7509978/UN-admits-flaw-in-report-on-meat-and-climate-change.html

CANADIAN CATTLEMEN'S ASSOCIATION

National Voice Of Cattle Producers

Climate Change

Summary

Industry stakeholders should be aware of the increase in dialogue surrounding climate change action, both in government and in the public sphere. Both the Canadian federal government and most provincial governments have committed to significant reductions in greenhouse gas (GHG) emissions over the next ten years. Animal agriculture is being negatively singled out in these discussions as a significant contributor to climate change through resource use and GHG emissions, based primarily on antiquated data and reporting. As such most of the rhetoric is focused on "reducing beef consumption to reduce your carbon footprint or environmental impacts" which unfortunately does not account for the benefits cattle can have on the environment. Although the GHG impact of producing beef is high compared to other foods, raising cattle has many environmental benefits such as soil replenishment, nutrient recycling, preservation of natural grasslands, improving biodiversity and wildlife habitat, and promoting carbon sequestration in grasslands and pasture. The positive contributions of the Canadian beef industry to the environment need to be emphasized and highlighted so that people understand it is dangerous to judge beef production on a single metric (GHGs as opposed to overall environmental impacts).

This becomes increasingly important with the meeting of COP 24 in December of 2018.

Industry Position

The Canadian beef industry recognizes the importance of environmental stewardship and supports research and innovations that will not only reduce the environmental impact of beef but improve our environmental health and resilience. Ongoing research demonstrates that the GHG emissions of beef production in Canada is among the lowest in the world, and through continued investment in research and extension, industry is continuously working to decrease this even further. Moving forward, it is essential to highlight that the positive contributions of the Canadian beef industry to the environment, such as maintaining grasslands, sequestering carbon, and increasing biodiversity and wildlife habitat.

It is also important to note that a reduction in beef consumption with the purpose of reducing GHGs could have very significant unintended negative environmental impacts, including further loss of native grasslands and stored soil carbon due to farming. These impacts could outweigh any perceived gains in reducing Canada's GHG emissions.

Key Messages

Beef Industry GHG Emissions

- There are significant differences in GHG intensity within and across global beef production systems. Canadian beef has one of the lowest GHG footprints in the world at 11.4 kg CO_2 equivalent per kg of live cattle weight, less than half of the world average (CRSB, 2016).
- It is true that cattle produce the most GHGs of the domesticated livestock species.
- In Canada, GHG emissions from cattle contribute only 2.4% to Canada's total GHG emissions. Transportation contributes 28% of the total GHG emissions in Canada (National Inventory Report, 2016; CRSB, 2016). On a global scale, GHG emissions from Canadian beef production accounts for 0.04% of global GHG emissions.
- Between 1981 and 2011, the Canadian beef industry reduced its GHG footprint by 14%, through advancements in technology and management that enabled industry to produce the same amount of beef with 29% less breeding stock, 27% fewer slaughter cattle, and 24% less land (Legesse et al, 2015).

Grasslands, Biodiversity, Carbon Sequestration

- 74% of Canada's native grasslands have been lost due to cultivation or development. Grazing cattle plays an essential role in preserving grasslands and improving grassland health and function (CRSB, 2016)
- If consumers decide not to eat beef, these nutrients will need to be replaced with a variety of vegetables and pulses which means we will need to farm more grasslands, resulting in substantial losses of soil organic carbon, biodiversity, and wildlife habitat.
- Canadian grasslands, preserved through the efforts of ranchers, can store up to 200 tonnes of carbon per hectare. Cultivation of rangeland can lead to 30-50% loss of soil organic carbon (Bork, 2013)
- Nearly one-third of Canada's agricultural land are covered in grasses and forages (20 million hectares). These lands are typically unsuitable for crop farming, but support grazing cattle while maintaining wildlife habitat and storing approximately 1.5 billion tonnes of carbon.(CRSB, 2016)
- Although cattle production uses 33% of Canada's agricultural land, it provides 68% of the Wildlife Habitat Capacity of all agricultural land in Canada (CRSB, 2016)
- As cattle in Canada are primarily raised on grass-based pasture and grasslands, 80% of their feed comes from grass-based forage over their lifetime (CEC,2016).
- 86% of all cattle feed is not suitable for human consumption (Mottet et al, 2016)
- Much of the land that is used to raise cattle is not suitable for farming crops and vegetables. Beef farming and ranching gives us the benefit of gaining nourishing food from land that is too rocky, hilly or dry for growing crops for food. In many places in Canada, raising cattle is the best and most environmentally beneficial use of the land.
- Only 9% of all annual cropland in Canada is used to grow feed crops for cattle (barley, oats, corn, wheat) (CRSB, 2016).

Water Use

- A study conducted by the University of Manitoba and Agriculture and Agri-Food Canada (AAFC) assessed the water footprint of Canadian beef production over the period of 1981 to 2011 and found that the amount of water required to produce on kilogram of Canadian beef has decreased 17%.
- Blue water use in Canada is about 459 litres/ kg of boneless beef. This is low due to Canada's limited of irrigation on cattle feed crops. (Legesse et al, 2017).
- Remember, water cycles through the environment and does not disappear forever. It is important that people understand the water cycle in the discussion.

Other Initiatives

- The Beef Cattle Research Council (BCRC) devotes a significant portion of research funding to improving production efficiencies that contribute to reducing the environmental footprint of cattle production. Ongoing research includes measuring GHG intensities of beef production in Canada to make further improvements.
- The Canadian Cattlemen's Association (CCA), representing Canadian beef producers, is a member of the Global Roundtable for Sustainable Beef, which in 2014 set the definition of sustainable beef production as 'socially responsible, environmentally sound and economically viable product that prioritizes the planet, people, animals and progress.'
- The Canadian Roundtable for Sustainable Beef (CRSB) is a multi-stakeholder initiative (from producers to retail, government, and environmental groups) to promote the sustainable production of beef in Canada. Mitigation of climate change and other environmental concerns are chief among the CRSB's target areas.
- McDonald's Restaurants, one of the largest beef purchasers in the world, recognized the progressive, environmentally conscious, and humane beef production practices occurring in Alberta and Canada, and thus consulted and chose Canada for their Verified Sustainable Beef Pilot project. As a result, over 100 farms and ranches have been verified through this now-completed project as sustainable – including environmental standards and indicators.
  The National Beef Sustainability Assessment and Strategy, launched by the CRSB in October 2016, benchmarks the current social, economic, and environmental sustainability of the Canadian beef industry and sets goals for future improvement.

Background (For Internal Context Only)

Several reports and studies linking red meat production and climate change have been published, including the U.N. Food and Agriculture Organization (FAO)'s report *Livestock's Long Shadow* in 2006. Since that time, the FAO has recognized both advancements in scientific measurement methods and the continued work of agriculture to decrease GHG emissions, however the negative legacy of the report is occasionally revived in media and current reporting.

The 2014 film *Cowspiracy* also connected animal agriculture and predominantly, conventional beef production with climate change and other negative environmental impacts. The film argues that only by removing all animal products from the human diet can we protect the planet from climate change. Several of the facts and statements presented in the film have been found to be incorrect and have been rebuffed by other studies, however the popularity of the Hollywood film commonly outshines attempts to highlight these errors. *Cowspiracy,* both as a film and through website resources, has been cited in several arguments and protests, both formally and informally.

Global leaders met at the COP21 in Paris in 2015 to establish a climate change agreement. The agreement, signed by 196 parties including representatives from Canada, who committed to reducing GHG emissions by 30% below 2005 levels by 2030. Animal agriculture was not singled out in these submissions, however there was some rise in public comment on and awareness of climate change following the conference, and other parties have called attention the industry as a contributor. More recently, the expanded COP24 met in Poland to outline specific measurables to halt climate change. Though the results of these discussions have yet to be determined, animal agriculture was not favorably represented.

Canada's beef industry is a global leader in sustainability, including carbon sequestration and habitat for Species at Risk on native grasslands, investment in research to improve efficiencies and the formation of the Canadian Roundtable for Sustainable Beef (CRSB).

Links

http://www.fao.org/3/a-bl093e.pdf
http://www.cattle.ca/sustainability/environmental-sustainability/
http://crsb.ca/our-work/sustainability-benchmark/
http://www.beefresearch.ca/research/environmental.cfm

References

Bork, E. (2013). *Are Knowledge Gaps Limiting the Management of Range and Pasture Ecosystems for Environmental Goods and Services such as Carbon Storage*? Alberta Innovates Biological Solutions Forum (p. 37). Edmonton: University of Alberta.

CRSB Canadian Roundtable for Sustainable Beef. (2016). *National Beef Sustainability Assessment and Summary Report.* Calgary: https://crsb.ca/assets/Uploads/About-Us/Our-Work/NBSA/290ae9c611/NBSA_and_Strategy_summary_report_web1.pdf

CEC. (2015). Commission for Environmental Cooperation. Retrieved from North American Ranching Industries, B*eef Cattle Trade, and Grasslands: Status and Trends*: http://www3.cec.org/islandora/en/item/11634-north-american-ranching-industries-beef-cattle-trade-and-grasslands-status-and-en.pdf

GALA. (2014, December). *Towards Sustainable Livestock.* Global Agenda for Sustainable Livestock. Retrieved from http://www.livestockdialogue.org/fileadmin/templates/res_livestock/docs/2014_Colombia/2014_Towards_Sustainable_Livestock-dec.pdf

Government of Canada. (2016). *National Inventory Report: Greenhouse Gas Sources and Sinks in Canada: 1990-2014; The Canadian Government's Submission to the UN Framework Convention on Climate Change.* http://unfccc.int/national/reports/annexighginventories/nationalinventoriessubmissions/items/9492.php

Legesse, G., Beauchemin, K. A., Ominski, K. H., McGeough, E. J., Kroebel, R., MacDonald, D., McAllister, T. A. (2015, December 23). Greenhouse gas emissions of Canadian beef production in 1981 as compared to 2011. *Animal Production Science*.

Legesse, G., Cordeiro, M.R.C., Ominski, K.H., Beauchemin, K.A., Kroebel, R., McGeough, E.J., Pogue, S., McAllister, T. A. (2017,

Mottet, A., de Haan, C., Falcucci, A., Tempio, G., Opio, C., Gerber, P., (2017) *Livestock: On our plates or eating at our table? A new analysis of the feed/food debate.* Elsevier. Global Food Security 14 (2017) 1-8

Perry and Cecava. 1995. Beef Cattle Feeding and Nutrition. 2ndEd. Elsevier.

Statistics Canada. Human Activity and the Environment: Annual Statistics 2009. Table 1.2. Global availability of agricultural and arable land, 2005. http://www.statcan.gc.ca/pub/16-201-x/2009000/t230-eng.htm

#BEEFBELONGS MEDIA RELATIONS

MEDIA RELATIONS OVERVIEW

- Preparedness: build the background information, key messages and creative to address the many potential outcomes of the Food Guide update with a **flexible and agile approach.**
- The Compelling Narrative: **beef belongs as part of a balanced diet**, anchored around fact-based nutritional and environmental sustainability information.
- Third Party Experts: will **tackle negative news** about beef, and will speak about the **positive aspects of beef**.
- #BeefBelongs campaign efforts will demonstrate **how beef belongs as part of a balanced diet.**

MEDIA CONTACT LIST

FOOD & LIFESTYLE MEDIA

MELISSA GREER

Outlet: Best Health

Role: Web Editor

Bio: Melissa is a digital writer and editor with nearly a decade of experience covering beauty, fitness, health and lifestyle.

SOO KIM

Outlet: Canadian Living

Role: Food Director

Bio: Soo specializes in recipe writing, recipe development and recipe testing. She has been the Food Director at Canadian Living since 2017, and was previously a Food Editor at Chatelaine Magazine.

CAROLYN LIM CHUA

Outlet: Chatelaine

Role: Senior Associate Food Editor

Bio: Carolyn is a passionate cook who has been writing for Chatelaine for over 15 years. Prior to working as Chatelaine's Associate Food Editor she managed the outlets test kitchen.

JENNY POTTER

Outlet: Food Network Canada

Role: Editor

Bio: Jenny is an Editor for FoodNetwork.ca, where she writes and edits exciting digital content. Prior to joinging the Food Network she was an online editor at Canadian Living.

ANN HUI

Outlet: Globe and Mail

Role: National Food Report

Bio: Ann Hui is the National Food Reporter at The Globe and Mail. She uses food as a lens to explore public policy, health, the environment, and agriculture.

LISA YEUNG

Outlet: Huffington Post

Role: Lifestyle Editor

Bio: Lisa Yeung is the Managing Editor of HuffPost Canada's lifestyle verticals. She was also part of the launch team that brought HuffPost to Canada in 2011.

LAURA BREHAUT

Outlet: National Post

Role: Food Writer

Bio: Laura Brehaut is a journalist with Postmedia Network where she has specialized in writing about food since 2010. She also earned a Culinary Arts Certificate from George Brown College.

RITA DEMONTIS

Outlet: Post / Sun Media

Role: Lifestyle & Food Editor

Bio: Rita DeMontis is currently the Senior National Lifestyle and Food Editor for Sun Media. She has an extensive radio history and has appeared regularly on , Global TV, CTV Canada AM, CityLine and Food Network Canada.

ALEXANDRA WARD

Outlet: Today's Parent

Role: Senior Editor / Food & Lifestyle Writer

Bio: Alexandra is a Senior Editor at Today's Parent. She also regularly freelances and has published content in outlets such as, Canadian Living and The Food Network.

ALEX BALDINGER

Outlet: Toronto Life

Role: Food Editor

Bio: Alex has been with Toronto Life for 2 years. He is responsible for assigning and editing all food and dining coveage in Toronto Life magazine and online.

NEWS & CONSUMER MEDIA

JANET DAVISON

Outlet: CBC.ca

Role: Editor, features and columns

Bio: Janet is the Features Editor for CBC.ca. She covers a wide variety of topics including lifestyle, health, politics and current events.

JO-ANNE MACDONALD

Outlet: National Post

Role: National News Editor

Bio: Jo-Ann is a National Editor at National Post. She regularly covers hard news, current events and political stories.

PATRICK BRETHOUR

Outlet: Globe and Mail

Role: Senior News Editor

Bio: Patrick has been the Senior News Editor at The Globe and Mail for 1 year. Prior to joining The Globe he was the Editor-in-Chief at Brunswick News Inc.

ANDREA BAILLIE

Outlet: The Canadian Press

Role: Managing Editor

Bio: Andrea is the Managing Editor at the Canadian Press. She oversees coverage and Canadian Press editors across the country.

DANIEL TENCER

Outlet: Huffington Post

Role: Business Editor

Bio: Daniel is the Business Editor at Huffington Post. He has been in this role since 2011, and regularly freelances for other outlets including the Ottawa Citizen and The Raw Story.

LESLIE BECK

Outlet: The Globe and Mail

Role: Food Columnist

Bio: Leslie is a registered dietitian and author of 12 books. She is currently a columnist for The Globe and Mail and is able to translate often complicated nutrition and health information into diet advice that's easy to understand and follow.

IVAN SEMENIUK

Outlet: The Globe and Mail

Role: Science Reporter

Bio: Ivan Semeniuk has been reporting on science for The Globe and Mail since he joined the newspaper in 2013. He was previously chief of correspondents for the journal Nature, U.S. bureau chief for New Scientist magazine and a producer and columnist with Discovery Channel, Canada.

BROADCAST MEDIA

CHRIS FISHER

Outlet: CP24 Breakfast

Role: Producer

Bio: Chris Fisher is a long-standing producer on CP24 Breakfast. He is based in Toronto and enjoys stories that have a local or Canadian element.

SIMON OSTLER

Outlet: Global News

Role: Managing Editor

Bio: Simon is the Managing Editor at Global News Toronto. His duties include; assigning stories, vetting reporter scripts, determine story lineups, and planning and special event coverage.

SHARON STOKES

Outlet: The Marilyn Denis Show

Role: Segment Producer

Bio: Sharon has worked in the media industry for over 10 years as a Segment Producer for CTV's Etalk and The Marilyn Denis Show.

MARY NERSESSIAN

Outlet: CTVNews.ca

Role: Producer

Bio: Mary Nersessian joined CTV's online news team in 2004. Her work has appeared in The Globe and Mail, the Toronto Star and Quill & Quire magazine.

SPOKESPERSON OVERVIEW

NUTRITION EXPERTS

CAROL HARRISON RD

Info:

@GreatMealIdeas

@YummyLunchClub

416 669 9193

eatright1@gmail.com

www.yummylunchclub.ca

Spokesperson Availability & Preferences:

Spokesperson for dietary comments.

Comfortable to be on camera.

KARINE BARLOW RD

Info:

karine@glutenfreeboutique.ca

Gluten-Free Boutique

84-4635 Regents Terr

Mississauga, ON

L5R 1W9

905-782-0254

Spokesperson Availability & Preferences:

Spokesperson for dietary comments. Comfortable for print and radio. Not a comfort level for on camera.

ENVIRONMENTAL EXPERTS: PRIMARY

DR. CHRISTIAN ARTUSO, PHD

Info:

cartuso@birdscanada.org

204-945-6816 www.birdscanada.org

Program Manager MB, Birds Studies Canada

Box 24, 200 Saulteaux Cres, Winnipeg, R3J 3W3

Spokesperson Availability & Preferences:

Expert on endangered birds and how their ecosystems benefit from cattle ranching

Dr. Artuso is working on the Graze On program in Manitoba as well as the Prairie Conservation and Endangered Species Conference: http://pcesc.ca/

Dr. Artuso has agreed to speak on the topic of cattle and conservation in English or French. He has been featured on CBC in the past.

TOM THOMPSON

Info:

Winding Creek Ranch, AB

wndcreek@gmail.com

780-305-9180

Spokesperson Availability & Preferences:

Alberta TESA winner 2017.

We have video featuring Tom and his ranch adapted for social posting. Tom has agreed to speak about his story as it relates to beef and the environment.

DAN FERGUSON

Info:

dan@ontariobeef.com

905-375-8551

Manager, Producer Relations of Ontario Beef

Spokesperson Availability & Preferences:

As a beef farmer in Eastern Ontario, Dan is an expert on cattle production practices in this area. He offers training in VBP+ programming including animal care programs. Dan has had media training.

DR. REYNOLD BERGEN

Info:

BCRC

bergenr@beefresearch.ca

Spokesperson Availability & Preferences:

Spokesperson from the beef industry – on the science side – he would be able to reference beef farming/ranching practices and environmental impacts, backed with scientific studies to support.

ENVIRONMENTAL EXPERTS: SECONDARY

SANDRA VOS

Info:

Ontario TESA winner 2018 with video and strong imagery available. She has agreed to speak about her story as it relates to beef and the environment. She has been interviewed for story development.

KARLI REIMER

Info:

Ducks Unlimited Canada

Spokesperson Availability & Preferences:

Has access to her own group of scientists/researchers

Background in journalism + media

Karli works on programming from coast-to-coast with Ducks Unlimited. Based in Manitoba, but her role is a regional/national one depending on the program. A main focus on the three Prairie provinces, but also involved with beef and other farmers across the country. Karli manages all the ad programming communications/ marketing and stakeholder relations for Ducks Unlimited nationally.

DR. TIM MCALLISTER

Info:

AAFC Lethbridge Research

403-317-2240

Tim.mcallister@apr.gc.ca

https://bit.ly/2OeSS43

Spokesperson Availability & Preferences:

Primary contact for inquiries re: water

Investigator on the study of shrinking water footprint amongst Canadian beef production

Can turn data into information that is easy for the public to understand.

LIFESTYLE EXPERTS
(LEVERAGE FOR SOCIAL AND REGIONAL BROADCAST)

MAIRLYN SMITH

Info:

@MairlynSmith

mairlyn@mairlynsmith.com

Professional Home Economist + Food Writer (also an alumnus of the Second City)

Spokesperson Availability & Preferences:

Regular guest expert on CityLine and Breakfast TV in Toronto

**member of Actra

EMILY RICHARDS

Info:

postmaster@emilyrichardscooks.ca

Professional Home Economist + Cookbook Author, Recipe developer, Blogger, Food Stylist

Spokesperson Availability & Preferences:

Media Spokesperson, TV Host

ERIN MACGREGOR

Info:

erinmmacgregor@gmail.com

Spokesperson Availability & Preferences:

P.H.Ec, RD & Food Blogger – speaks about the "balanced" mindset – adamant against food fear

OPTIONAL -

MICHAEL AND ANNA OLSON

Spokesperson Availability & Preferences:

Have represented Canada Beef in a Terroir Event and recipe development. Did media interviews – instructor at Niagara College

DRAFT PITCH

SUBJECT: Beef Belongs in a Balanced Diet: Canada Updates Food Guide for the First Time Since 2007

Hi xxx,

I hope all is well.

I am reaching out from **XXX Organization** regarding the recent updates to Canada's Food Guide. Some of the notable changes to the Food Guide include ____, _____ and _____.

The recent updates have left many families confused at the dinner table, unsure of how to incorporate plant and meat based proteins into their diets. While the food guide focuses on a plant-based diet, it is important to remember that nutrient rich foods and high-protein high-protein beef belongs as part of a healthy balanced diet.

When looking for sources of protein, Canadians should **certainly consider beef** – it is one of the best sources of high-quality protein, that satisfies the appetite and is loaded with vital nutrients, all for a moderate number of calories and portion size.

Attached you will find two infographics that outline the **many nutritional benefits of beef**, as well as, some of the untold stories about raising cattle and the environment.

Think you know beef? We might have some surprising information that will have you re-think it! Please let us know if you are interested in learning more about beef.

Thank you,
XXX

A SAMPLE LETTER TO THE EDITOR

November 15, 2017

Letter to the Editor – CBC.ca

To the Editor,

Re: "Bad News: Eating local, organic won't shrink your carbon footprint", Emily Chung, Nov. 8, 2017

There has been a lot of rhetoric in the media lately claiming that eating less meat will reduce ones' carbon footprint. Unfortunately, balance and context is often absent from this complex discussion, particularly around the Canadian agricultural environment which is unique in the world. For example, cattle grazing supports the health of natural grasslands which also provide wildlife habitat, biodiversity conservation, water filtration and soil carbon storage. Not having a balanced discussion about both benefits and impacts is a disservice to all Canadians.

In a recent piece by Emily Chung, blanket claims once again cloud the issue. The article claims that beef generates more emissions than almost all other foods and further notes that reducing this type of meat in your diet can significantly reduce your carbon footprint. While it is important to note that cattle do produce greenhouse gases (GHG) as part of their digestive process, we must consider the overall environmental benefits that raising cattle for beef can provide. For example, land in Canada used for raising cattle currently stores up to 1.5 billion tonnes of carbon (crsb.ca). in addition, only 26% of our native rangelands remain intact in Canada, and further preservation of these grasslands is only possible if we use grazing animals to maintain their health. Those grasslands are particularly important areas for Canada's migratory birds, species at risk, and other wildlife.

Simply judging the merits of beef on GHG emissions is dangerous and reducing consumption of beef simply to mitigate GHG emissions could have more detrimental effects to the environment and human health than many realize. It is true that a UN report states that livestock is responsible for 14.5% of global GHG emissions. However, GHG emissions from cattle in Canada account for only 2.4% of total GHGs - well below that of transportation (28%)[1]. Cattle in Canada produce about 11.4 kg CO_2e/kg of live cow weight, which is one of the lowest in the world for cattle production. Reducing consumption of beef in Canada will have a minimal if any impact to our country's overall GHG emissions.

Further, the farmers and ranchers that raise cattle continue to maintain and improve their land, feed and water resources to minimize environmental impacts and maintain a healthy and sustainable ecosystem. Most cattle in Canada are raised on land that is unsuitable for crop production and fed grasses and forages that are not suitable for human consumption. In addition, many grains that are fed to cattle have been discarded from human consumption, which allows those feedstuffs to be recycled and not wasted.

Not eating beef to lower GHG emissions is not that simple. If we were to remove cattle from the natural landscape, we would need to replace the nutrients provided by beef with another equivalent food source. Likely this would need to come from increased farming in native and perennial rangelands, which would result in very large losses of stored organic carbon in the soil (up to 50%[2] of stored carbon) and significant losses in wildlife habitat and biodiversity. This loss could outweigh any perceived gains in GHG reductions.

Ms. Chung also points out in her article that a plant-based diet is not only more sustainable, but it is healthier. While I agree it is important to incorporate plants into your diet in a meaningful way, one of the best ways to do so is by combining with beef. The beef industry in Canada advocates for a balanced diet, where animal foods can complement fruits, vegetables, whole grains, and other whole foods as part of a healthy lifestyle. Pairing beef with sources of iron, such as beans or spinach, will increase the amount of iron the body will absorb from those foods by 150%! It's called the meat factor.

In fact, a cut of beef the size of your palm has so many vital nutrients, that in order to get the same in return, you would need to eat:

- About a can of beans (19 oz/540 mL), or close to 2 cups of beans, at 420 calories
- 7x the amount of chicken to get equivalent levels of vitamin B12
- Almost one dozen eggs to get equivalent levels zinc

When the implication or outright statement is to "eat less meat," several questions should be asked. How much less? How much are people currently eating? Is it too much or too little? If they eat less meat, with what are they substituting for the meat? What are the nutritional consequences of that? Again, context is important. Where it may be appropriate to recommend eating less to some people, it may also be appropriate for some to eat more animal protein, especially if the group in question is lacking in essential nutrients like protein, iron, vitamin B12, zinc, magnesium. Many plant-based food sources do not have the same density of nutrients per serving as beef, nor are those nutrients as easily digestible by the human body.

We have a great opportunity in Canada to grow a variety of different foods to optimize the use of different soils, landscapes, and environments. Livestock and crops don't have to be exclusive, but can complement each other for better overall environmental and nutritional outcomes. Cattle do produce GHGs, and cattle producers work very hard to minimize them through animal nutrition, genetics, and environmental health research, while ensuring current rangelands and water bodies are healthy which benefits all Canadians. It doesn't make sense to tax a food, that is highly nutritious and where the intended environmental benefits may be minimal or even non-existent.

---

[1] Environment and Climate Change Canada (2016). National Inventory Report 1990–2014: Greenhouse Gas Sources and Sinks in Canada. http://www.ec.gc.ca/ges-ghg/ and GHG emissions from cattle- http://crsb.ca/our-work/sustainability-benchmark/

[2] Burke et al. 1995. Soil organic matter recovery in semi-arid grasslands: implications for the conservation reserve program. Ecol. Appl., 5: 793-801.;

#BEEFBELONGS INFLUENCER PROGRAM

PROGRAM OVERVIEW

As part of the #BEEFBELONGS program we will work with food and parenting influencers to share how they incorporate beef into a balanced diet by creating an experience for them to prepare their own balanced meal at home.

Influencers will take the How Beef Stacks Up Quiz and engage their audience to do the same.

The influencers will each share three Instagram posts, designed to educate consumers of the nutritional benefits of beef and position beef as a vital component in a balanced diet. Content includes fact-based nutritional information to demystify negative misconceptions about beef. Unique and interesting recipes will also be used in layer in messaging and encourage followers to include beef in their diets.

The influencers will each be provided with a custom meal kit to help them build out their content.

The #BEEFBELONGS meal kits included:

- Thermal insulated lunch bag
- Branded luggage tag for the insulated packaging.
- Recipe cards
- Nutrition infographic
- Personalized denim apron
- Personalized chef knife
- Digital Thermometer (provided by Think Beef)
- WalMart Gift Card to purchase the ingredients

INFLUENCER CONTACT LIST

NATALIE BELL

Location: Winnipeg

Bio: Natalie is a mother of three - two teenage daughters and a preschooler son. Her blog covers lifestyle, health, food and travel. She is based in Winnipeg.

Instagram: @pegcitylovely (6,512 followers)
Twitter: @pegcitylovely (7,677 followers)
Facebook: @PegCityLovely (2,484 followers)
Content Agreed On
3 Instagram Stories, 3 Instagram Posts

KIRA PARAN

Location: Edmonton

Bio: Kira is a mother of two who currently lives in Edmonton. Her content focuses on family, fashion, food and travel. She regularly discusses the challenges of feeding a toddler and cooking for friends and family.

Instagram: @northern_style (56,700 followers)
Twitter: @Northern_Style (8,409 followers)
Facebook: N/A
Content Agreed On
3 Instagram Stories, 3 Instagram Posts

ABBEY SHARPE

Location: Toronto

Bio: Abbey is a culinary Registered Dietitian, TV personality, food writer and blogger. She is based out of Toronto and focuses on healthy recipes and nutrition advice.

Instagram: @abbeyskitchen (37,300 followers)
Twitter: @AbbeysKitchen (17,000 followers)
Facebook: @AbbeysKitchen (14,435 followers)
Content Agreed On
3 Instagram Stories, 3 Instagram Posts

ASIMA ARORA

Location: Toronto

Bio: Asim Arora is a Toronto based chef and food blogger. She graduated from Le Cordon Bleu in Paris with a Pastry Diploma. Her social media feed showcases her food and recipes.

Instagram: @hautesucre (25,500 followers)
Twitter: @HauteSucre (600 followers)
Facebook: @AbbeysKitchen (14,435 followers)
Content Agreed On
3 Instagram Stories, 3 Instagram Posts

TAYLOR STINSON

Location: Toronto

Bio: Taylor is a food and wellness influencer and found of the blog TheGirlOnBloor.com. She is based in Toronto and focuses on meal preparation tips and healthy simple recipes.

Instagram: @thegirlonbloor (33,400 followers)
Twitter: @TheGirlonBloor (10,600 followers)
Facebook: @thegirlonbloor (30,963 followers)
Content Agreed On
3 Instagram Stories, 3 Instagram Posts

INFLUENCER CONTENT PLAN

PROGRAM OBJECTIVE:

The goal of this campaign is to educate consumers of the nutritional benefits of beef and position beef as an important component in a balanced diet (beef belongs). Content should include fact-based nutritional information to demystify negative misconceptions about beef. Unique and interesting recipes can be used to layer in messaging and encourage followers to include beef in their diets

COMMENTS AND NUTRITIONAL QUESTIONS

When nutritional questions or concerns are brought up by followers, responses will be provided by a Registered Dietitian to ensure an appropriate answers and correct messaging is provided.

POST 1

Purchasing beef and quiz: Use your first post to educate your followers on what to look for when purchasing beef and how it contains beneficial vitamins and nutrients. Use this post to encourage followers to take the How Beef Stacks Up quiz provided in bio.

Content suggestions:

- At the grocery store purchasing beef, focusing on what type your family prefers to cook
- An image of the recipe you plan to cook and what type of beef you will use
- Share an interesting discovery you made while taking the nutrition quiz

Key message: Beef is among the most nutrient-rich quality protein sources available, providing a variety of essential vitamins and minerals for a modest number of calories. If you consider the benefits of beef, it will surprise you.

Supporting points:

- Beef is nutrient dense, providing quality calories – a single ingredient food that satisfies the appetite and is loaded with vital nutrients, all for a moderate number of calories in a modest portion size.
- Beef is one of nature's most powerful proteins, packed with nutrients that are vital for health like B vitamins, zinc, iron, and protein.
- How beef stacks up:
  - Compared to chicken breast, beef has 200% more iron, 600% more vitamin B12 and 700% more zinc -- all for just 184 calories for a serving (the size of your palm)
  - Compared to plant-based protein like black beans and almonds: Beef has 26 grams of complete protein in 1 serving. To get the same amount of protein from black beans, you would need to eat about a can of beans (19 oz/540 mL), or 2.5 servings (3/4 cup each). That's close to 2 cups of beans, at 420 calories. To get the same amount of protein from almonds, you would need about 104

almonds - adding up to 728 calories. Calorie for calorie - beef is nutrient dense.

- Beef and other animal-sources of protein have all the amino acids humans need for health (complete protein sources) plus vitamin B12 and iron in a form that is readily absorbed. Plant-based proteins are lacking these and they cannot use the claim 'excellent source' of protein.

Link in bio: Beef Nutrition Quiz (to be provided)
Hashtag: #BeefBelongs

POST 2

The recipe: Your second post will be used to demonstrate the preparation and enjoyment of a beef-based meal. For your Instagram story in this round, use polling/surveys to capture content for your final post. A simple question to your followers such as "Do you eat beef regularly?"

Content suggestions:

- Cooking a beef-based meal and speaking to the benefits of meat-based protein – using any knowledge learned from the nutritional quiz as supporting commentary
- Your family eating beef, mentioning the nutrients they are consuming
- Instagram stories asking your audience if they eat beef, have trouble preparing beef or if their children love beef
- Should followers have questions please instruct them to ask in the comment section below, Think Beef to get the right answers with the help of a Registered Dietician

Key message: Beef belongs, as part of a balanced diet for Canadians, beef (and meat) has an important role to play in the health of the Canadian population along with other foundational foods like fish, grains, legumes, dairy, fruits and vegetables. On average, over half the women in Canada and boys ages 14 to 18 years, don't eat the recommended servings of meat and alternative servings daily.

Supporting points:

- Beef is one of the most nutrient dense foods we have, providing a variety of essential vitamins and minerals for a modest number of calories.
- The many essential nutrients found in beef include: high quality complete protein, having all the essential amino acids that humans need in 1 package, iron and zinc, both in a form that is the easiest for the body to absorb, and several key nutrients such as riboflavin, niacin, selenium and vitamins B6, and B12.
- When paired together properly, foods can produce greater health benefits than when eaten alone, like increased iron absorption from vegetable, grain and pulse sources when consumed alongside beef or other meats.

Link in bio: ThinkBeef.ca
Hashtag: #BeefBelongs

POST 3

What you learned: Create and share a layered mason jar salad recipe using beef and mention an ah-ha moment you discovered during the program. **Note**, Canada Beef may request the purchase of this recipe and image following the campaign.

Content suggestions:

- Misconceptions, myth-busting and surprising facts and about eating beef
- Speaking about what you've learned during the campaign
- Share your layered salad recipe and finished product.

Example misconceptions:

- **Can't we get all the nutrients we need from plants or other meats, such as chicken?**
  - Beef is a protein that offers a powerful nutrient-package 'bang for the buck'
  - It's important to remember that one food or food group does not provide all the nutrients you need to be healthy. Meat is valued for its high-quality protein and significant amounts zinc, iron, selenium, B-vitamins and more, nutrients that are difficult to get from plants. Conversely plant foods provide nutrients that are difficult to get enough of from a heavy meat-based diet such as folate and fibre. Healthy eating is truly a matter of variety and balance. These foods are best eaten in combination rather than one or the other.
  - Beef is nutrient dense, with much more iron, vitamin B12 and zinc than chicken at a comparable fat and calorie content. Compared to chicken, you would need to eat 7 servings of chicken (75 g cooked) to get the same amount of vitamin B12 as provided by 75 g of lean beef.
  - Compared to chicken breast, beef has 200% more iron, 600% more vitamin B12 and 700% more zinc --all for just 184 calories for a serving that's the size of your palm
  - Both are stellar protein sources and good foods, but variety and balance is the key to getting the nutrients you need for optimal health. Mix it up!
- **Doesn't eating beef raise your cholesterol?**
  - Research shows there's no reason to avoid fresh beef when following a heart-healthy diet and watching your cholesterol. In one of the largest studies ever completed, researchers from Harvard concluded that eating 100 grams of fresh red meat per day is not linked to the development of heart disease.

Link in bio: ThinkBeef.ca
Hashtag: #BeefBelongs

SOCIAL MEDIA

SOCIAL MEDIA CALENDAR

POST 01

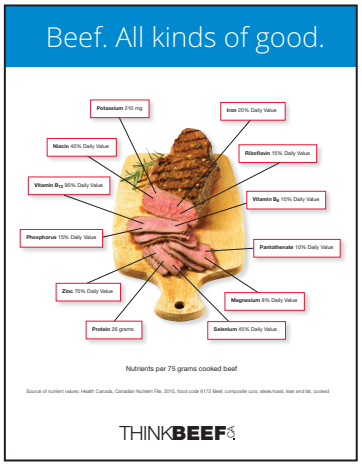


IMAGE: Nutritional Infographic: Beef. All Kinds of Good.

THEME: Nutritional Details

LINK: http://www.canadabeefmarketinglibrary.ca/?r=8845&k=b9a8887444

TWITTER POST: The benefits of beef go beyond taste. Beef delivers top quality protein, iron, zinc and vitamin B12 and more to help you stay energized, aid concentration, boost your immune system and help keep your bones, teeth and muscles strong and healthy. #BeefBelongs

FACEBOOK POST: The benefits of beef go beyond just great taste. Beef includes a number of essential vitamins and nutrients, including top notch protein, iron, zinc and vitamin B12. These vitamins and nutrients help you stay energized, aid concentration, boost your immune system and help keep bones, teeth and muscles strong and healthy. #BeefBelongs

INSTAGRAM POST: The benefits of beef go beyond its great taste. Beef includes a number of essential vitamins and nutrients, including top notch quality protein, iron, zinc and vitamin B12. These vitamins and nutrients help you stay energized, aid concentration, boost your immune system and help keep your bones, teeth and muscles strong and healthy. #BeefBelongs

POST 02

LINK: https://www.youtube.com/watch?v=vn96J4gDBv0&index=5&list=PLmBJ2Y4MQAMlb_JB4X4uGD8e40TjKVEl2

IMAGE: Screenshot from Youtube Video

THEME: Set on an Environmental Day / April 7: National Wildlife Week / w/o June 1: Canadian Environment Week / June 5: World Environment Day / September 26: World Environmental Health Day / October 4: World Animal Day / October 24: International Day of Climate Action

TWITTER POST: Happy xxxx Day! Check out this video to see how cattle ranching helps to support Canadian wildlife and preserve our grasslands. Just like the buffalo before them, beef cattle have an important role to play. #BeefBelongs

FACEBOOK POST: Happy xxx Day! Did you ever stop to consider what the prairie grasslands would look like without cattle grazing? Our Canadian ecosystem is very complex, and every animal plays a role in preserving our lands. Check out this video to hear how cattle ranching helps to support wildlife and preserve our grasslands. #BeefBelongs

INSTAGRAM POST: Happy xx Day! Did you ever stop to consider what the prairie grasslands would look like without cattle grazing? Our Canadian ecosystem is very complex, and every animal plays a role in preserving our lands - even cattle! Check out the link in bio to see how cattle ranching helps to support wildlife and preserve our grasslands. #BeefBelongs

POST 03

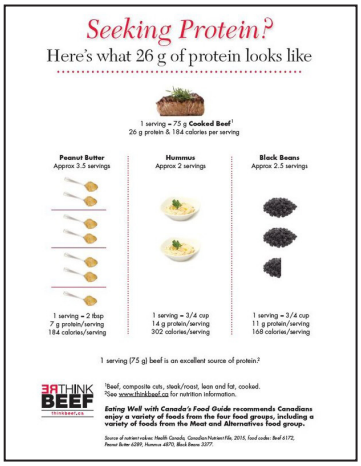


IMAGE: http://www.canadabeefmarketinglibrary.ca/?r=8499&k=c08851ef91

THEME: Beef Stacks up

LINK: https://www.youtube.com/watch?v=K1k2u-mIUPw

TWITTER POST: Why eat beef? Beef's is a powerhouse of nutrients. To get the same amount of protein in a serving of beef the size of your palm you need to eat at almost a whole 540 mL can of black beans. That's a lot of beans. #BeefBelongs

FACEBOOK POST: Why eat beef? Beef's a powerhouse of nutrients. To get the same amount of protein in a serving of beef the size of your palm you need to eat almost a whole 540 mL can of black beans. That's a lot of beans. Beef stacks up. #BeefBelongs

INSTAGRAM POST: Why eat beef? Beef's a powerhouse of nutrients. To get the same amount of protein in a serving of beef the size of your palm you need to eat almost a whole 540 mL can of black beans. That's a lot of beans. Beef stacks up. #BeefBelongs

POST 04

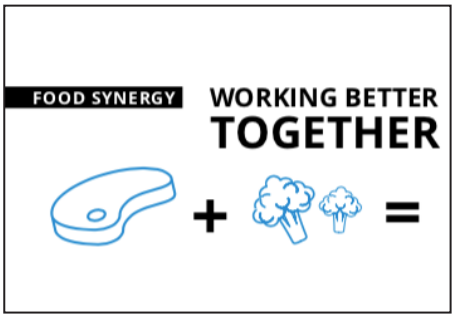


IMAGE: Nutritional Infographic: Food Synergy

The working better together graphic

THEME: Food Synergy

TWITTER POST: Did you know that when paired together foods can have even greater health benefits? Pairing beef with plant foods that have iron such as spinach or beans, will increase the amount of iron absorbed from those foods by 150%. Get great protein from beef and great fibre and quality carbohydrates from veggies, grains and legumes. Better together! #BeefBelongs

FACEBOOK POST: We eat foods not nutrients so appreciate the unique nutrient package each food has. Paired together foods can have even greater health benefits than if eaten separately - it's not one or the other. Pair iron-rich beef with veg and grain iron sources, to increase iron absorption from those plant foods by a whopping 150%. That's food synergy in action, and is known as the MEAT FACTOR! 1 + 1 >2! #BeefBelongs

INSTAGRAM POST: We eat foods not nutrients so we need to appreciate the unique nutrient package each food provides. aired together foods can have even greater health benefits than if eaten separately - it's not one or the other. Pair iron-rich beef with veg and grain iron sources, to increase iron absorption from those plant foods by a whopping 150%. That's food synergy in action, and is known as the MEAT FACTOR! 1 + 1 >2! #BeefBelongs

POST 05

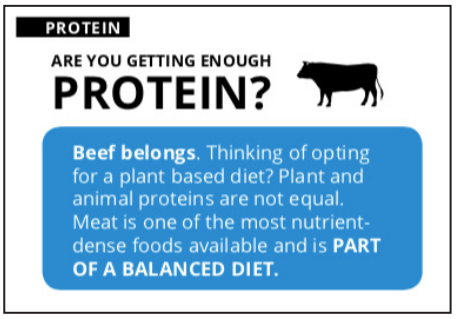


IMAGE: Nutritional Infographic: Protein: Are you Getting Enough Protein?

Text, and also the stats in the circles

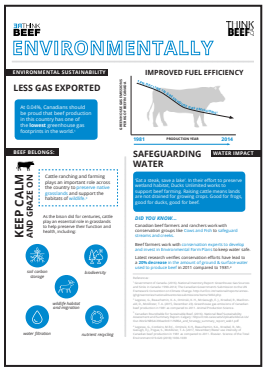
THEME: Are You Getting Enough Protein?

TWITTER POST: Are you getting enough protein? Over half of Canadian women and 56% of boys ages 14 to 19 are not eating the recommended number of servings of meat and alternatives. Add a bit of beef to your salad to beef up your meal. #BeefBelongs

FACEBOOK POST: Are you getting enough protein? Over half of Canadian women and 56% of boys ages 14 to 19 are not eating the recommended number of servings of meat and alternatives. Add a bit of beef to your salad to beef up your meal. A serving of meat is a steak just the size of your palm. #BeefBelongs

INSTAGRAM POST: Are you getting enough protein? Over half of Canadian women and 56% of boys ages 14 to 19 are not eating the recommended number of servings of meat and alternatives. Add a bit of beef to your salad to beef up your meal. A serving of meat is a steak just the size of your palm. #BeefBelongs

POST 06



THEME: Cattle Grazing **LINK:** https://www.youtube.com/watch?v=JDSoZBmdudg

TWITTER POST: Keep Calm and Graze On! Canadian cattle play an important role in helping to preserve our grasslands and helps support habitats of wildlife.#BeefBelongs

FACEBOOK POST: Just as the buffalo did for centuries cattle play an important role in the Canadian ecosystem. While grazing on grass they are actually improve the health of the grasslands which is so important for wildlife habitat and maintaing bird migratory patterns. So next time you drive by a field of chomping cows, say Graze on! #BeefBelongs

INSTAGRAM POST: Just as the buffalo did for centuries cattle play an important role in the Canadian ecosystem. While grazing on grass they are actually improve the health of the grasslands which is so important for wildlife habitat and maintaing bird migratory patterns. So next time you drive by a field of chomping cows, say Graze On! #BeefBelongs

IMAGE: Environmental Infographic Section: Beef Belongs: Keep Calm and Graze On

POST 07

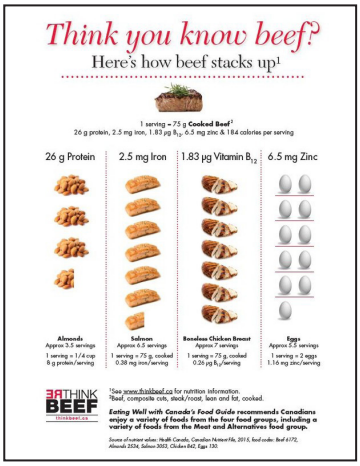


IMAGE: Beef Stacks Up

THEME: Nutritional Comparison

LINK: https://www.youtube.com/watch?v=zxS1P9KcfEE

TWITTER POST: On a chicken repeat? Beef's got flavour to shake up the routine and more vitamin B12, iron and zinc to power up your menu. See how beef stacks up to other protein opitons. #BeefBelongs:

FACEBOOK POST: Chicken for dinner again? Flavour-up with beef instead to add variety and more iron, zinc and vitamin B12. See how beef stacks up compared to other protein options. #BeefBelongs:

INSTAGRAM POST: Chicken for dinner again? Flavour-up with beef instead to add variety and more iron, zinc and vitamin B12. Click the link in bio to see how beef stacks up to other protein options.#BeefBelongs

LINK: http://www.canadabeefmarketinglibrary.ca/pages/view.php?ref=8498&k=50d0d01015

POST 08

RECIPE LINK: https://thinkbeef.ca/beef-salad-horseradish-vinaigrette/

THEME: Summer Dining

TWITTER POST: There is nothing better than a fresh salad with lots of local vegetables in the summer. Add some sliced steak or cooked ground beef as a topper to make salads more substantial! Taco salad anyone?#BeefBelongs

FACEBOOK POST: There is nothing better than a fresh salad with lots of garden-fresh vegetables in the summer. Add some sliced steak or cooked ground beef as a topper to make salads more substantial! Grill an extra steak for dinner to have sliced steak to add to lunch salad the next day. Check out thinkbeef.ca for delicious summer salads that satisfy. #BeefBelongs

INSTAGRAM POST: There is nothing better than a fresh salad with lots of garden-fresh vegetables in the summer. Add some sliced steak or cooked ground beef as a topper to make salads more substantial! Grill an extra steak for dinner to have sliced steak to add to lunch salad the next day. Check out thinkbeef.ca for some delicious summer salads that satisfy.#BeefBelongs

POST 09

IMAGE: Screenshot from Youtube Video

LINK: https://www.youtube.com/watch?v=3Cu4a3GQVNQ&index=1&list=PLmBJ2Y4MQAMlb_JB4X4uGD8e40TjKVEl2

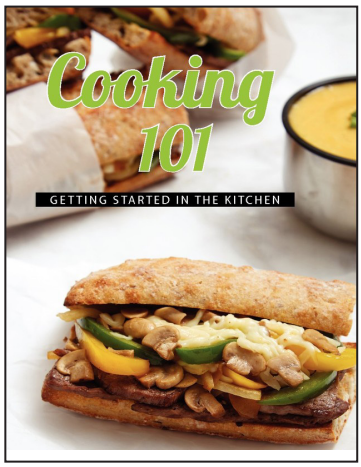
THEME: Environmental Stewardship

TWITTER POST: 'We are just caretakers here, who are only here for a little while. And we are borrowing this land from the next generation.' - Tom Thompson, Cattle farmer and Alberta Environmental Stewardship Award recipient speaks to what environmental stewardship means to him. Watch below to hear more from Tom. #BeefBelongs

FACEBOOK POST: We are just caretakers here, who are only here for a little while. And we are borrowing this land from the next generation.' - Tom Thompson, OF WINDING CREEK RANCH, Alberta Environmental Stewardship Award recipient 2017 talks about what environmental stewardship means to him. Watch below to hear more from Tom. #BeefBelongs

INSTAGRAM POST: We are just caretakers here, who are only here for a little while. And we are borrowing this land from the next generation.' - Tom Thompson, of Winding Creek Ranch, Alberta Environmental Stewardship Award recipient 2017 talks about what environmental stewardship means to him. Check out the link in bio to hear more from Tom. #BeefBelongs

POST 10



RESOURCE LINK: https://thinkbeef.ca/wp-content/uploads/2018/05/Yummy-Cooking-101_Spring-2018.pdf

THEME: School Lunch Ideas

TWITTER POST: Only two weeks into the new school year and already struggling for lunch ideas? These fun lunch ideas will ensure your children get a powerful punch of protein to keep them focused and engerized throughout the afternoon.

FACEBOOK POST: Only two weeks into the new school year and already struggling for lunch ideas? Check out these fun lunch ideas to ensure your children get a powerful punch of protein to keep them focused and engerized throughout the afternoon.

INSTAGRAM POST: Only two weeks into the new school year and already struggling for lunch ideas? Check out the link in bio for some fun lunch ideas that will ensure your children get a powerful punch of protein to keep them focused and engerized throughout the afternoon.

CREATIVE ASSETS

INFOGRAPHICS

THINK BEEF

THINK BEEF.CA

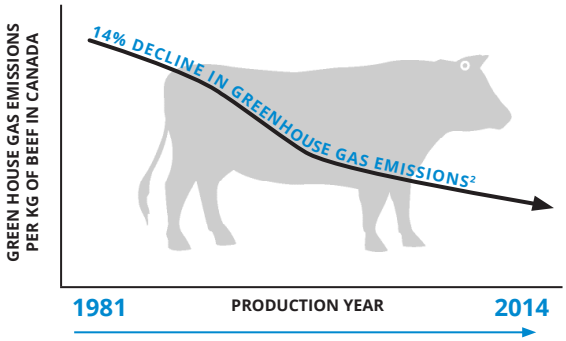
ENVIRONMENTALLY

ENVIRONMENTAL SUSTAINABILITY

LESS GAS EXPORTED

At 0.04%, Canadians should be proud that beef production in this country has one of the **lowest** greenhouse gas footprints in the world.[1]

IMPROVED FUEL EFFICIENCY

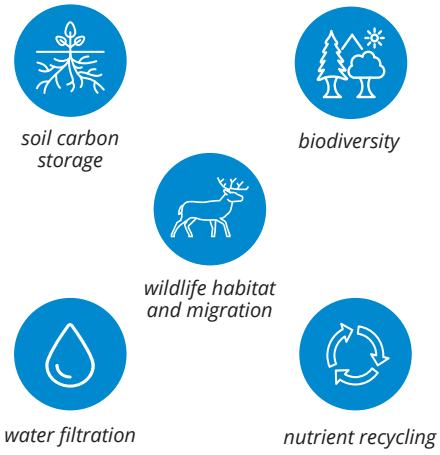


BEEF BELONGS:

KEEP CALM AND GRAZE ON

Cattle ranching and farming plays an important role across the country to preserve native grasslands and support the habitats of wildlife.[3]

As the bison did for centuries, cattle play an essential role in grasslands to help preserve their function and health, including:



SAFEGUARDING WATER

WATER IMPACT

'Eat a steak, save a lake'. In their effort to preserve wetland habitat, Ducks Unlimited works to support beef farming. Raising cattle means lands are not drained for growing crops. Good for frogs, good for ducks, good for beef.

DID YOU KNOW...

Canadian beef farmers and ranchers work with conservation groups like Cows and Fish to safeguard streams and creeks.

Beef farmers work with conservation experts to develop and invest in Environmental Farm Plans to keep water safe.

Latest research verifies conservation efforts have lead to a **20% decrease** in the amount of ground & surface water used to produce beef in 2011 compared to 1981.[4]

References:

[1] Government of Canada. (2016). National Inventory Report: Greenhouse Gas Sources and Sinks in Canada: 1990-2014; The Canadian Government's Submission to the UN Framework Convention on Climate Change. http://unfccc.int/national/reports/annex-ighginventories/nationalinventoriessubmissions/items/9492.php

[2] Legesse, G., Beauchemin, K. A., Ominski, K. H., McGeough, E. J., Kroebel, R., MacDonald, D., McAllister, T. A. (2015, December 23). Greenhouse gas emissions of Canadian beef production in 1981 as compared to 2011. Animal Production Science.

[3] Canadian Roundtable for Sustainable Beef. (2016). National Beef Sustainability Assessment and Summary Report. Calgary: https://crsb.ca/assets/Uploads/About-Us/Our-Work/NBSA/290ae9c611/NBSA_and_Strategy_summary_report_web1.pdf

[4] Legesse, G., Cordeiro, M.R.C., Ominski, K.H., Beauchemin, K.A., Kroebel, R., McGeough, E.J., Pogue, S., McAllister, T. A. (2017, November) Water use intensity of Canadian beef production in 1981 as compared to 2011. Elsevier. Science of the Total Environment 619-620 (2018) 1030-1039

THINK BEEF

NUTRITIONALLY

THINK BEEF.CA

PROTEIN

ARE YOU GETTING ENOUGH
PROTEIN?

Beef belongs. While many Canadians are opting for a plant-based diet, meat remains one of the most nutrient-dense foods available and is **PART OF A BALANCED DIET.**

MORE THAN

56% of adolescent males

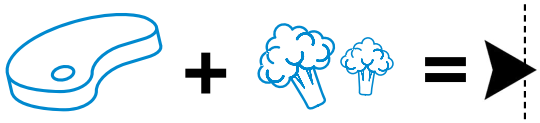
48% of women 31-50 years of age

69% of females older than 70 years of age

are **EATING LESS** than the **recommended number of servings** for meat and alternatives daily. Are you getting enough?[1]

FOOD SYNERGY

WORKING BETTER TOGETHER



DID YOU KNOW...

That when paired together, foods can actually produce greater health benefits for your body? We eat foods not nutrients. Real foods trump supplements. **Real foods first.**

Paired together, protein-rich beef helps increase the iron absorbed from beans and other plant sources of iron by a whopping 150%. It's food synergy in action - known as **The Meat Factor.**[2]

Without the inclusion of meat in their diets, vegetarians need almost 2X more iron than meat eaters.

NUTRIENTS

WHAT'S IN IT FOR YOU

LOOKING TO KEEP YOUR

SMILE SPARKLING | IMMUNE SYSTEM HEALTHY | BRAIN POWERED

MAKE SURE **BEEF** IS PART OF YOUR DIET

75 GRAMS OF COOKED BEEF INCLUDES:[3]

26 GRAMS OF PROTEIN –
necessary to build muscle and maintain healthy bones and teeth. Smile!

70% OF YOUR DAILY VALUE OF ZINC –
helps boost your body's immune system & keep you healthy

90% OF YOUR DAILY VALUE OF VITAMIN B_{12} –
ensures you can concentrate and feel energized

10% OF YOUR DAILY VALUE OF VITAMIN B_6 –
remember this brain-power booster - a smart decision to include

20% OF YOUR DAILY VALUE OF IRON –
enabling increased brain and muscle function

SEEKING PROTEIN?

SEEKING PROTEIN
HERE'S WHAT 26 G OF PROTEIN LOOKS LIKE

Enjoy a variety of protein foods from Canada's Food Guide. Consider the 'protein efficiency' in your protein choices: how much protein do I get per serving = how much I need to eat.[4]

26 GRAMS OF PROTEIN = **1** PALM-SIZED SERVING (75g) COOKED BEEF

2.5 SERVINGS (1 SERVING = 3/4 CUP) BLACK BEANS

OR

2 SERVINGS (1 SERVING = 3/4 CUP) HUMMUS

OR

3.5 SERVINGS (1 SERVING = 2 TBSP) PEANUT BUTTER

References:
1 Canadian Community Health Surveys (Nutrition) 2004 and 2015 2 Engelmann, M, Davidsson, L, Sandstrom, B, Walczyk, T, Hurrell, R, & Michaelsen, K. (1998). The influence of meat on nonheme iron absorption in infants. Pediatric Research, 43(6), 768-773.
3 Health Canada, Canadian Nutrient File, 2015, food code 6172 Beef, composite cuts, steak/roast, lean and fat, cooked
4 Health Canada, Canadian Nutrient File, 2015, food codes: Beef 6172, Peanut Butter 6289, Hummus 4870, Black Beans 3377

BEEF BENEFITS

beef FACTS that will surprise you

Packed with nutrients like iron, zinc, protein and B vitamins, beef is one powerful protein!

Calorie for calorie, beef is a delicious way to meet your family's nutrition needs. And since it pairs up perfectly with traditional sides like vegetables and whole grains, beef makes it easy to feed your family a healthy, balanced diet, in line with Canada's Food Guide.

Beef comes out ON TOP

Compared to chicken breast, beef has:

200% more Iron

600% more Vitamin B_{12}

700% more Zinc

THE FACTS ON FAT:

About half the fat in beef is monounsaturated, the same fat found in olive oil!

Per 75 grams cooked beef: 184 calories, 26 g protein, 7.6 g fat (3.9 g monounsaturated), 2.5 mg iron (20% DV), 6.5 mg zinc (70% DV), 1.83 µg vitamin B_{12} (90% DV)
Per 75 grams cooked chicken breast: 0.78 mg iron, 0.75 mg zinc, 0.26 µg vitamin B_{12}
Per ¼ cup almonds: 208 calories, 7.6 g protein
Source of nutrient values: Health Canada, Canadian Nutrient File, 2015. Food codes: Beef 6172, Chicken 842, Almonds 2534

Beef's BIG on protein

One serving of **beef** (75 g at 184 calories) has the **same amount of protein** as about 3.5 servings of **almonds** (104 almonds at 728 calories).

9%

A serving of beef provides **184 calories** In a typical 2000 calorie diet, that's only 9% of your daily calorie "budget".

Beef is very high in protein, a nutrient that is essential at every stage of life.

Did you know? Protein:

- **helps build and repair body tissues**
- **helps build antibodies**
- **helps build strong muscles**

Eating Well with Canada's Food Guide recommends eating a variety of Meat and Alternatives, including lean meat

RECIPE CARDS

STEAK WITH SIMPLE SUCCOTASH SAUTÉ

Prep: 10 mins *Cook:* 10 mins *Yields:* 4-6 Servings

INGREDIENTS

- **1 tsp** EACH Cajun spice* and ground cumin
- **¼ tsp** EACH salt and hot pepper flakes
- **1 lb (500g)** Beef Grilling Steak (e.g. Top Sirloin, Strip Loin, Tenderloin) **¾ to 1-inch thick**
- Simple Succotash Sauté **(recipe follows)**

***Cajun Spice:**
¼ tsp EACH paprika, dried oregano, garlic powder, and dried thyme.

INSTRUCTIONS

1. **Combine** Cajun spice, cumin, salt and pepper flakes in small bowl. Set aside half of mixture. Sprinkle both sides of steak with remaining mixture.
2. **Grill** steak over medium-high about 10 minutes, turning twice or more for medium-rare doneness (145°F/63°C). Remove to plate; cover loosely with foil. Let stand for 5 minutes before slicing thinly across the grain. Serve with **Simple Succotash Sauté.**
3. **Simple Succotash Sauté:** In large skillet, melt 2 tbsp butter over medium-high heat. Add 2 cloves garlic, minced, 1 cob corn (kernels removed from cob), 2 small zucchinis sliced, 1 small sweet red pepper, diced and ½ cup shelled cooked edamame (optional) and reserved Cajun Spice mix. Cook, stirring occasionally until just tender, about 8 minutes. Add ¼ cup minced fresh parsley or chives.

BEEF WITH BABY GREENS SALAD & HORSERADISH VINAIGRETTE

Prep: 15 mins *Yields:* 6 Servings

INGREDIENTS

- **¼ cup** white wine vinegar
- **1 tbsp** prepared horseradish
- **⅓ cup** canola or vegetable oil
- **½ tsp** salt and freshly ground pepper
- **2 cups** slivered cooked beef Oven Roast or Grilling Steak
- **½ cup** crumbled feta cheese
- **½** small red onion, thinly sliced
- **½ cup** toasted walnut halves, broken
- **4 cups** baby greens

INSTRUCTIONS

1. In large bowl, **whisk together** vinegar, horseradish, canola oil, salt and pepper.
2. **Add** cooked beef, lettuce greens, cheese, onion and nuts. Toss together to coat with dressing.
3. **Serve.**

To toast walnuts:
Place nuts on large rimmed baking sheet. Toast in **350°F (180°C)** oven, until aromatic, stirring once, about 10 minutes.

SPEEDY SKILLET STEAK WITH RAPID RATATOUILLE

Prep: 10 mins *Cook:* 20 mins *Yields:* 2 Steaks

INGREDIENTS

- **2** Beef Fast-fry/Minute Steaks
- **2 tsp** Herb de Province, divided (or a mix of dried tarragon, oregano, thyme leaves)
- **½ tsp** EACH salt and pepper
- **1 tbsp** vegetable oil
- **1 small** zucchini, diced
- **1 clove** garlic, minced
- **1 small** sweet onion, diced
- **20** cherry tomatoes, halved
- **⅓ cup** crumbled feta cheese
- **¼ cup** minced Italian parsley or basil, optional

INSTRUCTIONS

1. **Season** the steaks with 1 tsp of the Herb de Province and salt and pepper.
2. **Heat** oil in medium non-stick pan over medium-high heat. Add steaks and cook, turning twice or more with tongs to desired doneness. Remove from pan and keep warm.
3. **Add** zucchini, garlic, onion and remaining 1 tsp Herb de Provence to pan. Sauté, stirring, for 2 to 3 minutes.
4. **Add** tomatoes and continue to cook for 2 to 3 minutes. Remove from heat, stir in feta and parsley (if using) and serve over steak.

QUICK BEEF & BARLEY SOUP

Prep: 15 mins Cook: 15 mins Yields: 9 1-cup Servings

INGREDIENTS

- **1 tbsp** vegetable oil
- **1** onion, diced
- **2** cloves garlic, minced
- **1 EACH**, large carrot and stalk celery, sliced
- **½ tsp EACH** dried thyme leaves, salt and freshly ground pepper
- **1 tbsp** tomato paste
- **¼ cup** pearl barley
- **4 cups** beef broth
- **1 can** diced stewed tomatoes
- **3 cups** cubed cooked beef pot roast

INSTRUCTIONS

1. **Heat** vegetable oil in large pot. Add onion, garlic, carrot, celery, thyme, salt and pepper. Cook over medium-high heat to soften, about 2 minutes.
2. **Add** tomato paste, stirring to coat vegetables. Add barley, beef broth, 3 cups water and stewed tomatoes. Bring to boil; reduce heat and simmer, stirring occasionally, until barley is tender, about 15 minutes.
3. **Add** cooked beef pot roast; heat through, about 2 minutes.

BEEF STEAK & LENTIL SALAD

Prep: 25 mins Cook: 20 mins Yields: 6 Servings

INGREDIENTS

- **1 tsp EACH** Italian seasoning, coarsely ground pepper and salt
- **¼ tsp** garlic powder
- **1 lb (500 g)** Beef Grilling Steak (e.g. Strip Loin or Top Sirloin), 1 inch thick
- **½ cup** minced red onion
- **¼ cup** EACH olive oil and chopped fresh basil
- **2 cloves** garlic, minced fresh or roasted mashed
- **2 tbsp** red wine vinegar
- **½ tsp EACH** salt and dried oregano
- **2 cups** assorted grilled vegetables (e.g. zucchini, sweet red pepper, asparagus, etc.), cut into chunks
- **2** plum tomatoes, seeded and chopped
- **1 can (540 mL)** lentils, drained and rinsed
- **1 jar (170 mL)** marinated artichoke hearts, drained and coarsely chopped

INSTRUCTIONS

1. **Combine** seasoning, pepper, salt and garlic powder in small bowl. Rub mixture over steak; let stand for 15 minutes.
2. Meanwhile, **combine** onion, olive oil, basil, garlic, vinegar, salt and oregano in large salad bowl. Add grilled vegetables, tomatoes, lentils and artichoke hearts. Gently toss together and season to taste.
3. **Grill** steak over medium-high heat for about 10 minutes, turning twice or more for medium-rare doneness (145˚F/63˚C). Let stand for 5 minutes. Cut steak into thin slices; serve with lentil mixture.

OVEN ROAST BEEF HOW-TO

OVEN ROAST BEEF CUT OPTIONS:

- **Sirloin Tip**
- **Eye of Round**
- **Outside Round**
- **Inside Round**
- **Top Sirloin**
- **Tenderloin**
- **Prime Rib**
- **Rib Eye**
- **Rump**

INSTRUCTIONS

1. **Season** roast all over with coarse salt and pepper; place on rack in shallow roasting pan without water and lid. Insert ovenproof thermometer into centre of roast, avoiding fat or bone.
2. **Oven-sear** by placing uncovered roast in preheated 450°F (230°C) oven for 10 minutes.
3. **Reduce heat** to 275°F (140°C). Cook to desired doneness: 145°F/63°C for medium-rare, 160°F/71°C or higher for medium to well-done.
4. Remove from oven, cover loosely with foil and let rest for 15 minutes before serving.

BEEF POT ROAST HOW-TO

BEEF POT ROAST CUT OPTIONS:

- **Blade**
- **Cross Rib**
- **Top Blade**

***Slow Cooker Option:**
Transfer browned roast to slow cooker with liquid and any vegetables. Cover with lid and slow cook on LOW for 6 to 8 hours.

INSTRUCTIONS

1. **Season** roast all over with coarse salt and pepper. In lightly oiled Dutch oven or stockpot, brown roast all over using medium-high heat.*
2. **Add** 1 to 2 cups liquid such as red wine, broth, canned tomatoes or soup.
3. **Simmer**, covered, on stove top or in 325°F (160°C) oven for 3 hours or until fork-tender.
4. **Add** chunks of vegetables for final 45 minutes, if desired. Skim fat from sauce and season to taste.

THE BEEF STACKS UP QUIZ

How Beef Stacks Up

1. **Canadian Beef is an excellent source of _____ :**

- o Fibre
- o Vitamin E
- o Protein

2. **Compared to an equal serving of cooked chicken breast, beef delivers:**

- _____ more iron
- 600% more vitamin B_{12}
- 700% more zinc

- o 500%
- o 10%
- o 200%
- o 400%

3. **Protein is critical for the following:**

- o Growth in childhood
- o Energy and vitality in adulthood
- o Healthy aging later in life
- o All of the above

4. **Which of these statements is true about the fat content of beef?**

- Half the fat in beef is unsaturated
- Beef has about the same amount of saturated fat as chicken thighs
- Fat is required in your diet and helps you absorb certain nutrients such as vitamin D

- o All these statements are true
- o All these statements are false
- o Only one of these statements is true

5. **Beef is power packed with essential nutrients. Three of the nutrients found in beef are:**

- o Iron, Zinc, Vitamin B_{12}
- o Vitamins A, D and E
- o Fibre, Vitamin C and Iron

6. **Vegetarians need:**

- o More iron in their diets than meat eaters
- o Less iron in their diets than meat eaters
- o Vegetarians don't need iron since they don't eat meat

7. **A 75 gram serving of beef contains less than 200 calories, and a whopping _____ of protein.**

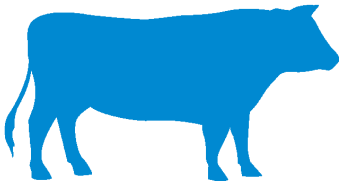
- o 6 grams
- o 26 grams
- o 14 grams

8. **Beef can be described as:**

- o A single ingredient food that satisfies the appetite and is loaded with essential nutrients
- o High in fat so needs to be limited
- o Not as nutritious as plant-based proteins

THINKBEEF.CA

ANSWERS:
1 - Protein, 2 - 200%, 3 - All of the above, 4 - All these statements are true, 5 - Iron, Zinc, Vitamin B12, 6 - More iron in their diets than meat eaters, 7 - 26 grams, 8 - A single ingredient food that satisfies the appetite and is loaded with essential nutrients



For more **Nutrition Resources** go to
ThinkBeef.ca

or search for **'Nutrition'** at the

Canada Beef Marketing Library:
www.canadabeefmarketinglibrary.ca

THINK BEEF.CA