

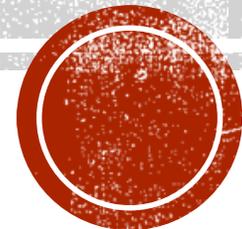
CONSUMERS AND MEAT

Demographics, Challenges, Evolving Trends

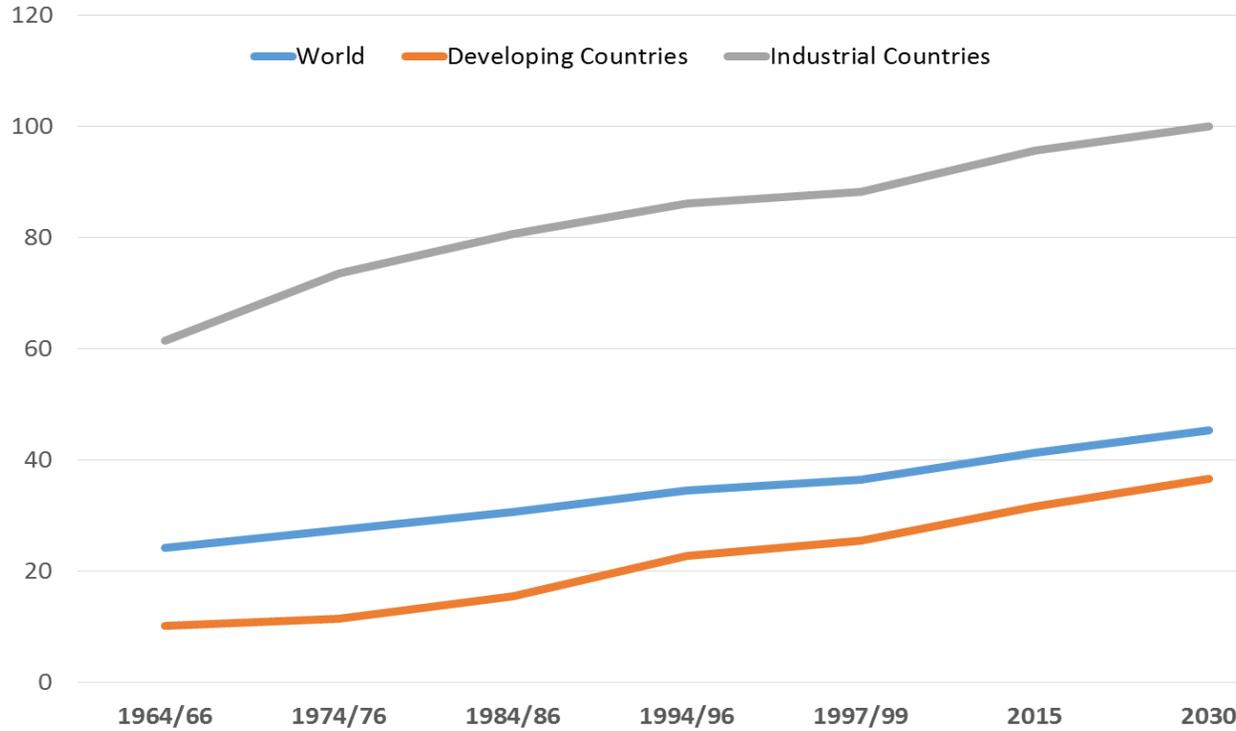
ATF-EAAP special session

Title: Food integrity in the food chain: How can the animal production sector contribute?

Ellen Goddard, University of Alberta

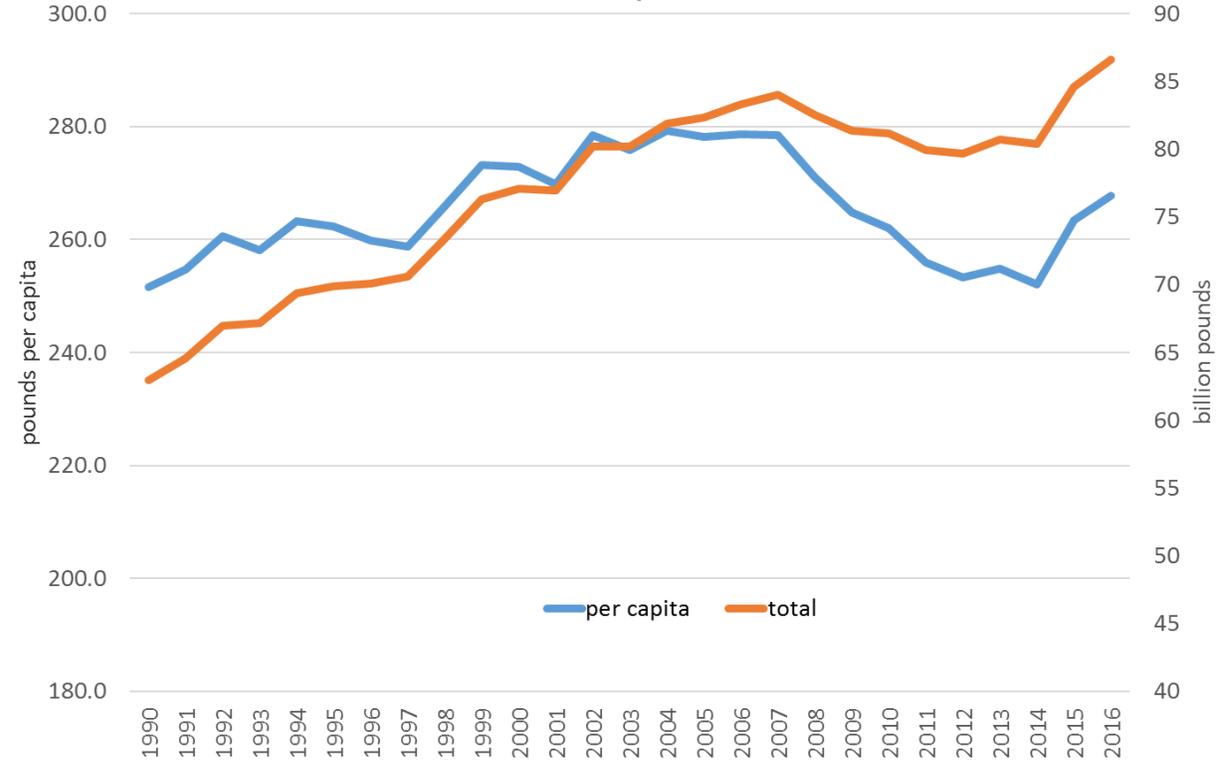


FAO, Meat Consumption KG Per Capita, Actual and Projected



Decline in many developed countries at a per capita level

US Total Meat Consumption, 1970-2016



Long term trends show increasing meat demand but is demand going to increase for everyone, everywhere?



SNACKING – The New Way of Eating – Good or Bad for Meat?

Fifty-six percent of all snacking occasions reflect some need for nourishment, or snacking that ***addresses hunger and provides sustained energy***. Key attributes of these snacks include whole grains, fiber, ***protein***, fat, probiotics and minimal sugar. Examples include Greek yogurt, fruits and vegetables, nut and granola bars, and ready-to-drink tea, water and smoothies.

Thirty-four percent of snacking occasions reflect some need for optimization, or snacking that ***provides quick energy, recovery, mental focus or stress management***, such as products with ***protein***, caffeine, vitamins and minerals, antioxidants and botanicals. Examples include energy and sports drinks, energy and granola bars, **meat snacks**, kombucha and coffee.



TURKEY
ALMOND
CRANBERRY
BAR
BOX OF 12
\$ 30.00 ~~\$ 34.00~~





CONVENIENCE is a big driver in snacking meat products



LOVE PULSES IN 2016

HELP THE ENVIRONMENT

Pulse crops are incredibly water-efficient, and they help keep soils fertile and healthy.



2016 IS THE INTERNATIONAL YEAR OF PULSES
Eat More Peas, Beans, Chickpeas and Lentils for
People and the Planet!

www.pulses.org
#LovePulses
@LovePulses



Key messages of the Year

-  Pulses are highly nutritious.
-  Pulses are economically accessible and contribute to food security at all levels.
-  Pulses have important health benefits.
-  Pulses foster sustainable agriculture and contribute to climate change mitigation and adaptation.
-  Pulses promote biodiversity.

[4]

COMPETITION is COMING
from non traditional places!

Is there a way to get more of your 5 to 10 a day with something that looks and tastes like meat?



Vegetarian Butcher

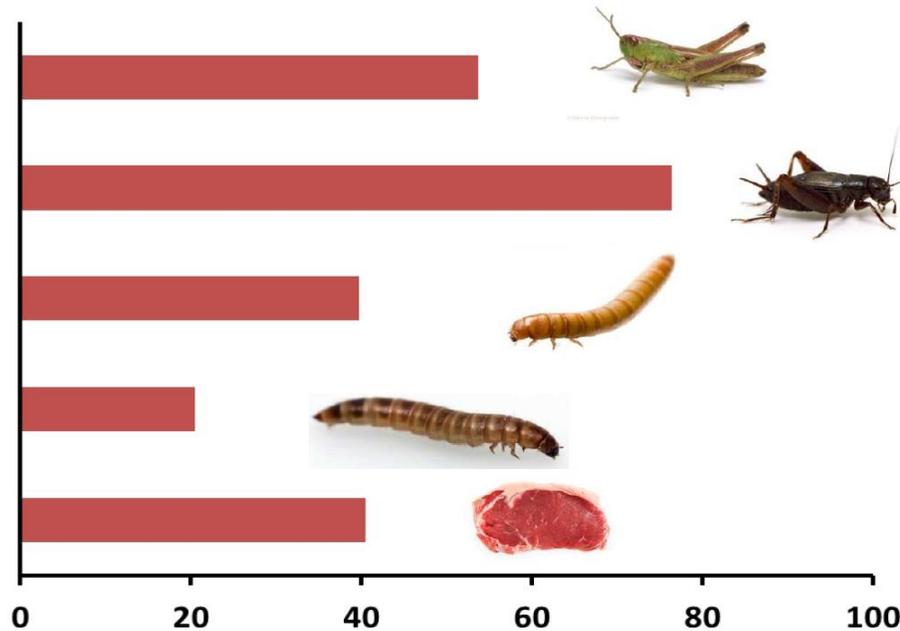
“meat substitutes need to be convincing in every way to persuade hardcore-core carnivores to cut back. In fact, many of his customers buy meat lookalikes to “cheat their partners” into eating regular meat-free meals. “The only way to win the hearts of meat eaters, which is very necessary, is to give them sustainable, healthy, animal-friendly meat which tastes great,”

February 6, 2016, **The Telegraph**



Should You Be Eating Bugs Instead of Meat?

Gladys O. Latunde-Dada et al. In Vitro Iron Availability from Insect and Sirloin Beef, Journal of Agricultural and Food Chemistry (2016). DOI: 10.1021/acs.jafc.6b03286 s



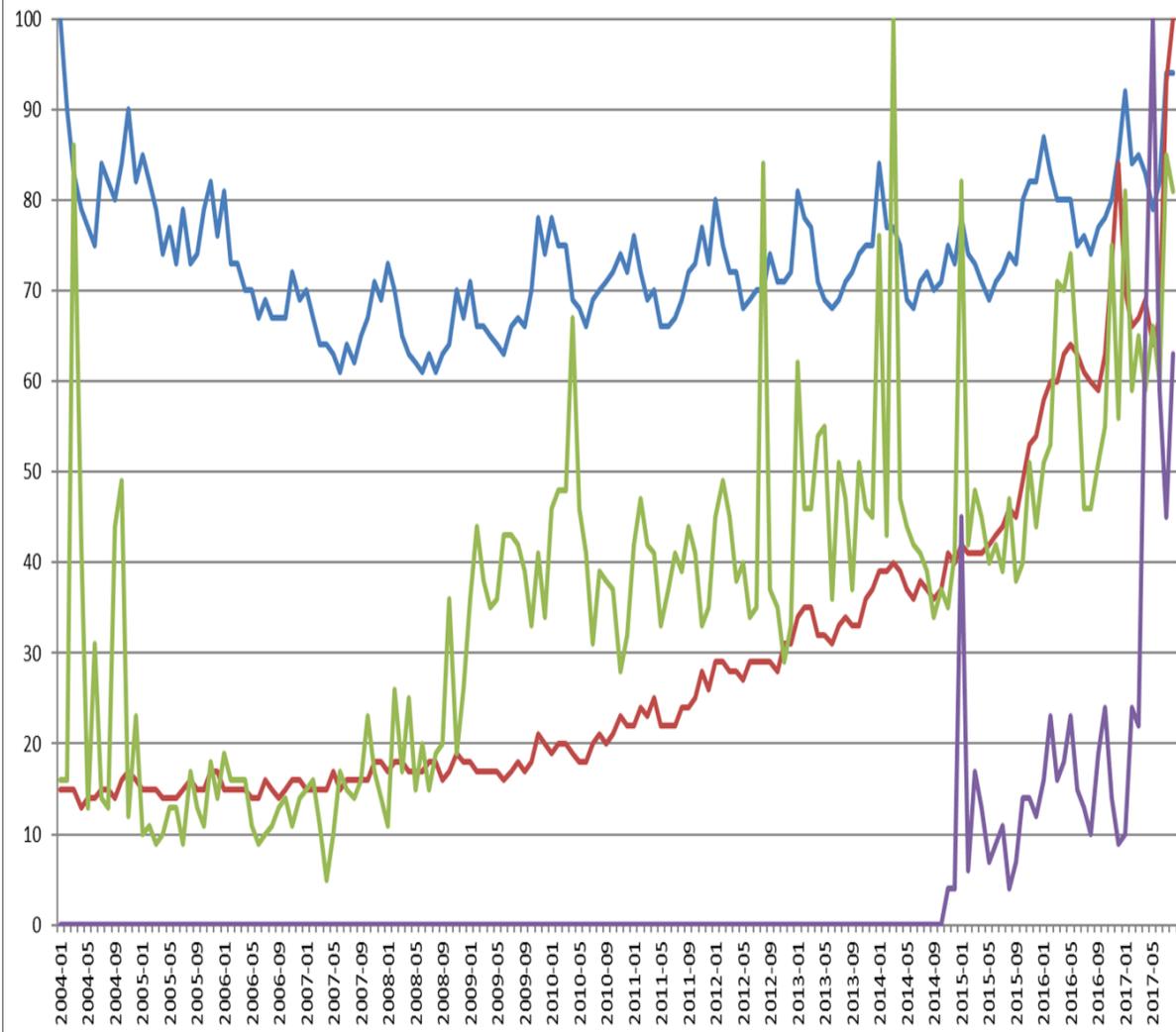
Iron Uptake (ng Ferritin/mg Protein)



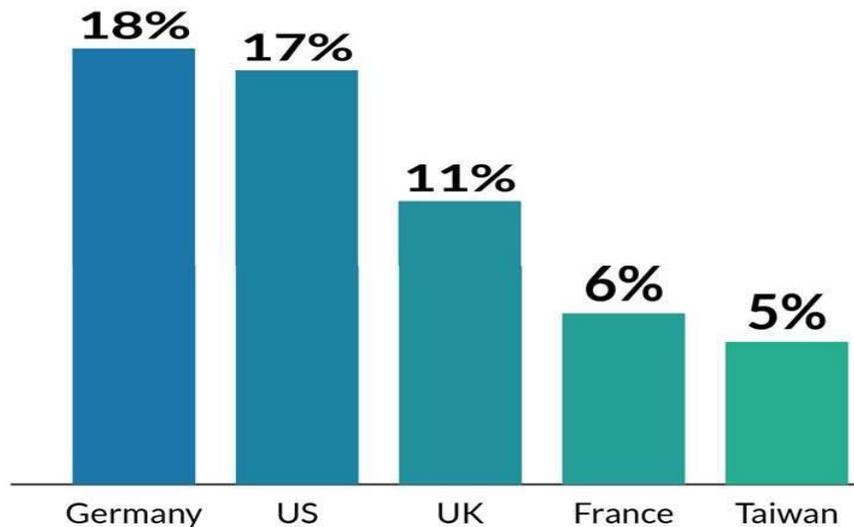
Google Search Trends Worldwide

2004 to 2017

— Vegetarian — Vegan — Flexitarian — Reducetarian



2016 VEGAN FOOD PRODUCT LAUNCHES % FROM LEAD COUNTRIES

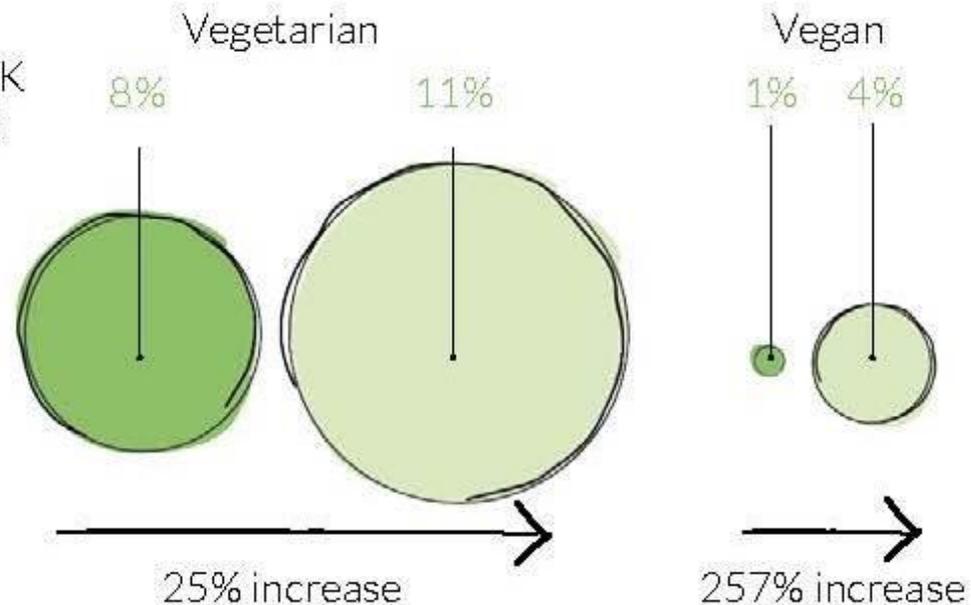


SOURCE: MINTEL GLOBAL NEW PRODUCTS DATABASE

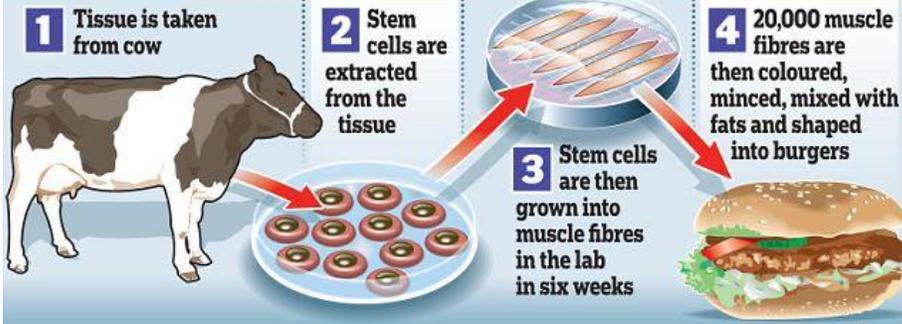
<http://www.mintel.com/press-centre/food-and-drink/germany-hosted-the-highest-number-of-vegan-launches-worldwide-in-2016>

SHARE OF FOOD AND DRINK LAUNCHES WITH VEGETARIAN OR VEGAN CLAIMS GLOBALLY, 2010 - 2016

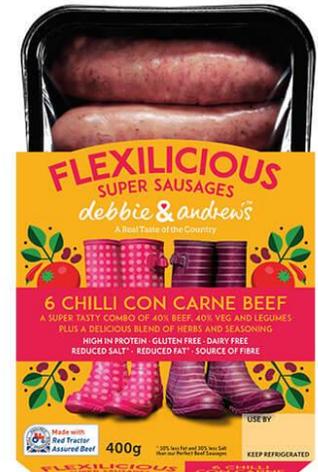
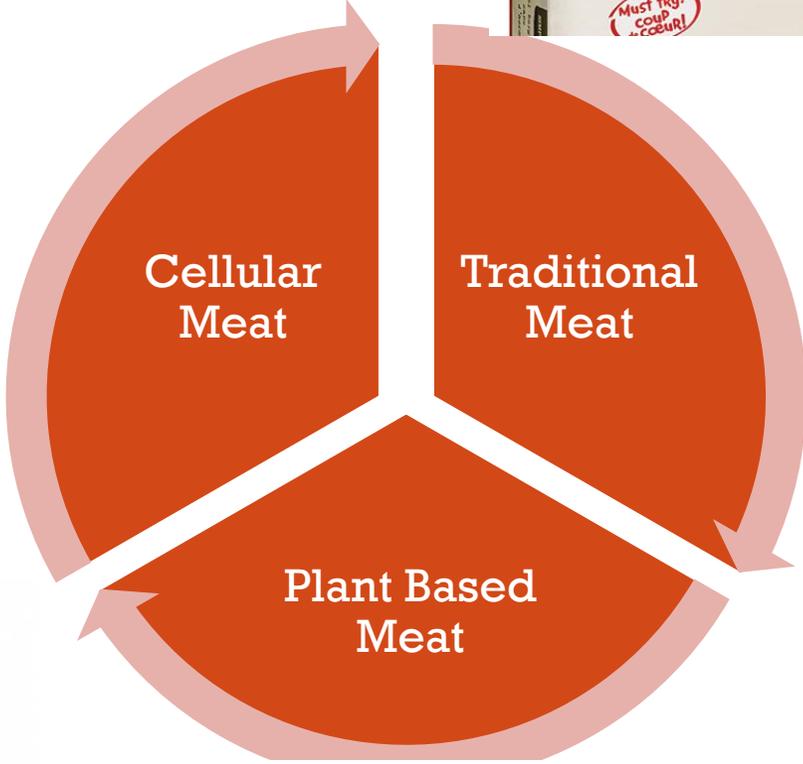
● September 2010 – August 2011
 ● September 2015 – August 2016



HOW THE BURGERS ARE GROWN



Spam celebrates 80 year anniversary



CARGILL
TYSON



THE IMPOSSIBLE CHEESEBURGER





**ANIMAL FREE
MEAT**

**CRUELTY FREE
MEAT**

CLEAN MEAT

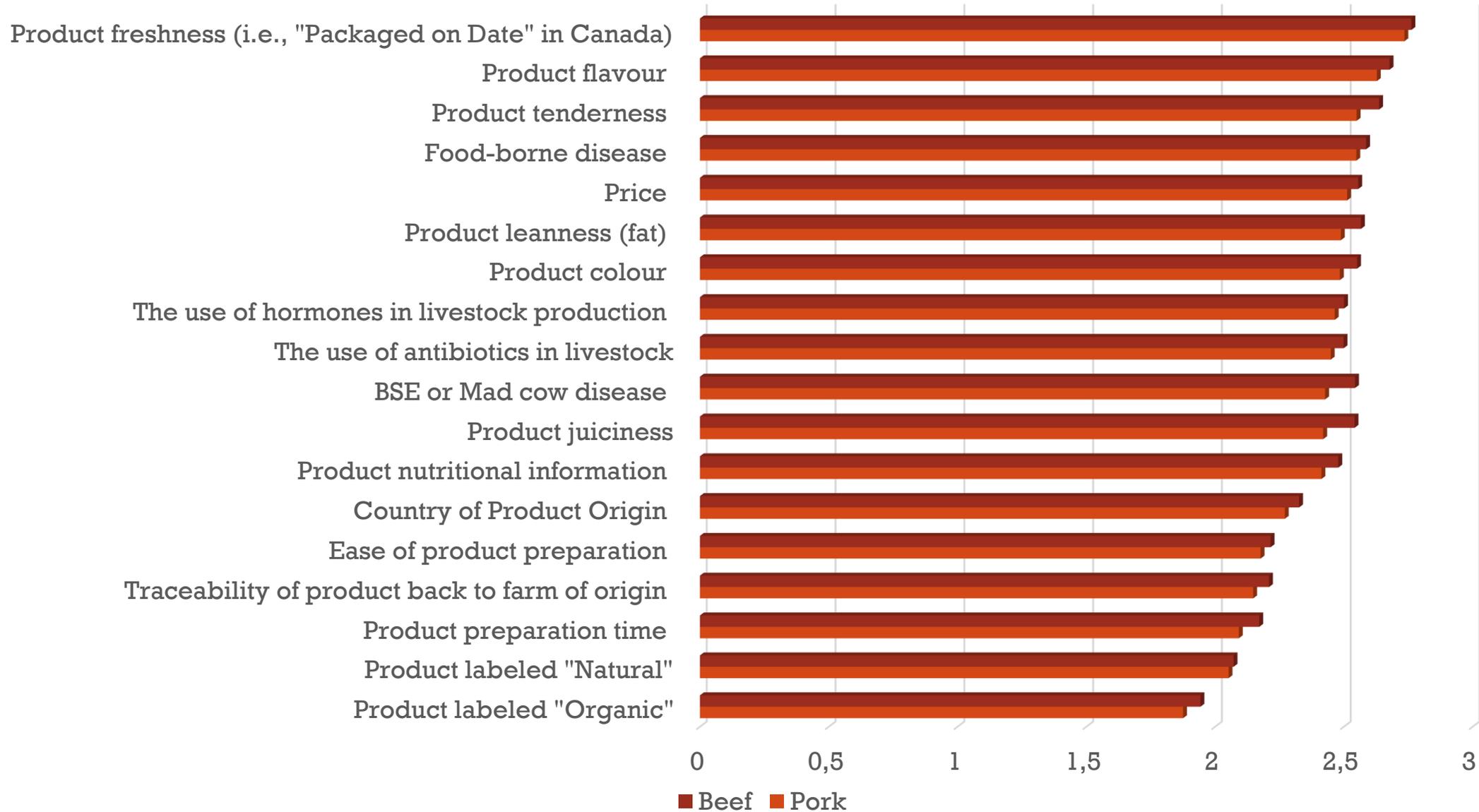
**QUESTION of
WHETHER PLANT
BASED PRODUCTS or
CELLULAR PRODUCTS
SHOULD BE CALLED
MEAT?**



Don't Forget About Traditional Drivers of Meat Purchasing?

When You Buy Pork/Beef How Important are the Following Factors to You?

CANADA, 2009, 1600 Respondents



DRIVERS OF INCREASING IMPORTANCE

ANIMAL WELFARE

Animal Welfare, Reducing Meat Consumption and the Instrumental Use of Moral Reasons

(August 1, 2017, <http://blog.practicaethics.ox.ac.uk/2017/08/animal-welfare-reducing-meat-consumption-and-the-instrumental-use-of-moral-reasons/>)

SUSTAINABILITY

If Everyone Ate Beans Instead of Beef

With one dietary change, the U.S. could almost meet greenhouse-gas emission goals.

(August 2, 2017, <https://www.theatlantic.com/health/archive/2017/08/if-everyone-ate-beans-instead-of-beef/535536/>)

HEALTH

Why Google Nudges Employees to Eat Less Meat

Generally, eating less or no meat reduces your risk of coronary heart disease, Type 2 diabetes, and some forms of cancer.

(August 7, 2017,

<http://www.triplepundit.com/2017/08/google-nudging-employees-eat-less-meat/>)

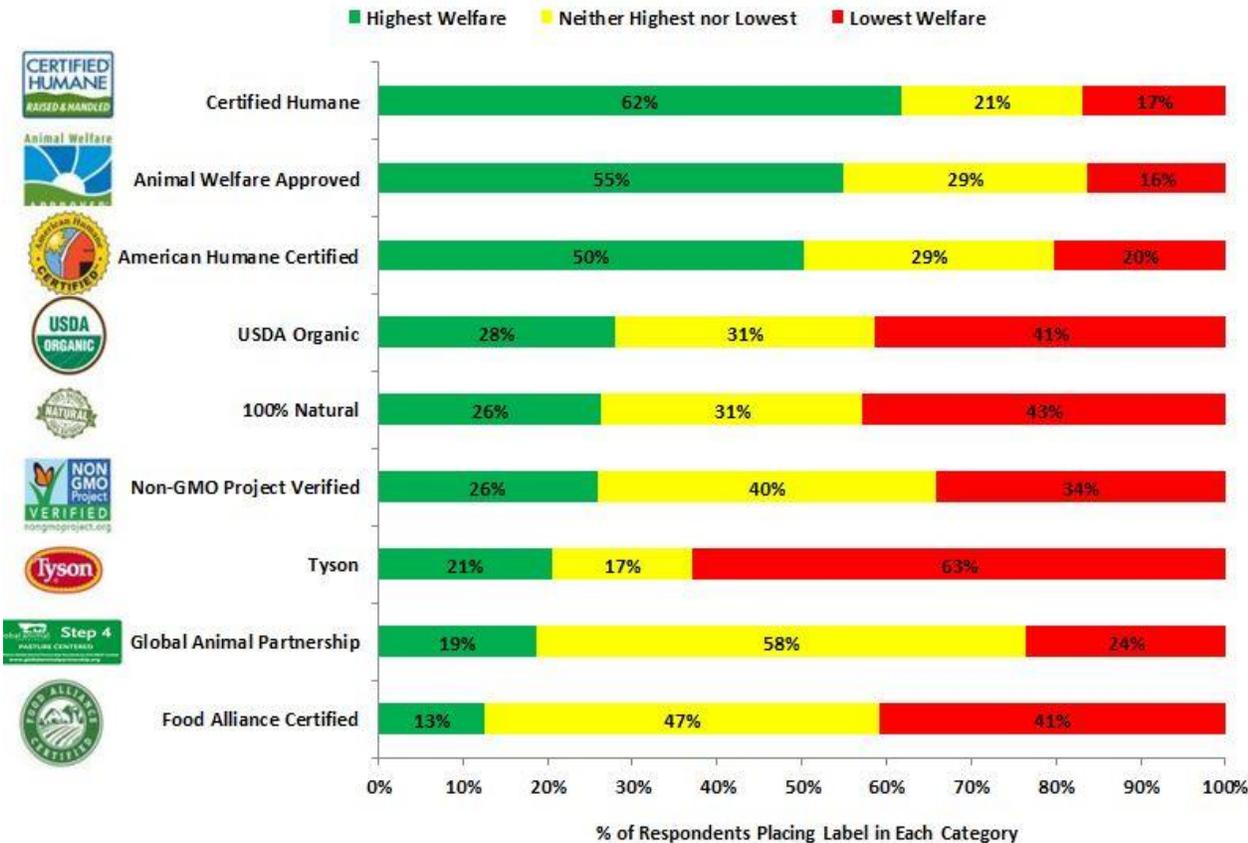


ANIMAL WELFARE

Plethora of Labels = Confusion?



Verification (Ranking) Becomes Important



What is the Animal Protection Index?

The Animal Protection Index is a new interactive tool from World Animal Protection. We have ranked 50 countries worldwide on how well their legislation protects animals. Never before has a more comprehensive or ambitious project in animal protection been completed. You can access each country's report and see how they perform on animal protection policy and legislation.



**ALL NATURAL?
NO ANTIBIOTICS?
HUMANELY RAISED?**

PROVE IT!

You might not be buying what you think you are.
'Humanely raised' can mean different things to different companies.

A SURVEY* SHOWS THAT **PRETTY LABELS ARE NOT ENOUGH**

MORE THAN 2 OF CANADIANS **THAN 3** **ARE CONCERNED ABOUT THE ETHICAL TREATMENT OF ANIMALS** **83% AGREE THAT ANIMAL WELFARE CLAIMS SHOULD BE VERIFIED BY AN INDEPENDENT THIRD-PARTY ORGANIZATION**

CERTIFICATION MEANS NO COMPROMISE

DuBreton goes beyond the basics with **Certified Humane®** pork that is verified by a leading third-party organization that specializes in **animal welfare**

"We were the **FIRST** pork producer in North America, and are still the **ONLY** in Canada, to qualify as Certified Humane™"
Vincent Breton, President of duBreton®.

CERTIFIED HUMANE
RAISED & HANDLED

- CRATE FREE
- NO ANTIBIOTICS
- NUTRITIOUS DIET + NO ANIMAL BY-PRODUCTS
- FREE ACCESS TO SHELTER AND HAY OR STRAW-BEDDED RESTING AREAS
- SPACE AND ABILITY TO ENGAGE IN NATURAL BEHAVIOURS
- VERIFIED BY A THIRD-PARTY ORGANIZATION THAT SPECIALIZES IN ANIMAL WELFARE

Prove It! Canadians Want Companies to Verify their Claims Regarding the Ethical Treatment of Animals (CNW Group/duBreton)

WTP for Canadian Traditionally Raised Pork with different Certifications

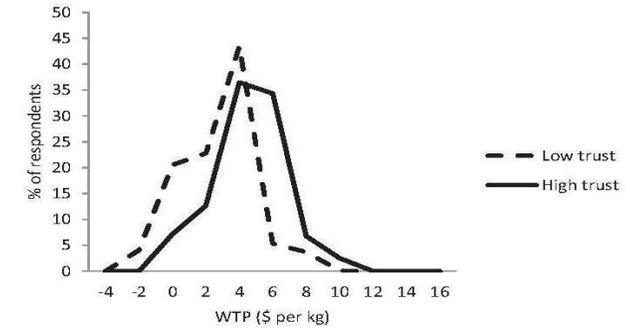


Figure 2. Distribution of individual WTP for uncertified traditionally raised pork

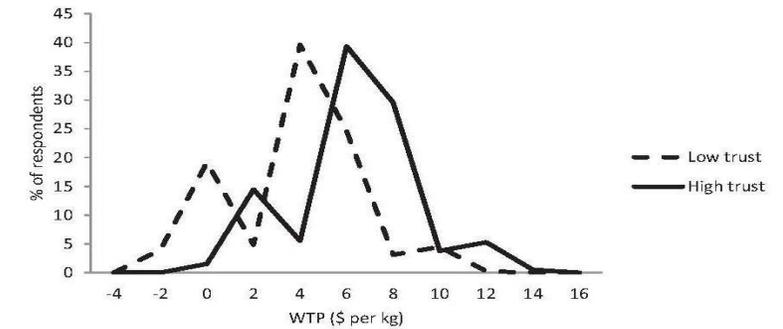


Figure 3. Distribution of individual WTP for Canadian pork industry certified traditionally raised pork

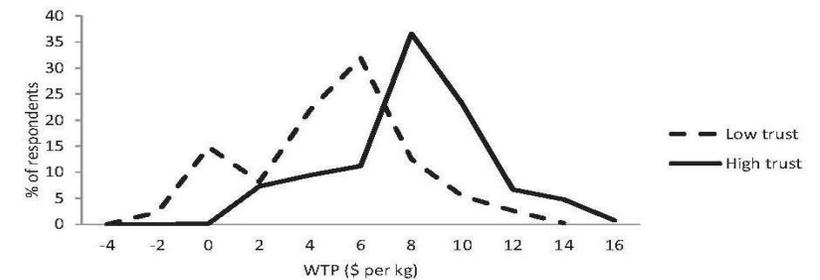


Figure 4. Distribution of individual WTP for government certified traditionally raised pork



SUSTAINABILITY

INCREASED LABELING OPTIONS AND EVEN MORE RANKINGS



- Financial Times Stock Exchange's [FTSE4Good Index Series](#),
- [Dow Jones Sustainability Indices](#) (DJSI),
- Canadian Corporate Knights' [Global 100](#) index,
- In the United States, Newsweek's [Green Rankings](#)



SURVEY RESULTS 2016



AUSTRALIA

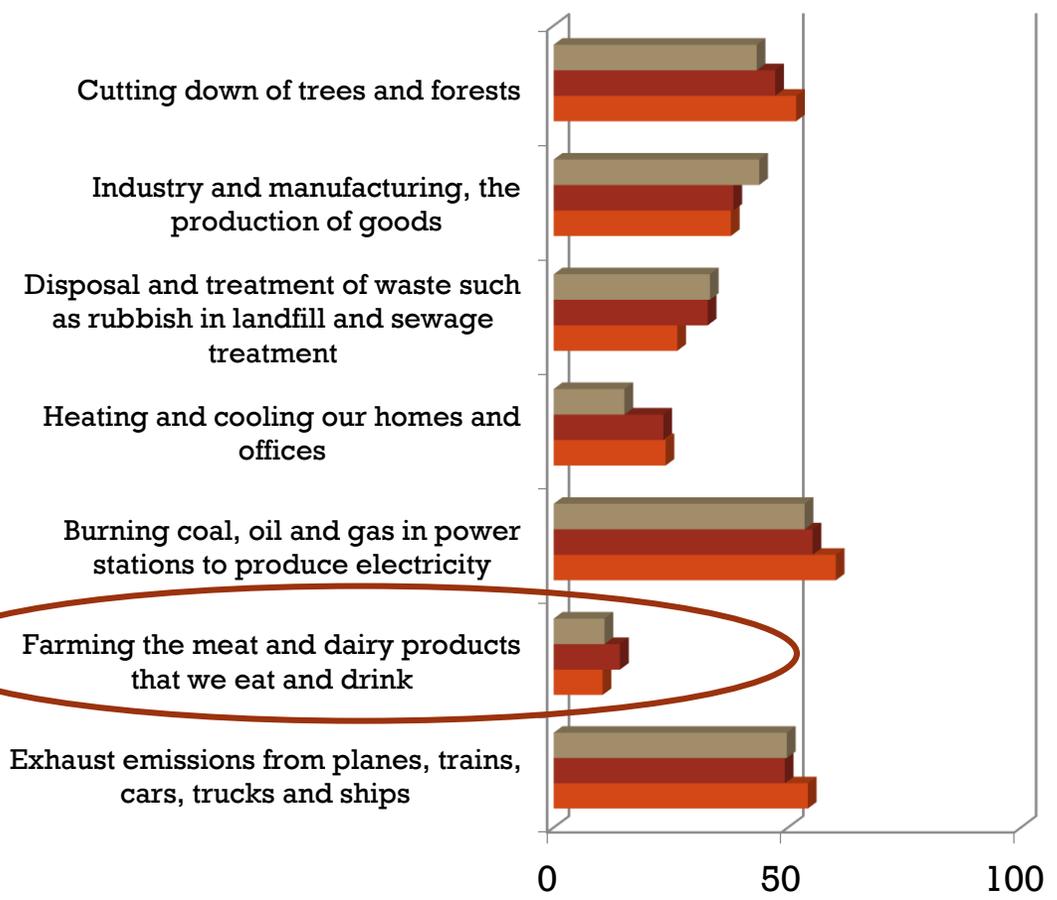


UK

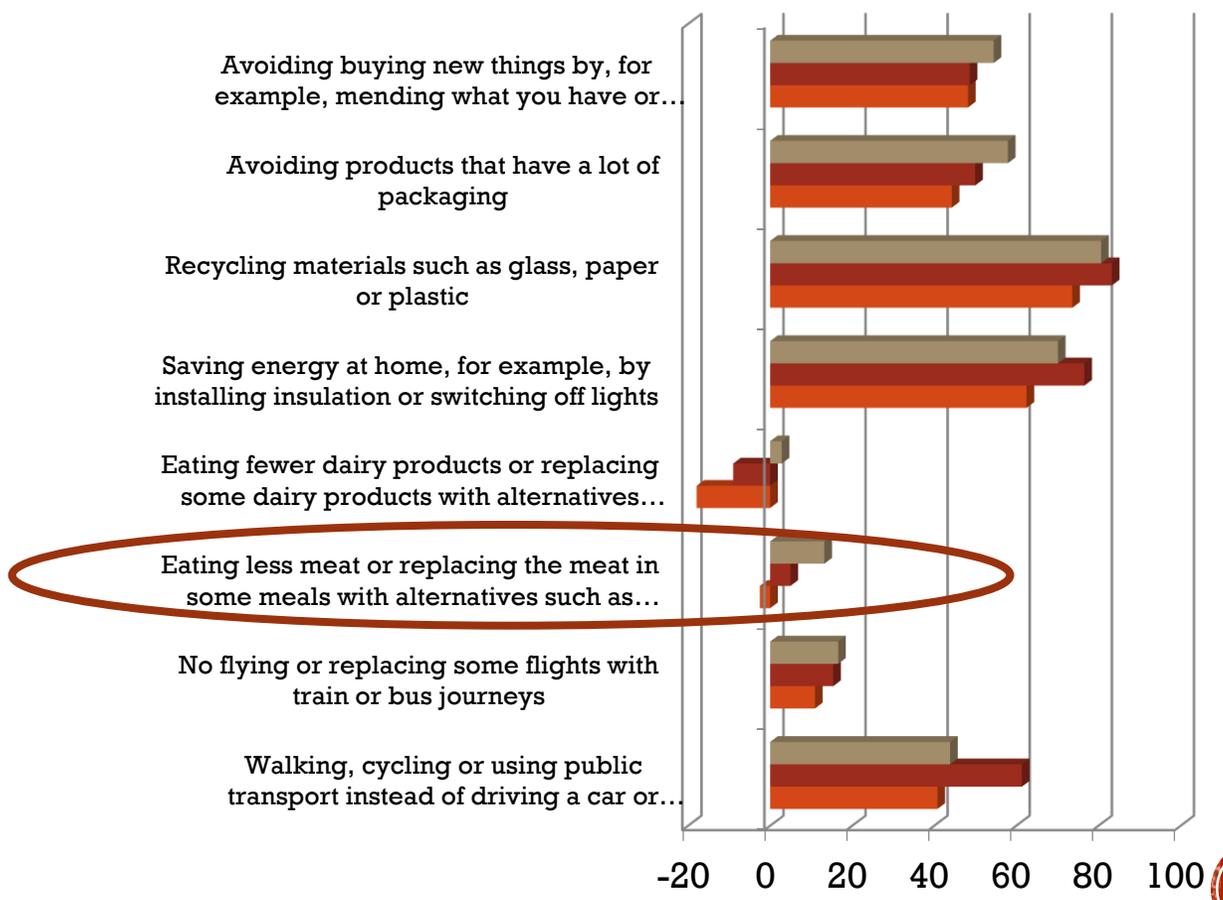


CANADA

How Big a Part, If Any, Do You Think Each of the Following Activities Play in the Human Contribution to Climate Change?
Strength of Agreement %



Thinking About Things You Might Do to Limit Your Own Contribution to Climate Change, How Likely or Unlikely Would You Be to Make the Following Changes During the Next Year
% Agreement Likely



US Ranking of Production Claims for Livestock Products

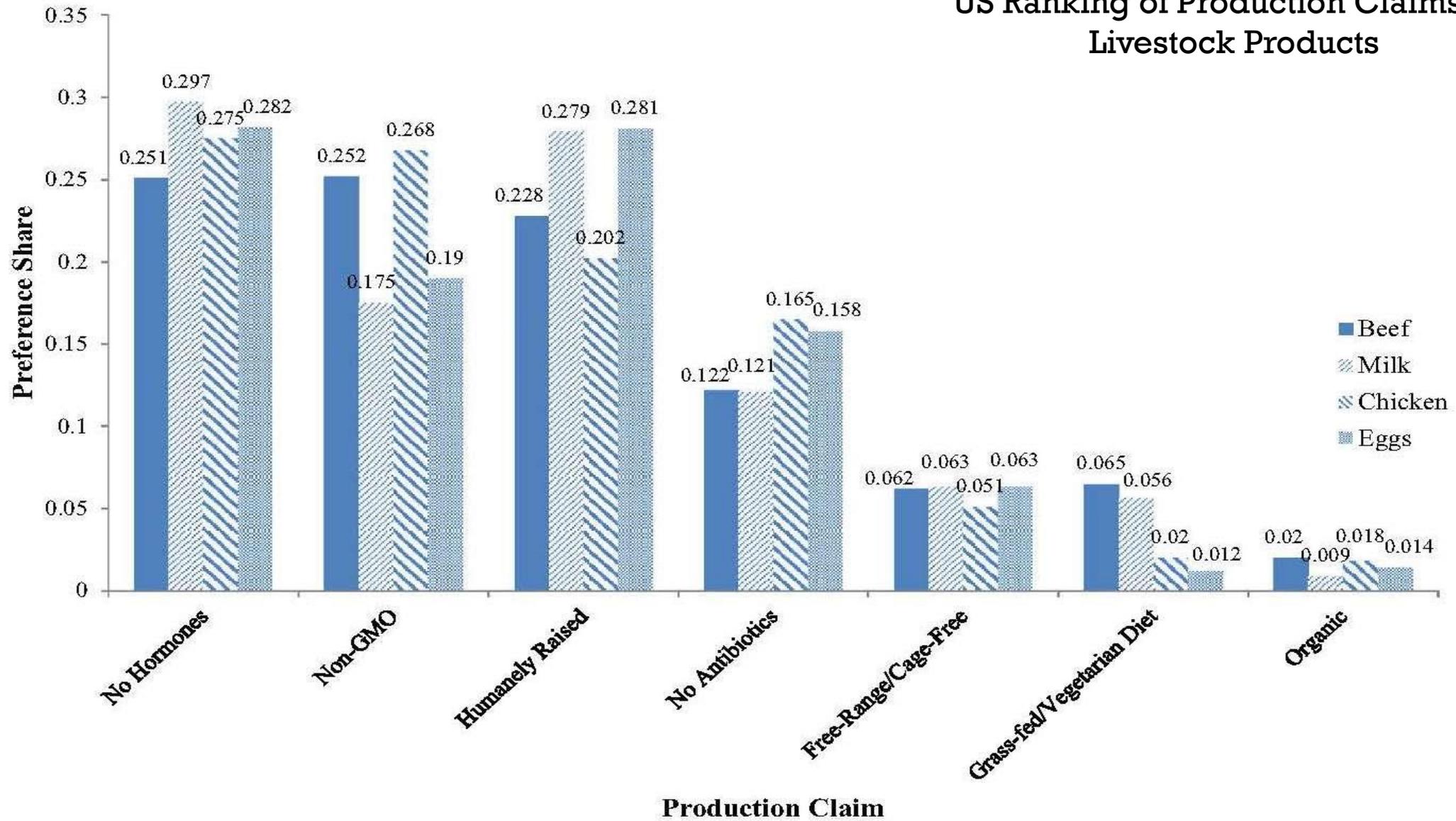


Fig. 2 Production claim preference shares by product block



HEALTH AND MEAT

Labels Related to Health ??



And Rankings

CHAIN REACTION II

2016 Scorecard on Antibiotics Policies and Practices

| | | | | | |
|-----------|--|----------|--|-----------|--|
| A | | | | | |
| B | | | | | |
| C+ | | C | | C- | |
| D+ | | D | | | |
| F | | | | | |

Issues Around Health

Yes, You Need to Cool It On the Bacon

TIME, Feb 02, 2017

Diets high in processed meats have been linked to chronic health conditions including migraines, asthma, heart failure, kidney disease and several types of cancer

Red meat can be healthy

<http://www.foxnews.com/lifestyle/2017/04/17/red-meat-can-be-healthy-when-eat-it-this-way.html>

Despite the alarming headlines, red meat isn't all bad. protein, vitamins, iron

Food Safety and Meat

e Coli, salmonella, campylobacter, antibiotics?, hormones?



REGIONAL RED FLAGS

TOP FIVE INGREDIENTS RESPONDENTS SAY THEY AVOID IN EACH REGION

| | | | | |
|--|---------------|---|---|-----|
|  | ASIA-PACIFIC | 1 | ARTIFICIAL PRESERVATIVES | 67% |
| | | 2 | ARTIFICIAL FLAVORS | 66% |
| | | 3 | ARTIFICIAL COLORS | 65% |
| | | 4 | ANTIBIOTICS OR HORMONES USED IN ANIMAL PRODUCTS | 59% |
| | | 5 | FOOD IN A PACKAGE WITH BPA | 57% |
|  | EUROPE | 1 | ANTIBIOTICS OR HORMONES USED IN ANIMAL PRODUCTS | 65% |
| | | 2 | ARTIFICIAL PRESERVATIVES | 61% |
| | | 3 | ARTIFICIAL FLAVORS | 60% |
| | | 4 | ARTIFICIAL COLORS | 60% |
| | | 5 | GMOs | 59% |
|  | NORTH AMERICA | 1 | MSG | 55% |
| | | 2 | ANTIBIOTICS OR HORMONES USED IN ANIMAL PRODUCTS | 54% |
| | | 3 | ARTIFICIAL SWEETENERS | 54% |
| | | 4 | ARTIFICIAL PRESERVATIVES | 53% |
| | | 5 | FOOD IN A PACKAGE WITH BPA | 53% |

Source: The Nielsen Global Health and Ingredient-Sentiment Survey, Q1 2016



DIETARY GUIDELINES

HEALTH OR ENVIRONMENT?

- Netherlands - *a person should consume no more than 500 grams (or a little over a pound) of meat per week. Of that, no more than 300 grams should be red meat*
- UK - *residents should replace several servings of animal protein with plant-based protein from things like pulses, a category of food that includes lentils, peas, and beans*
- China - *new dietary guidelines published by the Chinese Nutrition Society call for people to consume 14.6 to 27.4 kg of meat per year, which at the high end is less than half of what they currently consume*





   **104**
shares

INDY/EATS

WHY THE MOST ETHICALLY FARMED COWS PRODUCE THE TASTIEST MEAT

ell.com



There Are So Many Issues Related to Meat Consumption that Consumers Often Look for Heuristics to Combine Them

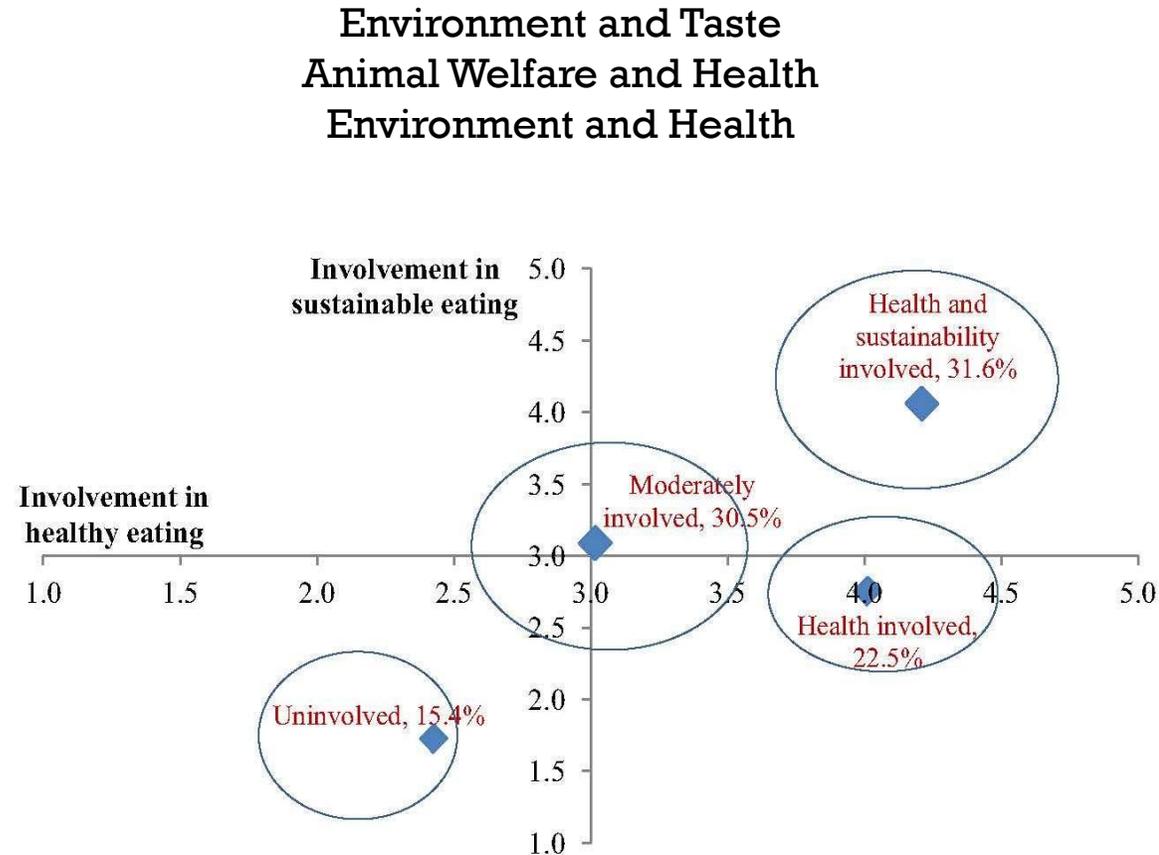


Fig. 2. Positioning of the four segments based on mean scores for involvement in sustainable and healthy eating¹: S1 uninvolved (n = 428), S2 moderately involved (n = 850), S3 health involved (n = 626), S4 health and sustainability involved (n = 879). (¹Both construct were measured on a 5-point scale ranging from “Strongly disagree” (1) to “Strongly agree” (5).)



MEAT IS INCREASINGLY COMPLEX FOR CONSUMERS

CHALLENGES WILL CONTINUE IN HEALTH AND THE ENVIRONMENT BUT SO WILL GROWTH IN GLOBAL DEMAND

Acknowledgements:

Alberta Prion Research Institute, PrioNet Canada, Genome Canada, Genome Alberta, Alberta Agriculture and Forestry





Retail Value of Sales of Meat Snacks, 2010-2015 UK

| | All-natural (eg contains no artificial colourings, flavourings etc) | Low calorie content | Nutritional benefits (eg high in fibre) | High-quality ingredients (eg contains Jersey cream, chia seeds) | Made by a well- known brand | Ethical credentials (eg Fair Trade) | Hand made | Portable format (eg a bar) | Limited edition flavour |
|--|--|---------------------------|--|--|--------------------------------------|--|--------------|----------------------------------|-------------------------------|
| | % | % | % | % | % | % | % | % | % |
| All | 22 | 19 | 18 | 18 | 17 | 12 | 12 | 12 | 12 |
| Generations: | | | | | | | | | |
| Millennials (16-35) | 17 | 22 | 21 | 22 | 19 | 15 | 13 | 17 | 17 |
| Millennials (younger) (1990-99) (16-25) | 15 | 21 | 18 | 20 | 25 | 22 | 18 | 22 | 23 |
| Millennials (older) (1980- 89) (26-35) | 18 | 23 | 23 | 24 | 13 | 9 | 9 | 13 | 12 |

Base: 1,181 internet users aged 16+

Source: Lightspeed/Mintel

This is an excerpt from Consumer Snacking - UK - March 2016. See [databook](#)

Meat snacks clock faster growth than potato chips: Mintel

By Gill Hyslop+, 09-Aug-2017

Meat snacks are the third biggest category of salty snacks in the US and also the fastest-growing sub-segment, according to Mintel.

<http://www.bakeryandsnacks.com/Retail-Shopper-Insights/Meat-snacks-clock-faster-growth-than-potato-chips-Mintel>

