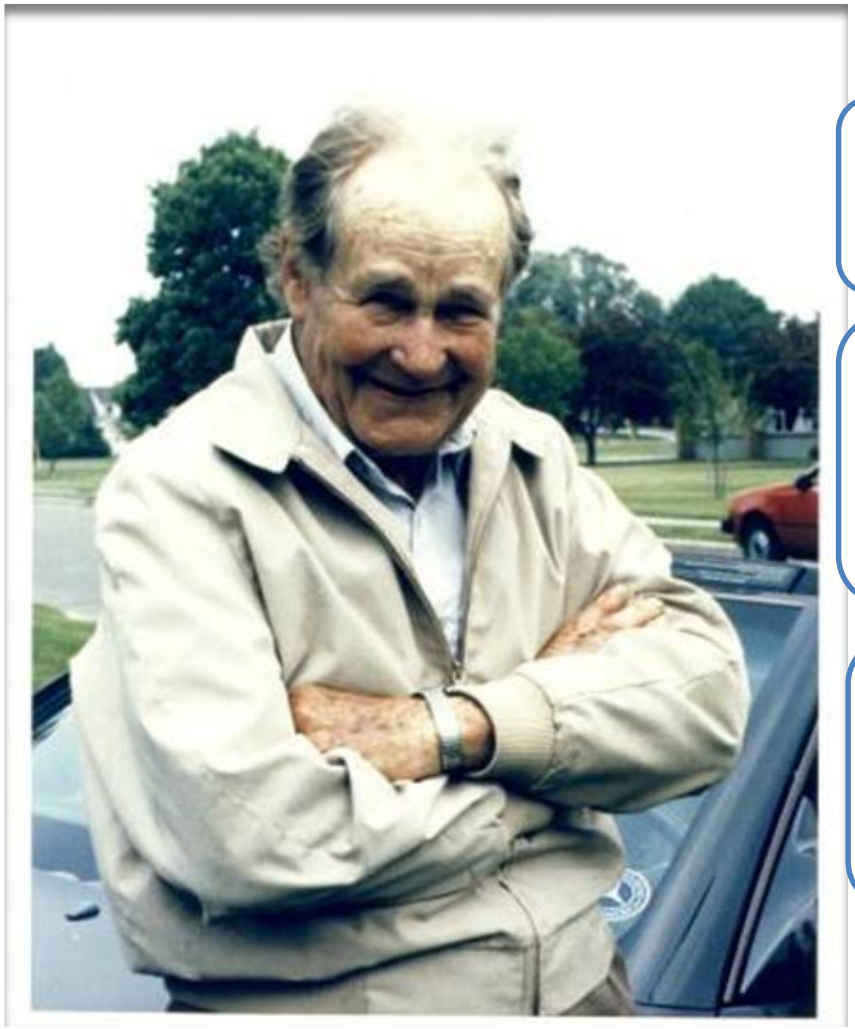
GEORGE MORRIS CENTRE

Drivers of Global Meat Demand

Kevin Grier

Senior Market Analyst

George Morris Centre



Economic Research into the Canadian Agriculture and Food Industry

Independent

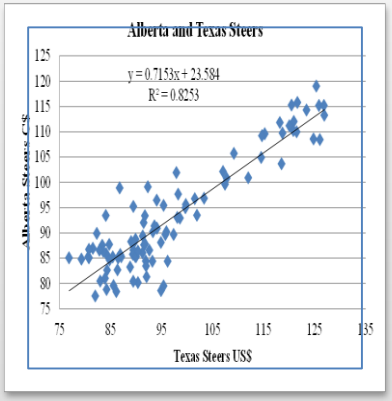
- Financially
- Structurally
- Research Perspective

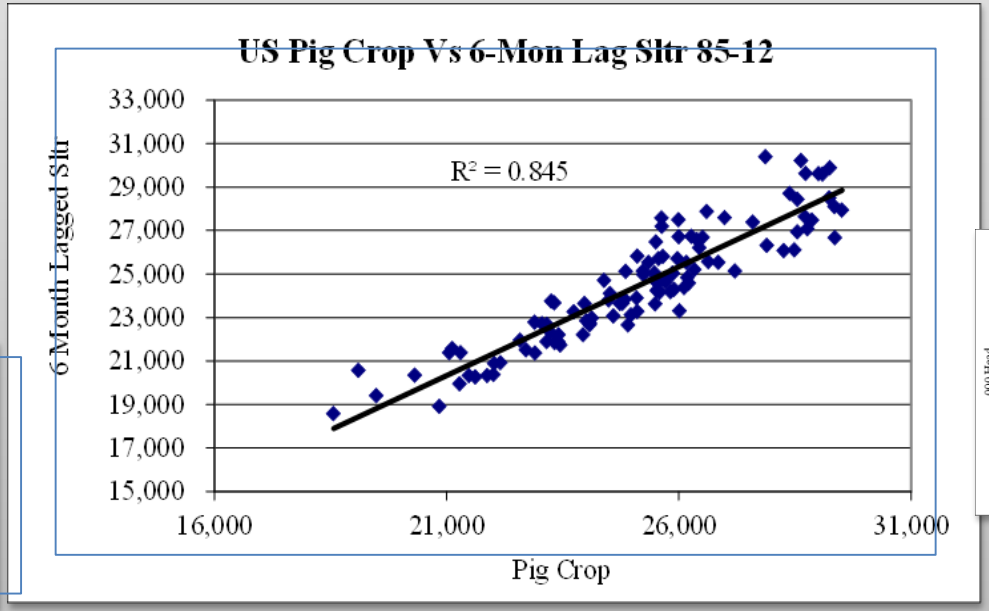
Areas of Activity

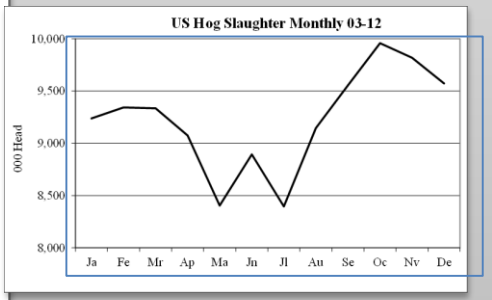
- Contract Research
- Market Analysis
- Education

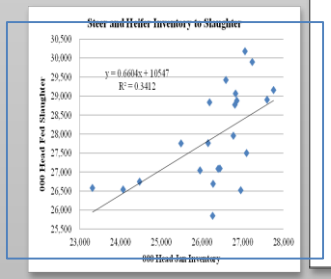
What does Market Analyst Do?

- Information gathering
- Analysis
  - Statistical relationships
  - Trends
  - Weighting factors
- Projections and Forecasts
- Competitive Intelligence (Action)





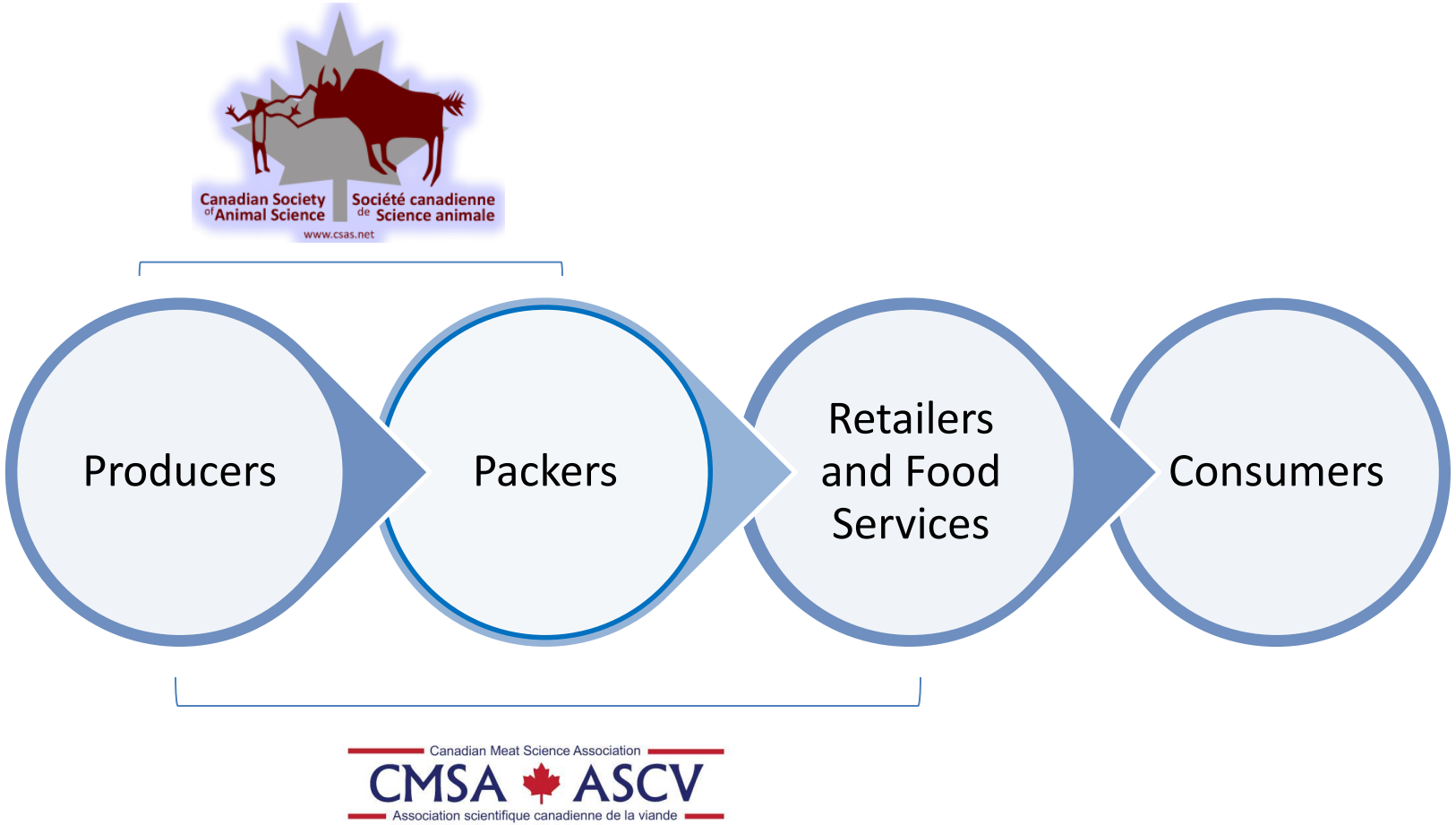




Technology

Practices: doing it better through science
Products: using new and better tools, equipment
Genetics: improving plants and animals that we grow

Science and Technology…in the supply chain



Animal and Meat Science

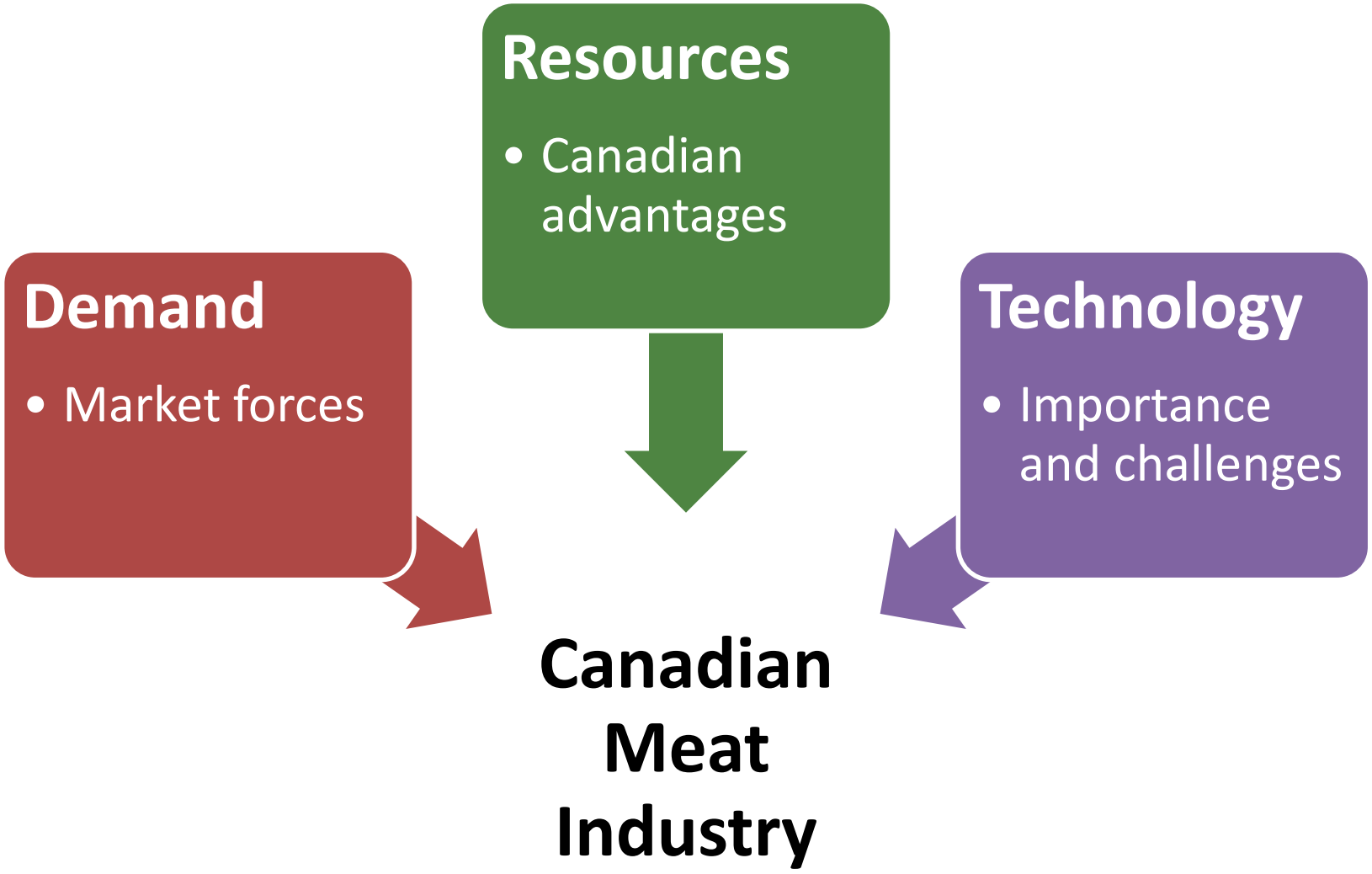
Much more than an industry supplier:

Integral, pervasive and leading role within the livestock and meat industry

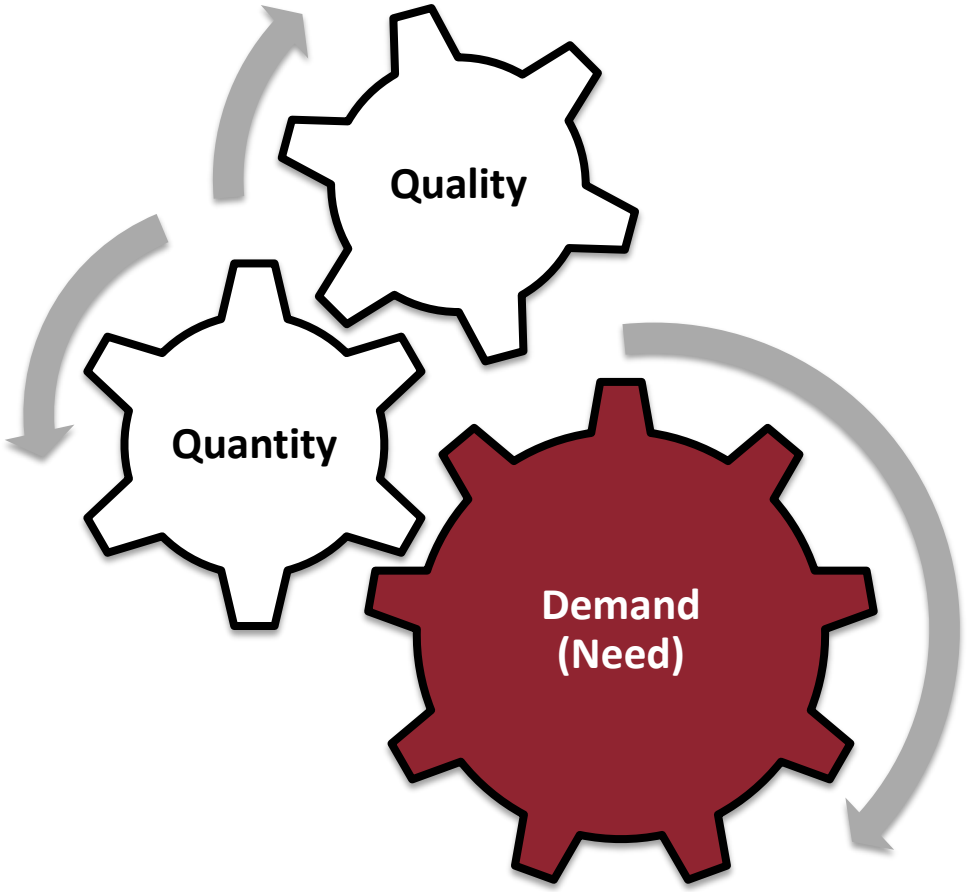
Purpose…

Illustrate the drivers of global meat markets and the demonstrate the central role of science and technology.

Outline…


Resources
• Canadian advantages
Demand
• Market forces
Technology
• Importance and challenges
Canadian Meat Industry

Determinants of demand



Main Drivers of Food Demand

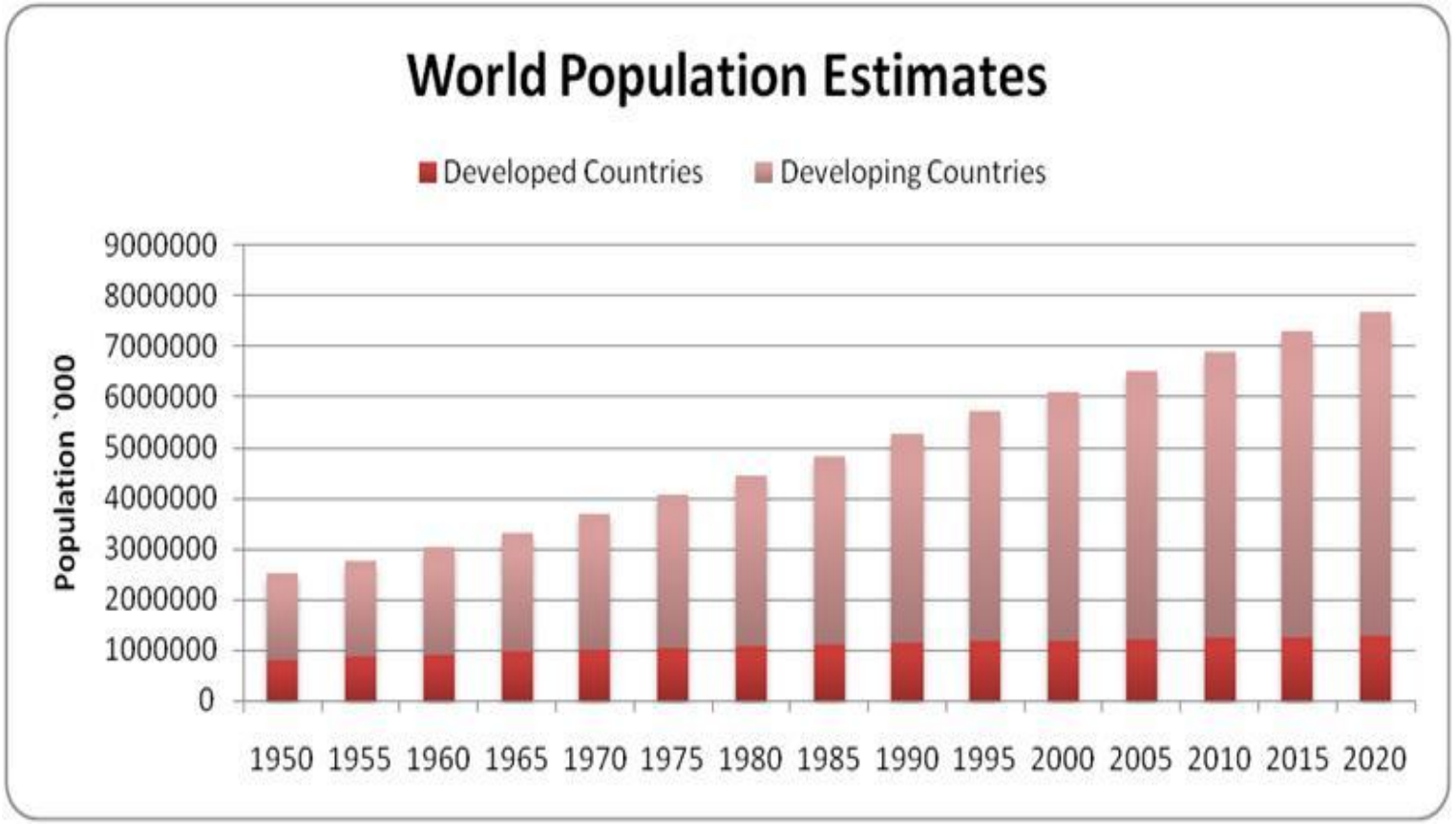
Population growth

- Food QUANTITY is more important

Income growth

- Food QUALITY becomes more important

Population is growing



- **World population is expected to reach 9.1 B by year 2050**

Source: United Nations World Population Prospects Database

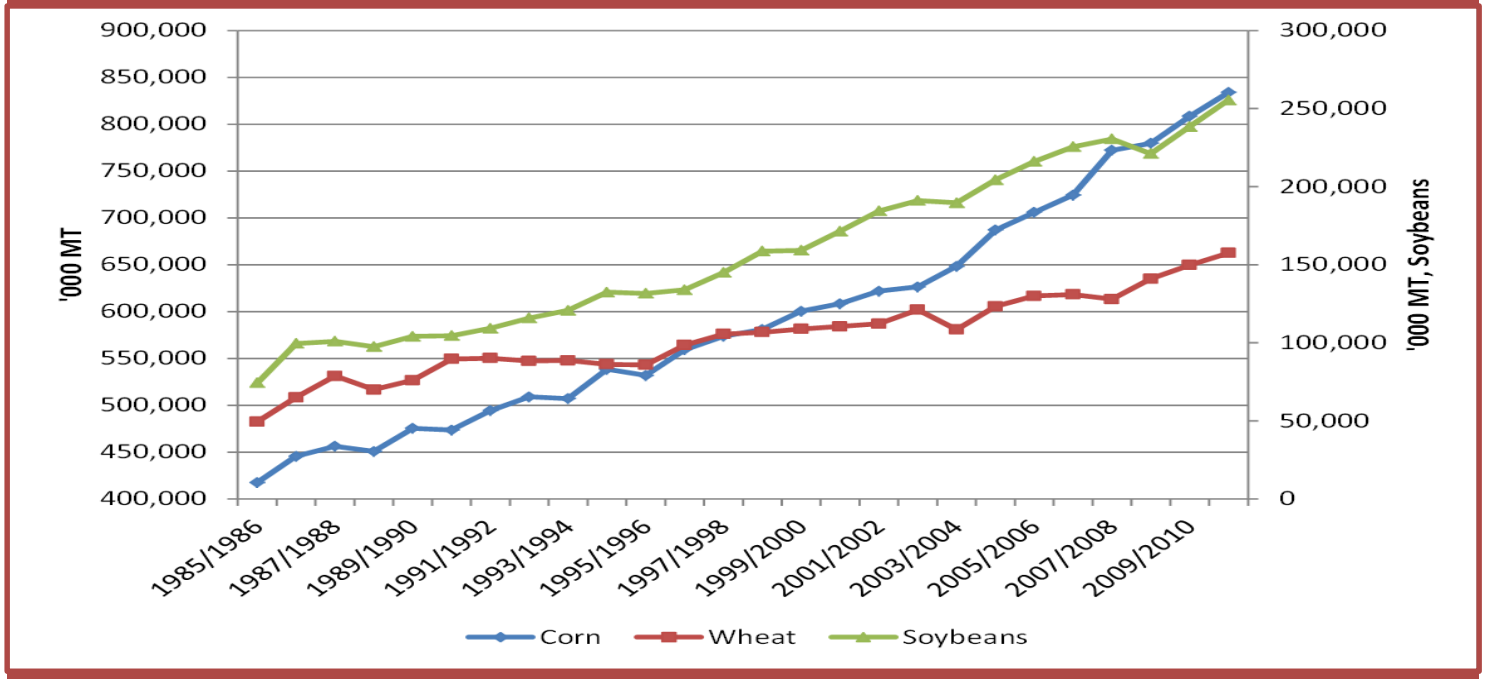
Each year…

…there is additional 75 million people to feed	
About 2 Canada(s)	About 75 Saskatchewan(s)

Source: United Nations after Potash Corp

And, each year…

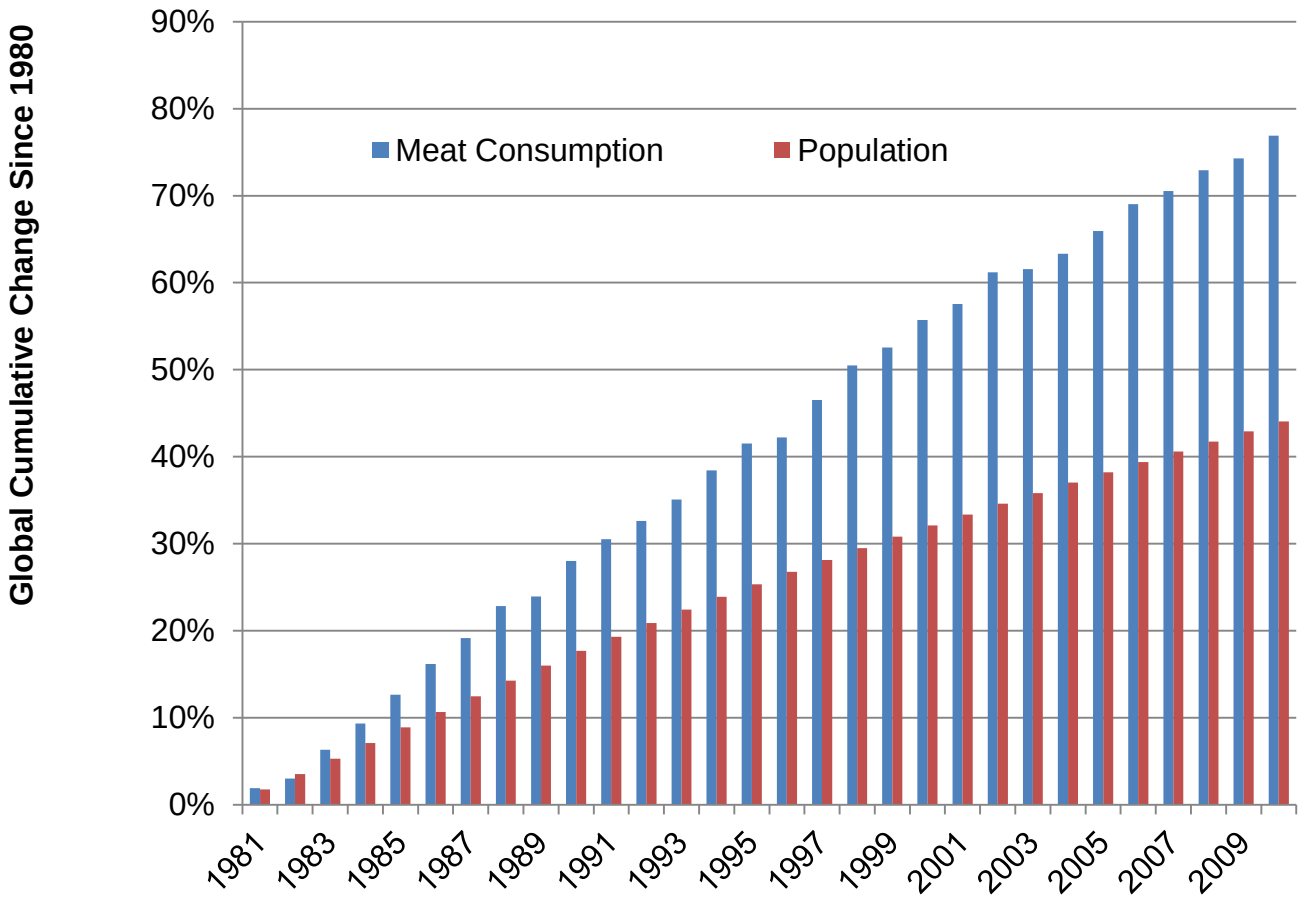
…there is a greater need for agricultural products



World Domestic Use of Wheat, Corn and Soybean

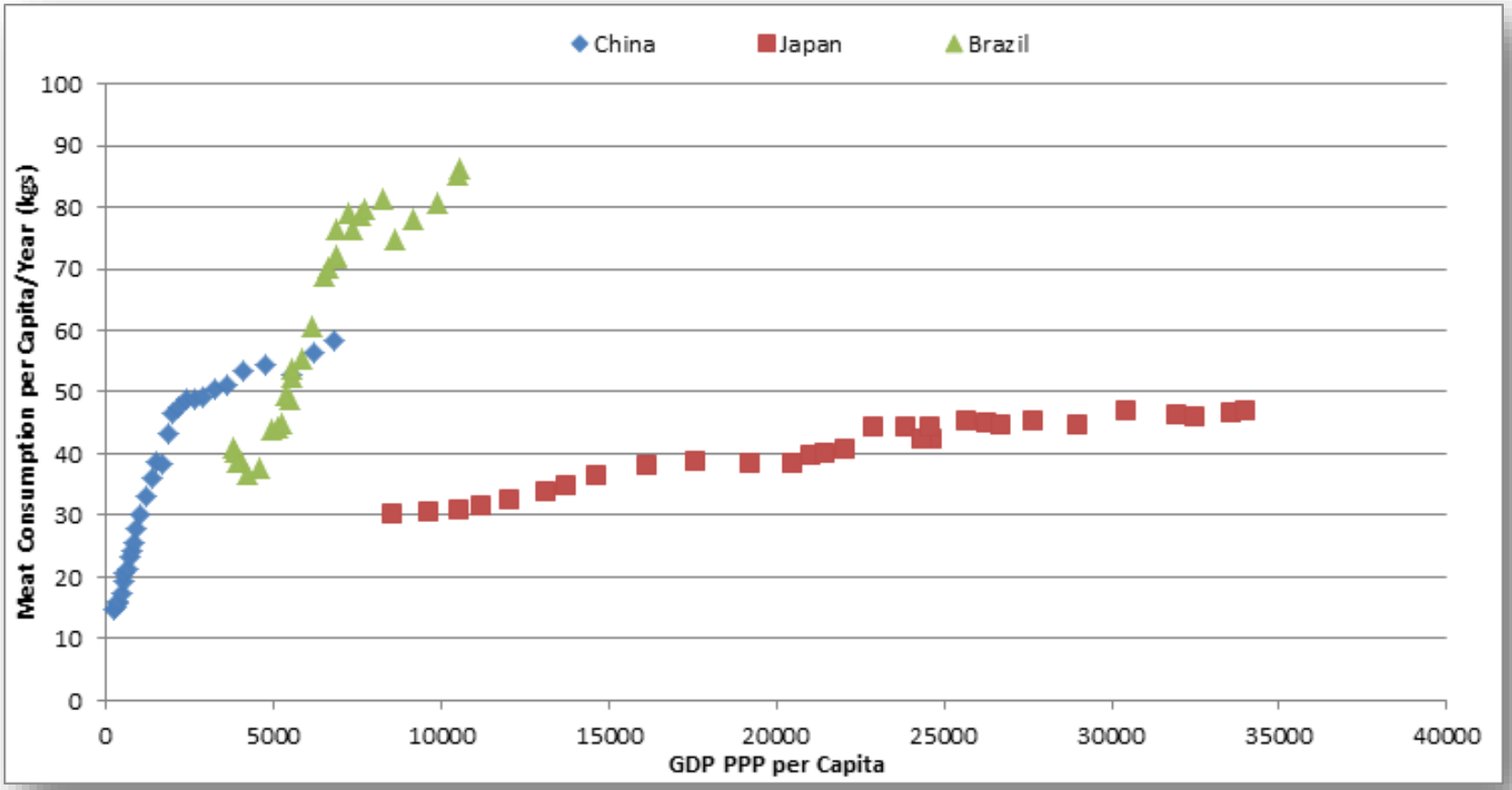
Source: USDA Foreign Agricultural Service, PSD On-line

Dietary shift is real



Source: FAO, UN World Population Estimates

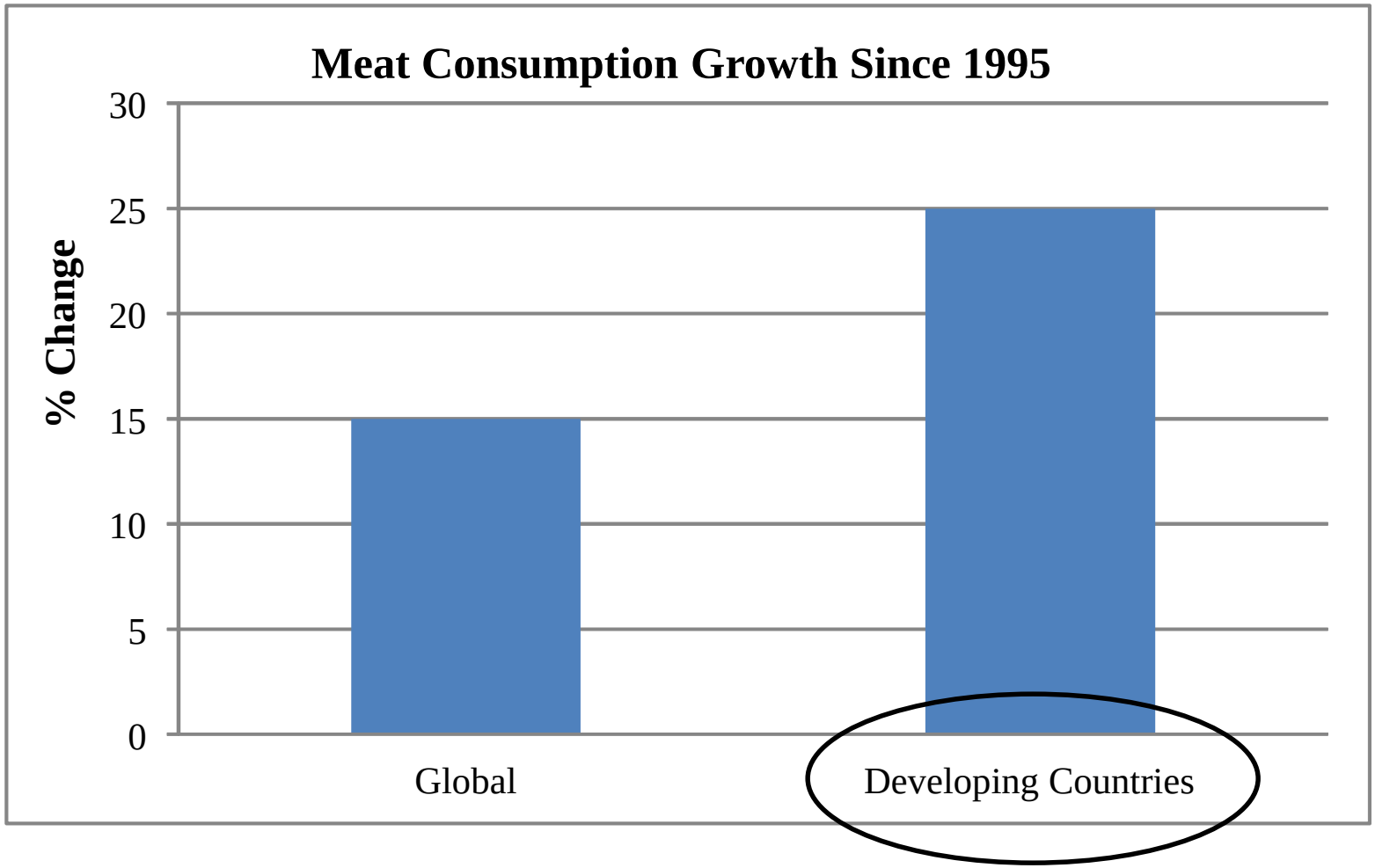
When Incomes Rise…



Source: FAO, IMF

… demand for different types of food increases (e.g., meat)

Demand for (more) meat



Population and Incomes Rise

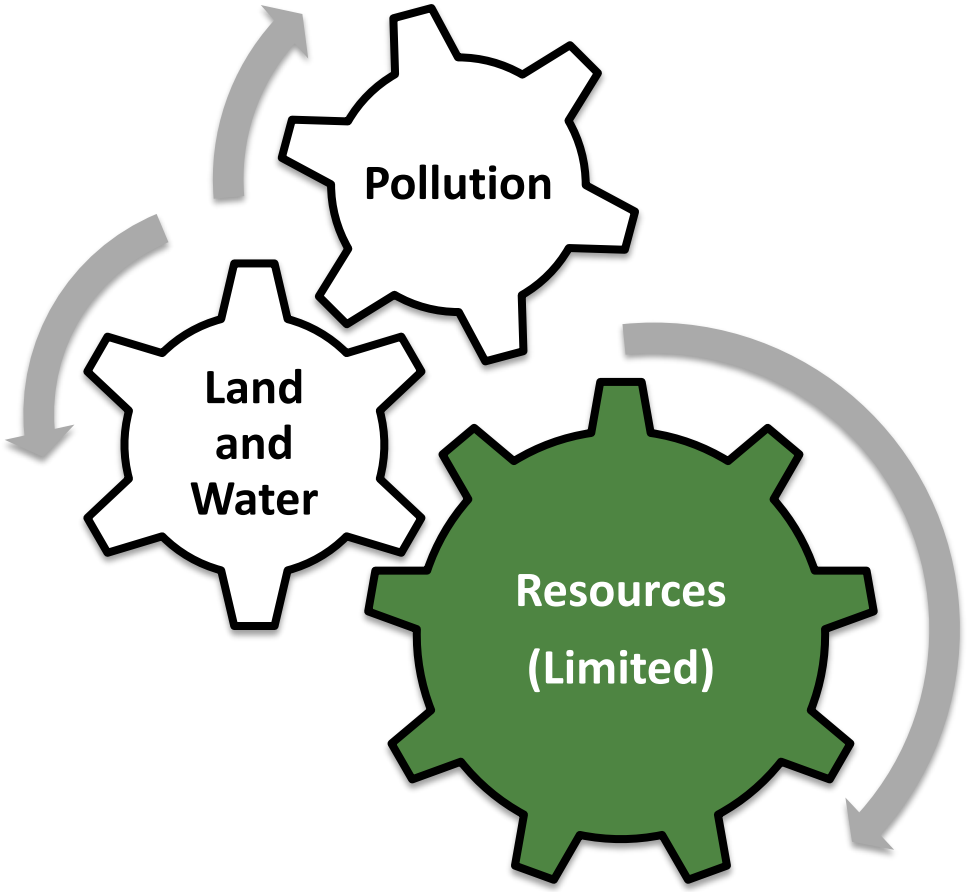
Demand for Meat Strong and Growing

Alask
price

Think…

…Markets and Technology

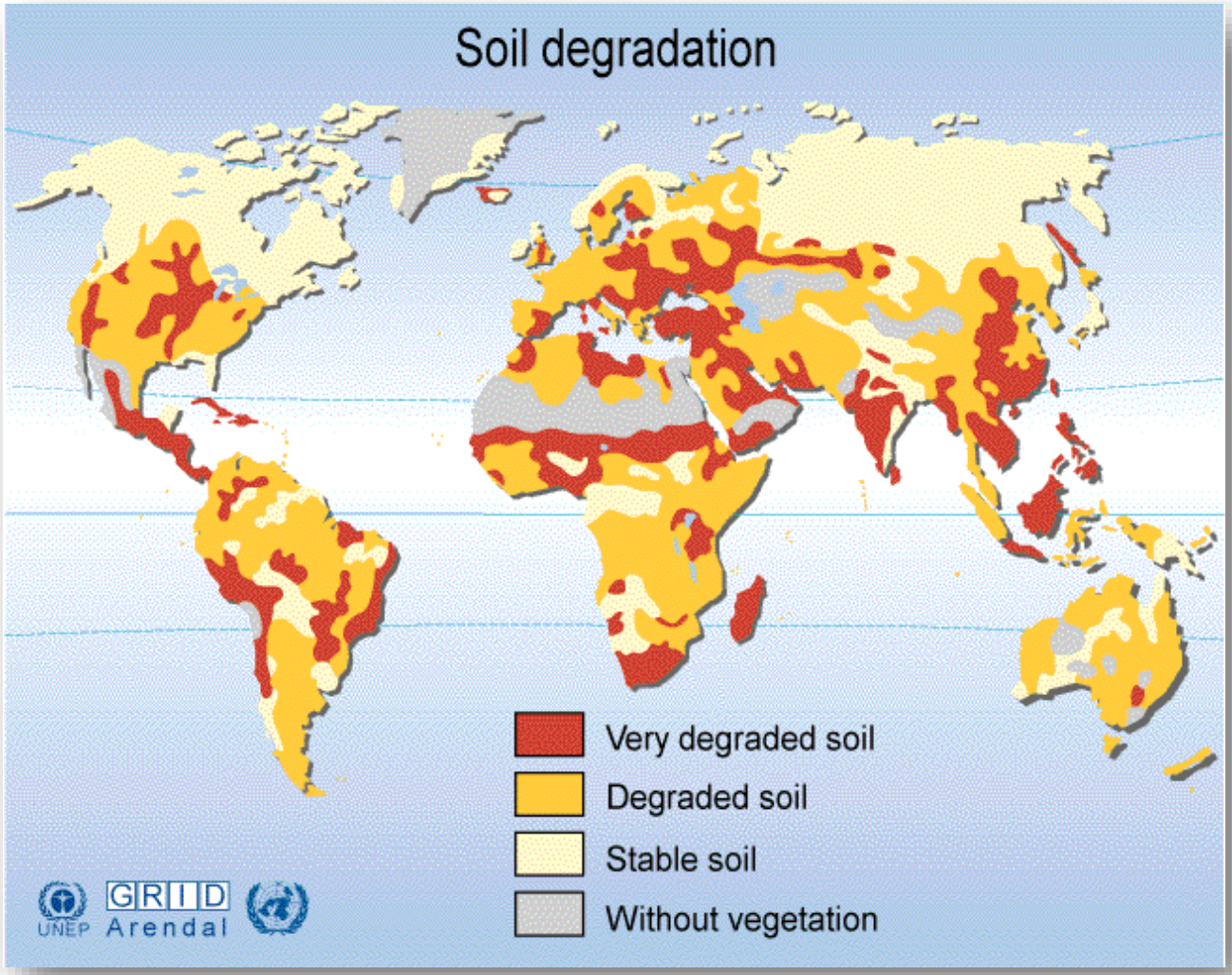
Constraints of Resources



12%
(AT MOST)
more arable land available worldwide

R. Thompson, University of Illinois

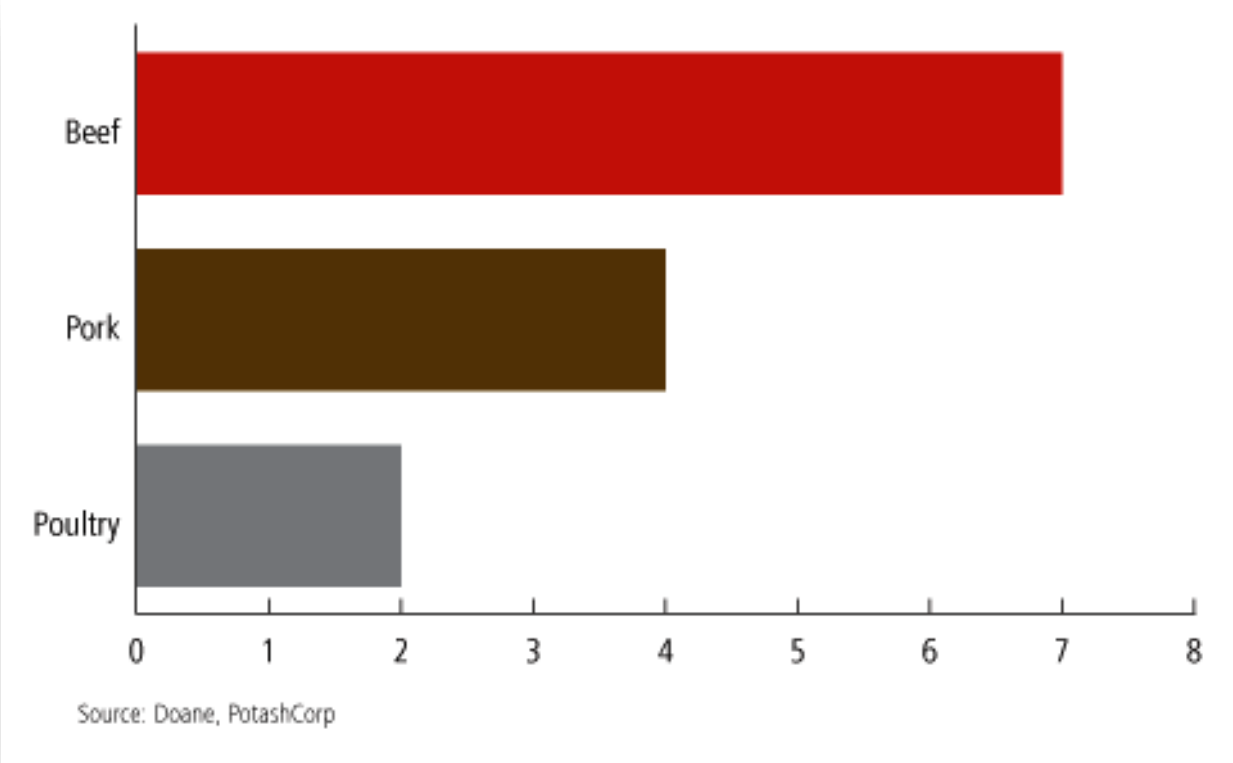
Land is a huge constraint…



…in areas with high demand

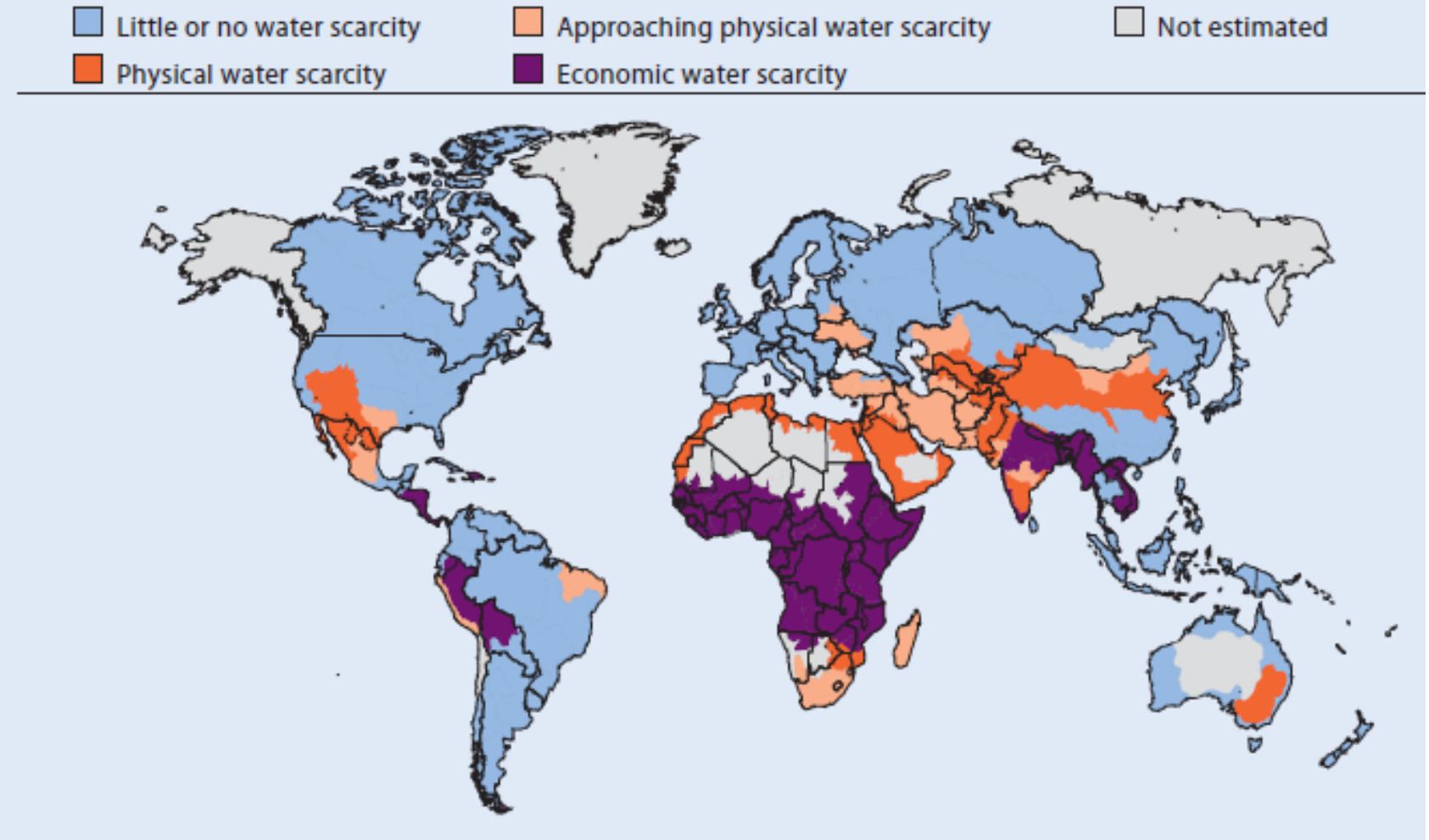
With diet shift…

Kilograms of Feed Grain to Produce 1 Kilogram of Meat



…greater land demand

Water is limiting, too…



Source: International Water Management Institute, 2009

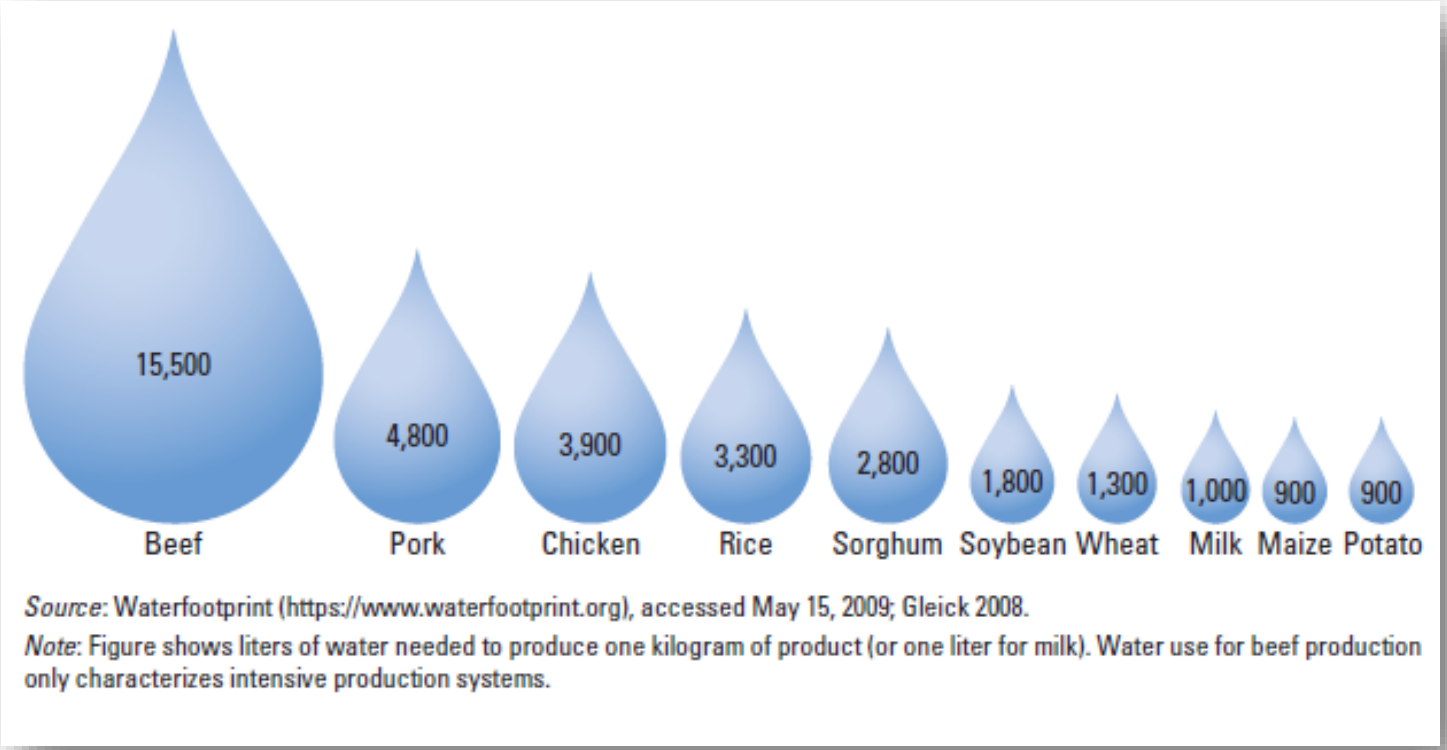
Agriculture uses

>70% of all fresh water use

Pacific Water Inst.

With diet shift…

Liters of water per kilogram of product



Source: Waterfootprint (https://www.waterfootprint.org), accessed May 15, 2009; Gleick 2008.

Note: Figure shows liters of water needed to produce one kilogram of product (or one liter for milk). Water use for beef production only characterizes intensive production systems.

…greater water demand

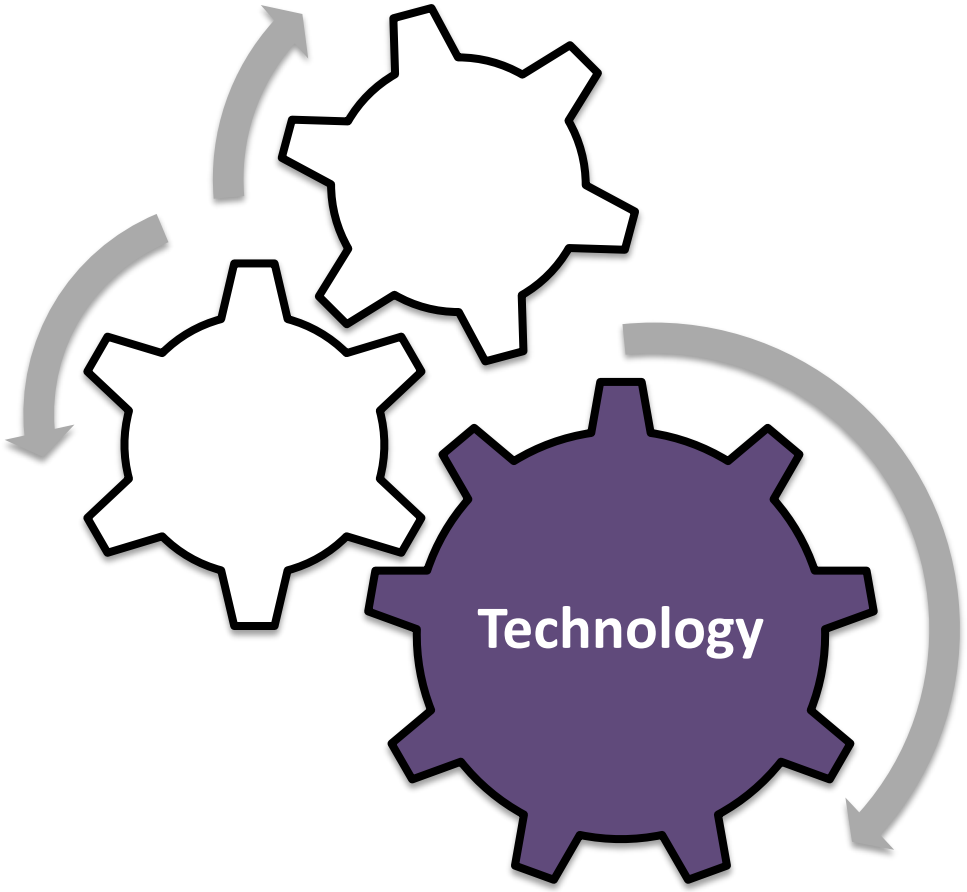
Pollution

With agricultural intensification has come disease and pollution

Think…

…Markets and Technology

Power of Technology



Why technology?

Technology increases efficiency . . .

Efficiency drives abundance and affordability .

With limited and or

“shrinking” resources…

… and with INEVITABLE Demand growth…

Food and feed demand will require an increase of global food production of 70 % by 2050

FAO projection

Technology…

In the year

2050

World **population** will require

70%

More **food**, and

70%

Of this food must come from efficiency-improving **technology**[3]

Sources:
1. Green, R., et al. January 2005. “Farming and the Fate of Wild Nature.” Science 307: 550-555.
2. Tilman, D., et al. August 2002. “Agricultural sustainability and intensive production practices.” Nature 418: 671-677.
3. “World agriculture: toward 2015/2030.” 2002. United Nations Food and Agriculture Organization, Rome. Accessed December 2, 2008. <ftp://ftp.fao.org/docrep/fao/004/y3557e/y3557e.pdf>.

Since 1997, due to technology…

Water

- 14% less per pound of beef and 65% less per gallon of milk

Feed

- 34% less for beef and 90% less for milk

Land

- 20% less for beef and 76% less for milk

Resulting in …

Smaller carbon footprint:

- 18% for beef
- 63% for milk

High-yielding agriculture …

Has spared 7 million square miles of wildlife habitat; equal to…

Think…

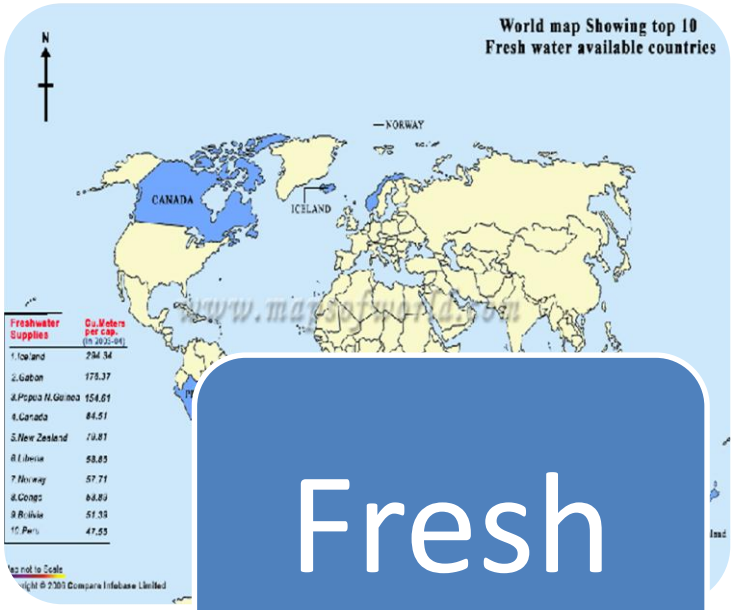
…Markets and Technology

What about Canada, Canadian Meat Industry and…

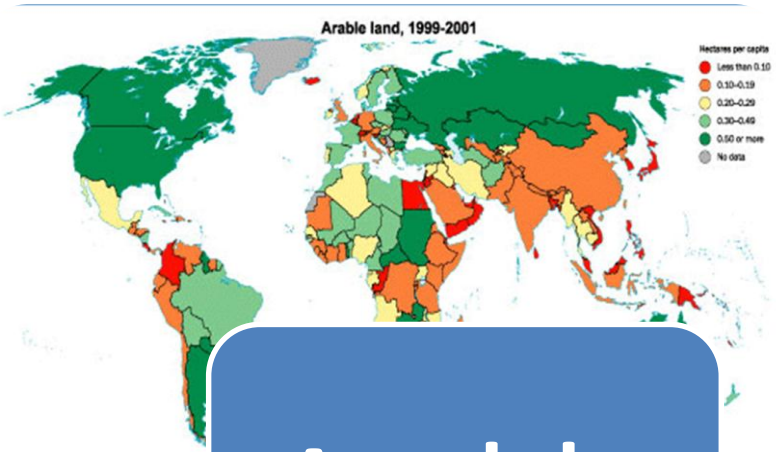
The Role of Animal and Meat Science

Canada and Resources

Abundance

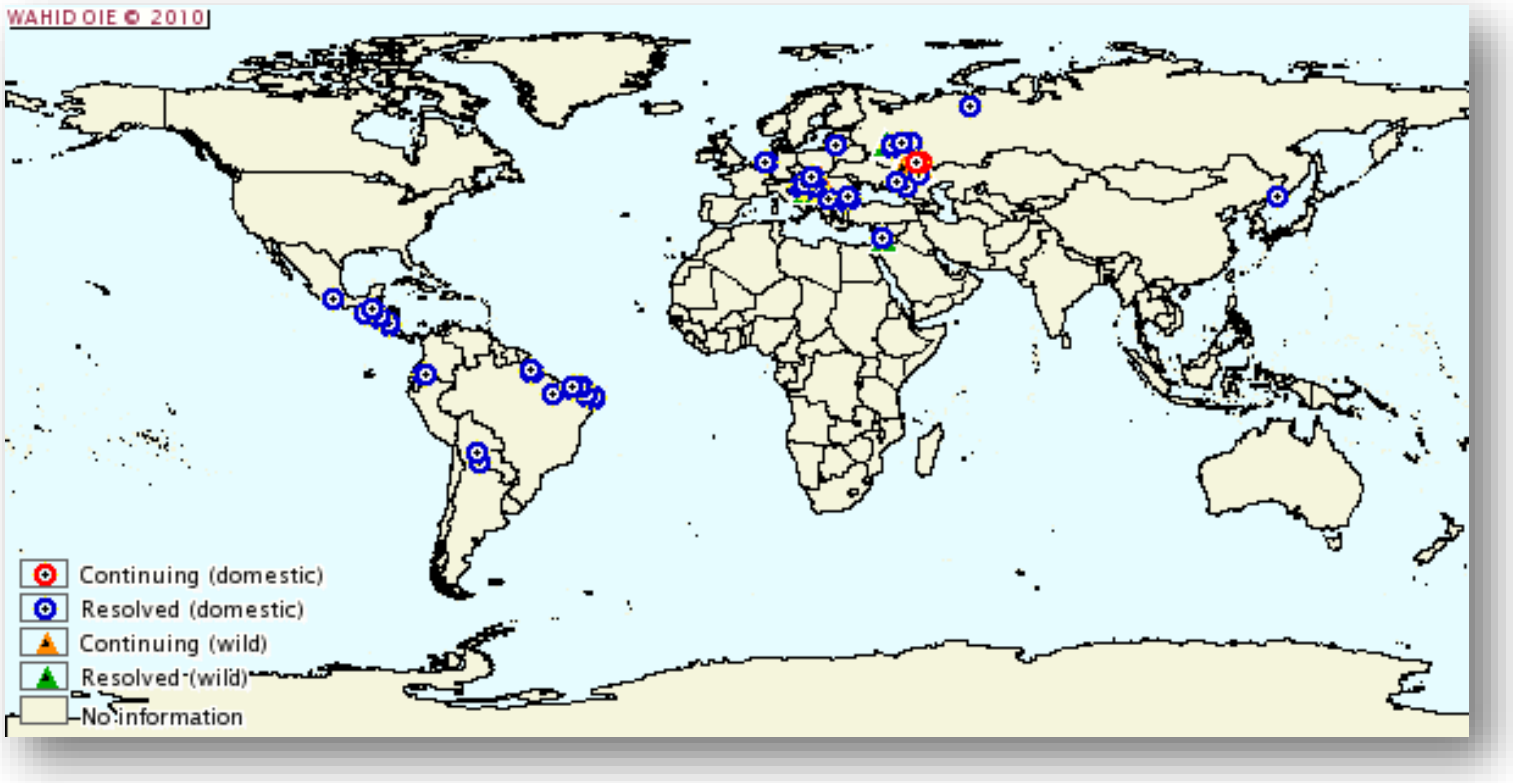


Fresh water



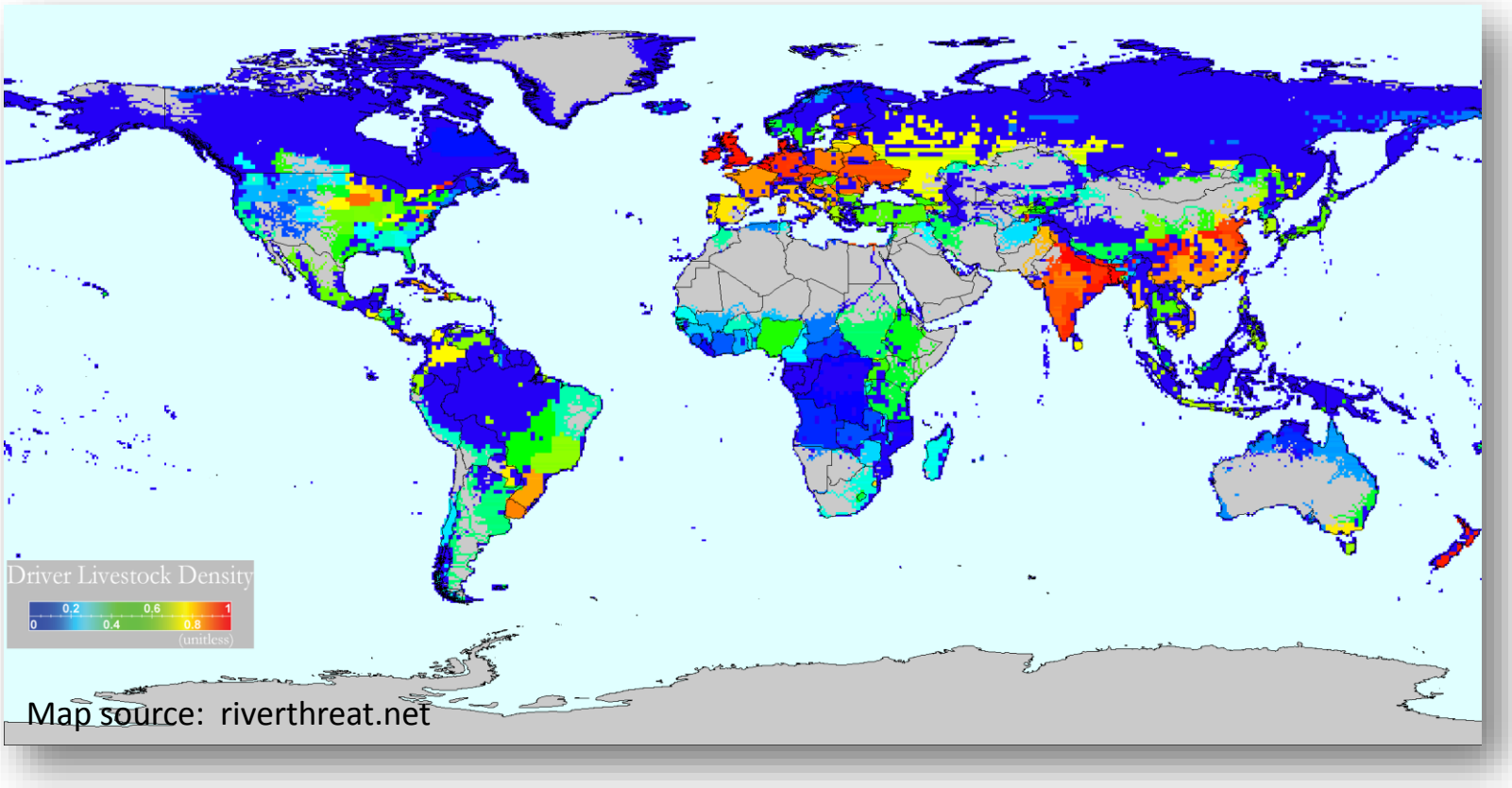
Arable Land

Animal Health



- Absence of common problems…a MAJOR strength for Canada

Animal density and human contact



Map source: riverthreat.net

- …a non-issue in Canada

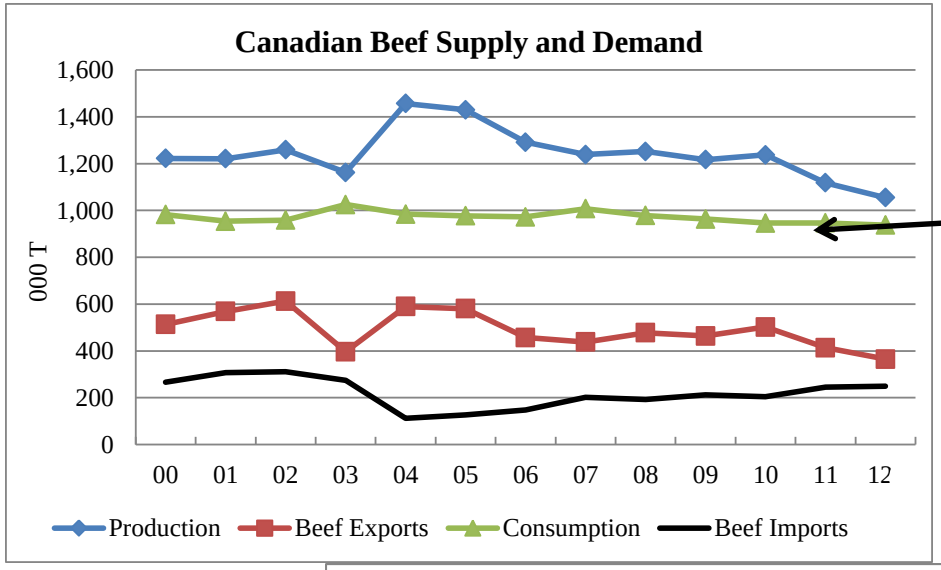
Other North American Strengths

Extraordinary Base to grow and prosper relative to the ROW

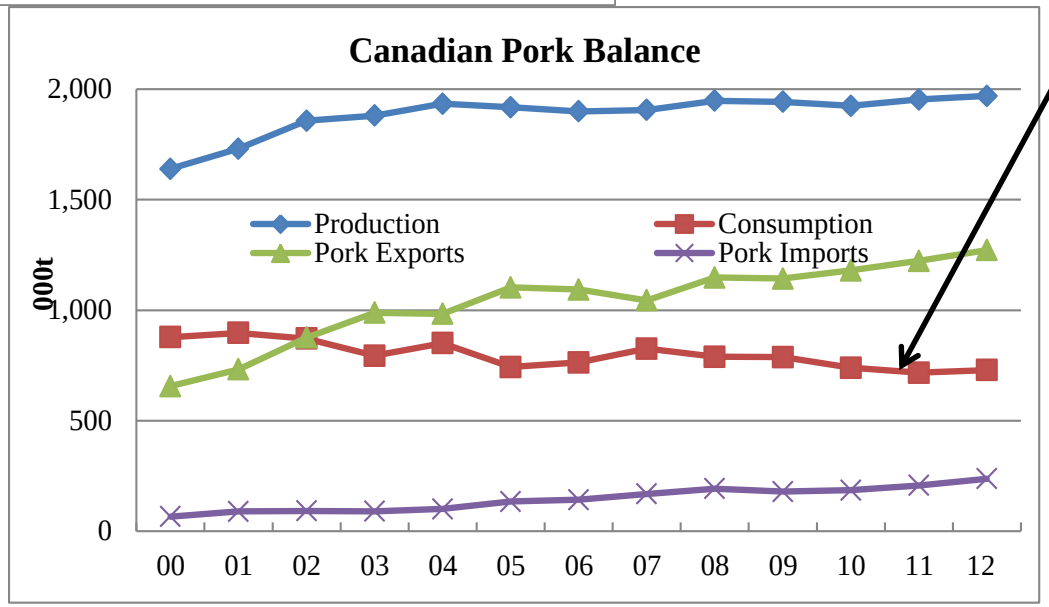
- Feed grains
- Access to and adoption of technology
- Logistics and Infrastructure
- Relatively free markets

Canada and Food Demand

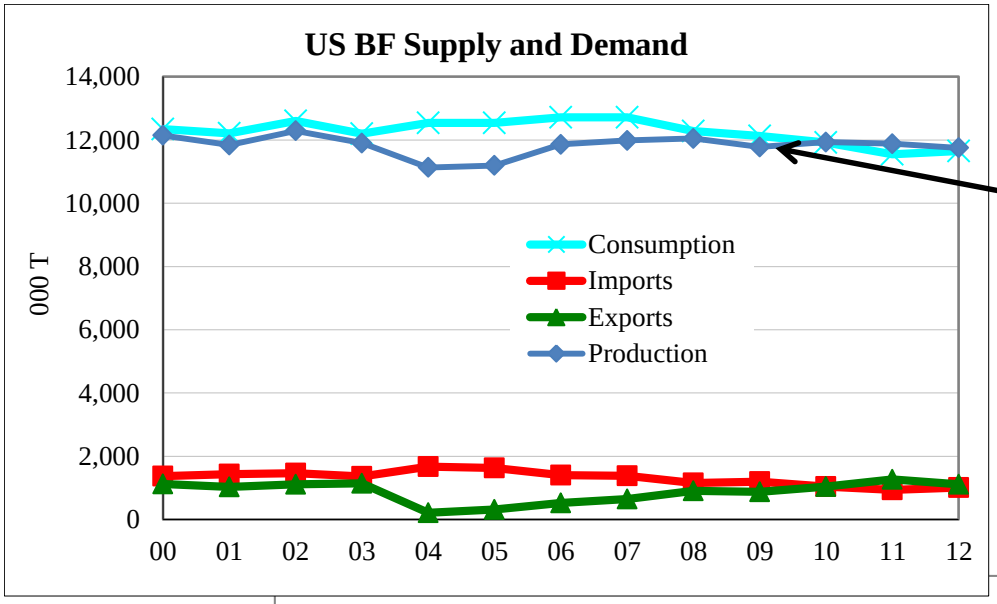
Trade and Exports Are Crucial



Canada:
Stable, not growing

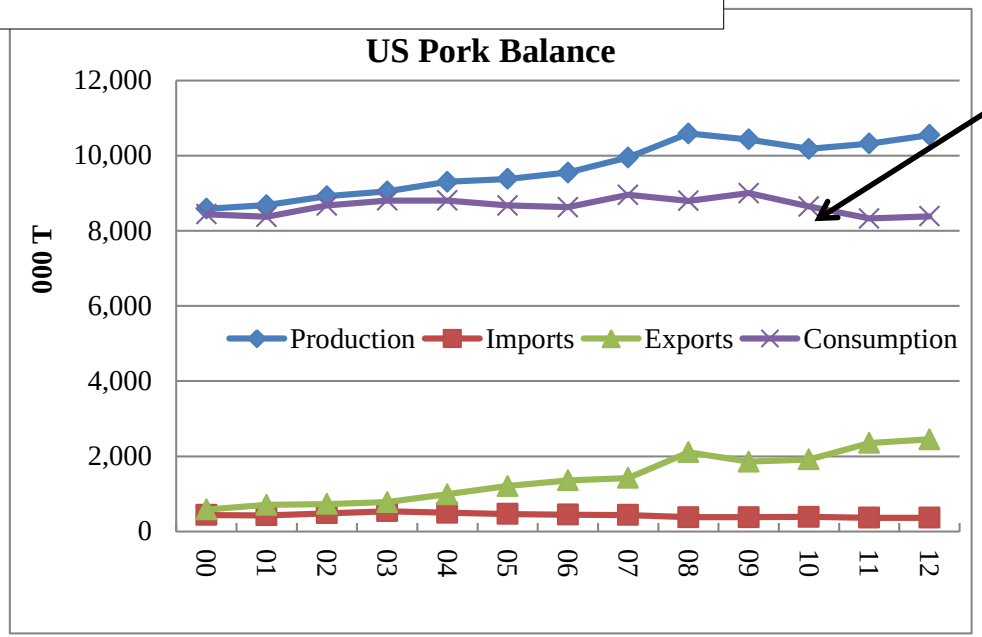


US increasingly export oriented

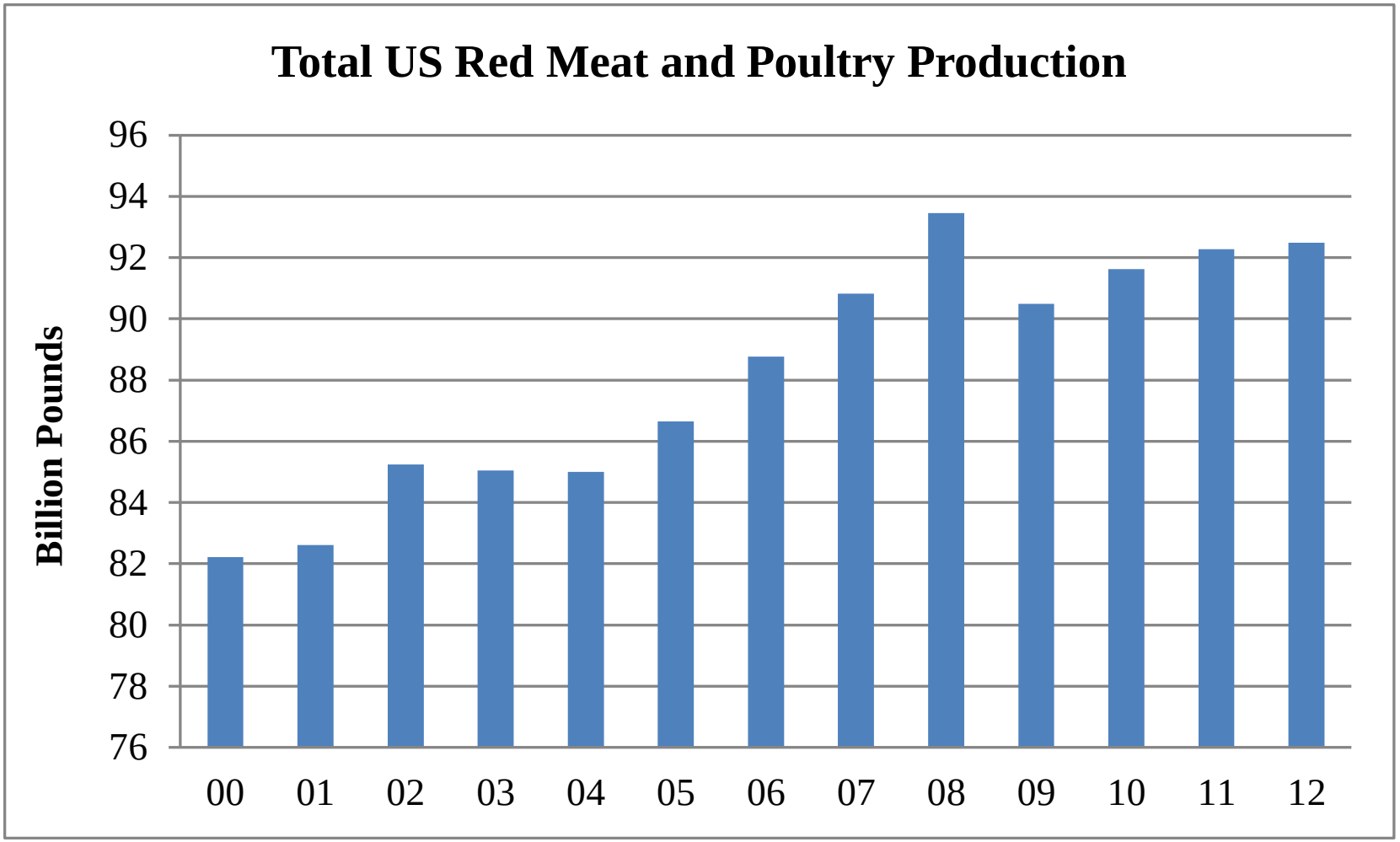


USA:

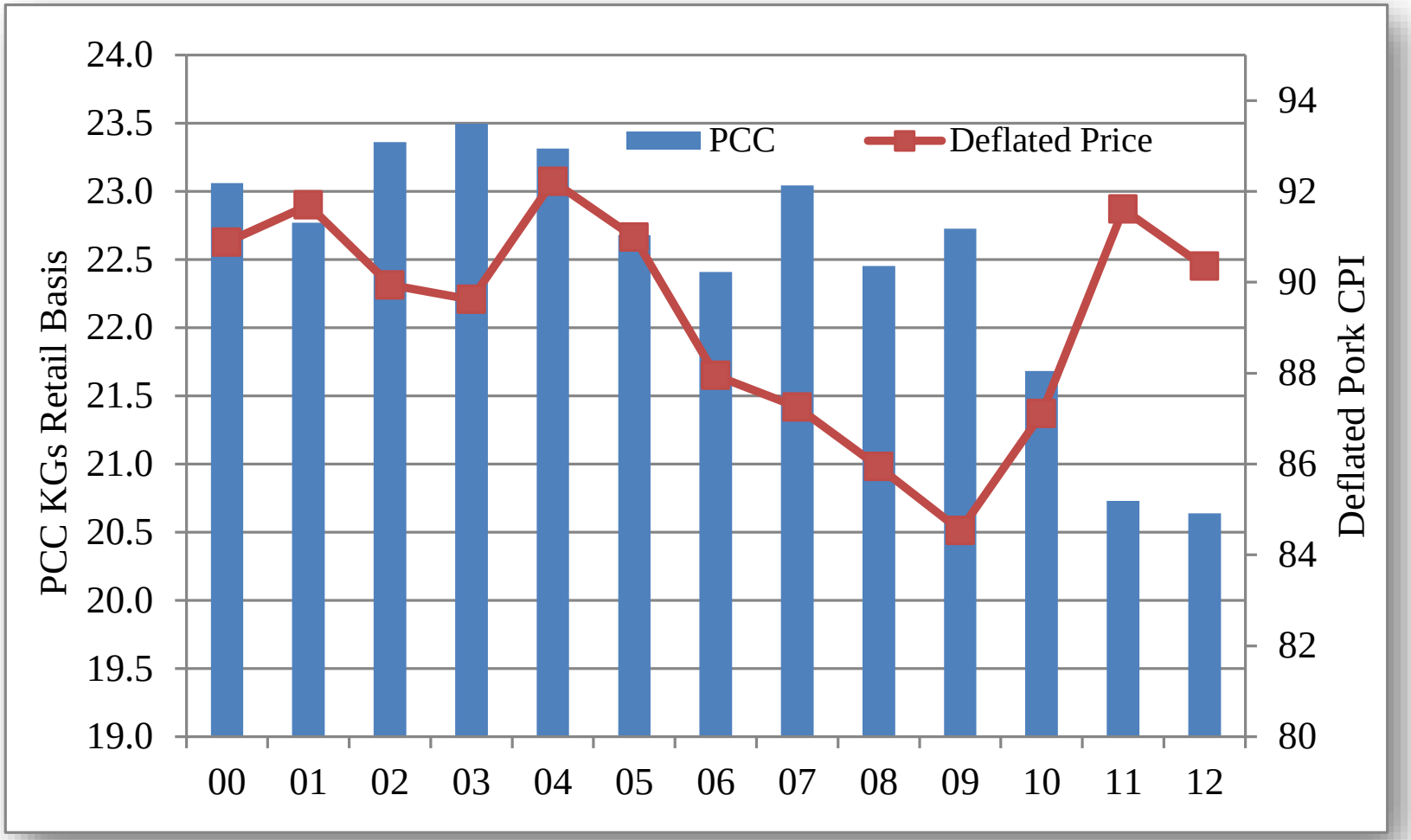
high but not growing



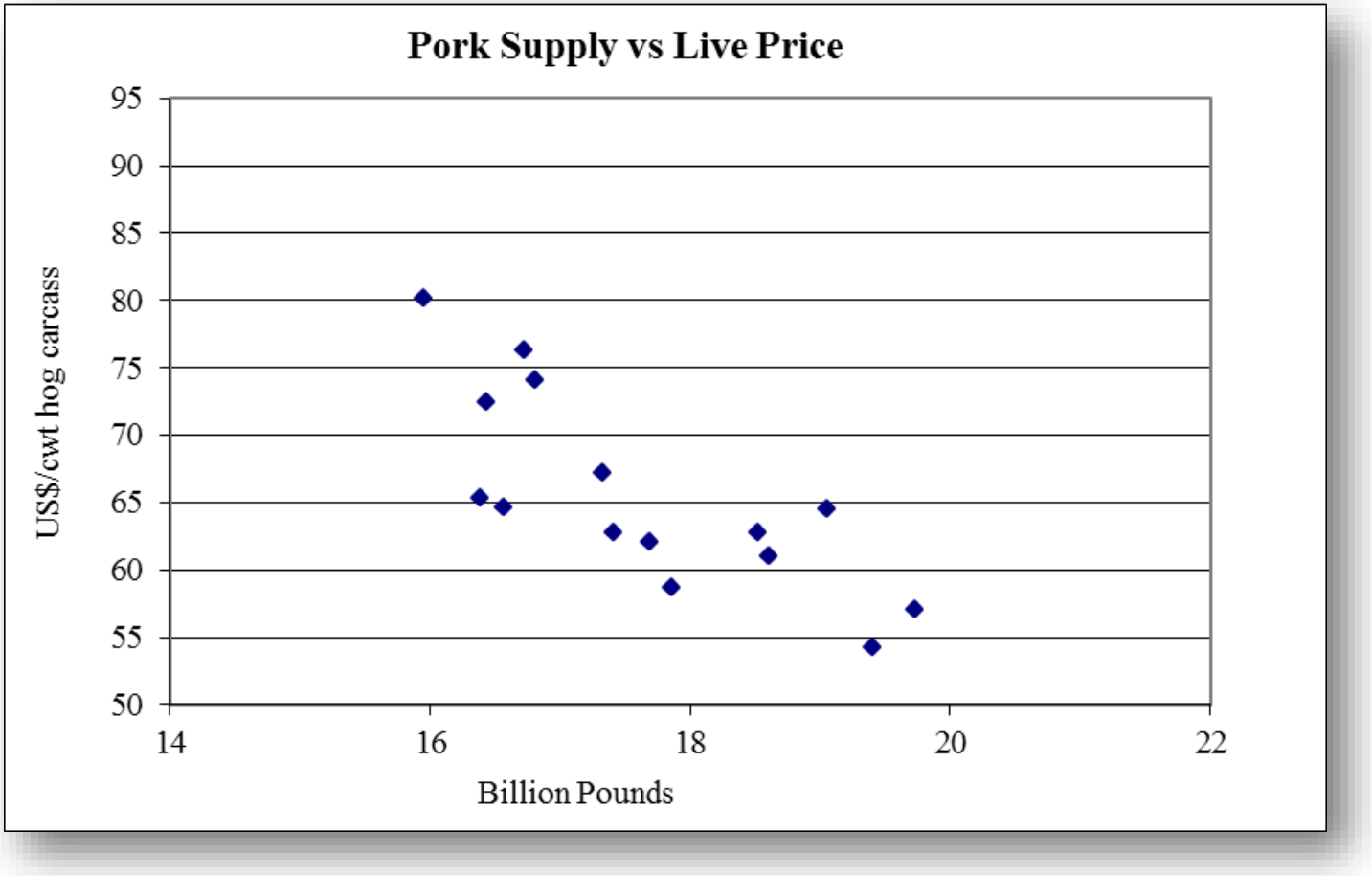
Ample Meat and Poultry Supplies



North American Pork Demand: Struggling

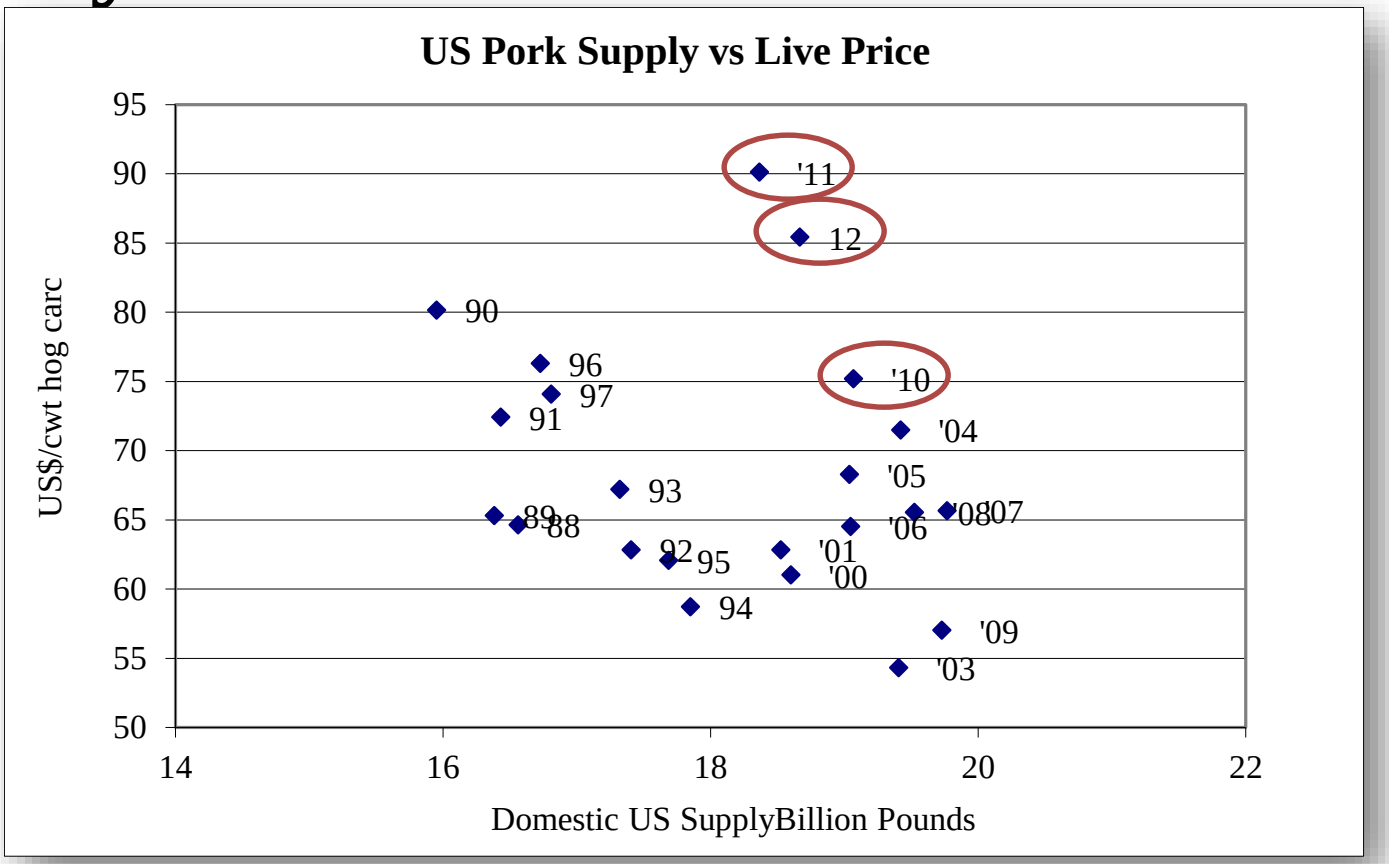


Production and Price: Theory



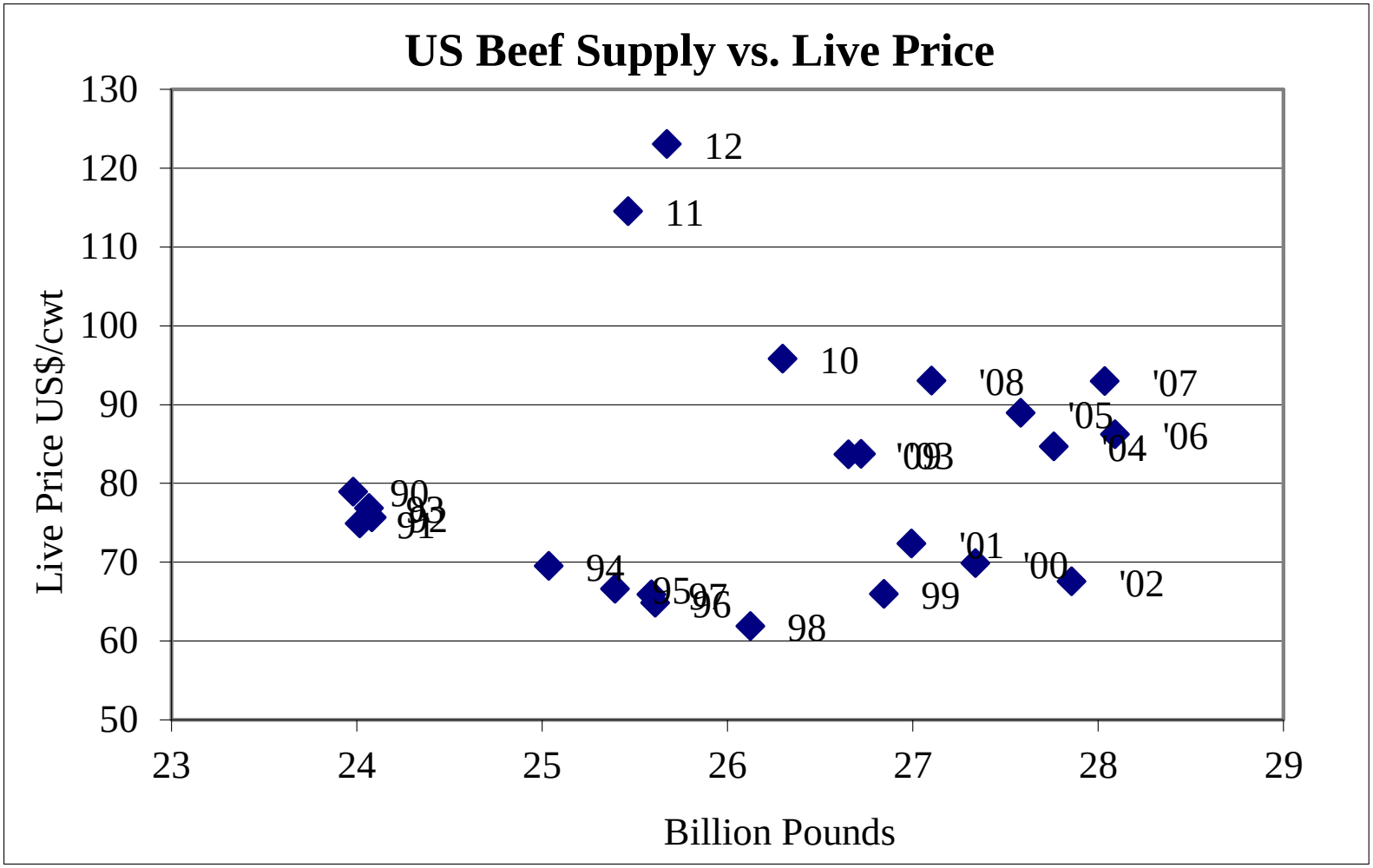
- Higher production, lower prices

Price of meat: What is with the theory?



- Production is high AND prices are high

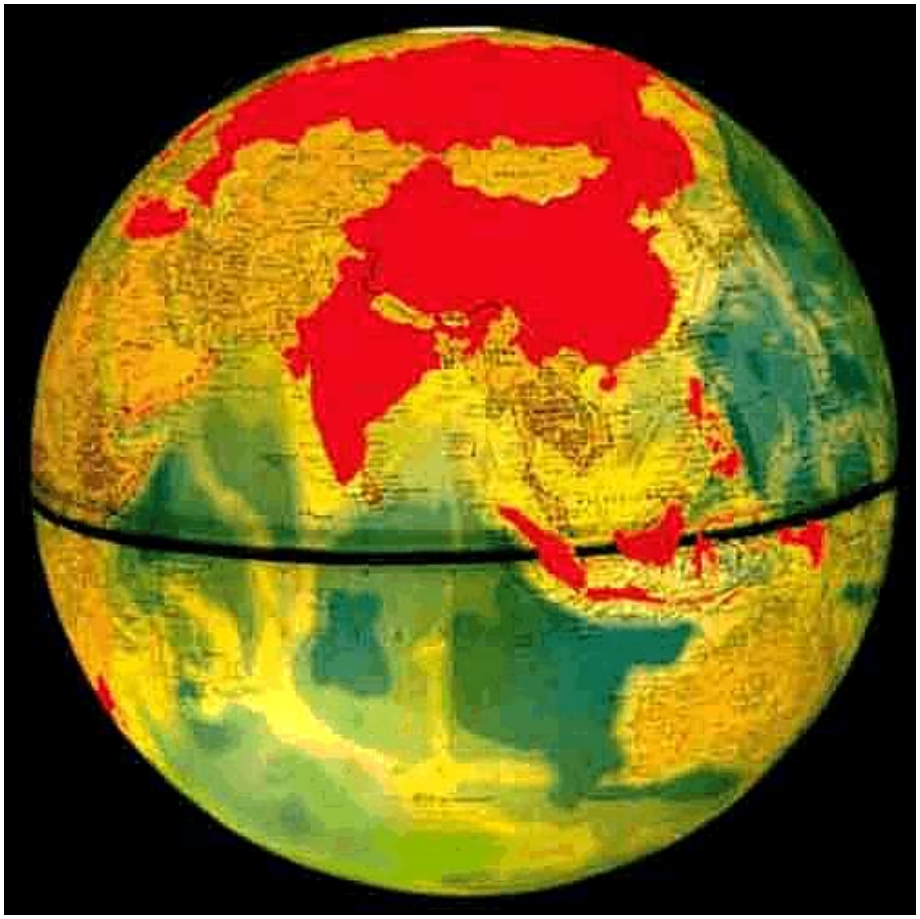
US Beef Pricing:
An Exceptional Story



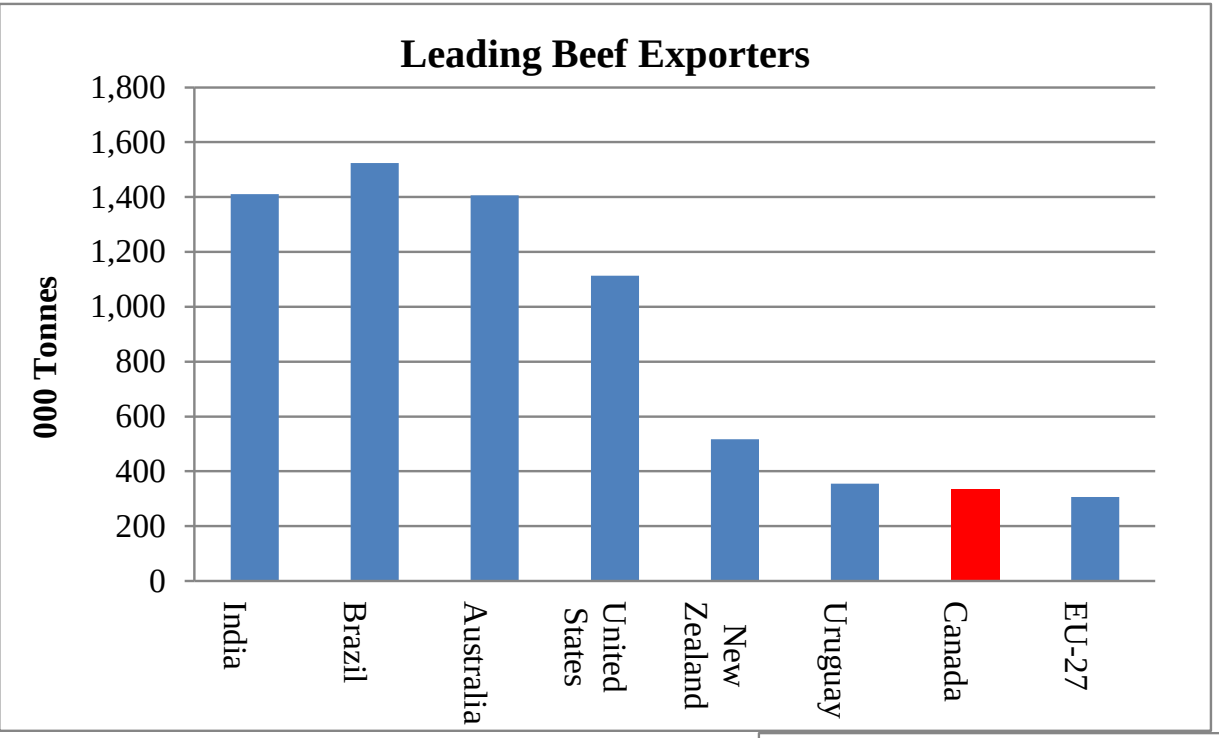
How can there be high prices, huge production yet weak domestic demand?

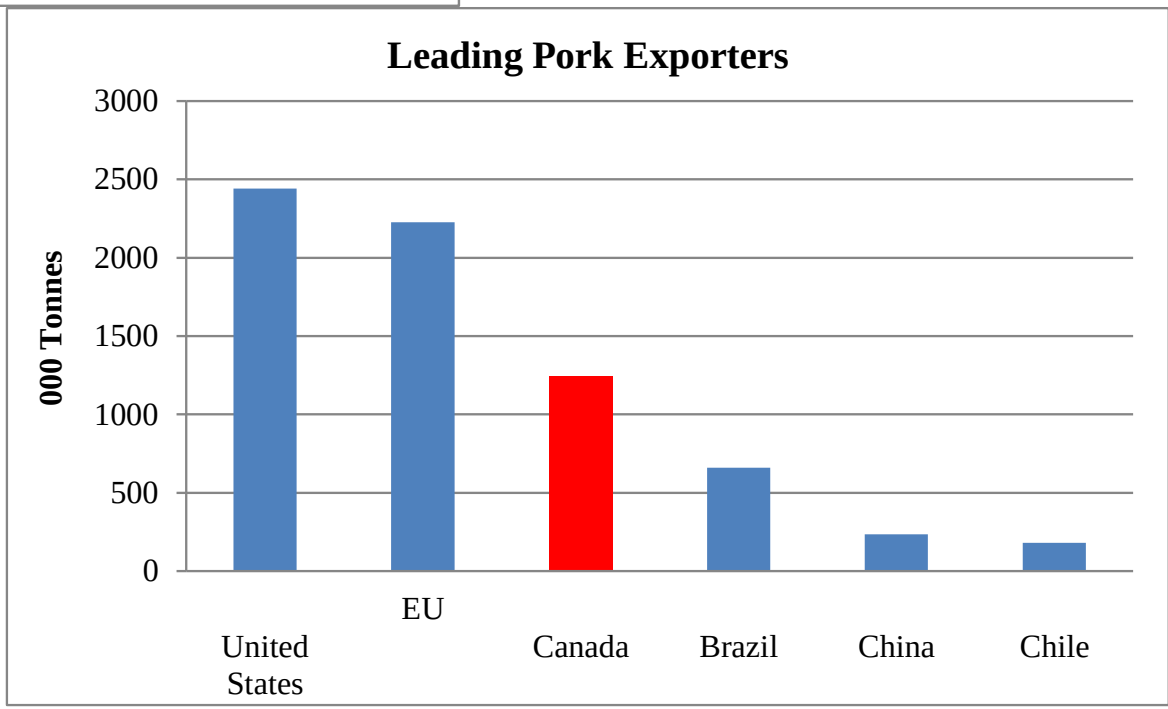
Global Exports
are the driver of industry
pricing, growth and profit

Global Economic Growth and Demand

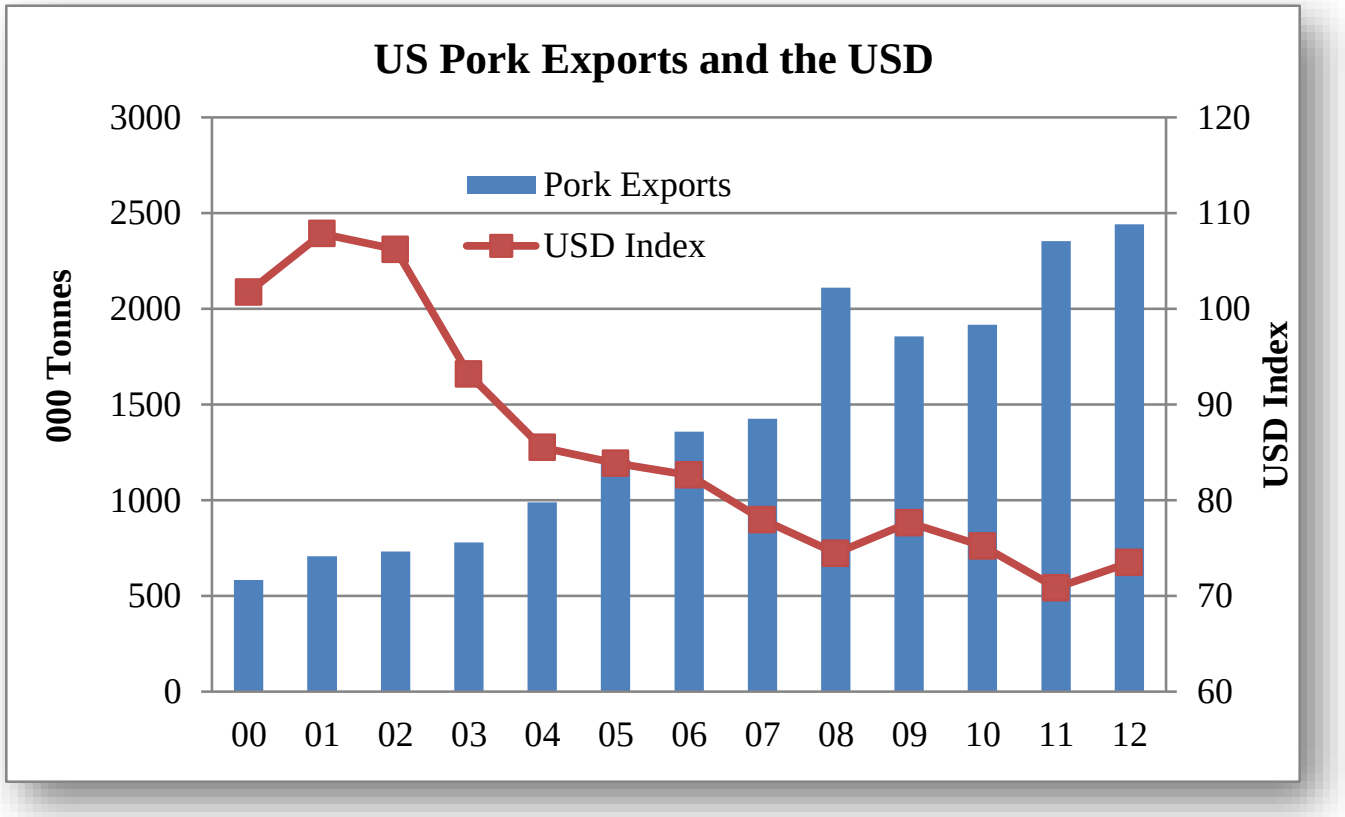


- And Growing demands from a hungry world


Leading Beef Exporters
000 Tonnes
1,800
1,600
1,400
1,200
1,000
800
600
400
200
0
India
Brazil
Australia
United States
New Zealand
Uruguay
Canada
EU-27


Leading Pork Exporters
000 Tonnes
3000
2500
2000
1500
1000
500
0
United States
EU
Canada
Brazil
China
Chile

Important…



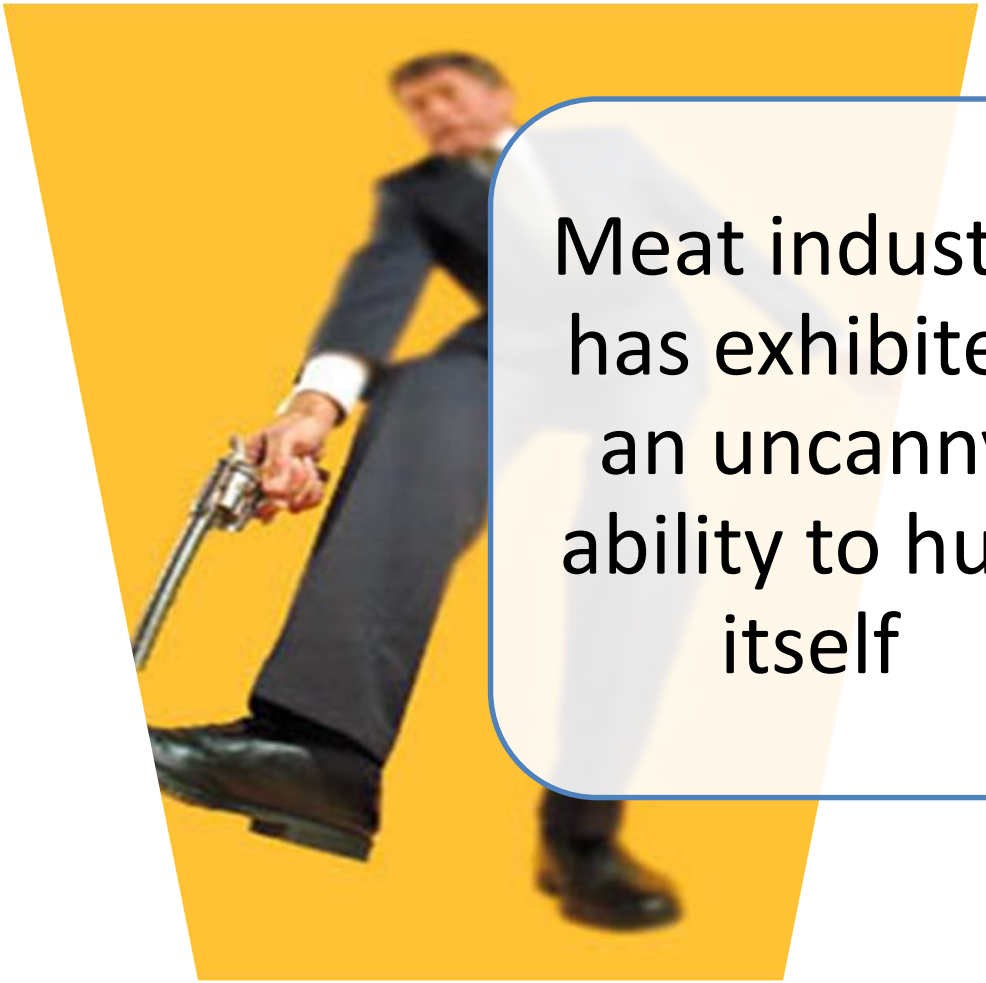
- Large, efficient industry responding to global demand
- Aided by a depreciating currency

The unknown cards

Will domestic demand hold up with increasing consumer prices?

Will global demand and the weak USD continue to be the pricing engine?

But where is the Meat Industry going?

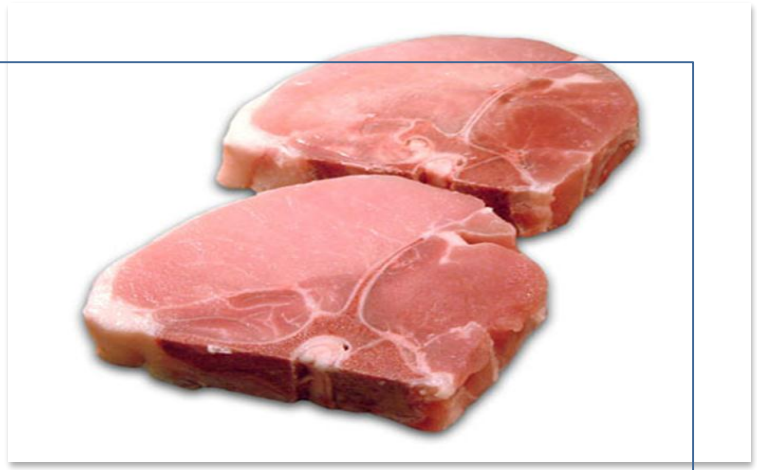


Meat industry has exhibited an uncanny ability to hurt itself

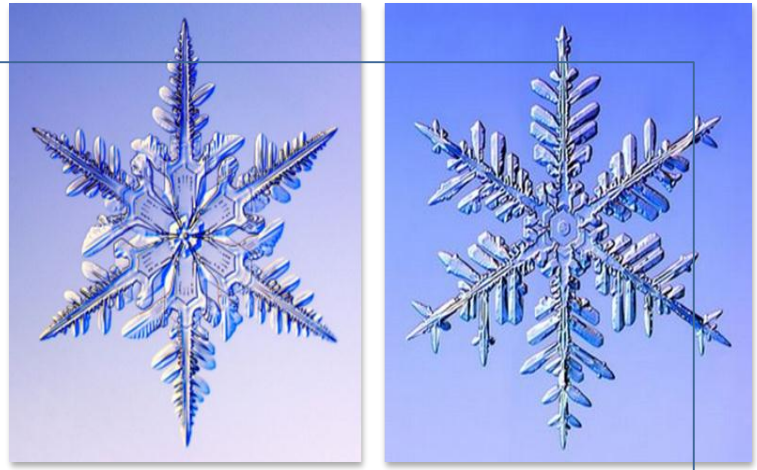
Canadian differentiation…

Different…

Different…



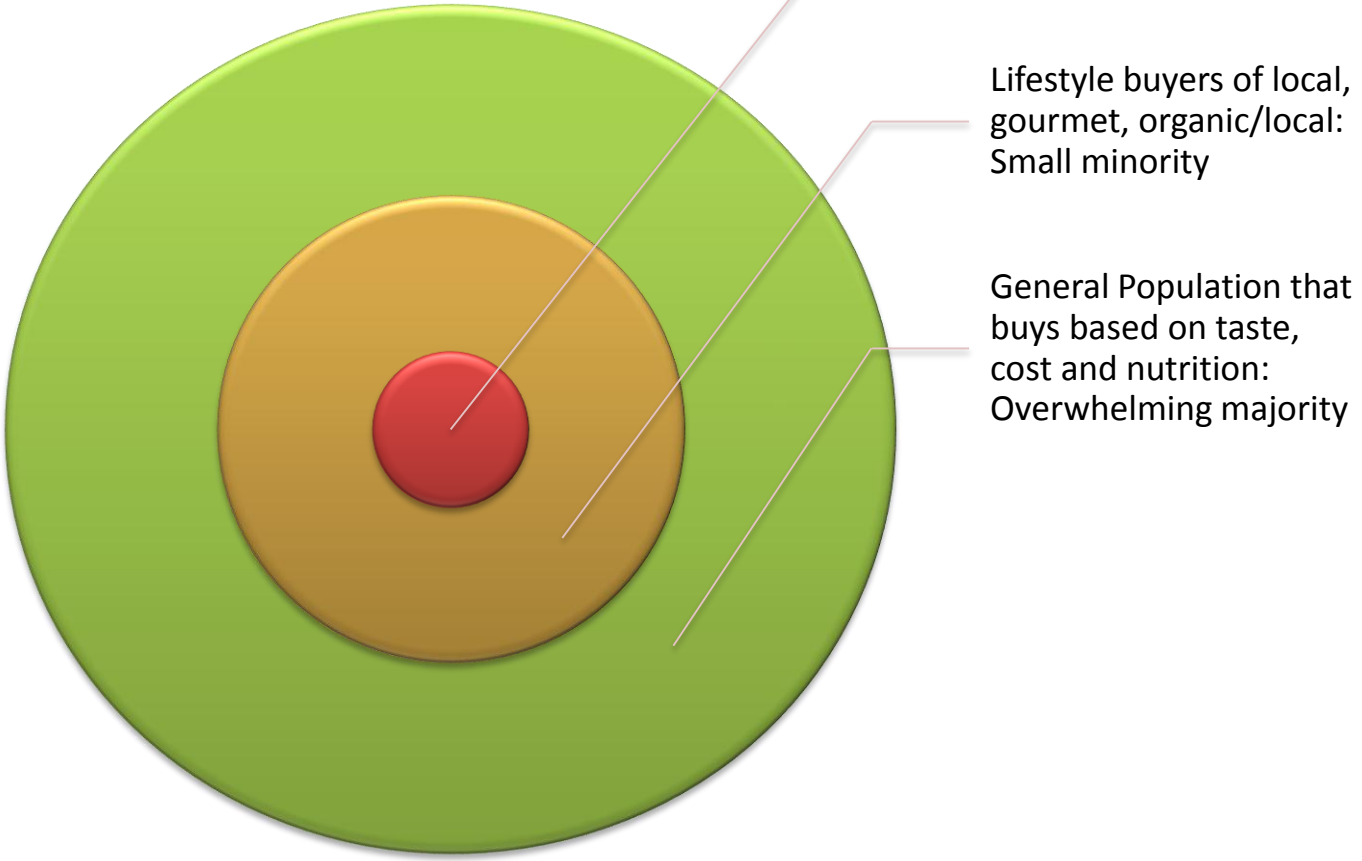
Different…



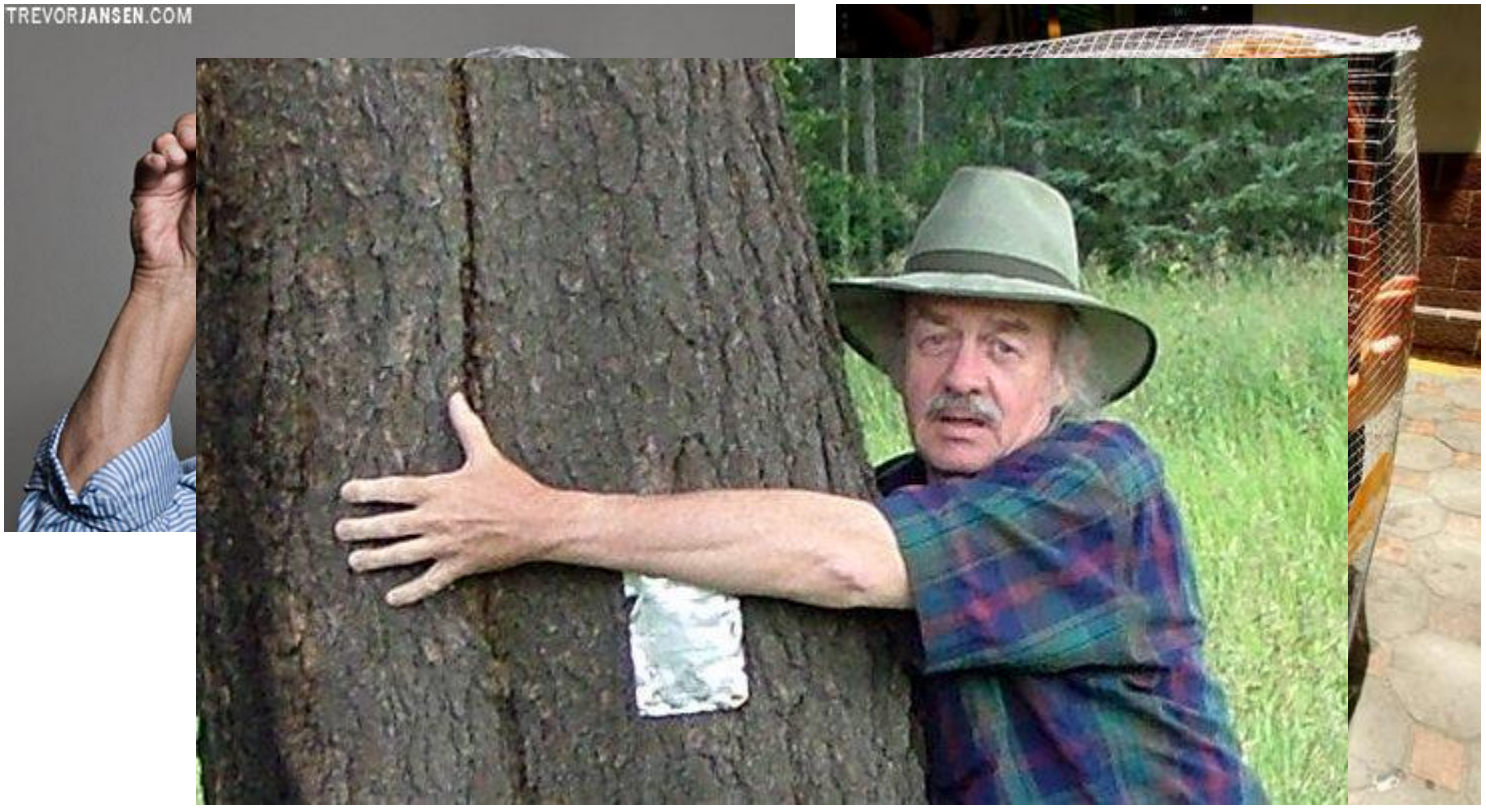
Different…

What is next?

Majority of Consumers Trust the Food Production Process



Yet Industry Reacts to Fringe

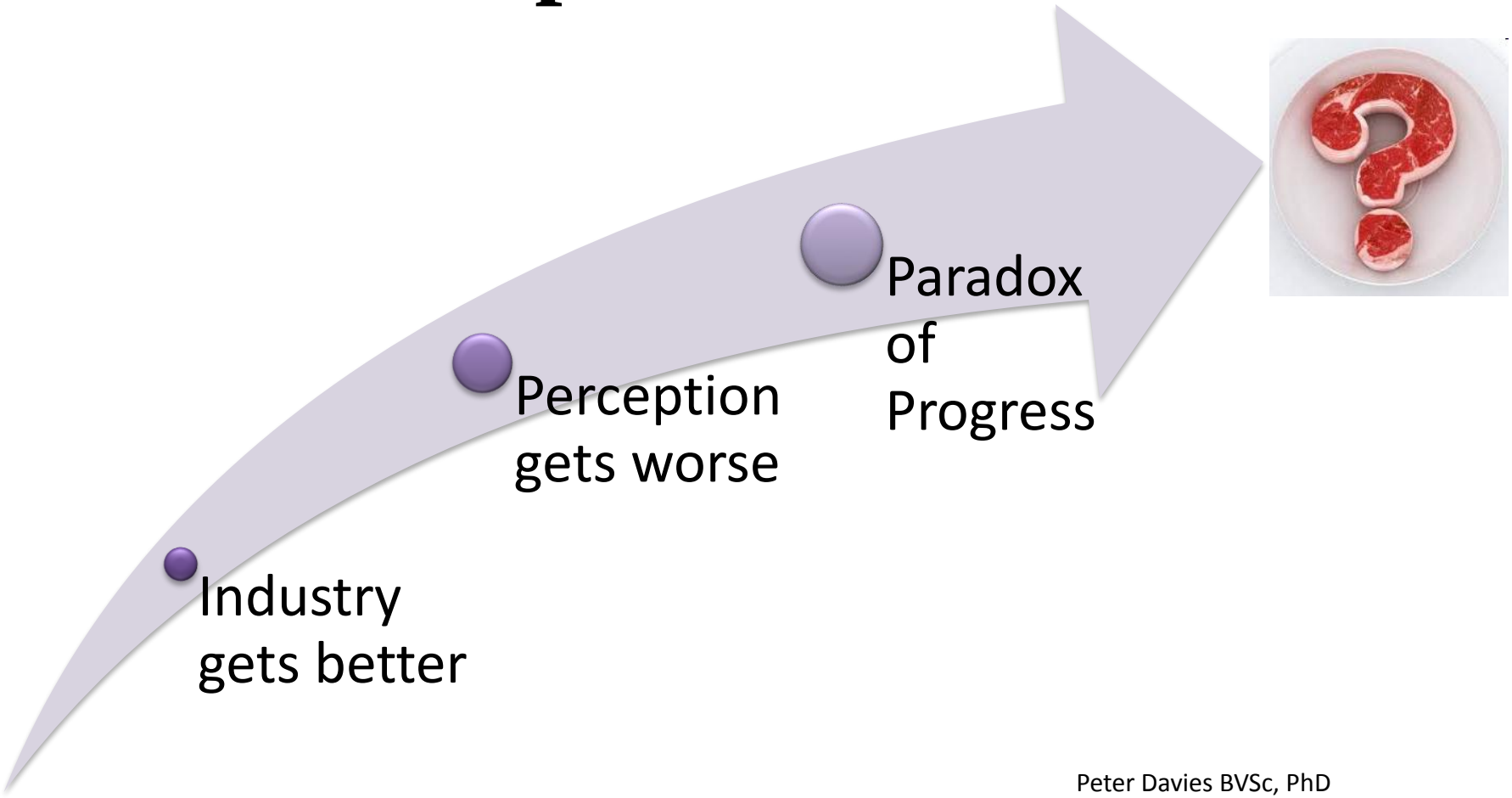


And Seeks to Differentiate Based on the Lifestylers

free from
simplement bon
CHICKEN · POULET
•raised without the use of antibiotics
• élevé sans l'utilisation d'antibiotiques
•vegetable grain fed · contains no animal by-products
• nourri de grains végétaux · ne contient aucun sous-produit animal
· air-chilled/refroidi à l'air
BONELESS, SKINLESS CHICKEN BREASTS
POITRINES DE POULET DÉSOSSÉES, SANS PEAU

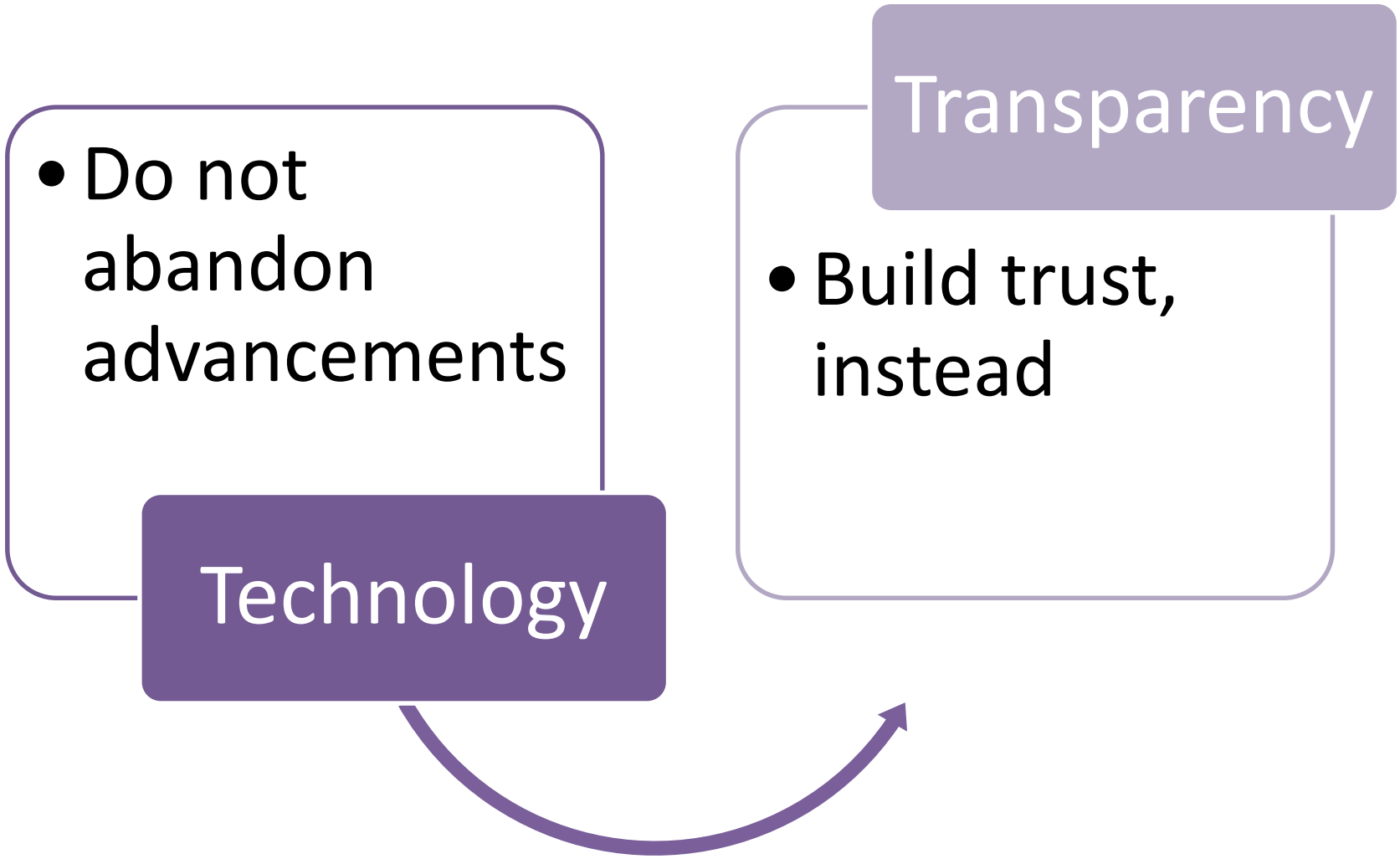
free from
simplement bon
ORK · PORC
ised without the use of antibiotics
levé sans l'utilisation d'antibiotiques
sed without the use of hormones like all pork
evé sans l'utilisation d'hormones comme tout porc
RILLING · GRILLER

Evolution of Society and Industry creates new problems



Peter Davies BVSc, PhD
University of Minnesota

Solution…


Transparency
• Build trust, instead
• Do not abandon advancements
Technology

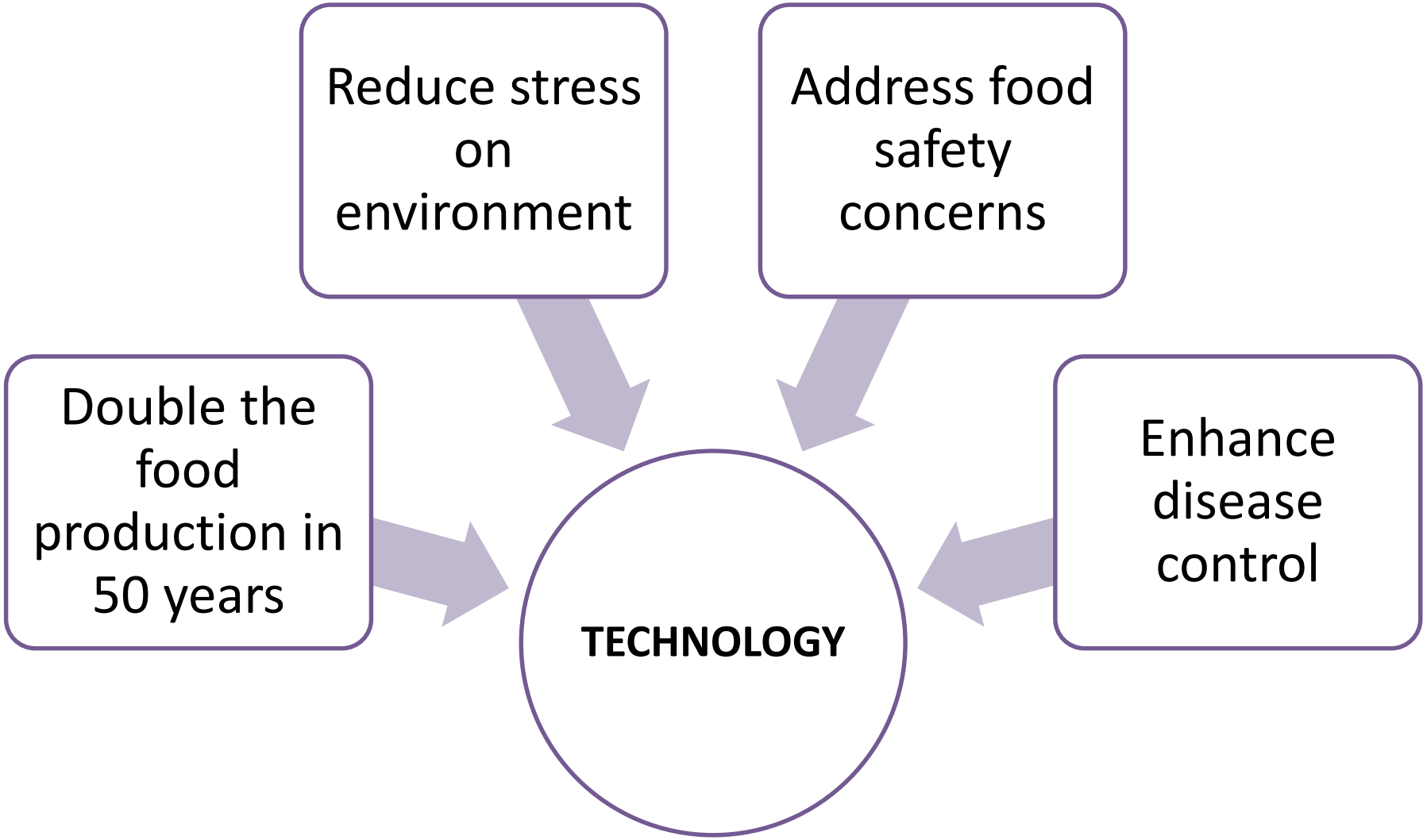
Transparency and Technology

North American Meat industry needs to embrace and extol the virtues of technology

Extraordinarily positive message and the only hope for a hungry world

Consumers will be satisfied if we are transparent

The Need in the Future



Summary

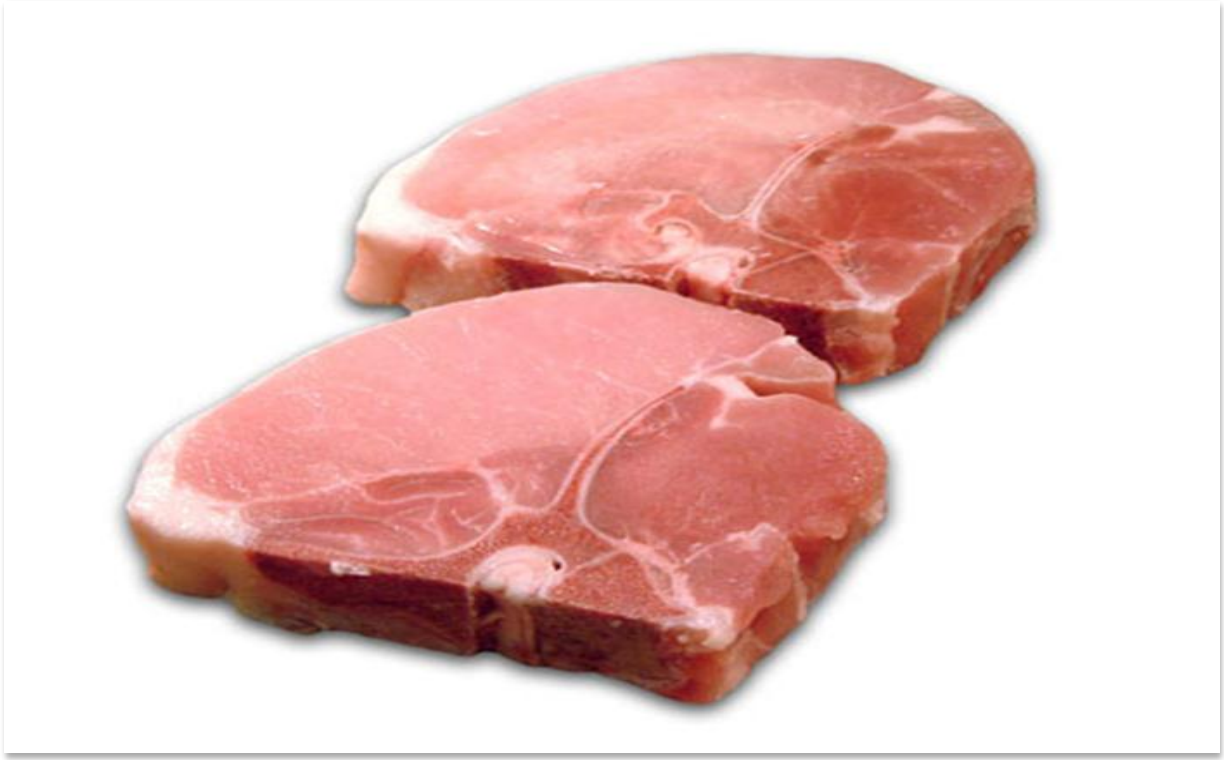
Growing global demand for meat

Canada is uniquely positioned to prosper

Technology and Science are the only ways for Canada to meet that demand

Huge reasons to be open and transparent about meat science and technology

Request



Please get the taste back into the chops

Thank You

ALMA
Alberta Livestock and Meat Agency Ltd.