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

<table>
<thead>
<tr>
<th>Practices: doing it better through science</th>
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<tbody>
<tr>
<td>Products: using new and better tools, equipment</td>
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<td>Genetics: improving plants and animals that we grow</td>
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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 demonstrate the central role of science and technology.
Outline...

Canadian Meat Industry

Demand
• Market forces

Resources
• Canadian advantages

Technology
• Importance and challenges
Determinants of demand

- Quality
- Quantity
- Demand (Need)
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...

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

Meat Consumption Growth Since 1995

% Change

Global

Developing Countries
Population and Incomes Rise

Demand for Meat Strong and Growing
Think...

...Markets and Technology
Constraints of Resources

- Land and Water
- Pollution
- Resources (Limited)
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

- Beef
- Pork
- Poultry

...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

…**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
In the year 2050, world population will require 70% more food, and 70% of this food must come from efficiency-improving technology.

Sources:
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
Abundance

Fresh water

Arable Land
Animal Health

- Absence of common problems...a MAJOR strength for Canada
Animal density and human contact

- ...a non-issue in Canada

Map source: riverthreat.net
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

**Canadian Beef Supply and Demand**
- Production
- Beef Exports
- Consumption
- Beef Imports

**Canadian Pork Balance**
- Production
- Pork Exports
- Consumption
- Pork Imports

Canada: Stable, not growing
US increasingly export oriented

USA:
high but not growing
Ample Meat and Poultry Supplies

Total US Red Meat and Poultry Production

Billion Pounds

- 2000: 76
- 2001: 78
- 2002: 80
- 2003: 82
- 2004: 84
- 2005: 86
- 2006: 88
- 2007: 90
- 2008: 92
- 2009: 94
- 2010: 96
- 2011: 98
- 2012: 100
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

![Graph showing US Beef Supply vs. Live Price](chart.jpg)
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
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

Activists: Tiny fraction

Lifestyle buyers of local, gourmet, organic/local: Small minority

General Population that buys based on taste, cost and nutrition: Overwhelming majority
Yet Industry Reacts to Fringe
And Seeks to Differentiate Based on the Lifestylers
Evolution of Society and Industry creates new problems

- Industry gets better
- Perception gets worse
- Paradox of Progress

Peter Davies BVSc, PhD
University of Minnesota
Solution...

- Do not abandon advancements

Technology

- Build trust, instead

Transparency
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

- Reduce stress on environment
- Address food safety concerns
- Double the food production in 50 years
- Enhance disease control

TECHNOLOGY
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