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Food and Health Case Studies

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afmnet

ADVANCED FOODS & MATERIALS NETWORK
Inspiration from the ground up

The Motivation: Integrating Health and Food Policy

- Canada is facing a health crisis related to food
- New nutrition research is identifying opportunities to impact health through food innovations
- Food and health policy have been separate (and often at odds) in the past, but linking food and health policy can benefit both

Food and health is in the news

***After Smoking and Fats,
Focus Turns to Salt***



***Saltier foods
sold in Canada***

www.ivey.ca/agri-food

High profile recalls



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But it's not all bad

***Molecular Evidence that
Broccoli Fights Prostate Cancer***



www.ivey.ca/agri-food

Superfoods!



***Blueberries battle
belly fat***

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Can we integrate food and health policy?

- How can we create **social benefits** – better health and lower healthcare costs?

and

Economic benefits – new products, higher sales, capture more value

- We studied three healthy food innovations to learn more

The Case Studies

1. DHA milk
2. Wild blueberries
3. Pulse crops

Methods

- Secondary data sources
- Primary data sources - interviews
- Media analysis – included soybeans
- Cross-case analysis

Time Horizon: 1999-2009

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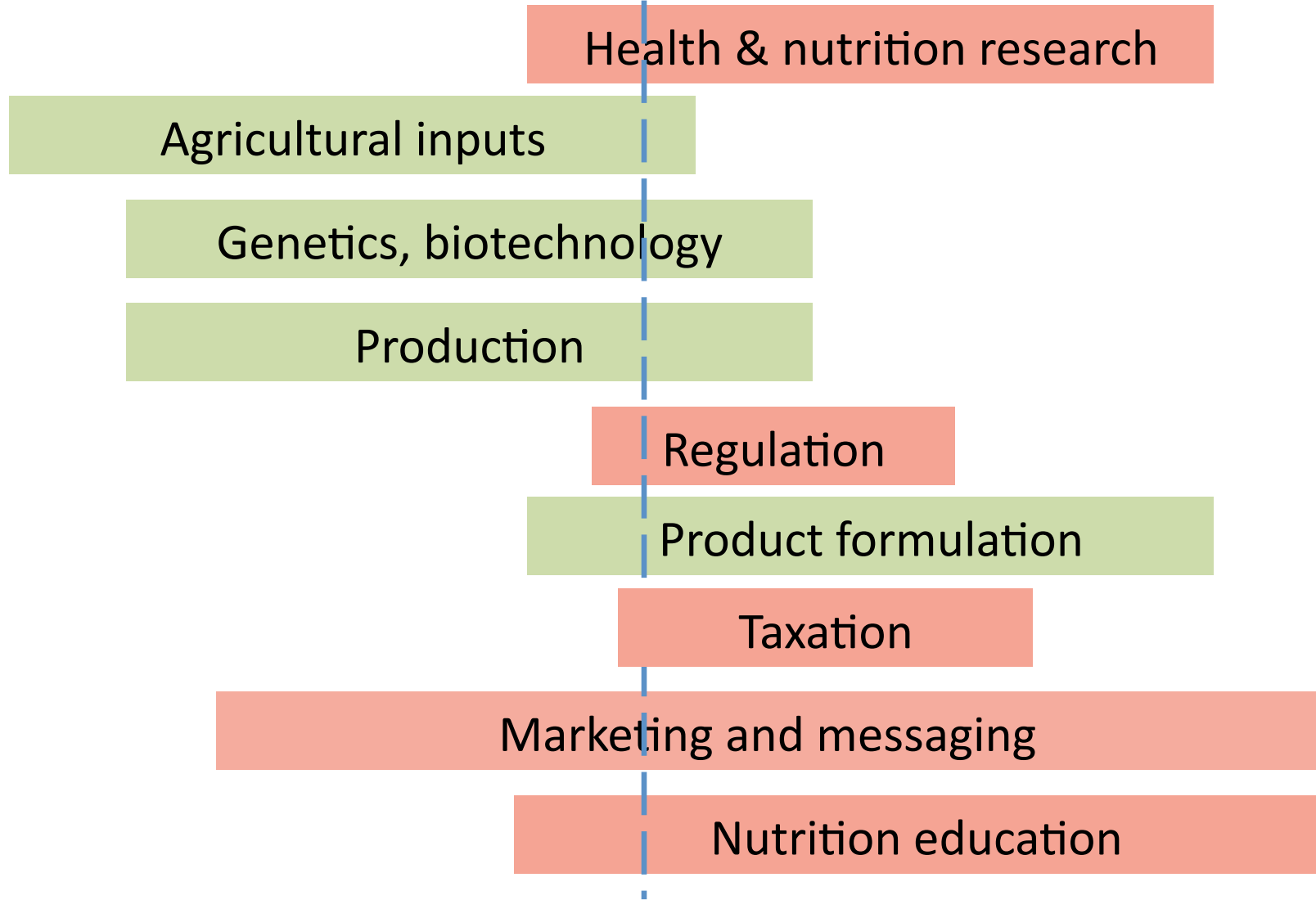
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Overlap Between Health and Food Policy

Economic benefits to industry

Health benefits to society



Health and nutrition research

Government funded but with industry support

- Major driver of healthy food markets
- Translated to consumers through media
- Consumers are looking for direct links to specific health attributes
- *Role for governments* – research support
- *Role for industry* – organizing production to support research, supporting research networks

Production

Industry can..

- support production with extension and education
- help organize production and marketing
- work with government on strategies to expand (or shrink) an industry
- Identify and collaborate with partners across the value chain, NGOs and agencies interested in health issues

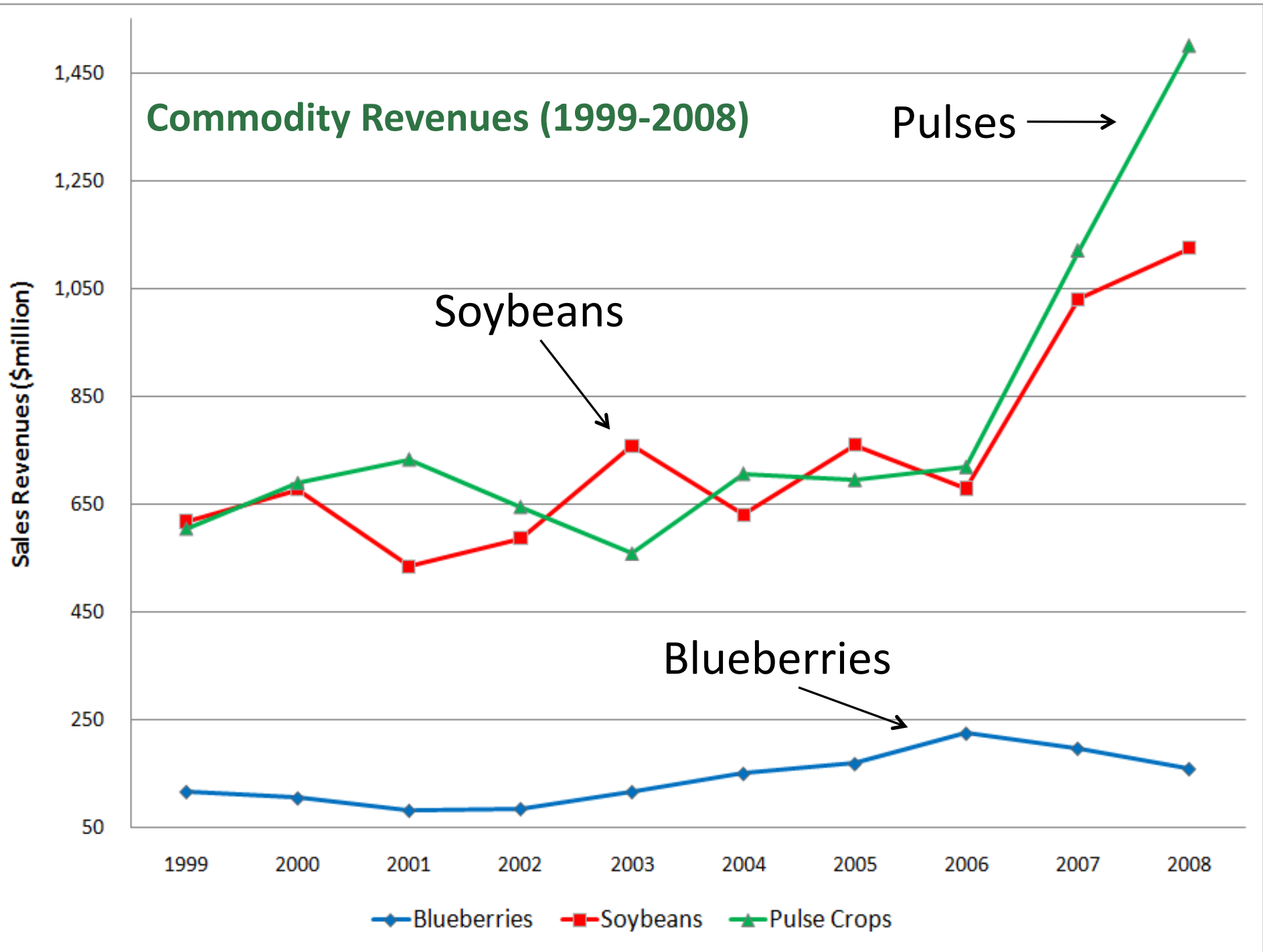
Regulations

- Regulations, particularly health claims, can be a significant impediment
- Labeling can also be an issue – DHA
- Inter-provincial regulations continue to act as a barrier to business development and innovation (DHA and blueberries)
- Supply management made it somewhat easier to organize the DHA supply chain but also restricted access to product

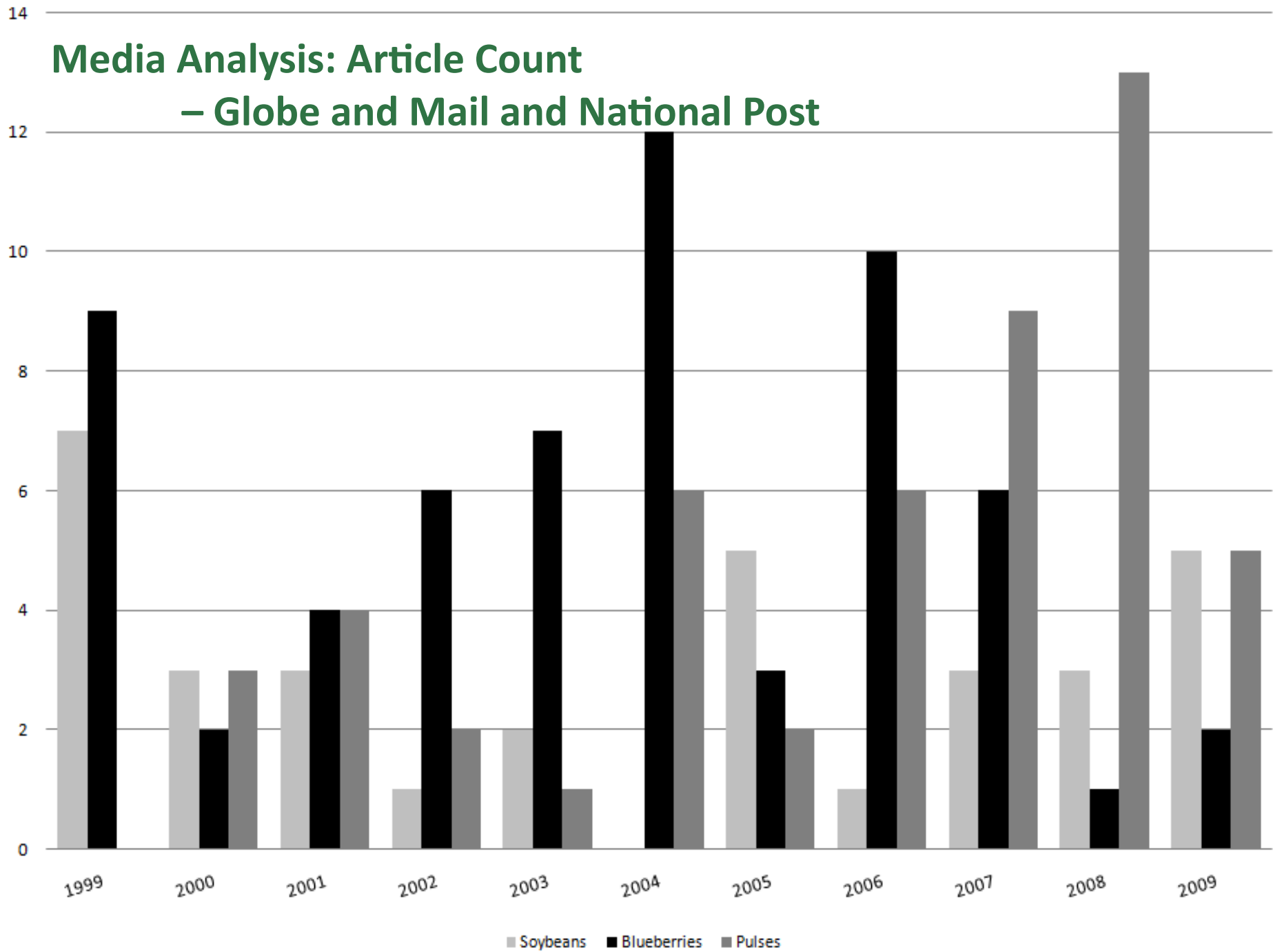
Messaging - *Health Sells!*

- The health story has been instrumental to each case study
- Health has to be translated and communicated – media & outreach is important
- Health messages need to be renewed and strengthened
- **Healthy food products must fit into consumer patterns**

Commodity Revenues (1999-2008)



Media Analysis: Article Count – Globe and Mail and National Post



Media Analysis Key Conclusions

- I. Strong evidence that health information generates increased blueberry sales
 - Consumers link media and blueberries explicitly
- II. Pulse crop sales are influenced by general media stories – *product form impact?*
 - Direction of causation is uncertain
- III. Mixed evidence on the relationship between health and soybean sales

Messaging

- Media analysis indicates value in strategies to promote product health stories
- None of the cases has their messaging perfected
 - Still too many uncertainties with respect to the linkages between food and health
 - Developing clear messages for consumers on those attributes remains a continual challenge

Lessons learned – DHA milk



- Health claims long and expensive
- Patent protection necessary for investment
- Industry can partner from concept to market
- Micronutrient labeling is still an issue
- Consumer awareness & understanding of micronutrients and DHA benefits is important but not there- How is DHA different?
- A proprietary product may limit industry opportunity

Lessons learned -Blueberries



- Huge potential but held back by ..
 - Need for more direct linkages to health benefits
 - Competition from cultivated
 - Trade barriers to more value added
 - High dollar and limited ability to expand
 - Interprovincial barriers and regulations
- Localized industry structure facilitates innovation & partnerships with government
- WBANA - excellent cross border cooperation
- Opportunities for better web presence



Lessons learned - Pulse

- Many scientifically-demonstrated benefits
- **No killer app** – industry must focus its message
- Value proposition includes environment but does sustainability have value in ingredients?
- Product preparation a challenge
- Low cost but high quality producer/exporter – health less important in these markets
- Regulations around food formulations are a barrier to pulse innovation as ingredients

Recommendations - other industries

- Industry associations/boards have critical roles to play from concept to market
 - Research, organization, marketing, messaging
- Get your message right and keep repeating it
- Back up messaging with research and claims
- Associations can mobilize collective action for industry wide claims
- Success requires champions to build support in the industry and in government

Recommendations - policy makers

- Investment in research is a critical success factor
- Health claims are important but challenging
- Interprovincial barriers continue to inhibit innovation, adoption and access
- Trade restrictions limit value added opportunities
- Food/health policy links are very weak
 - Where can linkages be mutually beneficial?
 - Who will be responsible for taking action?

Conclusions

- Health is the next big opportunity for the industry but we are just starting to get organized
- Messaging to articulate health benefits is a constant challenge but a critical one
- Both industry and governments must be engaged
- Achieving more integrated food and health policy means picking some initial targets and getting started

Thank you

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Appendix 1 - Case Study Characteristics

| Attribute | DHA Milk | Wild Blueberries | Pulse crops |
|---|--|---|--|
| Production location | Ontario | Quebec and Maritimes | Ontario and Prairies |
| Product attributes | Consumed as fortified milk or cheese | Ingredient - 90% Whole frozen – 10% | A variety of different pea and bean crops. Whole pulse are prepared in food products |
| Production characteristics | Specialized feeding program to add DHA to milk. Segregated supply chain. Supply managed. | Several year lead time and only in certain locations. Output varied through inputs. | Field crop, nitrogen and carbon fixing crops |
| Importance to farming operations | Main product from the farms | Main product from the farms | One of many products produced on grain farms |
| Uniqueness of production & ease of switching | Unique by feeding program – 6 months break-in | Unique crop & environment. Several years to start a field. | Included in crop rotation. Minimal switching cost . |
| Major markets | Ontario | U.S. and Japan | India, China, Bangladesh, U.S. and Columbia |
| Percentage exported | 0% | >90% | 75% |
| Marketing | By a single company under the Dairy O brand. Expanding to other firms and products | By industry and through companies | By industry and through companies |
| Intellectual property | Yes | No | No |
| Key health related ingredients/attributes | DHA, one of the OMEGA 3 fatty acids. Brain development | Anthocyanin shown to reduce eyestrain and improve eyesight. High antioxidant levels may reduce blood pressure, urinary tract problems, risk of cancer | Nutritional benefits from low glycemic index, high protein may impact chronic diseases like diabetes, cardiovascular disease, gut health |

Appendix 2 - Cross Case Analysis

| Attribute | DHA Milk | Wild Blueberries | Pulse crops |
|---------------------------------------|---|---|--|
| Gov't health research support | Significant | Moderate – but more in U.S. | Significant |
| Role of Industry Association | Organize supply chain, research | Support research and health marketing | Promote the industry and health attributes |
| Product attributes | Familiar form, simple to use and consume | Simple to use, frozen is affordable and available | Act as a barrier to consumption |
| Production characteristics | Supported by DFO. | Limit expansion opportunities | Producers switch in and out easily |
| Production - ease of switching | Feeding program – 6 months break-in | Unique crop. Several years to start a field. | Included in crop rotation. Minimal switching cost . |
| Media impacts | Not applicable | Significant – health only | Significant – any media |
| Major opportunities | New products and companies | Expanding consumption in current markets | Better health focus. More use as ingredient |
| Major challenges | Consumer understanding and expanding to new companies | Limited ability to expand, competition from cultivated, value added missing | Health message not clear. Marketing focused at consumers but opportunities may be as ingredients |
| Intellectual property | Essential | Not a factor | Some in varieties of crops |