Value Chain Traceability
Beyond Food Safety

International Production & Processing Expo
January 28, 2014
Today’s Dialogue

- Why traceability matters
  - Rules have changed

- Livestock Traceability
  - Experiences elsewhere

- US Traceability Regulations
  - Recent history and changes

- Global Food Traceability Center
  - Resource to help
Traceability – What is it?

"The ability to follow a food commodity, or feed, or substance intended to be, or expected to be incorporated into a food or feed, through all stages of production, processing, and distribution to final consumption or disposal."
Traceability – What is it?

Division of traceability

• "Internal traceability"
  • Ability to follow the movement WITHIN

• "External traceability"
  • Ability to follow the movement BETWEEN
Why Traceability Matters
Why now? Why me?

- Rules have changed as health and safety risks increase in the global food supply chain
  - Disease – high visibility cases of Avian flu, e-Coli, Listeria, Salmonella, BSE, etc.
  - Higher number and visibility of recalls – Slowness of response
  - Higher risk of contamination due to long complex supply chains
  - Products / ingredients from countries with lower health and safety standards
  - Cold chain management – concerns in remote/developing areas
  - Exposure to fraudulent activities in the food chain
  - Threat of intentional contamination

- Increasing distrust of the food system – consumers and retailers demanding "proof" of product quality claims, and origins . . . A&W Burgers for example

- Resulting in:
  - Increased pressure for regulation of traceability
  - More private sector guidelines for food traceability – Conflicts & costs
Why is Traceability Important?

Recent Food Safety Problems

2008
- Ground Beef
- Tomatoes and Peppers
- Processed meats

2009
- Peanut Paste
- Pistachios
- Sprouts

2010
- Pepper (Black, Red and White)
- Hydrolyzed Vegetable Protein
- Romaine Lettuce
- Eggs
- Artisan Cheeses

2011
- Hazelnuts (filberts)
- Lettuce
- Tomato

2012
- Smoked Salmon
- Romaine Lettuce
- Cherry Tomatoes
- Spinach

2013
- Salmon/ Cod
- Plums
- Ground Beef
- Red and Green Bells Peppers
- Spinach
Why is Traceability Important?

- Changes in food purchasing habits out of safety concerns

<table>
<thead>
<tr>
<th>Food Product Consumers Stopped Purchasing</th>
<th>2010</th>
<th>2009</th>
<th>2008</th>
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</thead>
<tbody>
<tr>
<td>Peanut Products</td>
<td>30%</td>
<td>74%</td>
<td></td>
</tr>
<tr>
<td>Peanut Butter</td>
<td>27%</td>
<td>60%</td>
<td></td>
</tr>
<tr>
<td>Spinach</td>
<td>11%</td>
<td>14%</td>
<td>25%</td>
</tr>
</tbody>
</table>

*Source: 2010 U.S Grocery Supplies*
Drivers of Traceability

- Why is traceability growing?
  - Public Safety / Animal welfare
  - Mitigate business risks and liability / Lower costs
  - Supply chain efficiencies / Reduce working capital & waste
  - Market and consumer access / Increase revenue
Moving Beyond Compliance
Marketplace drivers taking hold . . .

- Brand protection
  - Automatic detection of counterfeit foods - losses from counterfeit food products $80B annually* (Germany)

- Product life cycle management
  - Every year, one third of the food produced in the world for human consumption approximately 1.3 billion tonnes gets lost or wasted (UNEP)

- Change from category recalls to pinpoint withdrawal
  - Direct costs from recall management can cost up to $200k per case

- Insurance savings
  - 20% to 50% on product recall insurance and product liability insurance

Growing acknowledgment that substantial ROI can be gained from traceability

*Source: KIM e.v. Ludwigshafen, Germany (Kompetenzzentrum Innovation und Marktorientierte Unternehmensführung)
So why does this affect me?
Livestock Traceability
Technology and its Role

- Basic information requirements for traceability
  - Location/Premises ID
  - Product ID (animal, plant, processed/manufactured goods)
  - Movement Tracking (events)
Traceability in Canada …

- **1998**
  - Creation of CCIA to lead cattle ID system
  - Ears tags adopted nationally
  - Regulatory supports for beef cattle and bison ID through federal *Health of Animals Act*

- **2001**
  - Creation of ATQ in Quebec
  - Initial focus on dairy herd

- **2003**
  - Agricultural Policy Framework (APF)
  - 5 year agreement between Federal and Provincial governments / Traceability included in Food Safety & Quality programs

- **2003**
  - Creation of Can-Trace as industry forum to develop national data standards for one-up/one-down traceability

- **2004**
  - Regulatory supports for sheep ID through *Health of Animals Act*

- **2006**
  - Creation of national Industry/Government Advisory Committee (IGAC) on traceability
  - Creation of OnTrace to identify all premises in Ontario associated with food

- **2008**
  - Growing Forward policy framework with 5-year support programs for traceability

- **2009**
  - Industry consultations on improving ID compliance & tag performance

- **2010**
  - All livestock sectors each develop traceability implementation plans - Ongoing

- **2012**
  - RFID tags for beef/dairy cattle becomes mandatory

- **2013**
  - *Safe Food for Canadians Act* receives Royal Assent
  - Traceability becomes law
  - Creation of Canadian Agri-food Traceability Services

- **2013**
  - CFIA industry consultations on new traceability rules
What we heard . . . in 2006

- Traceability defined and understood very differently by different people and organizations.

- Agreed need for national standards and leadership.

- General agreement on traceability system principles. Split in support for outcomes and objectives.

- Agreement that, in the long term, national regulatory framework required.

- Concern about government working secretly. Need for more industry involvement.

- Desire for industry leadership, in system implementation and governance.

- Some livestock sectors were concerned about privacy & potential increased liability.
What we heard . . . in 2006

- Who owns the data? Does ownership infer total responsibility for determining access to information?

- Need for increased linkages between programs (e.g. biosecurity, on-farm food safety, traceability) to help reduce regulatory burden

- Need to make the system as simple as possible. Keep the cost low.

- There need to be benefits to business (e.g. reduced duplication of paperwork).

- Have a more effective compliance and enforcement strategy.

- Inconsistent support for provinces in assisting in data collection.
Traceability in Action - UK

- Traceability systems lead to
  - Visibility of supply and production
  - Knowledge of the quality of specific lots
  - Increased yields/throughput
  - Inventory control • Cash flow increased
  - Faster identification of product during recalls
  - Clearer line of sight to respond to changing consumer demands
Five Lessons Learned

1. Traceability means increased liability
2. Traceability means lost confidentiality
3. The cost of traceability is too high
4. Traceability is useful for regulatory recalls
5. Traceability is the job of IT

1. Traceability reduces risk, exposure & liability
2. Traceability means increased transparency
3. Traceability is free if it reduces other costs
4. Traceability is a tool to increase margins
5. Traceability is a business responsibility
USA Traceability Regulations
Recent History: Bioterrorism Act of 2002

- Established recordkeeping requirements in December 2003
  - Manufacturers/processors
    - Registration with FDA
    - Record shipment and receipt information
    - Capture incoming lot numbers
    - Link ingredients to finished product to extent practical
  - Non-manufacturers
    - Contact information for who it came from and went to
  - Exemptions at supply chain ends

- "1 up/ 1 down" redundant system

- Form of recordkeeping not specified
  - Combinations of paper and electronic records (even within a facility)
Food Safety Modernization Act

- Law signed on January 4, 2011
- Most expansive changes since 1938 Act
- Ambitious schedule for increased inspections
- Substantial new regulatory requirements
- Major new program activities for FDA
- Exacting new food import requirements
- Sweeping new enforcement authorities
Global Food Traceability Center
The Role of the GFTC

Vision

To become the global resource and authoritative voice on food traceability.

Mission

To serve the agriculture and food sectors, by providing applied research, objective advice, and practical expertise about data collaboration and food product traceability for business benefit and public good.
Four Key Goals

1. Improve the product tracing capabilities of industry and government with regards to foodborne outbreaks and emergency management.

2. Build and expand services and solutions to increase the business benefits of traceability and data collaboration.

3. Become recognized as the trusted source of advice and expertise and embraced as an authoritative leader in food traceability.

4. Create the organizational capacity to self-sustain its operations.
Organizational Structure

Key Stakeholders
- Founding Sponsors
- Contributing Partners

Founding Sponsors
- Food Industry
- Regulatory Agencies
- Consumers
- Academia
- National & International Organizations
- Foundations & Non-profits
- Solution Providers

Contributing Partners
- Research
- Education and Training
- Protocols and Standards
- Technology Transfer

GFTC
- Advisory Council
- Project Working Groups
<table>
<thead>
<tr>
<th>Year</th>
<th>Traceability Efforts</th>
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<tr>
<td>2008</td>
<td>US FDA Task Order- Report on “state of the industry”</td>
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<tr>
<td>2009</td>
<td>US FDA Task Order- Mock tomato traceback pilot using technology solutions</td>
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<tr>
<td>2010</td>
<td>National Center for Food Protection &amp; Defense (NCFPD) Traceability Project</td>
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<tr>
<td>2011</td>
<td>IFT Traceability Improvement Initiative (TII)</td>
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<tr>
<td>2012</td>
<td>US FDA (FSMA) Product Tracing Pilots</td>
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<td>2013</td>
<td>Global Food Traceability Center (GFTC) launched</td>
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Founding Sponsors

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Global Food Traceability

Local Solutions
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Thank you.