Food Traceability & Authenticity
Global Food Traceability

- Today’s dialogue:
  - Traceability Challenges
  - IFT – Global Food Traceability Center
  - Global Harmonization
  - Q & A
One View of Traceability
Another View of Traceability

- Food traceability is now mainstream...

- More than recalls

- Consumer is driving massive transition for food industry

- How can traceability help manage that transition?
Traceability Challenges

- **Food System Complexity**
- **Technology Interoperability**
- **Food Scandals**
- **FOCUS?**
- **Foodborne Illnesses Rising**
- **Global Competitive Pressures**
- **Consumer Demands**

*Images of a pizza with various toppings and text boxes connecting to different food items like tomatoes, cheese, mushrooms, spices.*

- **Tomatoes**: China is the largest grower of tomatoes, accounting for 1% of global imports, up from 0.27%. While pizza anchovies come from Argentina, Croatia, Spain, and Italy.

- **Cheese**: China has over 400 types of cheese produced in 260 factories, which produce cheese for export.

- **Mushrooms**: China is the number two mushroom producer in the world, behind the United States. By 2018, China will produce 60% of the world's mushroom production.

- **Spices**: 11.5% of India’s spices are exported to the United States. Fennel, cumin, and turmeric are key spices.

*Images and text suggest a focus on the complexity and challenges of traceability in the food industry, particularly in relation to technology, consumer demands, and global pressures.*
What is Traceability?

- Traceability *is* about systematic ability to access any or all information relating to a food under consideration, throughout its entire life cycle, by means of recorded identifications.
  - For this to happen, a traceability system must keep track of when the units (and the associated identifiers) are created, used, joined together, split up and finally disposed.

- Traceability *is not* about data, identifiers, bar codes, RFID, tags, and any information that needs to be linked together to make traceability possible.
  - These are all critical, but not sufficient for traceability.
Why is Traceability Important?

Recent Food Problems (Global)

- **2008**
  - Ground Beef
  - Tomatoes and Peppers

- **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**
  - Fresh beef/hamburger – Horsemeat
  - Salmon/ Cod
  - Cantaloupe
  - Red and Green Bells Peppers
  - Spinach
Why is Traceability Important?

- Changes in food purchasing habits out of safety concerns

### Food Product Consumers Stopped Purchasing

<table>
<thead>
<tr>
<th>Food Product</th>
<th>2010</th>
<th>2009</th>
<th>2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peanut Products</td>
<td>30%</td>
<td></td>
<td>74%</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*
A Very European Scandal

1. Germany
   Hypermarket chain Real recalled lasagne products after tests showed traces of horsemeat. Another chain Tengelmann said it had withdrawn a lasagne product after finding suspected horsemeat.

2. UK
   Tests found horsemeat in school meals, hospital food and restaurant dishes, spreading the scandal of adulterated meat beyond supermarket products.

3. Ireland
   Simon Coveney, Ireland’s agriculture minister, said he was ‘110% certain’ of the veracity of Irish test results showing horsemeat present in Polish offcuts of beef.

4. France
   Six supermarket chains have withdrawn frozen beef meals made by Findus and Comigel.

5. Sweden
   Supermarket chains ICA, Coop and Axförlig all confirmed their lasagne products contained horsemeat.

6. Norway
   Findus ready meals thought to contain horsemeat have been pulled from supermarket shelves.

7. Switzerland
   Supermarket chain Coop has found horsemeat in its own-brand lasagne.

8. Netherlands
   Supermarket chains Albert Heijn, Plus, Coop and C1000 all pulled tainted products.

9. Spain
   A consumer association said it had found horsemeat DNA in hamburgers sold in Eroski and AhorroMas supermarkets. AhorroMas pulled the product while Eroski denied the claim.

10. Austria
    Austria pulled beef tortelloni sold by discount chain Lidl off the shelves after horsemeat discovered.

11. Belgium
    French frozen foods retailer Picard said two types of tainted lasagne had been sold in Belgium and had been withdrawn earlier in the week.

Source: FT research
Building food traceability systems to achieve a broad range of benefits...

**Improved Public Safety**
- Food fraud
- Food quality & safety - Nutrition
- Animal / Plant disease management
- Bio-threats & terrorism
- Consumer confidence

**Increased Competitiveness**
- Innovation – new technology & business processes
- Productivity improvements
- Brand equity and image management
- Working capital management

**International Trade – Market Access**
- Secure and increase access to key markets and customers
- Sectors dependent on trade – Diversification
- Consumer demands & regulatory requirements

**Risk Mitigation & Lower Costs**
- Reduce cost of quarantine/recall
- Absolve unaffected businesses
- Isolate and quickly resolve issues
- Reduce liability costs
- Reduce waste
IFT . . . . Who we are

- For more than 70 years, IFT has unlocked the potential of the food science community by creating a dynamic global form where members from more than 100 countries can share, learn and grow.
IFT Traceability Timeline

2008

IFT delivers milestone report to the FDA on the status of food product tracing in the industry.

2009

IFT Conducts Mock Trace-back Exercise

Under contract with FDA, IFT partners with Harvard University to conduct a mock trace-back exercise with the tomato industry.

2010

IFT Conducts Two-Year Traceability Study

The National Center for Food Protection and Defense (NCFPD) provides grant to IFT to conduct a two-year study analyzing the capabilities of technologies in food product tracing (2010 – 2012)

2011

IFT Launches Traceability Improvement Initiative

Launched by IFT in summer, a total of three TraceabilitySummits are held throughout 2011 with global experts on food traceability.

2012

IFT Completes Food Product Tracing Pilots Report

IFT conducts projects and completes its landmark report to FDA on food product tracing pilots as mandated by the Food Safety Modernization Act (FSMA)

2013

IFT Tapped to Lead Traceability Focus

Industry stakeholders express desire to have a single authoritative, objective source on traceability. IFT is seen as uniquely and ideally positioned to lead this effort.

2014

IFT Launches Global Food Traceability Center

IFT launches a new program dedicated to food traceability. Initiates its business plan, gains support through public-private partnerships. Begins benchmark projects in research, education, and industry best practices.
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 traceability for business benefit and public good.
Business Platforms

Our approach is to engage stakeholders in the development of solutions, as well as in their delivery.
Organizational Structure

Key Stakeholders

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

Founding Sponsors

- Advisory Council

Contributing Partners

- GFTC

Research

- Education and Training

Protocols and Standards

Technology Transfer
Advisory Council Members

- Cargill Inc.
- Centers for Disease Control
- Center for Science in the Public Interest
- Cornell University
- Eurofins Laboratories Inc.
- FMI Foundation
- Global Cold Chain Alliance
- Global Food Safety Partnership (World Bank)
- GS1-US
- International Association for Food Protection
- Intertek Group
- The Acheson Group
- Lyngsoe Systems A/S
- Mars Inc.
- National Center for Food Protection & Defense
- NFI Seafood Industry Research Fund
- Ontario Ministry of Agriculture & Food
- Pepsico
- Produce Marketing Association
- Trace One
- University of Guelph
- USDA
- US Commerce Department
- Wal-Mart Inc.
- Wegmans Food Markets

- Dr. Angie Siemens
- Dr. Ian Williams
- Caroline Smith DeWaal
- Dr. Robert Gravani
- Dr. Douglas Marshall
- Dr. Hilary Thesmar
- Lowell Randel
- Amy Evans
- Angela Fernandez
- Dr. Don Schaffner
- Karin Hansson
- Dr. Jennifer McEntire
- Robert Lynn
- David Crean
- Dr. Frank Busta
- Steven Mavity
- George McCaw
- Greg Buckley
- Ed Treacy
- Doug MacDonald
- Dr. Sylvain Charlebois
- Douglas Bailey
- Corey Wright
- Frank Yiannas
- Gillian Kelleher
Launch Project

- Protocols & Standards
  - Global Food Traceability Regulations
  - Purpose: To assist in the discussion and development of harmonized food traceability requirements around the world.
  - Expected Outcomes: A benchmark report summarizing the existing global food traceability standards and regulations, with observations concerning gaps and duplication.
  - Comprehensive Reviews in Food Science & Food Safety
Launch Project

- Education & Training
  - Food Traceability Education & Training

  - Purpose: To design, develop, and deliver food traceability learning experiences.

  - Expected Outcomes: An ongoing food traceability curriculum addressing general principles, systems, and common or best business practices; then expanding to include implementation assistance, and project management tools and techniques.
Launch Project

- Research
  - Best Practices in Food Traceability – A Guidance Document
  - Purpose: To explore current food traceability best practices in 6 key industry sectors
  - Based on principles of Critical Tracking Events (CTEs) and Key Data Elements (KDEs)
  - Expected Outcomes: A food traceability best practices guidance document for government regulatory authorities and others to foster dialogue on uniform data gathering and recordkeeping requirements for traceability.
  - *Comprehensive Reviews in Food Science & Food Safety*
Enhancing Seafood Traceability

- Heightened interest and urgency in traceability . . . Why?
  - Seafood industry in huge transition
  - Brand equity and consumer perceptions – Fraud
  - Increasing complexity
  - Sustainability / IUU / Waste

- Gordon & Betty Moore Foundation Project
  - Address reduction of waste, consumer trust
  - How does traceability affect value chain and business vitality?
  - ROI software application for traceability investments

- Report publication in early 2015
- ROI tool launching in September
## 5 Lessons Learned

| ✓ Traceability reduces exposure to risk & liability |
| --- | --- |
| ✓ Traceability means transparency |
| ✓ Traceability is free – it lowers costs & raises margins |
| ✓ Business value of traceability will drive adoption |
| ✓ Traceability is a business opportunity |

| ✗ Traceability means increased liability |
| --- | --- |
| ✗ Traceability means lost confidentiality |
| ✗ The cost of traceability is high |
| ✗ Traceability is only of value for regulators |
| ✗ Traceability is a technology problem |
Harmonizing Requirements

- Remember food safety ‘standards’?
  - Impact on business and people (multiple audits/certifications)
  - Barriers to trade: NTB’s and technical barriers
  - Slower response to regulatory requests

- Organizations addressing harmonization
  - Codex Alimentarius – WTO
  - ISO
  - FAO-WHO
  - Global Food Safety Initiative
  - GS1: Global Traceability Standard
  - European Commission
  - ASEAN Food & Beverage Alliance
  - Can-Trace Data Standard
Harmonizing Traceability Requirements

- How to establish harmonized traceability requirements?
  - Take advantage of lessons from other industry programs

- GFTC proposes to initiate a dialogue on harmonizing traceability requirements
  - Bring interested parties together
  - Formulate guidance from industry and other stakeholders
  - Specify uniform metrics & compliance requirements
  - Technical standards
What now?

- Change thinking: Start with game-changing actions
  - e.g. Traceability is more than recalls and risk insurance

- GFTC is here to facilitate industry collaboration
  - Public-private partnership organization
  - Focuses on practical help and organizing dialogue
  - Take advantage of early findings and capabilities

- Get engaged! Traceability is innovative business strategy tool
  - Collaboration is essential to avoid unwarranted cost$
  - GFTC is looking for partners who want to help

- Content expertise: Traceability is an growing area of concern
  - Single ‘go-to’ resource
  - Leverage the lessons of other industries
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Thank you.