



Traceability Best Practices: Tracing Our Path Forward

IFT AMFE

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New Orleans, USA



Presentation Title: Traceability Best Practices: Tracing Our Path Forward

- Traceability is the ability to track a product from source to eventual consumption
- Best Practices in Traceability are those processes where the linkages and data across the entire supply chain is not broken.
- Tracing Our Path's Forward involves continuous creation, collaboration and implementation of novel techniques and technologies to making traceability work.
- The end. Thank you for your attention.



Presentation Outline

- Challenges in Food Safety, Defense and Fraud
 - A Global Supply Chain
 - Regulatory and Industry Landscape
 - A Problem Bigger Than We Think It Is
- Solutions in Food Traceability
 - For Regulators
 - For Industry
 - For Emergency Preparedness
- Best Practices in Food Traceability
 - For Data
 - For Technology
 - For People
- What's next?

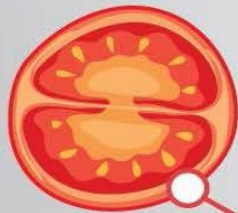


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Challenges in Food Safety, Defense and Fraud:

A Global Supply Chain



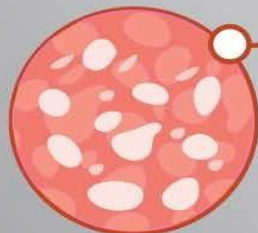
Tomatoes

While the U.S. produces the most tomatoes, Mexico accounts for **71%** of tomato imports, and Canada accounts for **27%**.



Anchovies

56% of our anchovies are produced in Peru, while pizza anchovies come from Argentina, Croatia, Spain, and Italy.



Beef

2.5 billion pounds of beef were exported this year to top markets like Canada, Japan, Mexico, South Korea, and Hong Kong.



Cheese

14% of the raw buffalo milk used for mozzarella is made in Italy while **86%** of buffalo milk is produced in Asia.



Mushrooms

China produces **47%** of our mushrooms across the globe, followed by the U.S which produces only **11%**.



Spices

11.5% of India's spices are exported to United Arab Emirates, the U.S., the EU, and Malaysia.



Peppers

95% of unprocessed peppers are exported through India, China, and the U.S.



Challenges in Food Safety, Defense and Fraud:

Current Landscape

- Regulatory Environment
 - Very little currently mandated for traceability
 - Limitations and gaps in current mandates
 - Several nations updating regulations

- Industry Environment
 - Sector/commodity specific initiatives
 - Supplier/Customer/Consumer demand driven
 - Fragmented



Challenges in Food Safety, Defense and Fraud:

A Bigger Problem

- US CDC estimates
 - 48 million cases of food borne illness
 - 128,000 hospitalized
 - 3,000 deaths
- Food Source Attribution
 - 70% of investigations unresolved at the state level (CSPI)
 - 42% of outbreaks from unknown foods (US CDC)
 - 7 pathogens cause 90% of illnesses, hospitalizations, and deaths due to known pathogens (US CDC)
- Challenges & Opportunities
 - Epidemiological investigations
 - Trace-back investigations
 - Recalls

Challenges in Food Safety, Defense and Fraud: A Bigger Problem





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Solution in Food Traceability: For Regulators



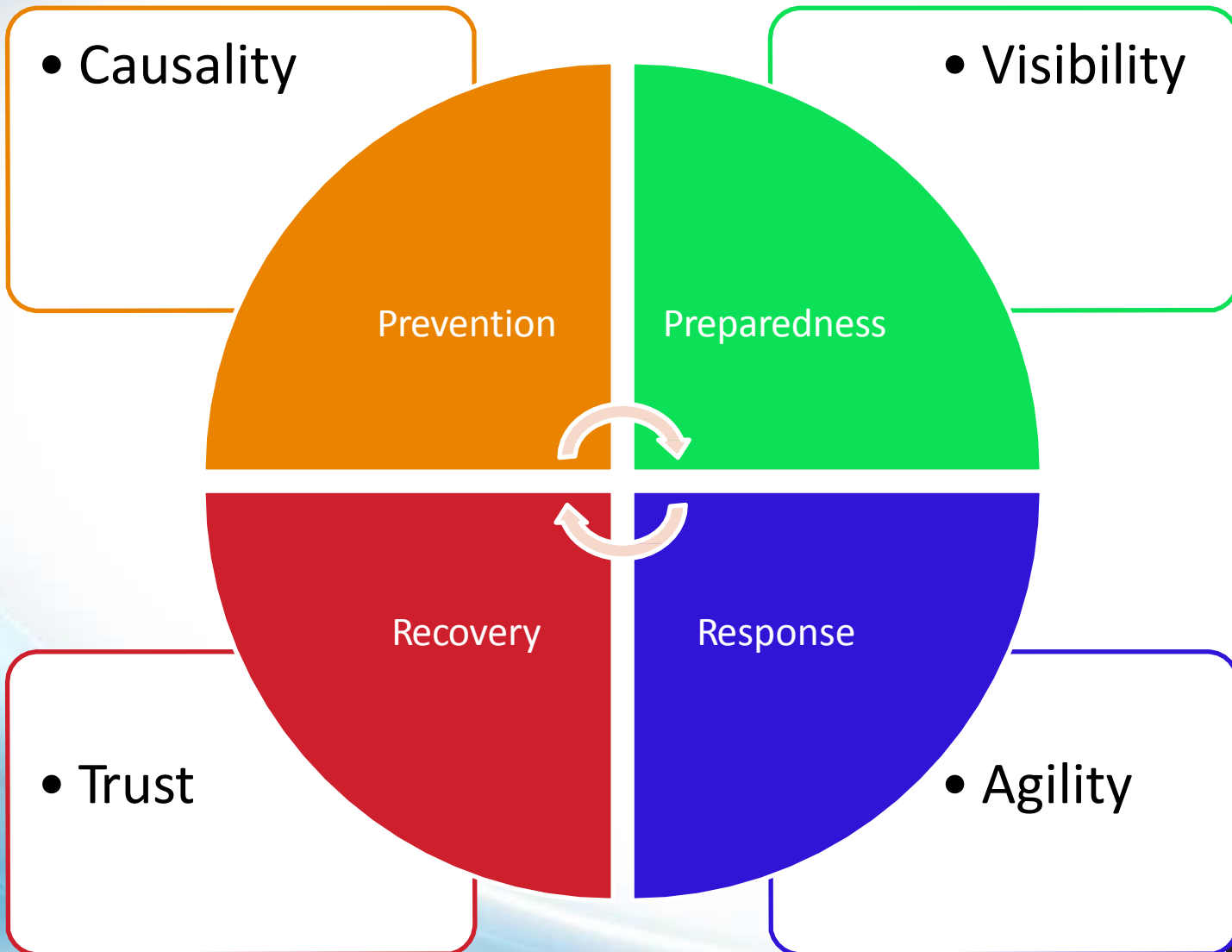
- Updating current mandates
- Harmonizing requirements
- Supporting industry led initiatives
- Most importantly, **coming into the 21st century!**

Solution in Food Traceability: For Industry



- Pre-competitive mindset
- Holistic approach
- Cross-sector multi-stakeholder solutions
- Most importantly, **not going into the 22nd century!**

Solutions in Food Traceability: For Emergency Preparedness





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Best Practices in Food Traceability: For Data



CRITICAL TRACKING EVENT DEFINITIONS
TRANSFORMATION-TYPE EVENTS are those events that typically support internal traceability within the four walls of a supply chain company.
TRANSFORMATION INPUT (T1) EVENT: The event where one or more materials are used to produce a traceable product that enters the supply chain.(NOTE: Materials used to produce products for immediate consumption by consumers are reported as Consumption events)
TRANSFORMATION OUTPUT (T2) EVENT: The event where a traceable product is packaged and labeled for entry into the supply chain.
TRANSPORTATION-TYPE EVENTS are those events that typically support external traceability between supply chain companies.
SHIPPING (S) EVENT: The event where traceable product is dispatched from a defined location to another defined location.
RECEIVING (R) EVENT: The event where traceable product is received at a defined location from another defined location.
DEPLETION-TYPE EVENTS are those events that capture how traceable product is removed from the supply chain.
CONSUMPTION (C) EVENT: The event where a traceable product becomes available to consumers.
DISPOSAL (D) EVENT: The event where a traceable product is destroyed or discarded or otherwise handled in a manner that the product can no longer be used as a food ingredient or become available to consumers.



Best Practices in Food Traceability: GFTC

For Data

- Key Data Elements (KDEs) are associated with each critical tracking event and provide:
 - Essential information about **time and place** of the event, the **party** reporting the event, and the identification of the **product** involved
 - Related information about nature of the event reported (e.g., supporting document ID)

- Key Data Elements answer the five W's:
 - **Who** performed the activity
 - **What** product was involved,
 - **When** was it done
 - **Where** was it done, and
 - **Why** the event was reported.



Best Practices in Food Traceability: For Technology

- Numerous solutions providers
- Different varieties and capabilities
 - Internal
 - External
 - Internal to external
- Value add-ons
 - Sustainability
 - Country of origin labeling
 - Supply chain efficiencies
 - Molecular tracking (really authentication)
- No “one-size-fits-all”
- Needs flexibility in adoption



Best Practices in Food Traceability: For Technology

- Islands of data
 - Syntax
 - Semantics
 - Accessibility

- Interoperability means
 - Ability to speak the same language
 - Understand the same words
 - Answer the same questions

- Interoperability does NOT mean
 - Ubiquitous access to data
 - Globally uniform data requirements
 - Loss of confidentiality, control or capability

Best Practices in Food Traceability: For People



Benefits

- **Public health and social benefits**
 - Lives saved, illnesses prevented, gains in productivity
- **Regulatory benefits**
 - responsiveness, reputation, resource allocation
- **Industry benefits**
 - increased brand reputation, increased consumer confidence, improved recall scope, improved supply chain management

Costs

- **Regulatory costs**
 - Analytical and field staff resources, training
 - Technology implementation and maintenance
 - Compliance
- **Industry costs**
 - Software; capital expenditures
 - Change to current processes
 - Compliance
 - Staff training



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What's Next?



What's Next?



Regulatory Roadmap



Industry Initiatives



Consumer Concern



Global
Dialogue



Footprint Forward

What's Next?



What's Next?

- Journal of Food Science special issue: Making Traceability Work
<http://www.ift.org/gftc.aspx>



Summary



- What I did NOT say!
 - Traceability is a value-add
 - We need to scratch the global traceability system and restart
 - This is easy... a piece of cake... really, I have better things to do
- What I DID say!
 - Traceability is imperative in food safety, defense and fraud
 - Interoperability is demonstrable and a must
 - Win-win for all stakeholders with real world impact