The ABC’s of Food Traceability

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What we do – The Global Food Traceability Center (GFTC)

The technology-agnostic, authoritative voice on food traceability.

- Standard development and extension for multiple use cases (co-convener of the Global Dialogue on Seafood Traceability, ‘GDST’)
- Best practices and guidance documentation
- Implementation and Compliance Tools
- Technical convenings and pilots
- Education, training and workshops
- Marketing, outreach, and communication

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Learning Objectives

Core Takeaways
1. Understand foundational traceability concepts of critical tracking events/key data elements
2. Learn the core components of the Draft Rule
3. Explore roles and responsibilities of impacted entities
4. IFT Resources
Traceability Fundamentals
What is Traceability?

Traceability is the systematic ability to trace the path of food ingredients and/or finished products throughout their entire life cycle, by means of previously captured and stored records consisting of Critical Tracking Events (CTEs) and Key Data Elements (KDEs).

Use Cases:

- Food Safety/Quality
- Supply Chain Visibility/Efficiency
- Sustainability
- Authenticity
- Marketing
**Example: Using a CTE/KDE matrix to define Data Requirements**

<table>
<thead>
<tr>
<th>CTE</th>
<th>Catch</th>
<th>Land/Sell</th>
<th>Process</th>
<th>Import (optional)</th>
<th>Sell</th>
<th>Dispose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Who</td>
<td>Operator</td>
<td>Buyer</td>
<td>Processor</td>
<td>Importer</td>
<td>Retailer</td>
<td>Retailer</td>
</tr>
<tr>
<td>What</td>
<td>Raw Fish</td>
<td>Raw Fish</td>
<td>Finished Goods</td>
<td>Fish</td>
<td>Saleable Fish</td>
<td>Fish Waste</td>
</tr>
<tr>
<td>Where</td>
<td>Vessel, Country, Catch Area</td>
<td>Port Code, Country, Destination</td>
<td>Plant, Country</td>
<td>Port, Source, Destination</td>
<td>Retail DC, Retail Store</td>
<td>Retail DC, Retail Store</td>
</tr>
<tr>
<td>When</td>
<td>Harvest Dates</td>
<td>Land Date, Sell Date</td>
<td>Production Date/Time, Expiration</td>
<td>Ship, Receipt Date</td>
<td>Receipt, Ship Date</td>
<td>Dispose Date</td>
</tr>
<tr>
<td>Why</td>
<td>Gear Type</td>
<td>Receipt, Shipment</td>
<td>Storage Type</td>
<td>Receipt, Shipment</td>
<td>Receiving, Shipping</td>
<td>Dispose</td>
</tr>
</tbody>
</table>
What impedes effective traceability?

Traceability Challenges

- Highly complex integrated global supply chains built for efficiency
- Overlapping & inconsistent global regulatory landscape
- Incompatible technology solutions
- Initial & on-going hardware & software investment

What is a solution? Interoperability

Interoperability as Key Traceability Mechanism

- **Interoperability** is the extent to which systems can exchange data and interpret that shared data.

- Key components of interoperability
  - Globally unique identification
  - Data capture and sharing **standards**
  - Tech agnostic solutions

- Interoperability enables End-to-End Traceability

GS1 Methodology Enables End-to-end Interoperable Traceability

Design the traceability system
- Step 1: Set the traceability scope and objectives
- Step 2: Gather the traceability information requirements
- Step 3: Analyse the business process
- Step 4: Define the identification requirements
- Step 5: Define the traceability data requirements
- Step 6: Design the traceability data repository functions
- Step 7: Design the traceability data usage functions

Build the traceability system
- Step 8: Perform gap analysis ('as is' versus 'to be')
- Step 9: Establish the components of the traceability system
- Step 10: Testing and piloting

Deploy and use the traceability system
- Step 11: Roll-out
- Step 12: Documentation and training
- Step 13: Monitoring and maintenance

Image Source: GS1 Global Traceability Standard Release 2.0, Figure C-1
FSMA Section 204 Regulation
Why a new proposed rule?

**Shorten Outbreak Response Time**

- Clarify and preserve transmission of key data elements associated with certain foods that have a documented history of outbreaks so impacted parties and the FDA have access within 24 hours
- Modernize data capture and transmission in recognition of our new digital reality
- Ultimately, reduce the incidence and impact of foodborne illness in the US
Section 204 & What It Means for You

Food Traceability Rule Overview

Rule aims to **enhance speed of recalls** by improving record keeping for foods associated with a history of outbreaks.

**Full Name**
- Requirements for Additional Traceability Records for Certain Foods

**Authority from 3 US Laws**
- Food Safety Modernization Act
- Food, Drug, and Cosmetics Act
- Public Health Services Act

**Goals**
- Improve public health
- Shorten FDA response time
- Move industry forward
Section 204 & What It Means for You

Proposed FDA Food Traceability Rule Components

Builds upon fundamental traceability concepts

- **Food Traceability List**
  - “High-risk” foods subject to enhanced recordkeeping requirements
- **Critical Tracking Events**
  - Defined CTEs with kill step exemption
- **Key Data Elements**
  - Data requirements for given defined CTEs
- **Traceability Program Records**
  - Description, list of foods, and lot code assignment
- **Additional Requirements**
  - 24-hour turnaround for traceability records and sortable electronic spreadsheet to FDA
What are the “Certain Foods”?

*Listed foods identified through a risk ranking model using outbreak data from the last 20 years.*

<table>
<thead>
<tr>
<th>Draft Rule Listed Foods</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Cheeses, other than hard cheeses</td>
<td>Sprouts</td>
</tr>
<tr>
<td>Shell eggs</td>
<td>Tomatoes</td>
</tr>
<tr>
<td>Nut butter</td>
<td>Tropical tree fruits</td>
</tr>
<tr>
<td>Cucumbers</td>
<td>Fruits and Vegetables (fresh-cut)</td>
</tr>
<tr>
<td>Herbs (fresh)</td>
<td>Finfish, including smoked finfish</td>
</tr>
<tr>
<td>Leafy greens, including fresh-cut leafy greens</td>
<td>Crustaceans</td>
</tr>
<tr>
<td>Melons</td>
<td>Mollusks, bivalves</td>
</tr>
<tr>
<td>Peppers</td>
<td>Ready-to-eat deli salads</td>
</tr>
</tbody>
</table>

Source: https://www.fda.gov/food/food-safety-modernization-act-fsma/food-traceability-list
When Will The Proposed Rule Go Into Effect?

Rule finalization and compliance will be **2024 at the earliest**

- **Federal Register Publication Date:** September 23, 2020
- **Final Rule:** Expected Publication November 2022
- **Effective Date:** 60 days after publication of the final rule
- **Compliance date:** 2 years after the effective date

**Image Source:** FDA photo by Michael J. Ermarth. Available from: https://www.flickr.com/photos/fdaphotos/5957953510/in/album-72157625347255653/
Resources: Education and Training Examples

Online Courses
- Demystifying Traceability

Webcasts
- The ABCs of Traceability with the Global Language of Business
- Best Practices in Food Traceability for the Processed Food Sector
- Calculating the Payback from Seafood Traceability
- Global Food Traceability Systems: Today and Near Future
- Food Traceability Important for Food Safety Imperative for Food Defense

IFTNEXT Podcast
- Food Safety Experts on Recalls, COVID-19, Traceability, and more
- Food Manufacturing in the time of COVID-19
- Food Traceability and Blockchain Technology: Revolutionizing Food Security

Textbook Contributions
- Food Traceability (Springer)
- Food Safety Engineering (Springer)
Demystifying Traceability Online Course

- Discover why’s and how’s of traceability
- Understand core KDE/CTE concepts of traceability
- Evaluate your current Traceability Plan
- Improve your Traceability Plan
- Learn more technical aspects of traceability, such as information technology or industry standards
Thank you!

Questions and Comments?