Traceability FAQ for Retailers

What are the "ingredients" for a good food tracing system?

The simple answer is: good data. Data should always be associated with a physical product (i.e., one that is uniquely identified) that can be linked to supporting "paperwork" or a business process (after all, this is often all that remains at the point that an outbreak is recognized). But how do you identify, capture, share and analyze the data? And for what purpose? It depends on whether you are looking to achieve internal or external traceability (and if external, either one forward/ one back, or full supply chain visibility).

- **Internal traceability** enables a company to follow a product through their system after receipt from the supplier. For retailers, true internal traceability means managing traceability from the distribution center to the store. For this, you *might* need:
    - Hardware
        - Scanners for reading data carriers such as barcodes or RFID tags.
        - Printers for creating product labels, especially if you are a manufacturer or if you are further finishing or transforming (creating or manipulating) a food item. - Examples include bakery department, meat department, etc.
            - It's important to note that data carriers, no matter how sophisticated and expensive (e.g. active RFID tags), are only as good as the data encoded in them: garbage in, garbage out.
    - Software (or paper)
        - A system, or systems to capture, process and manage the information, such as an Enterprise Resource Planning (ERP) system, Warehouse Management System (WMS), point-of-sale checkout systems, accounting etc. Today many companies use a blend of electronic and paper-based systems.
- **External traceability** allows for the connection with immediate supply chain partners. Increasingly, retailers have expressed a desire to have greater visibility into the supply chain and more ready access to information about products being sold in stores. It's appropriate to break "external traceability" into two components: 1) one forward/ one back external tracing, and 2) supply chain visibility.

    1) One forward/ one back external tracing requires the capture of information at receiving and at shipping in order to link products with supply chain partners. This capability could use some of the "ingredients" that are also used in an internal traceability system such as barcodes , scanners, software systems, etc. to connect the product received with the source.

    Once the product is at the retail store the "recipient" is the consumer, and there is no expectation that retailers know which consumers bought specific products (see http://fmi.org/docs/food-safety/fs13-traceability-backgrounder-docx.pdf?sfvrsn=2

for a discussion of consumer-level traceability). The ability to trace from the distribution center to the store is still considered "internal" tracing.

2) Supply chain visibility enables a retailer to know all of the participants in the supply chain (or have access to the information for multiple steps in the supply chain). For this to happen, each individual link in the supply chain must have internal tracing and one forward/ one back external tracing. Importantly, this information needs to be sharable among trading partners.

- Today some of this information exists on paper, which is difficult to share.
- Full (or fuller) supply chain visibility requires all links in the supply chain to have, and to share broadly, traceability information.
- If all are willing to share, there are currently numerous 3rd party systems that collect and manage the data. However, each system's requirements and features vary and most are not currently interoperable.

What do I need to do to implement GS1 Standards?

When industry members ask this question, they are generally asking about the requirements of various initiatives that use the global GS1 Standards for identifying, capturing, and sharing information along the supply chain. A few of these initiatives are the Meat and Poultry B2B Data Standards Organization (mpXML) and the Produce Traceability Initiative (PTI). Industry initiatives that recommend adoption of the GS1 standards seek to maximize the effectiveness of current trace-back procedures while developing a standardized approach to enhancing the speed and efficiency of traceability systems for the future.

When it comes to the industry-driven programs, you need, at a minimum, a way to capture the data being shared by supply chain partners, either through scanning the physical product, or by receipt of this information electronically. Additionally, a system is needed to interpret, store, and access the data.

When most individuals ask about implementing GS1 Standards, they are probably thinking of the globally unique identification number, usually a Global Trade Item Number (GTIN) for product identification. The GTIN is the most commonly implemented GS1 Standard and is encoded in the U.P.C. barcode for point-of-sale scanning. There are other GS1 Identification Numbers, which uniquely distinguish all products, logistic units, locations, assets, and relationships across the supply chain from Grower/Supplier to point of sale/service/care. These numbers provide the linkages between the product and the information pertaining to the product.

GTINs are generally used by manufacturers. Retailers who do not have manufacturing facilities and do not have private label products do not need to worry about creating GTINs or the other standardized identifiers (but should contact their local GS1 Member Organization- GS1 US in the United States- if they need information on creating and using the identifiers). Instead, the role of retailers in the industry-led initiatives is that they are responsible for capturing the information at the DCs that is provided, usually in bar code form, from their suppliers. The standards mean that the bar code is "decipherable". In other

words, different parts of the bar code have different meaning and can be used to communicate information such as:

- Who is the brand owner of this product?
- What is this item?
- What is the lot number?
- Where was this product produced or harvested?

The specific types of information contained in the bar code will depend on the type of bar code used, and the way the manufacturer constructed it. In order to implement the industry initiatives, the scanners used by retail DCs need to be able to capture the bar code information, and the systems need to be able to decode it to understand the traceability information that is being shared.

Using the GS1 system of standards, is the information stored in a central database?

No, each supply chain partner captures and stores the scanned information in their own system. The GS1 System of Standards enables one common language that each supply chain partner can understand. Data sharing, both between supply chain partners and even within a single organization, is more straightforward.

With GS1 Standards, do I have visibility to more than one step in the supply chain?

Generally speaking, no; not without permission from the data owner. This is still the one forward/ one back system of traceability where each supply chain member maintains their own information. The use of a single, standardized bar code for a product or case that has not been transformed should make it easier to stitch together the path of a product (because you can follow the bar code number), but revealing that path is still a step-by-step process.

If a product is transformed (e.g., repacked produce, or manufactured multi-ingredient product), the company doing the transformation needs to capture the inputs and create a new case label for the finished product. The final label does not indicate the inputs; however, this information should be stored in the internal traceability system of the producing company.

How can I gain greater supply chain visibility?

Attaining greater visibility in the supply chain is a controversial issue. Some suppliers may not want you to know who *their* suppliers are. There are third-party commercial systems available that link supply chain members together. However, in many instances, visibility to second or third tier suppliers is only possible when suppliers give permission. When considering using a third-party system, it is important to keep in mind that all supply chain partners must participate and share data, to enable full supply chain visibility.

Furthermore, connecting all the dots will mean that the third-party system needs both internal and external traceability data. Often the transactional data associated with external traceability such as

shipping records and purchase orders are more accessible than internal traceability data like batching logs.

What are current FDA requirements for traceability?

The bioterrorism act of 2002 requires that food be traced one forward/ one back in the supply chain and that those records be made available within 24 hours.

What does FSMA require for traceability now and what might be required in the future?

The Food Safety Modernization Act (FSMA) required the FDA to conduct pilots for food product tracing. These pilots were completed in 2012 by the Institute of Food Technologists (IFT) and a report was published in March of 2013. The FDA will be submitting a report to Congress, based on the information and recommendations in this report to seek guidance for building a product tracing regulation under FSMA. The report recommends the specific pieces of information that should be captured internally and shared with supply chain partners to enable traceability, and recommended ways that industry and government can better work together.

FSMA gives the FDA the authority to develop regulations in order to better trace high risk foods. The FDA is currently working on a proposed rule for product tracing based on the pilots. FMI participated in the pilots, and offered comments to FDA on the IFT report.

While FSMA gave the FDA increased authority, FSMA neither permits the FDA to require a pedigree system where the entire history of the product, including its inputs, is contained within a record that accompanies the product, nor does FSMA permit the FDA to prescribe or mandate a specific technology system that must be used.