



Connecting the Supply Chain

Traceability management systems can do more than track problems

The International Standards Organization defines traceability as “the ability to trace the history, application or location of that which is under consideration.” The Canadian Food Traceability Data Standard, developed by the Can-Trace initiative, further defines traceability as being made up of two components: tracking and tracing. Tracking is the capability to follow the path of a specified unit and/or lot of trade items downstream through the supply chain. Trade items are tracked routinely for availability, inventory management and logistical purposes. Meanwhile, tracing is the capability to identify the origin of a particular unit located within the supply chain by reference to records held upstream in the supply chain. Units are traced for purposes such as recall and complaints.

Traceability is information. It is the data that uniquely identifies primary materials, ingredients, additives and finished products at each step in the supply chain, from harvest to the consumer. It also identifies the parties, locations and shipments involved in the harvest, transportation, transformation, processing, packaging, storage and distribution of food products. Finally, it records the processes to be validated by auditors in order to demonstrate compliance with food safety (HACCP), food quality and identity preservation programs.

Traceability is accomplished through implementing an information management system that can effectively and efficiently collect, store and share the traceability data. The traceability system can be manual or it can incorporate the latest real-time data collection, storage and integration technologies such as RF wireless networks, RFID tags and e-commerce and data integration software.

Regardless of its form, there are several challenges all successful traceability systems must overcome. One is the fact that the traceability data must be collected from multiple sources, including animal ear tags, harvest/slaughter records, certificates of authenticity, labels or markings on boxes and pallets, receiving and shipping activities, processing activities, food safety and food quality inspections, packing equipment, and so on. Another issue is that the data may not be stored in a single location. Data storage can be electronic, manual or both. In the event of a recall, the data may have to be integrated from a combination of manually kept logs, HACCP records, processing records, shipping documents, weight

sheets, pick lists, spread sheets and/or some combination of MES, ERP, WMS, SCE and LIMS databases.

To be effective, traceability data must be shared with suppliers and customers, creating two additional challenges. The first is the lack of standardization between trading partners in how products, parties and locations are identified. The second is the lack of standardization in how the data is shared. The solution to these two challenges has existed for many years in the downstream portion of the supply chain, where product is packed and shipped in boxes and pallets. Industry initiatives such as ECR (Efficient Consumer Response) and EFR (Efficient Foodservice Response) provide a solution through the use of bar codes on boxes and pallets and the transmission of electronic messages, all of which use the GS1 data standard.

Traceability systems in the upstream portion of the supply chain (such as On Farm Food Safety, Identity Preservation and Livestock programs) may or may not adopt data standardization strategies that are similar or identical to the downstream initiatives. This fact presents an additional challenge to primary processors who must share data at the point in the supply chain where food enters the box.

Despite these issues, the benefits of establishing an effective and efficient traceability management system do outweigh the challenges. Animal health issues, avian flu and the threat of bio-terrorism have heightened public concern about the health risks associated with food. Customers are demanding assurances and validation, and they want proof that if they pay a higher premium for their food, they are receiving added value. Traceability helps food processors comply with government food safety regulations and customer assurance requirements, while building brand value. Just consider how financially devastating a major food safety incident and recall can be. Processors must be able to accurately and quickly locate, recall and destroy all affected products. A properly designed traceability system can produce a more accurate, precise and therefore much less costly recall, while at the same time minimizing the risks associated with the damage to the brand and consumer confidence.

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