



Traceability in Food and Beverage Markets

The food and beverage markets have some requirements that are unique among manufacturing processes. Because food and beverage are consumed by humans, the products, processes, and ingredients have to meet specific regulatory requirements to ensure quality and safety. Many food and beverage manufacturers use tracking and traceability processes to monitor all portions of the manufacturing process, from raw materials entering the factory all the way through delivery and sales of the final product.

Maintaining Regulatory Compliance

Food and beverage manufacturers have to meet requirements of the Food and Drug Administration (FDA) and/or the United States Department of Agriculture (USDA). These regulations are designed to ensure that facilities are clean, the ingredients that are used in products are safe, and that products maintain their safety all the way to the consumer. One data point that is used in every food and beverage processing process is time. Many ingredients are perishable and have a limited life, even under ideal storage and handling conditions.

When raw materials enter the manufacturing plant, the date and time for that batch of materials is noted in the MES system. Other information such as temperature may also be recorded to ensure that materials are kept at the proper state throughout the process. As raw ingredients are mixed together, batches are labeled and the database will be updated to include the contents of that batch. At the end of the manufacturing process, the database will contain the information on all of the raw materials that went into every package.

Traceability Outside the Factory

Traceability does not end when the product leaves the production facility. Many foods and beverages have a limited shelf life, and quality of the product can be ensured if they are stored properly. As products are stored and transported, their location and condition is noted, and can be traced through the distributor to the final customer. The UPC code on every package at the grocery store also contributes to traceability by monitoring inventory, product turnover, and monitoring expiration dates.

Benefits of Traceability to Food and Beverage Producers

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Traceability provides a variety of benefits to manufacturers in terms of identifying production bottlenecks and managing inventory. In addition, food and beverage



manufacturers benefit from traceability systems because they provide significant help in maintaining product quality throughout the manufacturing process. If a consumer returns a product, the manufacturer can review the database information for that specific product package, and identify all of the raw materials and processes that went into that product. Traceability can also help manufacturers to manage product recalls. For example, if a batch of milk powder used as an ingredient in a product was found to be spoiled, the manufacturer can identify every single package of the final product that includes milk powder from the spoiled batch. Rather than instituting a full recall, the manufacturer can identify the specific packages by their individual codes that need to be recalled.

Traceability provides food and beverage manufacturers with a variety of benefits, including benefits that are unique to this industry. Traceability allows producers to ensure product quality and safety from the manufacturing plant all the way to the grocery store.