

Food Safety News

Breaking news for everyone's consumption

Keep the links in supply chain connected to boost food safety

By Stephen Dombroski | December 19, 2017

Opinion

The food manufacturing industry has always been concerned with the quality and safety of the food they produce. At the very lowest level, it is an unwritten ethical requirement. But the topic of food safety and quality has never been in the news like it is now.

There are many reasons for this increased awareness of food safety. Among them are government regulations, consumer demands, social media, education and the complex food supply chain.

Government regulations and consumer demands are listed as numbers one and two respectively. Frankly, these can be flipped. Governments have always dictated food policy, but over the last five to 10 years the consumer has not only been driving the government's efforts but the manufacturers. Let's face it. The entity that controls the purse strings usually has the last word.

Consumers are increasingly taking an interest in quality, health benefits and a more serious interest in the foods and beverages they consume. With today's expanded media coverage, social media and multiple avenues of information, the consumer now has an input on food safety. Last but not least is the supply chain. Today's supply chain is more complex and the value chain has expanded. The consumer food buying process has changed. There are more stopping and touch points in food transport and movement. This is where many of the compromises occur.

Touch points and stopping points

Food manufacturing and distribution used to be quite simple. There were many less products, many less ingredients and many less places for a consumer to acquire these products. Today's value chain includes traditional grocery stores, club stores, convenient stores, internet buying and home delivery of both domestic and international product. These elements have added more touch points to the process.

To keep food safe through this complicated process, all activities and who performs them through the supply chain need to be understood and the processes need to be perfected.



We need to understand all the components of the food supply chain from field to fork. To effectively manage the process to ensure food safety we need to analyze each component of the chain. Major elements of the food manufacturing supply chain to consider are:

1. Raw Material/Ingredient Procurement Process.
2. Food Manufacturing Process.
3. Finished Goods Distribution Process.
4. Finished Product Sales Point.

These are the major areas of the supply chain that can impact food safety. If you notice, they are the same areas that are addressed in overall supply chain management (SCM), or Supply Chain Planning (SCP), or Integrated Business Planning (IBP) or Sales and Operations Planning (S&OP). You get the picture. So why not utilize these processes at the same time to execute FSSCP (Food Safety Supply Chain Management)?

In managing the supply chain, these areas are managed by distinct functions then integrated through a collaborative management and communication process using one of the names above. Adding a few tasks to the process can ensure food safety is addressed while managing the supply chain.

The Procurement Process

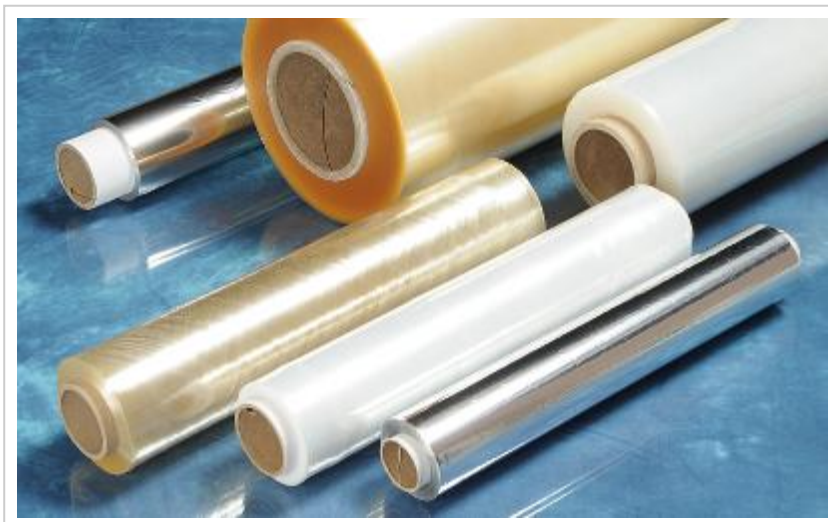
There are a variety of materials that are needed to produce finished food products. They include ingredients, raw materials and packaging supplies. The goal is to get the right quantities at the right time at the best costs to get customer the products they want when they want them while garnering the best margin for the manufacturer.

Any material, ingredient or item used in the production process can introduce contaminants.

Technology is available today and continuing to develop to trace all ingredients and materials back to the original source. Companies inspect produce, proteins, and flavorings, chemicals and spices as they enter the facility.

What about packaging materials? To what level are they tested? To what level of packaging manufacturing is traceable? Can the ink be verified as food safe? It is paramount that every component of every package of finished food can be traced to original batch and original grower and supplier.

Many times contamination of ingredients and supplies occur during transport from the source to the manufacturer. Exposed bins, trucks, crates and other vessels can make items prone to contamination. The cleaning process at the manufacturing facility might not be able to solve the problem if contamination has occurred. All information about the transport the vessel, route and who handled the products need to be tracked, traced and documented.



The Food Manufacturing Process

Effective management of plant operations is critical to a food manufacturer's profitability and ensuring food safety. Contaminations can occur through a number of issues in the production process, including operator procedures, equipment issues, environment and temperature control

Tracking material movements through the manufacturing process is essential. Many products have temperature requirements that cannot be violated. Monitoring the movement through the process is a daunting task.

There are a wide number of opportunities for a safety breach. Worker contamination, bacteria and allergens on equipment, improper environmental and facility conditions can lead to contaminations. In addition, frequent schedule changes, production delays, machine breakdowns, unnecessary material movement can all lead to more stopping points where food safety can be compromised.

The Finished Goods Distribution Process

Food distribution has never been more complicated. Gone are the days of a simplified network that consists of plant to dc to store. Manufacturers warehouses, 3PL's, company owned trucking, 3PL trucking, distributors, Customer DC's, customer satellite warehouses and other selling locations all spell trouble for food safety.

Sell by, use by, best by, best before dates and other terms to indicate food freshness complicate the process. Today, individual retailers have their own shelf life dates and rules. These factors contribute to potential breaches to food safety in the supply chain. If there is an issue it typically falls back to the manufacturer to provide all the critical information about the products lifeline.

Finished Product Sales Point

One might assume that once a finished food product arrives at the point of sale the manufacturer's responsibility ends and the safety guarantee now rests with the seller. This is a touchy subject and many factors play a role in the question of who is now responsible for food integrity. The manufacturer still holds accountability as the producer but the retailer and any third-party group involved in product movement share responsibility.

Keeping the links intact

The objective of the food manufacturing supply chain is to deliver safe products to the right place at the right time in the right quantities to maximize customer service and maintain margin growth. The major areas of the supply chain that impact food safety and supply chain effectiveness go hand in hand. If products are not delivered on time profits fall. If products jeopardize consumer safety, nothing else will matter as the business will be at greater risk.

To succeed, Food Safety Supply Chain Management must occur. This combines the management of supply chain and the awareness of food safety into the same process. The complicated functions of the major roles of purchasing, manufacturing and distribution are collaborative process that focuses on profitable on time delivery as well as food safety at every step. This ensures that the transition from one step to another is seamless and the links do not break causing food safety and supply chain risk.

Supply chain transparency is a necessity as consumers and regulators increase the pressure for safe products and for up to the minute information on a products life cycle from field to fork. Supply chain visibility and traceability allows companies to know where each ingredient and component originated and where each finished product is heading. Start to finish visibility is critical to profitable and safe supply chains and vital to if food safety is jeopardized and recalls are required.

The supply chain today has many players from supplier, farmer, manufacturer, transporter, distributor and seller. These players and their functions must be strategically managed both separately and collectively to minimize risks and provide a continuous unbroken supply chain.

In today's technology rich marketplace, tools exist to improve this process and more are coming. The visibility and the data provided by IoT solutions allow organizations to significantly reduce supply chain risk by having the correct procedures in place to minimize breaches in food integrity. Lack of end to end supply chain visibility can

lead to food safety failures that can result in damaging companies brand reputation, bottom line and ethical responsibility to the public.

Food safety challenges will continue to pressure food manufacturers as supply chain complexity grows and consumer preferences evolve. Manufacturers need to understand that with new and innovative processes and solutions such as Blockchain, the Internet of Things, Machine Learning and others synchronizing the supply chain while maintaining food safety is an achievable goal.

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