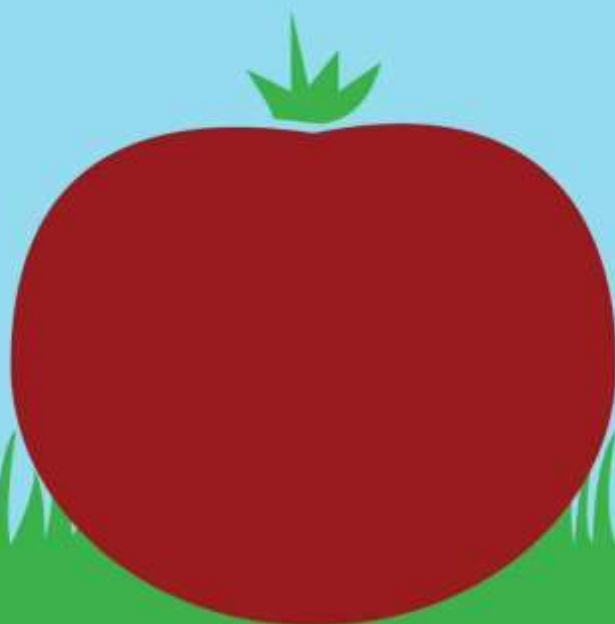


ORGANIC FOODS, GMOS AND THE SUPPLY CHAIN

Consumers' Need for Greater Transparency and Traceability

PART 1



A Guide By



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Organic Foods, GMOs and the Supply Chain

Consumers' Need for Greater Transparency and Traceability

Today more than ever before, consumers want to know the origin of their food and are monitoring health and food safety issues more closely. With consumers' increasing appetite for organic foods and growing concern about Genetically Modified Organisms (GMOs), there is a greater need for traceability of food products and ingredients in warehouses and throughout the supply chain.

Today more than 60 countries require that manufacturers label foods that contain genetically modified ingredients yet this is still not required in the United States. According to a survey done by Consumer Reports, over 92% of Americans want genetically modified foods to be labeled. Whole Foods Market reported a 16% increase in Non-GMO product sales, a 426% increase since 2010 as well as a 10% increase in grocery organic product sales which have doubled in the past five years. In a 2015 report, Whole Foods Market remarked that sales growth is currently being constrained by the supply of organic products specifically in dairy and grains.

What are GMOs and how are they affecting the supply chain?

A GMO or genetically modified organism is a plant or animal that has undergone a process in which their genes have been altered with the DNA of different species of living organisms, bacteria or viruses. This is done in order to produce desirable traits such as disease or insect resistance, increased nutrition or increased tolerance of pesticides.

Currently food manufacturers in the United States are not required to label whether their products contain GMOs. GMOs are prohibited in organic products. Companies like Panera Bread, Whole Foods Market and Chipotle Mexican Grill are taking a stand on GMOs and this may have a ripple effect on the supply chain.

As part of the growing consumer demand for transparency, simplicity and authenticity of food products, Panera Bread became another voice in the chorus of companies that are pledging to listen to these consumer demands. Panera has been at the forefront of the movement for information transparency and pledged years ago to serve antibiotic free chicken and salad [dressings free of artificial coloring, flavors, sweeteners and preservatives](#). Likewise Chipotle Mexican Grill made news by announcing that it [plans to eliminate GMOs from the food it sells](#).

These announcements are welcomed by consumers but are likely to put a strain on the restaurant industry's food supply. Consumer demand for non-GMO products has increased dramatically. The problem is, can the supply meet the growing demand? According to the USDA, in 2009 93% of soy, 93% of cotton, approximately 90% of canola and 86% of corn grown in the United States were GMO. Because genetically modified seeds increase crop yields for soy and corn, key components of many foods as well as for animal feed contain GMOs. Because of this, it is likely that it will take years before the supply chain can meet the needs of Chipotle, Panera and other restaurants that follow suit.



What is organic food and how is it affecting the supply chain?

Organic foods are required to be certified by the USDA and are label certified by an independent third party organization. [The organic label](#) is used to provide consumers with the assurance that genetically modified seeds, antibiotics, hormones and synthetic pesticides are not used in crop production or in the food for livestock.

According to the Organic Trade Association, U.S. retail sales of organic food more than tripled to \$32.3 billion over the decade through 2013. Because of its increased popularity, big box retailers and grocery chains are now carrying increased inventory of organic food products. Kroger has its own label of organic products and Costco offers organic products under its Kirkland label.

While demand has increased, supply cannot currently keep pace. Part of this is due to the significant cost and risks faced by U.S. farmers when converting from conventional to organic farming methods. Conventional cropland and dairies can

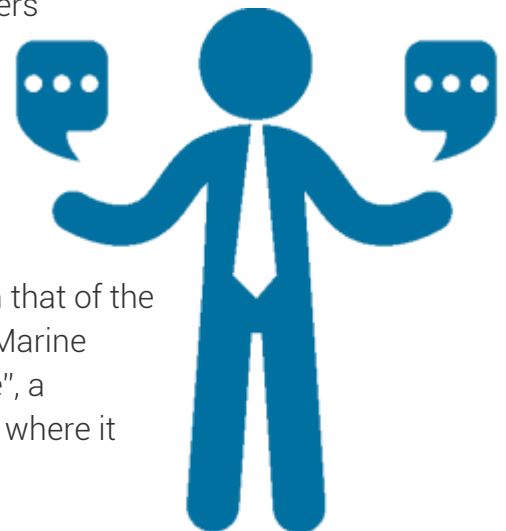
go through a process to become certified as meeting the organic standard. To accomplish this, a one to three year transition period is required. During the transition, most pesticides, genetically modified seeds or feed and synthetic hormones and fertilizers cannot be used and livestock must be free of hormone and antibiotic treatments.

Certified organic farm acreage has increased threefold according to federal data. Some key crops such as organic soybeans, however have to be imported due to low production rates in the U.S. Today, some organic food purveyors are taking the somewhat dramatic step of tackling the supply constraints that are shackling the growth of one of the hottest U.S. food industry categories. Trend setting Chipotle Mexican Grill Inc. even began financing farmers and has contracted with headhunters to recruit organic farmers and to provide some technical training.

Information visibility and food product traceability is critical to consumers

Increasingly, consumers want more information visibility about the origin of their food products. [A May 2013 article in Food Safety News](#) spotlighted how enabling food traceability information at the fingertips of consumers could help improve food safety, consumer confidence and sales. To help improve food safety, traceability of ingredients, finished goods and fresh food products is needed throughout the supply chain.

One real life example was used to build consumer confidence and help differentiate imported seafood from that of the Gulf. During the Gulf of Mexico oil spill, the Gulf States Marine Fisheries Commission launched the "Gulf Seafood Trace", a voluntary program that enables fish to be traced back to where it was caught.



Here are some other ways that traceability has been important for meeting consumer and supply chain needs:

1. Traceability helps to increase inventory accuracy which in turn can better enable companies to meet consumer demand more efficiently
2. Traceability can be helpful in eliminating illegal activities within the supply chain and can help to provide consumers with the confidence that their food is safe, legal and fairly traded.
3. Traceability can help to mitigate counterfeiting and fraud related to food products. Counterfeit food products tend to have a higher number of food safety incidents and can also cause financial loss for legitimate businesses.
4. Traceability has proven helpful in improving the human rights of farm workers, laborers, fishermen and their crews and has helped to prevent the trade of illicit drugs and money laundering that had been done on fishing vessels.
5. Traceability can help promote international trade as well as the consumption of domestically and locally produced products.

Conclusion

Today consumers have a heightened awareness and need for more information visibility and traceability of the foods that they eat. Because increasing consumer demand for organic and non-GMO food products currently outpaces the supply, innovative solutions are now being tried.

GMOs are widely used in the food supply and account for much of the basic food products currently consumed including corn, soy and canola. Grains including GMOs are increasingly fed to livestock as well as used in production of processed foods. The widespread production of GMO foods and increased product yield make it challenging to find non-GMO food products to meet the current pace of consumer demand.

As consumers have increasing concerns about food safety issues and the quality of the food they eat greater information visibility and food product traceability is needed. Food traceability can help mitigate counterfeiting and fraud, help to improve the human rights of workers, aid in promotion of international trade and help companies meet consumer demand more efficiently.

About Datex

Datex provides flexible, reliable supply chain technology solutions to help make businesses more profitable, including supply chain software, mobility solutions, professional services and mobile device management. In business for over 35 years, Datex has a wealth of experience in helping companies across the world meet these critical business challenges.

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