ISSN: 13434292
Volume 136, Issue 01, July, 2018

Topics from "food safety information (chemical) in 2017

Toda, M.[1], Uneyama, C.[1]

Department of Radiology, School of Medical Sciences, Universiti Sains Malaysia, 16150 Kubang Kerian, Kelantan, Malaysia[1]

ABSTRACT— Food safety always talks about the safe food that should be free from unintentionally added components like contaminants (physical, chemical, and biological contaminants) or intentionally added components like adulterants. Both adulterants and contaminants can make the food unsafe for human consumption and can cause health hazards (Aggarwal, n.d.). Food- borne threats like microbial and chemical contaminants can continuously associate with public health risks and can lead to a decrease in food trade with significant financial losses and social costs.1 Controlling of entry of contaminants into the food chain is a difficult task. It may enter at any point from the harvesting stage to the consumption stage. Several issues are responsible for contaminant/hazard entry into a food production process flow, which include poor sanitary practices, poor handling practices, poor manufacturing practices, poor transportation and storage practices, and usage of contaminated primary commodities like raw materials, the absence of proper control and preventive measures at each and every stage of the food chain, etc.2 Supplying/exporting of poor quality and contaminated food to foreign countries may lead to the cancellation of consignments and it creates a big barrier to trade, reflecting decreases in foreign exchange. In order to facilitate the global trade of Indian products and making their availability in major leading retailer chains, food safety industry standards play a key role in producing the product safely in a consistent manner. In 2006, Food Safety and Standard Authority of India (FSSAI)—a regulatory body under the Ministry of Human Health and Welfare—came into force to implement the science-based standards to provide safe food throughout the food supply chain for customer consumption. Initially India is supported by different sector-based acts. After implementation of FSSAI everything got canceled and was laid on a single platform.3 It is observed that most of the food business operators are not aware of the different standards of demand by the exporting countries and even about our Indian standards. In a survey conducted by FICCI recently it came to be known that nearly 30% of food business operators and industry holders are unaware of compulsory implementation of FSSAI standards to run a business (The Financial Express, 2010). This information is an attempt to create awareness among food business operators, primary producers, manufacturers, and retailers related to the different food safety certification schemes and standards to bring out safe and quality products from a food industry.

KEYWORDS: Diffusion tensor imaging, Diffusion tractography, Brain, Leukoaraiosis

1. INTRODUCTION

These days' food safety has already become a global concern. Chemical residues and biological contaminants are constantly pushed to cause food safety risks and are also continuously disrupting economic growth and international trade. Food safety regulators all over the globe have shown an increased concern toward antibiotic residues, pesticides, and biological contaminants because of rampant of incidents happened during food exporting. For instance, a recent issue happened to be the ban on import of Indian Alphonso mango in the European Union (EU) temporarily because of pest infestation which resulted in the development of trade barriers for exporters (EU bans Indian Alphonso mangoes, 4 vegetables from May 1, 2014). Another case of ban happened is with the exporting of Indian honey to the EU because of high doses

of antibiotic application for the purpose of beekeeping which resulted in high levels of antibiotic residues in honey compared to the set standards. Upon shipment to EU and followed by inspection with those food safety investigators it has been found that the presence of cross-contaminated antibiotics in honey is at higher levels compared to those EU norms. In addition, they also found lead contamination in that respective shipment. Hence, it leads to the cancellation of consignment and now EU is showing no more interest in accepting Indian honeys (Schneider, 2011). Similarly, after the ban of Indian Alphonso mango temporarily by the EU another product under examination for banning by the importers is Indian green chilies by Saudi Arabia. They recently expressed their concern about the quality products they are importing from India to Agricultural and Processed Food Products Export Development Authority (APEDA) stating that as Indian green chilies are contaminated with unacceptable levels of pesticide residues, which is not complying with their norms (OUR BUREAU, 2014).

1.1 Prerequisite Programs

These are the basic requirements for a food-related sector. Their scope and concept is wide and they cover and integrate a set of activities such as good manufacturing practices (GMP), good hygienic practices (GHP), standard operating procedures (SOP), (sanitation standard operating procedures (SSOPs), and good handling practices (GHP) to ensure the safety of food. All these sets of practices and activities are a part of the quality assurance system. Before implementing a HACCP system in a food industry, they have to strengthen their PRPs effectively at a place.6 Following these practices and activities will ensure them in producing the product consistently in a controlled manner.

Table 1.1: Seven principles of HACCP

S. no.	Principle	Description
1.	Conduct hazard analysis	• Identify and collect all major hazards (biological, chemical, and physical) in a food chain which are significant for food safety
2.	Determine critical control point (CCP)	• In order to control the hazard CCP identification is needed. It is a step to control/eliminate/bringing down the identified hazard to anacceptable range. • Not each and every step associated with hazard is considered as CCP. For to decide whether it is a CCP or not, it has to undergo the logical decision process (contain sets of logical questions we have toanswer it in a sequential mode).
3.	Establish critical limit for critical control point	• A critical limit must be a maximum/minimum measurable value at which a hazard must be controlled at a CCP to prevent/eliminate/ bringing down to an acceptable level the occurrence of a food-safetyhazard. Established control point shall be scientifically sound and validated.
4.	Establishing ways to monitor CCP	• Once limits are established for CCP, there must be continuous monitoring of a person is needed to know whether those limits working properly or not in a food chain process.
5.	Establishing corrective actions	• React upon CCP limit deviation and take necessary action before causing food safety risk.
6.	Establish verification procedures	• Cross verifies the CCP limits in its functionality by applying procedures, steps, tests, and other experiments to determine a HACCP plan working efficiently.
7.	Establish record and documentation	• Maintain proper record keeping and documentation wherever it is required to make the system more effective. For instance conductedtests, experimental results, and validation report keeping, CCP log sheets, checklists, designed HACCP plans, etc.

2. Conclusions

Implementing standards, strict adherence to government food safety regulations and adapting quality assurance divisions in food industries allows us to run the food business successfully by managing the food

safety risks and thereby increases the food manufacturer's ability and confidence to produce a quality product consistently with increased quality and safety. Meeting the exporting country regulatory requirements, our Indian products can enhance the competitiveness in the worldwide market. Attaining standards through certifications will allow the organizations to meet food safety and quality requirements, thereby increase the customer trust and brand values. Seeking the help of inspection bodies will help us in identifying and controlling hazards through their highly experienced audits.

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