

General Article _____ Chapter- 12

FOOD SAFETY REGULATIONS FOR PROCESSING OF HORTICULTURAL CROPS

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ABSTRACT

The Food Safety Standards Authority of India is the principal Government Authority responsible for preparing specific regulation under the Food Safety and Standard Act, 2006. FSSAI has been created for laying down science-based standards for articles of food and to regulate their manufacturing, storage, distribution, sale and import to ensure availability of safe and wholesome food for human consumption. Food products and production processes have a number of specific critical control points that influence food safety standards and quality assurance in production processes. Further food safety is a global concern. Most of the developed and developing countries has established Food Safety Regulatory Authorities to address the issues. Other major food laws in India are Prevention of food adulteration act, 1954, Fruit product order (FPO), 1955, Meat food products order, 1973, Milk and milk product order (MMPO), 1992, Essential commodity act (ECA), 1955, The Vegetable oil products order, 1947, The Edible oil packaging order, 1998, However, to maintain quality standards of Horticultural products, AGMARK, Bureau of Indian standards (BIS), The Hazard Analysis and Critical Control Points (HACCP) and Codex Alimentarius Commission (CAC) plays a major role in India. Thus, Indian Standards on food and food products are need to be revised and upgraded taking into consideration technological developments in food processing and food analysis in the country.

Keywords: Food Safety Standards, Hazard Analysis, Critical Control Points, FPO, HACCP

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Introduction

The Food Safety Standards Authority of India has been established under Food Safety and Standard Act, 2006. This act consolidates various acts and orders that have hitherto handled food related issues in various Ministries and Department. FSSAI has been created for laying down science-based standards for articles of food and to regulate their manufacturing, storage, distribution, sale and import to ensure availability of safe and wholesome food for human consumption. Food products and production processes have a number of specific critical control points that influence food safety standards and quality assurance in production processes. These points include quality variation along the value chain due to biological and production variation, perishability, handling, storage and safety standards (Trienekens and Zuurbier 2008). These factors have led to stringent food safety assurance systems not only in developing countries but also in the developed once to enhanced, both real perceived, food safety harms (Henson and Caswell 1999). This is happening through alterations in both international and national quality control system.

Why Food Safety Act?

Some of the reasons for concern about food safety

1. Multiplicity of food laws
2. It lacked in scientific base
3. Lack of awareness among consumers
4. Change in habit
5. Food handling practices
6. Changing products, processes etc.
7. Globalization of trade in food
8. Safety of food is requirement of public health
9. Affect the health of millions of people worldwide through food borne illnesses.
10. WHO reported that in year 2005, 1.8 million people died from diarrheal diseases caused by contaminated food and drinking water.

Scope of the Act

1. This act covers activities throughout the food distribution chain, from primary production through distribution to retail and catering.
2. The Act gives the Government powers to make regulations on matters of food safety and quality management.
3. The food safety and standards Authority of India is the principal Government Authority responsible for preparing specific regulation under the Act.

Salient Features of the Act

1. To ensure that food meets consumers' expectations in terms of safety, hygiene and quality.

2. To provide legal powers and specify offences in relation to public health and consumer interest.
3. Proprietary food, novel food, GM food, diet supplements, nutraceuticals etc brought into the system of the new act.
4. To establish a single platform for all matters relating to food safety and standards.
5. To create an enabling environment for value addition to primary agricultural produce.
6. Ensuring a high degree of objectivity and transparency.
7. To bring innovation and creativity and rapid development of food processing industries in an integrated manner.
8. To achieve high degree of consumer in quality and safety of food.

Food Safety is a Global Concern

1. Food terrorism tops 2009 safety scare list (By Sarah Hills, 05-Jan-2009).
2. "Economic or Chemical terrorism", which may not directly intend to scare people but the intentional adulteration of the food supply (Food terrorism) may be Food safety scares have major cost implications for the industry, as well as risking consumer health.
3. Food industry urges congress to reform food safety rules (By Caroline Scott- Thomas, 26-Jan-2009).
4. A group of ten major food industry organizations has signed letters to congress because it to modernize US food safety regulation amid concern that otherwise America could lose its reputation for safe, good quality food supplies.
5. US President has constituted a Working Group on Food Safety.
6. Most of the Developed and Developing countries has established Food Safety Regulation Authorities to address the issue.

Food Quality Problems

Earliest recorded problem

1. Poisoning through lead water pipes in Rome.
2. Irish potato famine of 1845 -46.
3. Fungal Disease in potato causes million deaths.
 - a. Louis Pasteur, 1861
4. Develops pasteurization technique to overcome food spoilage
5. Later, unhindered development of food science
 - a. Until.... Rachel Carson's book, "Silent Spring"
6. Brought out bad effects of pesticides-DDT banned
7. Microbial, and toxic contamination
8. Effect of irradiation, fatty and low- fibre foods.

Prevention of Food Contamination

1. Avoid cross contamination

2. Avoid time- temperature abuse
3. Use of the correct types of thermometers in food preparation
4. Use of proper personal hygiene
5. Purchasing from approved reputable supplier

Food Laws in India

The Food Safety and Standard Act 2006 to consolidate the laws relating to food and to establish the Food Safety and Standard Authority of India for laying down science-based standards for articles of food and regulate their for human consumption and for matters connected there with.

Prevention of Food Adulteration Act, 1954

Methods of Adulteration

1. Deterioration
2. Admixture
3. Sophistication
4. Substitution
5. Inferiority
6. Spoilage.
7. Superficially similar inferior drugs
8. Artificially manufactured substance
9. Using of synthetic drugs
10. Harmful adulterants

Reasons for Adulteration

1. Confusion in vernacular names.
2. Lack of knowledge about authentic sources,
3. Similarity in Morphology
4. Lack of authentic plants.
5. Unscientific collection.
6. High price of the drug in the market.
7. With the intention of enhancing profits

Quality Standard Act

1. Agmark

The Directorate of Marketing and Inspection enforces the Agricultural Produce (Grading and Marketing) Act, 1937. Under this Act Grade standard are prescribed for agricultural and allied.

- a) AGMARK is a Quality Certification mark it ensures quality and purity of product.

- b) It acts as a Third-Party Guarantee to Quality Certified.
- c) Quality standards for agricultural commodities are framed based on their intrinsic quality.
- d) Food safety factors are being incorporated in the standards to complete in World Trade.

2. Bureau of Indian Standards (BIS)

The Bureau of Indian Standards (BIS), the National Standards Body of India, resolves to be the leader in all matters concerning Standardization, Certification and Quality.

Activities

- a) Certification to Product
- b) Hallmarking of Gold Jewellery
- c) Quality Management System
- d) Environmental Management Systems
- e) Occupational Health and Safety Management system
- f) Food Safety Management System
- g) Hazard Analysis and Critical Control points
- h) Imported products
- i) Laboratory Management
- j) International Activities

3. HACCP

- a) The Hazard Analysis and Critical Control Points (HACCP) system is a logical, scientific approach to controlling hazards in meat production.
- b) HACCP is a preventive system assuring the safe production of food products.
- c) The application of HACCP is based on technical and scientific, Principal that assure food safety.

4. Codex Alimentarius commission (CAC)

- a) Codex Alimentarius is a group of international food standards, adopted by the Codex Alimentarius Commission and uniformity presented.
- b) Developed Codex in 1992.
- c) Joint venture between FAO and WHO to formulate internationally accepted food safety standards for protection of human health and to ensure fair trade practices.

5. Codex Commission

- a) Coordination of all food standards.
- b) Initiation and supervision of draft standards.

- c) Finalization of food standards.
- d) Publication of standards worldwide.
- e) Amend standards in face of new technology.

Importance of Food Safety in Food Industry

1. Food safety is of absolute significance to the food industry.
2. Food safety guideline or laws make it mandatory for the producers and processors to follow them.
3. Food safety ensures that consumers are protected from physical, chemical and biological hazards during the entire lifecycle of food which includes procurement, processing, packaging, delivery and storage.
4. It clearly demarcates that what is safe food to consume and what is not.
5. Such standards not only check and monitor potential hazards but establish critical control points that ensure such risks are eliminated and the food is safe for consumption.

Let's know about FPO Certification

1. FPO marks is a certification mark mandatory on all processed fruit products sold in India such as packaged fruit beverages, fruit-jams, crushes and squashes, pickles, dehydrated food products, and fruit extracts, following the Food Safety and Standards Act of 2006.
2. FPO certification India is effective since 1955, but became mandatory only in 2006 after Food Safety and Standard Act, promulgated under section 3 of the Essential Commodities Act-1955, with an objective to regulate the fruit processing sector.
3. The ministry has launched many publicity campaigns to educate public as well as fruit processors to understand its necessity and mandate.
4. All food processors carry out their operations abiding by the guidelines in order to be able to continue the business.

FPO Certification is Mandatory for All Food Processing Industries It includes

1. Synthetic beverages, Syrups and sharbat
2. Vinegar whether brewed or Synthetic
3. Pickles, Dehydrated fruits and vegetables
4. Squashes, crushes, cordials, barley water
5. Jam, jellies and marmalades, chutneys
6. Tomato products, ketchup and sauces
7. Preserved candies and crystallised fruits and peels
8. Canned and bottled fruits, juices, pulps
9. Frozen Fruit
10. Fruit cereal Flakes
11. Sweetened aerated water with or without fruit juices and pulp

Document for FPO Certification

1. Name of the product
2. Name of the applicant
3. Name of the firm or company
4. Address of the firm or company
5. Sample of the products.

Conclusion

India ranks second in fruit and vegetable crops production in the world and only contributes 1% of in processing and it is due to fact that less awareness different food laws, standards and sanctioning authourities. There is great demands of processing industries product worldwide by adapting diggerent laws and standard procedures ne can start new industries and harvest maximum benefits.

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