QUALITY & FOOD SAFETY MANAGEMENT

Food Quality Control

1. Food quality is the quality characteristics of food that is acceptable to consumers.
2. This includes external factors as appearance (size, shape, color, gloss & consistency), texture & flavor; factors such as federal grade standards & internal (chemical, physical, microbial).
3. Food quality is an important food manufacturing requirements, because food consumers are susceptible to any form of contamination that may occur during the manufacturing process.
4. Many consumers also rely on manufacturing & processing standard particularly to know what ingredients are present.
5. There are also sanitation requirements, it is important to ensure that the food processing requirement is as clean as possible.
6. Food quality also deals with product traceability. Ex- Ingredients & packaging suppliers should a recall of the product be required.
7. It also deals with labeling issues to ensure there is correct ingredient & nutritional information.

Food Safety

Food safety is a scientific discipline describing handling, preparation & storage of food in ways that prevent foodborne illness.

It can be achieved by,

1. Good Manufacturing Practice
2. Good Hygiene Practice
3. Good Storage Practice
4. Good Transport Practice
5. Good Cooking Practice
6. Preventing Cross Contamination

7. Food safety policies & actions need to cover the entire food chain, from production to consumption

Food Safety Tools

Followings are the food quality tools which are implemented worldwide,

1. GMP
2. HACCP
3. Quality Management: ISO Series
4. TQM
5. Food and Agriculture Organization of the United Nations (FAO)
6. World Health Organizaion (WHO)
7. Codex Alimentarius Commission

GMP (Good Manufacturing Practice)

GMP requires a quality approach to manufacturing, enabling companies to minimize or eliminate instances of contamination, mix-ups, and errors.

It addresses issues including:

a) Record keeping
b) Personnel qualifications
c) Sanitation
d) Cleanliness
e) Equipment verification

GMP- Good Manufacturing Practices process validation, and complaint handling. Most GMP requirements are very general and open-ended, allowing each manufacturer to decide individually how to best implement the necessary controls. This provides much flexibility, but also requires that the manufacturer interpret the requirements in a manner which makes sense for each individual business.

HACCP (Hazard Analysis Critical Control Points)

HACCP is a preventative, proactive and systematic approach of food safety, which relies on the identification and control of the all the known associated health hazards in the food chain. The system based on seven principles was developed to control the biological, chemical, and physical hazards from the raw material production, through manufacturing, distribution and consumption of the finished product.

Seven Principles of HACCP System

1. Conduct a Hazard analysis (selected product or process).
2. Determine critical control points (CCP's)
3. Establish Critical Limits
4. Establish a system to monitor & control CCP's.
5. Establish corrective action to be taken when monitoring indicated that a particular CCP is not under control.
6. Establish procedures for verification to confirm that HACCP system is working effectively.
7. Establish Documentation concerning all procedures and records appropriate to these principles and their applications.

Quality Management: ISO Series

ISO standards were especially developed to manage food safety. ISO 22000:2005 specifies requirements to enable an organization:

- To plan, implement, operate, maintain and update a food safety management system aimed at providing products that, according to their intended use, are safe for the consumer.
- To demonstrate compliance with food safety requirements.
- To evaluate and assess customer requirements and demonstrate conformity with those mutually agreed customer requirements that relate to food safety, in order to enhance customer satisfaction.

- To effectively communicate food safety issues to their suppliers, customers and relevant interested parties in the food chain.
- To ensure that the organization is consistent with the declaration of food safety policy.
- To seek certification or registration of its food safety management system by an external organization, or make a self-assessment or self-declaration of conformity to ISO 22000:2005.

The Food and Agriculture Organization (FAO)

- FAO is a specialized agency of the United Nations that leads international efforts to defeat hunger. The basic goal of FAO is to achieve food security for all and make sure that people have regular access to enough high-quality food to lead active, healthy lives. With over 194 member states, FAO works in over 130 countries worldwide.

The World Health Organization (WHO)

- The World Health Organization is a specialized agency of United Nations.
- WHO was established on 7th April 1948. The headquarters of WHO is located in Geneva. WHO serves as the directing and coordinating authority for International health matters and public health. 193 Member states among which 191 Members and 2 Associate members.

Main Working Areas

- Prevention and control of specific disease
- Development of comprehensive health services
- Family health
- Environmental health
- Health statistics
- Bio-medical researches
- Health literatures and information
- Cooperation with other organizations

Objectives of WHO

- Providing support to countries in moving to universal coverage with effective public health interventions.
- Strengthening global health security.
- Generating and sustaining action across sectors to modify the behavioral, social, economic and environmental determinants of health.
- Increasing institutional capacities to deliver core public health functions under the strengthened governance of ministries of health
- Strengthening WHO's leadership at global and regional levels and supporting the work of governments at country level.
- Implementing the Eleventh General Programme of Work.

TQM (Total Quality Management)

- TQM is an integrative philosophy of management for continuously improving the quality of products and processes. TQM functions on the premise that the quality of products and processes is the responsibility of everyone who is involved with the production or the services offered by an organization.

Codex Alimentarius Commission

- A collection of internationally recognized standards, codes of practices, guidelines and other recommendations relating to foods, food production, and food safety. It contains general standards covering matter such as food labeling, food hygiene, food additives and pesticide residues.
- Codex Alimentarius Commission was established by FAO and WHO to develop food standards and ensure their global implementation.
- The food standards are called Codex Alimentarius. Codex Alimentarius contributes to the protection of public health and fair practices in the food trade.
- Codex Alimentalius Commission advises that each nation should adopt Codex standards as far as possible, when formulating national policies regarding food.

- Codex Alimentarius Commission consists of more than 180 countries, as of 2012.

Specific Standards

- Meat products (fresh, frozen, processed and meat poultry)
- Fish (marine, fresh water, aquaculture)
- Dairy (milk products)
- Foods for special dietary uses (including infant formula and baby foods)
- Cereals and derived products (chocolate, sugar, honey)

Common food safety error

1. Non-compliance in wearing Apron/Cap
2. No hand wash after entering store
3. Temperature probe not available
4. Daily temperature log sheet not updated
5. Poor personal hygiene - rings, chains, wrist watches, untidy nails etc. equipped with team members
6. Spray gun not available
7. Dine-in area unclean
8. Hourly cleaning alarm not set
9. Non-compliance/ confusion in Chemical making, Microwave cleaning
10. Housekeeping not adequate. Hence spider web and other pest activity
11. Cooked or Packed product kept on unusual surface or on floor while sorting or receiving or performing inventory count
12. Freezer/Visi-cooler overload and unable to maintain desired temperature
13. Delivery bags uncleans not wore

Quality and Safety measures

1. Effective PERSONAL HYGIENE
2. Hand wash before product handling
3. Checking Incoming and Outgoing Temperature and recording

4. Effective Environmental HYGIENE

5. Effective use of Sanitizer

6. Control Identified and Up-coming HAZARDS

7. Regular follow up on Preventive maintenance

The Five Key Principles of Food Hygiene according to WHO

1. Effective washing of raw material/Glassware to prevent contaminating food with pathogens spreading from people, pets & pests

2. Use safe water and raw material

3. Cook foods for the appropriate length of time & at the appropriate temperature to kill pathogens

4. Separate raw & cooked foods to prevent contaminating the cooked foods

5. Store food at proper temperature