FOOD SAFETY SURVEILLANCE SYSTEMS

Food safety is defined as the provision of safe, nutritious and wholesome food to the masses. It provides assurance that food will not cause any harm/hazard to the consumer when it is prepared or eaten according to its intended use.

According to FAO/WHO, food control system is the mandatory regulatory activity of enforcement by national and local authorities to provide consumer protection and ensure that all foods during production, handling, storage, processing and distribution are safe, wholesome and fit for human consumption. There are several quality systems in vague to achieve the targets set by FAO/WHO. These include

- Total quality management (TQM)
- Good manufacturing practices (GMP)
- Hazard analysis and critical control points (HACCP)
- Food safety management systems (FSMS-ISO 22000:2005)
- Kosher certification for JEWS
- Halal food certification for MUSLIMS

Total quality management (TQM)

It is the set of management practices or approach throughout the organization, geared to ensure that the organization consistently meets to customer requirements. It places strong focus on process measurement and controls as means of continuous improvement. The main driving force of TQM is long term success through customer satisfaction. The basis of TQM is to minimize the errors occurring during the manufacturing or service process, increase customer satisfaction, streamline supply chain management, modernize the equipment and ensure job oriented training.

Good manufacturing practices (GMP)

It is the quality system designed to ensure production of good quality products in a clean and safe environment. This system is composed of guidelines that outline different aspects of production and testing which have an impact on the quality of product. Good manufacturing practices lie at the heart of quality and comprise a variety of practices that include:

- Quality assurance of raw materials
- Record keeping of all materials throughout the manufacturing process
- Standards for cleanliness and safety
- Qualification of manufacturing personnel
- In-house testing
- Production and process controls
- Warehousing and distribution

Thus GMP involves basic guidelines starting from receiving of raw materials till the final production and also the recall traceability procedures

Hazard analysis critical control points (HACCP)

It is a concept that has its origin in the US army and NASA. The idea behind the HACCP approach is to develop a plan that anticipates and identifies places in the production process known as critical control points (CCPs) where contaminants might be introduced or other food safety concerns can be identified.

HACCP comprises of seven basic principles

- Analyze hazards
- Identify critical control points
- Establish preventive measures with critical limits for each control point
- Establish procedures to monitor the critical control points
- Establish corrective actions to be taken when monitoring shows that a critical limit has not been met
- Establish verification procedures
- Establish effective record keeping to document the HACCP system

FSMS ISO 22000:2005

Food safety system (HACCP) and food quality system (ISO: 9001) were amalgamated to form a new system that is food safety management system ISO 22000. This system specifies the requirements for a food safety management system where an organization in the food chain needs to demonstrate its ability to control food safety hazards to ensure that food is safe at the time of human consumption. The means of meeting any requirements of ISO 22000 can be accomplished through the use of internal and/or external resources.

- Plan, implement, operate and update a food safety management system
- Demonstrate compliance with applicable all food safety requirements
- Evaluate and assess customer requirements in order to enhance the customer satisfaction
- Effectively communicate food safety issues to their suppliers, customer and relevant interested parties in food chain
- Ensure that the organization conforms to its stated food safety policy
- Demonstrate such conformity to relevant interested parties
- External audit certification

Halal Food Certification

- Halal food certification is basically nit a safety surveillance system, but it is a system by which foods are certified based on the Islamic injunctions. Muslims have been ordered to eat only halal (lawful, permissible) and tayyab (wholesome, nourishing, pleasing) foods and refreain from the haraam (unlawful, prohibited)
- The halal or lawful animals are all those that have split hooves and masticate the cud (ruminants). These include cows, buffaloes, camels, llama, deer and the like.
- Halal birds are poultry, duck, turkey, quail and similar species.
- Foods of water origin are concerned, according to Sunnih school of thought, all fish are lawful. while "Asna Ashria" (Shia) school of thought consider only fish with fins and scales are lawful.
- Another requirement of halal foods is that all animals and birds must be slaughtered in specific manner that ensures complete bleeding.
- From amongst foods of plant origin, all plants that nourish and do not cause harm to the human body are permitted
- All intoxicants are prohibited in Islam
- Unlawful animals are all those that either do not have split hooves, or do not chew the cud. This include pork, carnivorous animals etc.
- Birds of prey are not permissible. Moreover all reptiles, amphibians and poisonous animals are unlawful.
- Another requirement for a food to be halal is its being "tayyab" or clean.
- Halal certificate is an authority that the particular industry is following the Islamic principles and is producing halal and safe foods for the Muslims. It is infact, a safety certificate as well and non-muslims consumers also attracted.