

## **INDIAN & INTERNATIONAL QUALITY SYSTEMS AND STANDARDS**

In recent years there has been growing pressure for consistent product quality. Moreover, there is a need for food industries to demonstrate quality management practices in order to meet requirements of both legislation and the quality demanded by consumers. Legal standards are those commonly established by the States or local agencies and generally are mandatory. These mandatory standards are set up by law or through regulations and represent the minimum standards of quality. The voluntary standards generally represent a consumer image and may become a trademark or symbol of product quality.

### **INDIA/NATIONAL FOOD STANDARDS**

#### **Food Safety and Standards Act**

Food Safety and Standards Authority of India, established under the Food Safety and Standards Act, 2006, is the regulating body related to food safety and laying down of standards of food in India. The objective of new Food Safety and Standards Act is to lay down science based standards for articles of food to regulate their manufacture, storage, distribution, sale and import, to ensure availability of safety and wholesome food for human consumption. This Act brings together different issues and legislations pertaining to food safety and its control under a single law and under a single authority. The major benefits of this new Act would be harmonization of all Acts related to food industry, establishment of science based standards, removal of anomalies, clarity and uniformity with regard to novel foods including nutraceuticals, functional foods, establishment of food recall system that will ensure food safety and ultimately food security.

The main objectives are to protect public health by reducing risk of food borne illnesses, to protect consumers from unsanitary, unwholesome, mislabeled or adulterated food. Its aim is also to strengthen risk assessment, risk management and risk communication ultimately these measures should contribute to economic development by maintaining consumer confidence in the food system and provide food regulatory foundation for domestic and international trade in food. The regulatory body has constituted scientific panels and working groups to help the authority in taking science based decisions.

#### **Bureau of Indian Standards (BIS)**

Bureau of Indian Standards is the mainstream standards setting body in India for all the products and commodities including agriculture and allied commodities. It represents India in the International Organization for Standardization (ISO). BIS standards are both mandatory and voluntary. Mandatory standards are enforced directly by BIS. Along with prescribing product and commodity standards BIS also prescribe method of sampling and analysis. BIS is under the Ministry of Consumer Affairs, Food and Public Distribution, Department of Consumer Affairs, Government of India. BIS is head quartered at New Delhi with regional presence throughout the country.

## **INTERNATIONAL FOOD STANDARDS**

### **Food and Agriculture Organisation (FAO)**

The FAO was founded in 1945 with a mandate to raise levels of nutrition and standards of living, to improve agricultural productivity, and to better the condition of rural populations.

There is a Food and Nutrition Division that includes the Food Safety and Quality Service (ESNS) that among others maintains liaison on technical matters relating to food safety, quality and consumer protection.

### **World Health Organisation (WHO)**

WHO is the United Nations agency with a specific mandate for the protection of public health. Its role in food safety is to protect the consumer against exposure to adverse effects from hazards in food. Its Constitution, article 2, gives a mandate to develop, establish and promote international standards with respect to food. This organization has always recognized that access to adequate, nutritious and safe food is a right of each individual. WHO's objective is the attachment by all peoples of the highest possible level of health, and an important prerequisite for health is safe food.

### **World Trade Organization (WTO)**

The World Trade Organisation was established in 1995. The WTO is the legal and institutional foundation of the multilateral trading system. It provides the principal contractual obligations determining how governments frame and implement domestic trade legislation and regulations. It is the platform on which trade relations among countries evolve through collective debate, negotiation and adjudication. The WTO aims to eliminate all trade barriers eliminating all discriminative measures.

Two of the WTO agreements, namely the Agreement on Sanitary and Phytosanitary Standards (SPS Agreement) and the Agreement on Technical Barriers to Trade (TBT Agreement), have a direct impact on food safety issues (GATT 1994a, GATT 1994b).

The Agreement on the Application of Sanitary and Phytosanitary Measures (SPS) concerns the application of food safety and animal and plant health regulations. The main purpose is to ensure that countries do not undermine international trade by imposing non-tariff barriers. The basic provisions of the SPS Agreement are that any measures that may affect international trade must not be stricter than necessary for the protection of human, animal or plant health, must be based on scientific principles, and must not be maintained without sufficient scientific evidence (GATT 1994a, GATT 1994b).

The SPS Agreement defines "international standards, guidelines and recommendations", with reference to food safety as those established by the Codex Alimentarius Commission and with reference to zoonosis as those developed under the auspices of the Office International des Epizooties (OIE). Codex and OIE standards and guidelines therefore assumed a completely new dimension as the reference of national trade requirements.

## **Codex Alimentarius**

The Codex Alimentarius is involved in setting up of international food standards, guidelines and codes of practice to contribute to the safety, quality and fairness in international food trade. Consumers can trust the safety and quality of the food products they buy. The importers can trust that the food they ordered will be in accordance with their specifications. Codex standards are based on the best available science assisted by independent international risk assessment bodies or ad-hoc consultations organized by FAO and WHO. The applications of codex recommendations are voluntarily adopted by member countries. Codex standards serve in many cases as a basis for national legislation. Codex members cover 99% of the world's population. More and more developing countries are taking an active part in the Codex process.

## **Scientific basis for Codex work**

Codex committees, when developing standards, apply risk analysis and rely on the independent scientific advice provided by expert bodies organized by FAO/WHO. It gives an overview of risk analysis within the framework of Codex, and outlines the functions of the three FAO/WHO expert committees: the Joint FAO/WHO Expert Committee on Food Additives (JECFA); the Joint FAO/WHO Meeting on Pesticide Residues (JMPR); and the Joint FAO/WHO Expert Meetings on Microbiological Risk Assessment (JEMRA); and on other scientific advice provided by FAO/WHO. Risk analysis is fundamental to the scientific basis of Codex food safety standards. It also provides information on how countries can request, access and contribute data to this process. It is due to its scientific basis that Codex texts are considered by WTO as the international reference for food safety standards.

## **International Organization for Standardization (ISO)**

ISO 22000 is a standard developed by the International Organization for Standardization dealing with food safety. It is a general derivative of ISO 9000. The ISO 22000 international standard specifies the requirements for a food safety management system that involves the following elements:

- Interactive communication
- System management
- Prerequisite programs

The most effective food safety systems are established, operated and updated within the framework of a structured management system and incorporated into the overall management activities of the organization. This provides maximum benefit for the organization and interested parties. ISO 22000 has been aligned with ISO 9001 in order to enhance the compatibility of the two standards.

ISO 22000 integrates the principles of the Hazard analysis and critical control points (HACCP) system and application steps developed by the Codex Alimentarius Commission. By means of auditable criteria, it combines the HACCP plan with prerequisite program. ISO 22000

requires that all hazards that may be reasonably expected to occur in the food chain, including hazards that may be associated with the type of process and facilities used, are identified and assessed. During hazard analysis, the organization determines the strategy to be used to ensure hazard control by combining the prerequisite program and the HACCP plan.

ISO is developing additional standards that are related to ISO 22000. These standards will be known as the ISO 22000 family of standards. At the present time, the following standards make up the ISO 22000 family of standards:

- ISO 22000 is about **Food safety management systems** which are requirements for any organization in the food chain.
- ISO 22001 gives the **Guidelines on the application of ISO 9001:2000 for the food and drink industry** (replaces: ISO 15161:2001).
- ISO/TS 22002 deals with the **Prerequisite programs on food safety** in Food manufacturing
- ISO TS 22003 sets standards for **Food safety management systems** for bodies providing audit and **certification of food safety management systems**.
- ISO TS 22004 is for **Food safety management systems** - Guidance on the application of ISO 22000:2005.
- ISO 22005 gives guidelines to be followed on **Traceability in the feed and food chain** - General principles and basic requirements for system design and implementation.
- ISO 22006 is regarding **Quality management systems** - Guidance on the application of ISO 9002:2000 for crop production.
- ISO 22000 is also used in the Food Safety Systems Certification (FSSC) Scheme FS22000. FS22000 is a Global Food Safety Initiative (GFSI) approved scheme.