



Total Quality Management

Introduction

- Food safety remains critical with frequent outbreaks
- Consumers attitude is dominated by high levels of uncertainty
- Food industry has to meet market needs and legal requirements - safety + quality
- Producers should implement specific standards for specific activity and should establish, document, and implement effective systems for managing quality and safety

Quality Assurance Systems

- Basic safety systems: prerequisites (GAPs, GMPs, GLPs)
- Advanced safety systems - HACCP
- Integrated food safety management - ISO22000
- Basic quality management systems - ISO9001
- Advanced quality management system - ISO9004

Quality Management System (QMS)

- QMS is defined as a set of coordinated activities to direct and control an organization in order to continually improve the effectiveness and efficiency of its performance
- Food quality is assessed only in relation to food safety
- Food to be considered safe for consumption must meet: legislative, technological, hygienic, transport and handling, and trading conditions and satisfy its intended use

Good Manufacturing Practices (GMP's)

- GMP's are the minimum sanitary and processing requirements for food companies
- They are a series of general principles that must be followed during manufacturing
- Precautions taken to ensure adherence to all quality and safety basic requirements like:
 - Elimination, prevention, minimization of all product failures
 - Consistently yield safe, ensuring a certain quality uniformity

HACCP

- Hazard Analysis Critical Control Point
- Is a preventative, proactive and systematic approach of food safety, that relies on the identification and control of all the known associated health hazards in the food chain
- Based on seven principles developed to control biological, chemical, and physical hazards from the raw material production through manufacturing, distribution and consumption of the finished product

ISO 9000

- Series of standards (9001, 9002, and 9003 combined into 9001
- The process management refers to monitoring and optimization of a company's tasks and activities instead of just relying on inspection of the final product
- ISO 22000:2005 - is a food safety management standard that is developed based on the ISO9001 approach

Total Quality Management (TQM)

- It is an integrative philosophy of management for continuously improving the quality of products and processes
- The effective integration of the individual systems will improve the performance of the organization
- Quality management corresponds to a company's overall organization as regards the products quality (including safety), and involves QMS (ISO 9000, ISO 14000)

Quality Assurance

- Quality assurance relates to a product itself and involves all the safety assurance systems (GMP, GHP, and HACCP)
- Quality Assurance Control Points refer to quality assurance, and not safety
- Maintenance and introduction of all the quality characteristics of food (nutritional, sensory, and convenience values) in quality assurance systems is not required by law although desirable by customers

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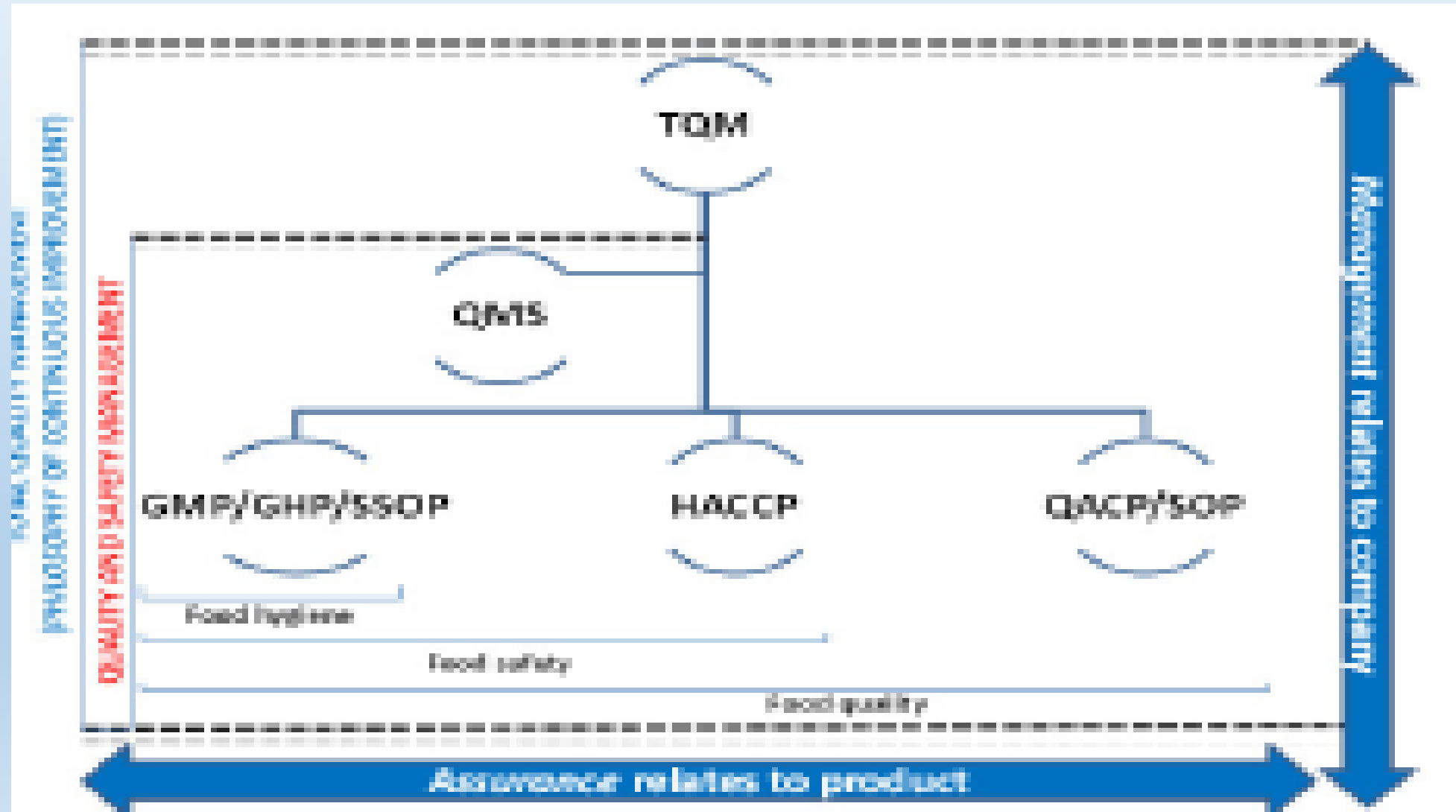


Table 1. Essential requirements for quality and safety assurance in the food industry

Features	General requirements
1. Quality management	Top management commitment; Plan and share responsibilities; Assign proper human and material resources; Ensure an effective quality system
2. Staff	Create an appropriate organizational framework; Describe the key positions; Train the workers; Develop behavioral and attitude competencies Supervise personal hygiene and health.
3. Production areas and equipment	Ensure proper facilities and equipment – constructions, installation; maintenance, environmental conditions, sanitizing, cleaning, validation of cleaning.
4. Documentation	Document, develop, approve, update, distribute, and archive documentation.
5. Processing	Validate the processes; Prevent cross-contamination during manufacture; Purchase good raw materials; Ensure the quality of the process, for intermediate, bulk or end products; Comply legal labeling requirements; Ensure good quality of the end products (quarantine, storage, handling, delivery); Track the products rejected recovered and returned (tracking and identification).
6. Quality control	Apply good practices in the laboratory; Apply sampling techniques; Validate the analytical method; Inspect the process; Maintain, check and calibrate the measuring and monitoring devices.
7. Regulations	Apply mandatory requirements; Follow contractual requirements.
8. Consumer complaints	Handle the complaints; Document the Withdrawals / Recalls; Analyze the decisions.
9. Self-inspection	Perform internal audit. Check compliance and corrective action
10. Supplier relationships	Identify and select key suppliers. Communicate clear and open. Share information and future plans. Establish joint development and improvement activities. Inspire, encourage and recognize improvements and achievements.

Importance of QMS

- Has four main components - quality planning, quality control, quality assurance, and quality improvement
- Food manufacturers should integrate quality and safety systems to assure that all the safety aspects of food are combined with ISO 9001 so that technological and management issues related to safety and quality are achieved
- Implementing QMS will ensure fulfillment of customer's and organization's requirements at an optimum cost