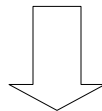# Quality programs and quality systems for the food industry

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Quality Program and System

- Quality Control (QC)→ basic quality program
- Quality Assurance (QA)
- Quality Management

⬇

The food quality and food safety requirements

Quality Program - QC

- An activity or set of activities performed to ensure that the food quality and food safety requirements of a food are fulfilled.
- Food quality requirements are established by laws and regulations, by customers and consumers, and internally.
- Quality is designed into the product specification and quality checks into the production system.
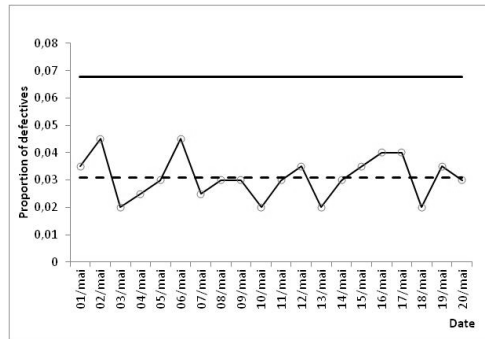
Quality Program

- **Quality Control** is defined as a procedure or set of procedures designed to make certain that the end product conforms to a designated set of criteria as set forth by either the company or the customer.
- The sum of the procedures that the company establishes is considered its quality control system.

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Quality Program

■ The information gained through measurements, observation, and documentation from these programs provides a constant picture of the conformance of the product to a specification.

Quality Program

The focus of Quality Control

| to develop a system that protects the brand from enduring regulatory intervention | protects the customer from undue contamination | protects the product from undue variation |

Quality Program

■ QC program activities consist of inspecting, testing, and monitoring associated with raw materials control, process control, and finished products control.

■ The main objective of food industry QC programs is to determine whether the quality and safety requirements are fulfilled by detecting whether unacceptable levels of hazards or defects exist in foods.

blog.fieldid.com

Temperature Control

www.foodsafety.ecolab.com

Quality Program

■ If an unacceptable level of a hazard or defect is detected, the food might be repaired or reworked to remove the hazard or defect so that it fulfils the requirements, or it might be rejected entirely.

■ Involving statistical process control (SPC)

■ Improving the quality of the final product

■ Error during production process can be monitored

■ Cost reduction

Quality Program

- In companies that operate with quality systems, the quality control activities are integrated into the quality systems.
- For example, in the *ISO 9001:2000* quality management system, quality control activities are included in clause *7 product realization* (Section 3.14.7) and clause *8 measurement, analysis, and improvement* (Section 3.14.8).
- In modern food manufacturing environments, QC systems are the supporting programs that are outcrops of the HACCP program.

Quality Program

GLASS, HARD PLASTIC, AND WOOD CONTROL PROGRAM

GENERAL OVERVIEW

Section A: General

In accordance with 21CFR110 good manufacturing practice (GMP), _____ will establish and enforce regulations and policies that preclude any foreign object, including glass, hard plastic, metal, or wood, from contaminating or adulterating any product. These regulations and policies will be an integral component of training during the hiring process as well as during reviews.

Section B: Glass

There will be no glass allowed in any production area or warehouse. Exceptions to this rule are gauge fronts, lights, emergency lights, and forklift flood lights. Production, warehouse, and emergency lights will be covered and sealed. Forklift lights will be screened and inspected on a weekly basis for chips or other damage. Damaged lights will be replaced immediately. Due to the high-risk nature of having any glass in the production or warehouse areas, a weekly inspection of all glass elements will be made. A conscious effort to eliminate all glass will be made.

Section C: Plastic

All plastic allowed in the production area will be tethered or attached to a stationary surface. It will be made of hard plastic and be part of the internal inspection program.

Section D: Wood

Wood will be confined to the warehouse area. If pallets must be taken into the production area, they will be clean _____ number 1 hardwood pallets in good repair and will be kept on the floor. At no time will wood ever be allowed above products.

Section E: Prevention

All measures will be taken through training and/or mechanical means for the prevention of foreign objects falling into the product.

Approved by: _____ Date: _____

- Example:

  Glass, Hard Plastic and Wood Control Program

Slide 1

Glass / Plastic Inspection Chart

Date of Inspection: _____   Inspector _____

Location of Glass or Plastic	Condition		How Damaged	Person Notified	Repair Verified
	ok	not ok			
	ok	not ok			
	ok	not ok			
	ok	not ok			
	ok	not ok			
	ok	not ok			
	ok	not ok			
	ok	not ok			
	ok	not ok			
	ok	not ok			
	ok	not ok			
	ok	not ok			
	ok	not ok			
	ok	not ok			
	ok	not ok			
	ok	not ok			
	ok	not ok			
	ok	not ok			

Quality Program

Slide 2

Quality Program

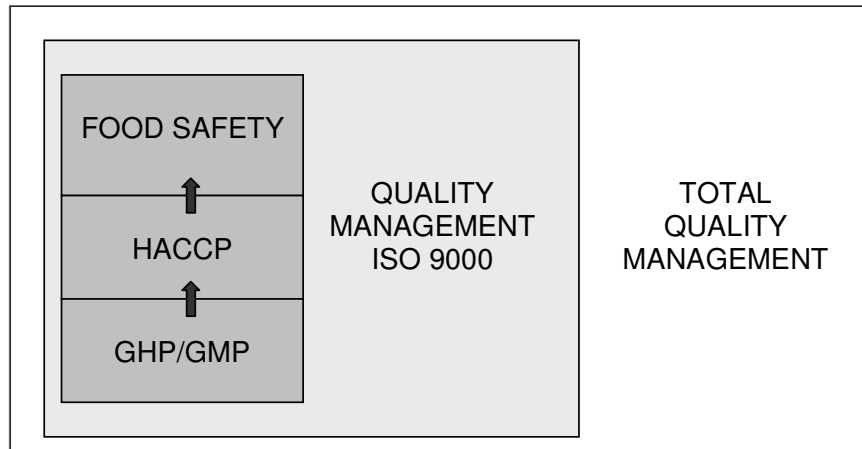### VERIFICATION DOCUMENTATION

GLASS, PLASTIC, AND WOOD TRAINING

I, _____, have read and understand the section on glass, plastic, and wood control at _____. I will be on the alert for any nonapproved glass, plastic, or wood in the production area and will notify my supervisor if I notice any damage. If I have questions or concerns regarding this policy, I will immediately discuss them with my supervisor.

Date: _____

Name: _____

Instructor: _____

Quality System

- An integrated set of documented food quality and food safety activities, with clearly established inter-relationships among the various activities.
- The objective of a quality system is to provide a food company with the capability to produce a food that fulfills all quality and safety requirements.

Quality System

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┌─────────────────────────────────────────────────┐
│  ┌───────────────────────────────────────────┐  │
│  │ ┌──────────────┐                           │  │
│  │ │ FOOD SAFETY  │                           │  │
│  │ ├──────────────┤    QUALITY      TOTAL     │  │
│  │ │      ↑       │  MANAGEMENT    QUALITY    │  │
│  │ │    HACCP     │   ISO 9000   MANAGEMENT   │  │
│  │ ├──────────────┤                           │  │
│  │ │      ↑       │                           │  │
│  │ │   GHP/GMP    │                           │  │
│  │ └──────────────┘                           │  │
│  └───────────────────────────────────────────┘  │
└─────────────────────────────────────────────────┘
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Quality System - QA

- The development of QC process – "doing things right the first time", where staff become central in the pursuit of quality (through training).
- Quality assurance systems in the food industry are much more extensive in scope than QC programs.
- They include the inspection, testing, and monitoring activities of quality control programs, along with additional activities that are devoted to prevention of food safety hazards and quality defects.
- The activities are integrated and interrelated to form a system.

Quality System - QA

- Quality assurance systems are intended to provide confidence to a food company's management, its customers and to government regulatory agencies that the company is capable of meeting the food quality and food safety requirements.
- These quality systems include documents that describe operations and activities that directly relate to food quality and safety.

Quality System - QA

- An example of a quality assurance system is the *ISO 9001:2000* quality management system standard.
- In companies that operate with quality management systems, the quality assurance activities are integrated into the quality management systems.

Quality System - QA

- Zero Defects concept → Pillsbury, NASA
- QA in food industry → HACCP
- The aim of QA is to organize quality into organization processes by conformity to specification through continual improvement
- Employee become a vital part of the quality system → involve in problem solving
- A further feature of QA is the idea of teamwork

Quality Management System

- Quality management systems (QMS) are elaborate management systems that can be used by any organization to develop and achieve its quality objectives.
- QMS include quality planning and improvement activities, in addition to quality control and assurance activities.
- These systems are intended to provide a company with the capability to meet all quality requirements.
- The best example of a QMS is the *ISO 9001:2000 Quality management system — requirements* standard (Sections 3.12 and 3.14).

Total Quality Management

- During the mid-1980s, the term *total quality management* (TQM) was introduced in North America.
- The term was associated with the management approach to quality improvement used in Japan for achieving long-term success.

Total Quality Management

- The TQM approach embodies both management principles and quality concepts, including:
  - customer focus,
  - empowerment of people,
  - leadership,
  - strategic planning,
  - improvement, and
  - process management.

THANK YOU