Handout MK. Pengawasan Mutu
2013/2014

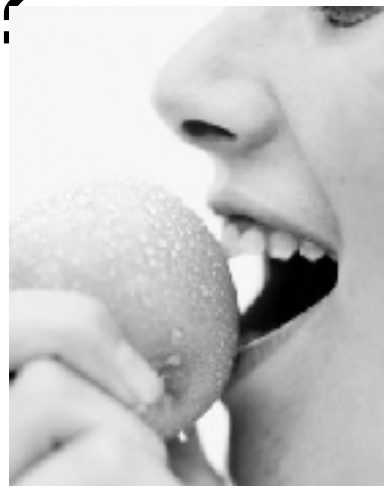
THE OVERVIEW OF FOOD QUALITY

Inneke Hantoro

What is food quality?

- Food quality is the extent to which all the established requirements relating to the characteristics of a food are met. Examples:
  - Identity of a food in relation to a standard (e.g., standardized food)
  - Declared gross or net quantity (e.g., weight or volume) of a unit of the food or net fill of a food container
  - Declared or claimed amount of one or more stated components of a food
  - Appearance (e.g., size, shape, color)
  - Flavor
  - Aroma
  - Texture
  - Viscosity
  - Shelf-life stability
  - Fitness for use as human food
  - Wholesomeness
  - Adulteration
  - Packaging
  - Labeling

What is food quality?

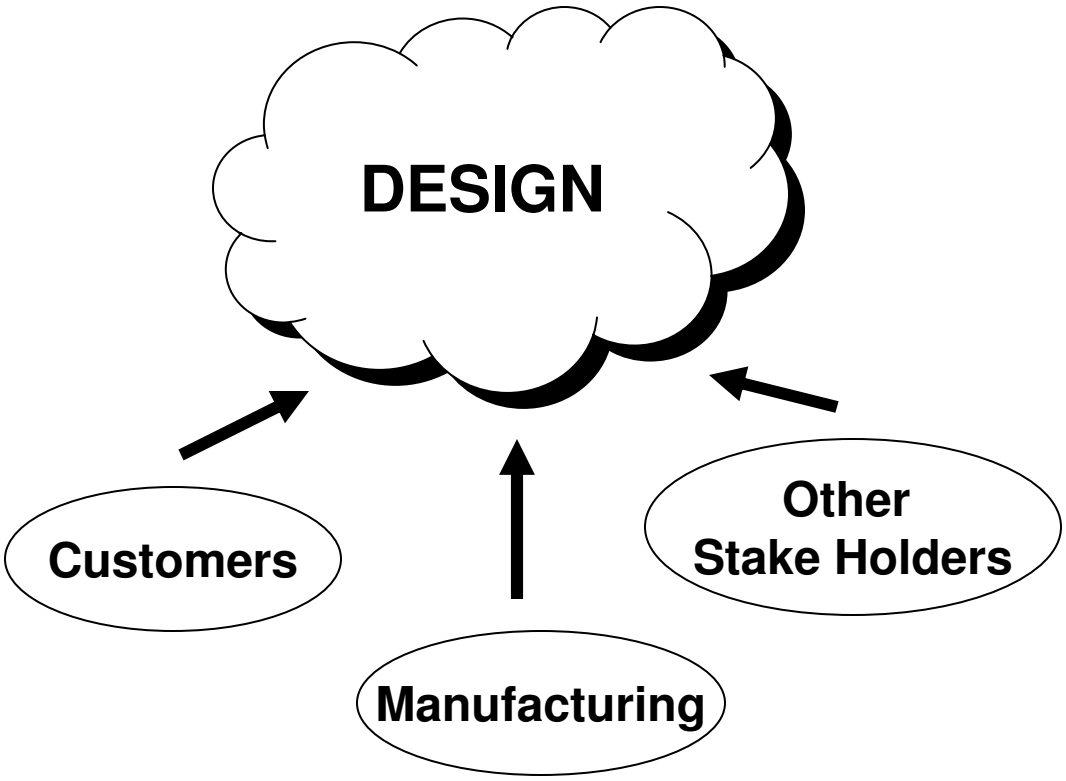


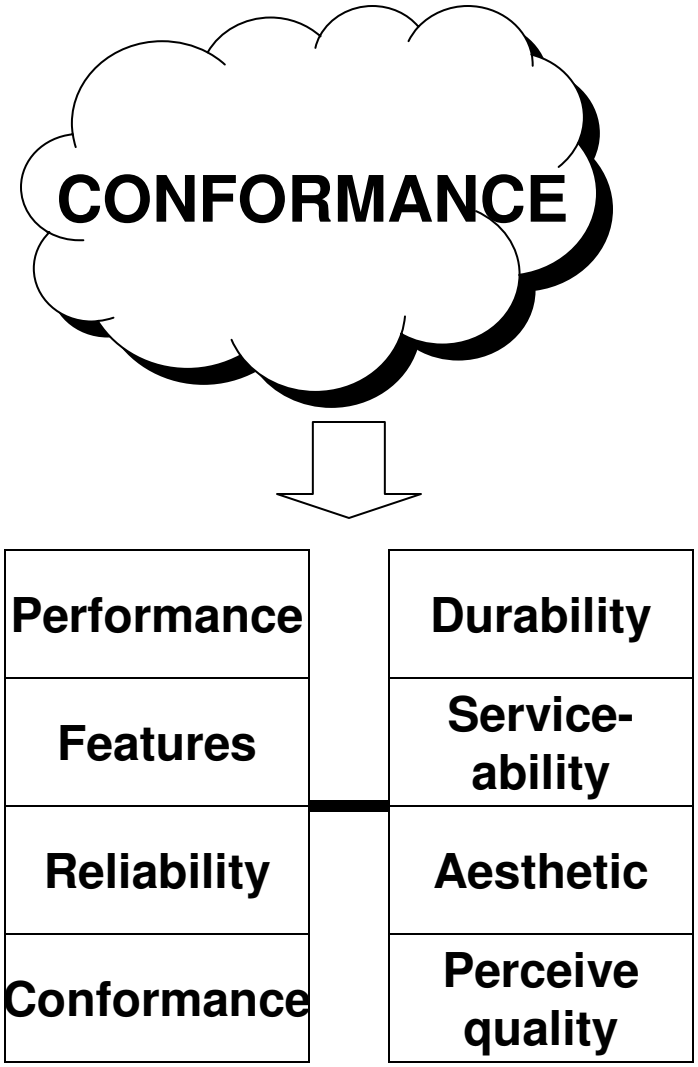
- degree of excellence
- a value of products
- fitness for use/ consumption –utilitarian terms

CONSUMER SATISFACTION

The requirements necessary to satisfy the needs and expectations of the consumer.

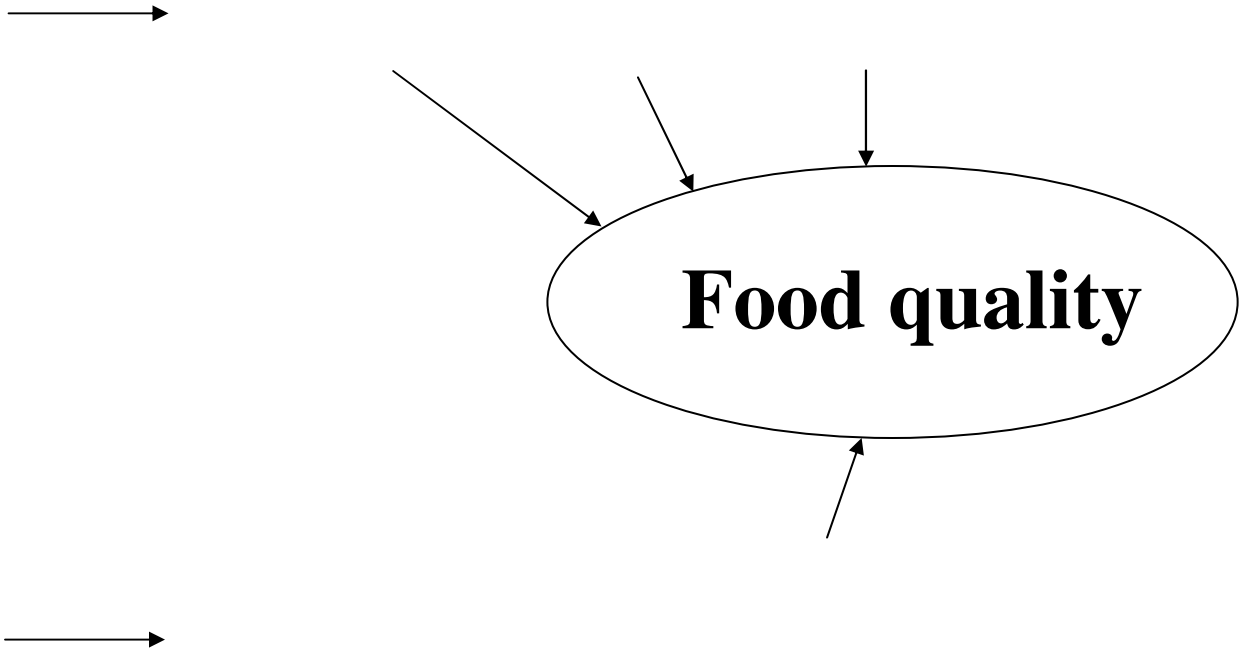
Dimension of Quality





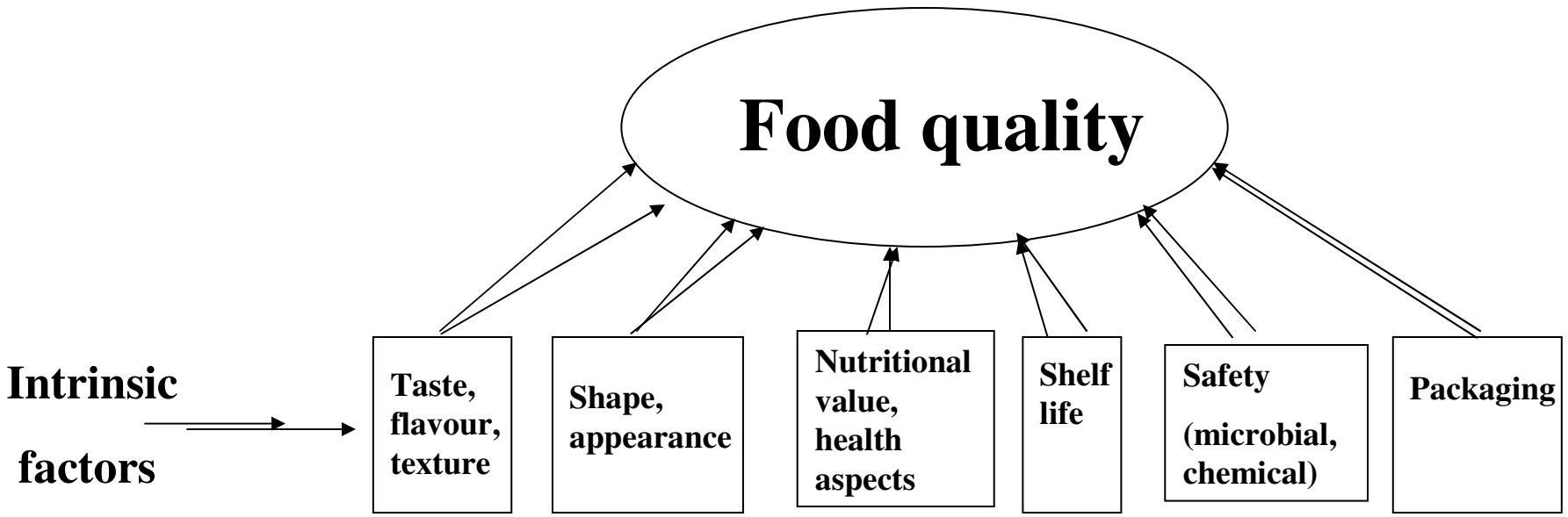
(Vosconcellos, 2004)

Broadening of the quality concept



(van Boekel, 2006)

Broadening of the quality concept



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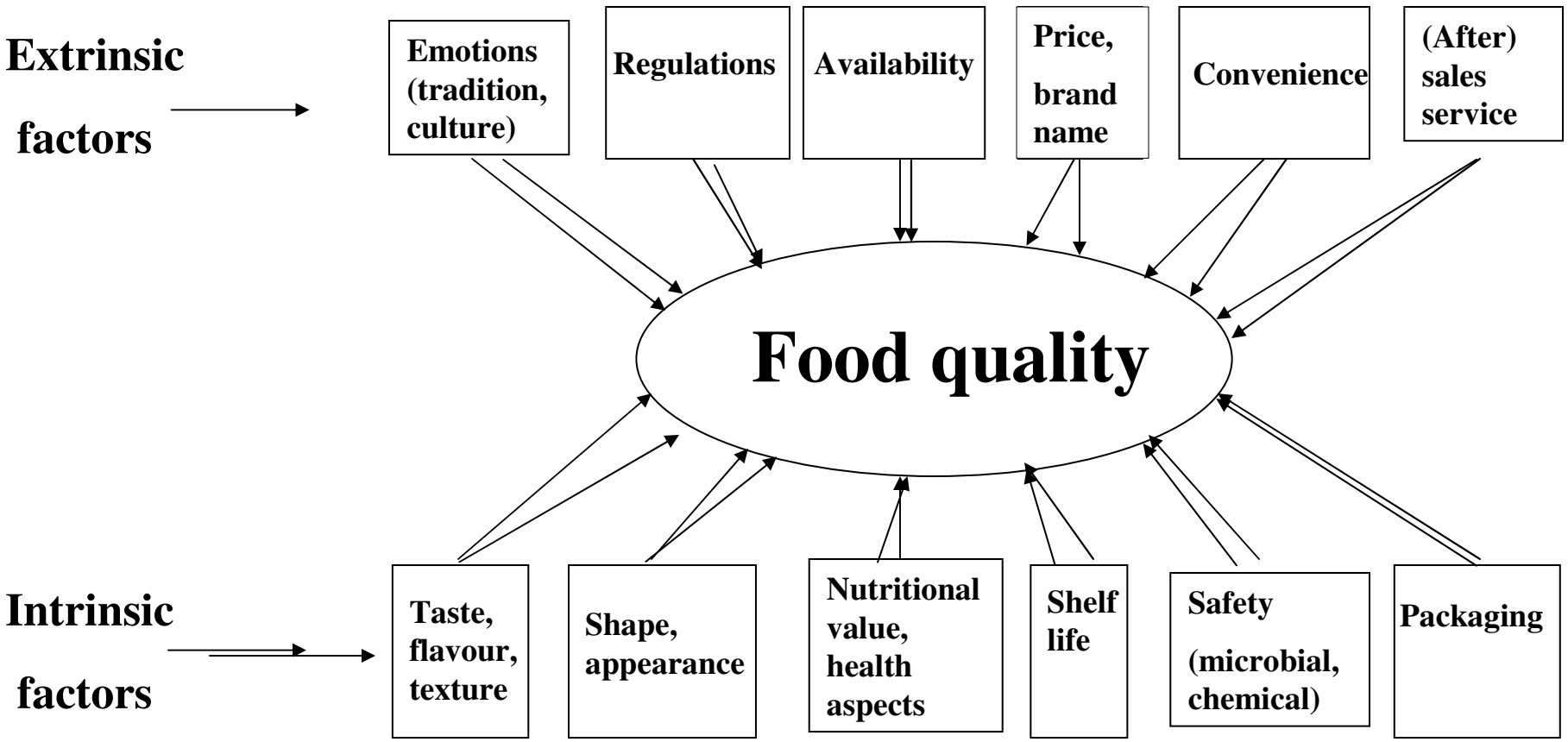
Broadening of the quality concept



(van Boekel, 2006)

Broadening of the quality concept

- All of the intrinsic quality factors are influenced by:
  → the quality of raw materials
  → the composition of the food
  → processing methods
  → storage method & conditions

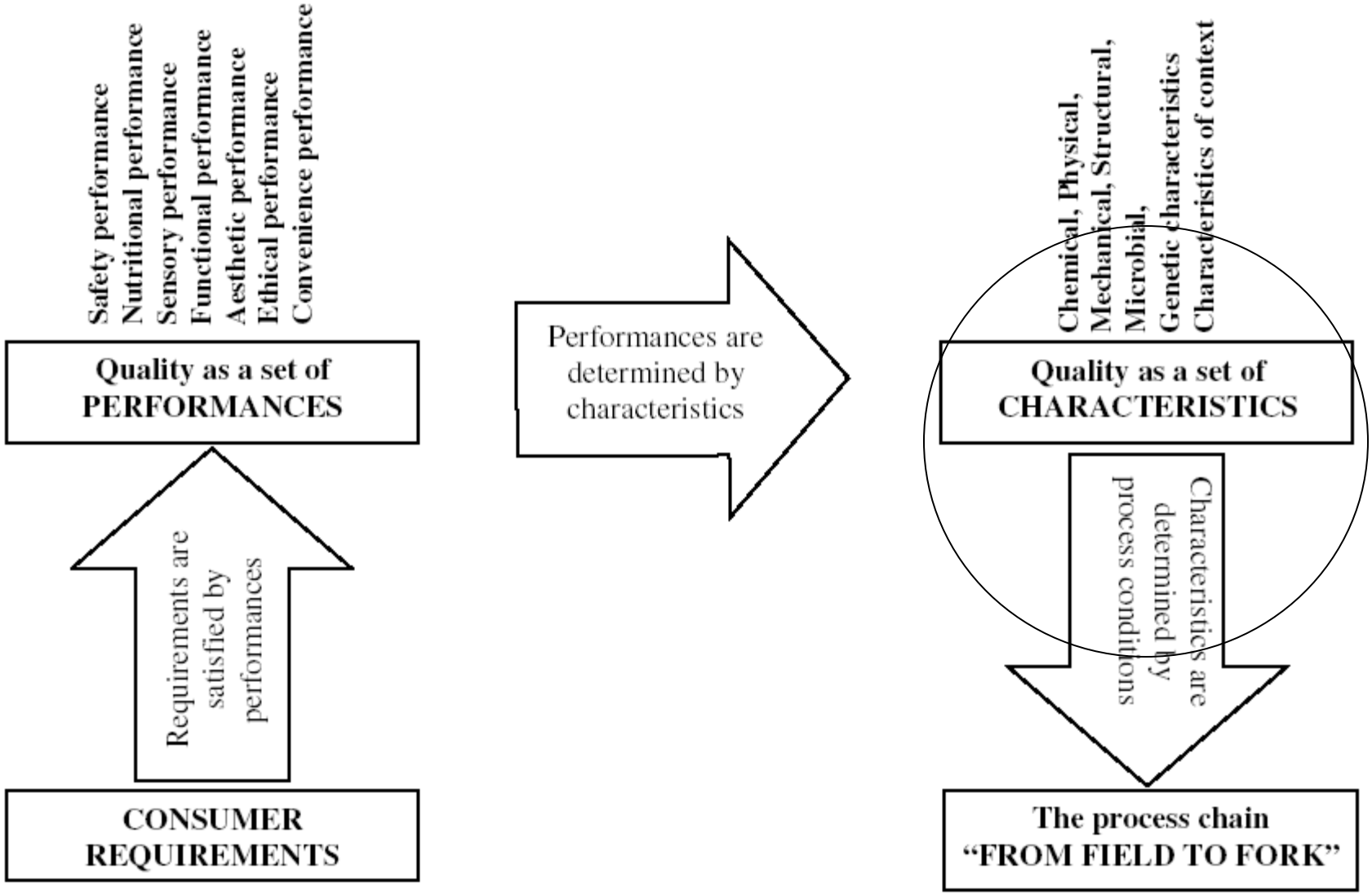
- Why quality is important?
- What is a good quality product?
  - conformance to specification (production)
  - fitness for use (consumption)
  - customer satisfaction
  - exceeding consumer expectations

Consumer requirements include:

- Safety requirements
  - The absence of risk factors.
- Commodity requirements
  - The conformity of a product to its definition.
  - Established by law, voluntary regulations or customary practices.
- Nutritional requirements
  - These are extremely important since the main purpose of eating is to satisfy nutritional needs.
  - The growing interest of functional foods.

- Sensory requirements
  - These are very important since the brain will transform sensation into perceptions.
  - Our sensory perceptions take place in a space that is closely connected with other brain functions and contents, such as memory, culture, values, emotions, etc.
- Requirements concerning the production context
  - Indications concerning the origin or tradition of a product, or the use of organic culture, have a strong impact on consumers.
  - They can satisfy the consumers on the “how”, “when”, and “where” the product was produced.

- Ethical requirements
  - Include organic agriculture, the defense of the environment, the defense of biodiversity against mass production, the well-being of animals, etc.
- Guarantee requirements
  - The certification and traceability procedure.
- The requirements of the packaging system
  - Facilitate product recognition, marketing and use.
  - Also include aesthetic requirements concerning its presentation, and consumer information conveyed by the label.
  - Consumers tend to prefer products that are easier to handle or use (convenience).


Safety performance
Nutritional performance
Sensory performance
Functional performance
Aesthetic performance
Ethical performance
Convenience performance
Quality as a set of PERFORMANCES
Requirements are satisfied by performances
CONSUMER REQUIREMENTS
Performances are determined by characteristics
Chemical, Physical,
Mechanical, Structural,
Microbial,
Genetic characteristics
Characteristics of context
Quality as a set of CHARACTERISTICS
Characteristics are determined by process conditions
The process chain "FROM FIELD TO FORK"

(Peri, 2005)

What happen along the food production chain?

Any loss of quality? → process control!

- What have to be done to produce a good quality product and to maintain or even to improve the quality? → the implementation of quality system management!

Food Quality Standards

- Some of quality characteristics are covered in food laws and regulations.
- Failure of a food to meet regulatory requirements relating to a standard of identity, the declared quantity, declared ingredients, or label claims, can be considered as misrepresentation, misbranding, or fraud.
- The spoilage, deterioration, or decomposition of foods with the absence of any resulting harmful substance that can lead to illness or injury, can be considered as failure to meet food quality requirements based on fitness for human use or wholesomeness criteria.

Food Quality Standards

The 4 common standards:

- **Legal Standards**

  Legal standards are mandatory and are set up by law or through regulations. Legal standards are generally concerned with the lack of adulteration involving insects, molds, yeasts and pesticides; the maximum limits of additives permitted; or by establishing specific processing conditions so that extraneous materials do not contaminate foods.

Food Quality Standards

- **Company or Voluntary Label Standards**

  These standards represent those established by various segments of the food industry. They represent a consumer image and may become a trademark or symbol of product quality. Voluntary standards are generally used by private companies or supermarkets and tend to vary depending upon the particular requirements of a given label.

Food Quality Standards

- **Industry Standards.**

  Those whereby an organize group attempts to establish given quality limits for a given commodity. Industry standards are implemented due to the pressure from marketing organizations or by specific commodity groups where legal standards are not involved.
- **Consumer or grade standards**.

  These represent the consumers' requirements for a product.

International Food Standards

- The Codex Alimentarius Commission
- The World Trade Organisation
  - The Sanitary and Phytosanitary Agreement (SPS)
  - The Technical Barriers to Trade Agreement (TBT)
  - Dispute Settlement

CODEX

- The Codex Alimentarius Commission shall be responsible for making proposals to, and shall be consulted by, the Directors General of the Food and Agriculture Organization (FAO) and the World Health Organization (WHO) on all matters pertaining to the implementation of the Joint FAO/WHO Food Standards Programme.

CODEX

- The **Codex Alimentarius** or the food code is the global reference point for consumers, food producers, processors, national food agencies and international trade organizations.
- The Codex Alimentarius Commission is often simply referred to as “Codex”

World Trade Organization

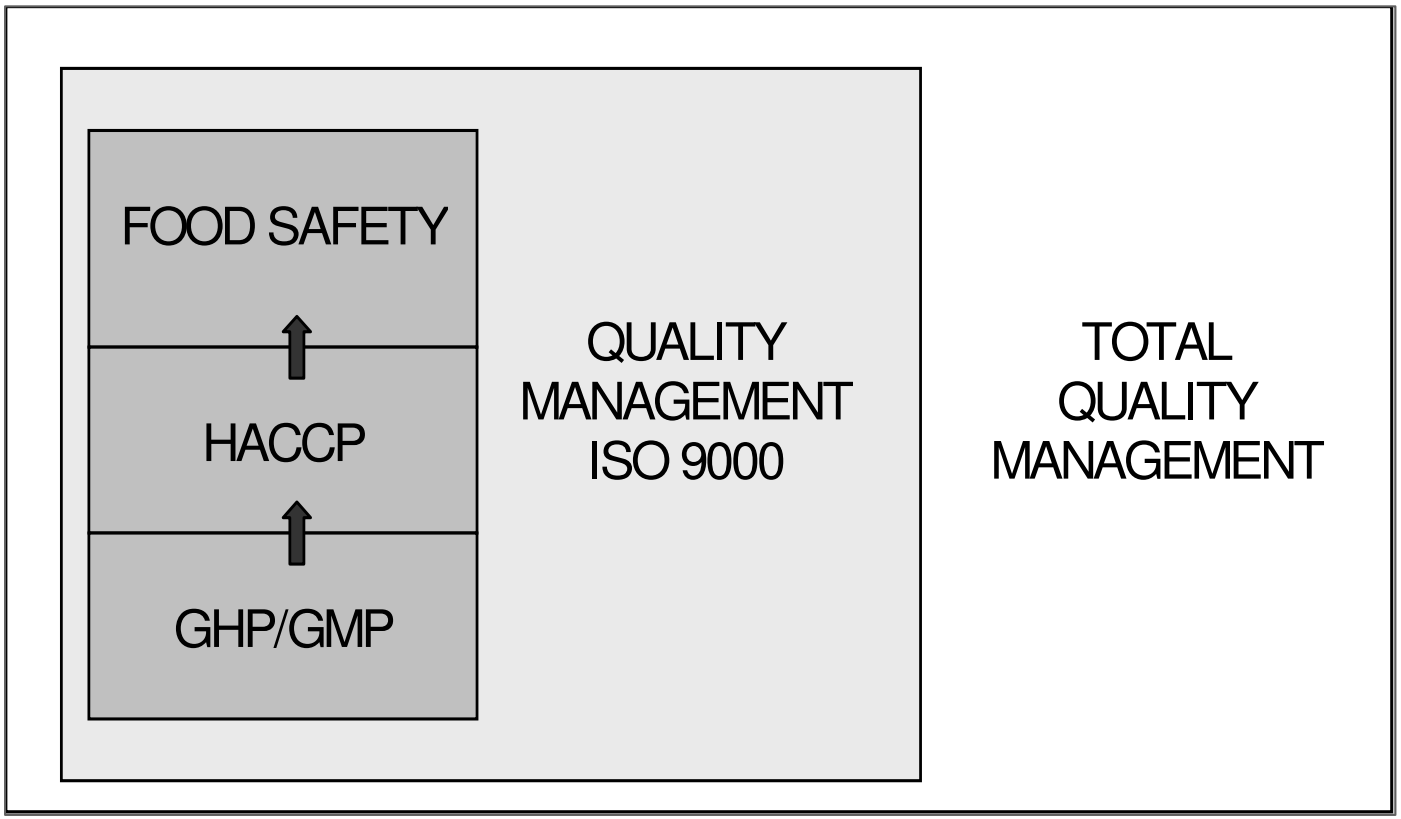
- Established: 1 January 1995
- Created by: Uruguay Round negotiations (1986-94)
- Membership: close to 200 countries

TQM

- **Total Quality Management**

  is described as a process for managing quality; a philosophy of perpetual improvement. TQM relies on the fundamental principle that is the core of any business: maximize productivity while minimizing costs. Its goal is customer satisfaction.
- It consists of the integration of all functions and processes within an organization in order to achieve continuous improvement of the quality of goods and services.

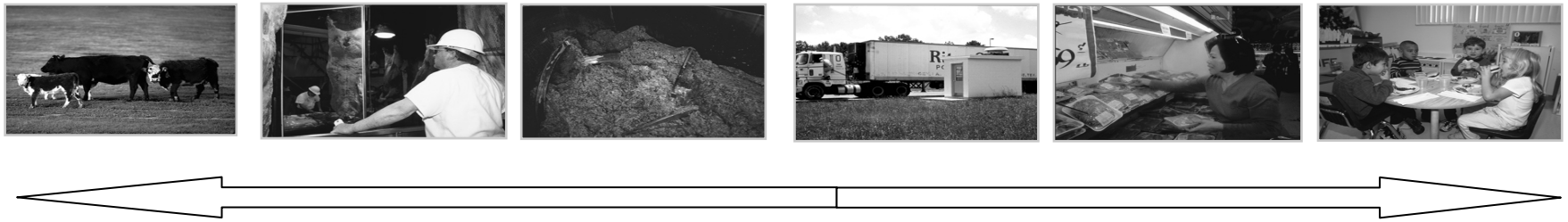
Quality Management System



(Pepper, 2006)

HACCP Concept

"Farm-To-Table"



Assurance throughout the food chain

- In this context HACCP is a concept as well as a method of operation, applied to all phases of food production, including agricultural production, food handling, food processing, foodservices, food distribution, and consumer use.
- The HACCP program considers all types of hazards (biological, chemical, or physical) that could affect food safety and that occur naturally in the food or in the environment, or that are generated due to an error during food processing.
- Nowadays, HACCP concept has been combined with ISO 9000 → ISO 22000.

ISO

- ISO 9000
  - ISO 9000 is a Quality System Management Standard.
  - The international process standard is ISO 9000-2000. This standard is a quality management system for establishing process control, maintaining a customer orientation and achieving continual improvement.
- ISO 22000
  - ISO 22000 is the new international generic FSMS standard for food safety management systems. It defines a set of general food safety requirements that apply to all organizations in the food chain. It is designed to be fully compatible with ISO 9001:2000.

Terima Kasih