Chapter III

QUALITY

- ***Chapter III objectives***
- ***Generality***
- ***Quality Assurance***
- ***Quality Control***
- ***Quality In Agri Food Industry***
- ***Activities***

III-1 Chapter III objectives

At the end of the Chapter III , in relation to the subjects covered, the student must be able to:

- **Recognize** the notion of quality in Food Science;
- **Learn** the basic concepts of Quality Assurance and Quality Control;
- **Learn** the differences between the Quality Assurance and Quality Control ;

III-2 Generality

Meeting the needs of the customer is the essence of quality. Quality is the ability of procedures, operations, and organization (going for conformity, managing change via projects, emphasizing innovation) to boost output and, in general, promote operational excellence in both public and private enterprises.

- Quality is the ability of a product to satisfy its users (AFNOR definition).
- Every feature and attribute of a product or service that enables it to meet the stated needs of every user.

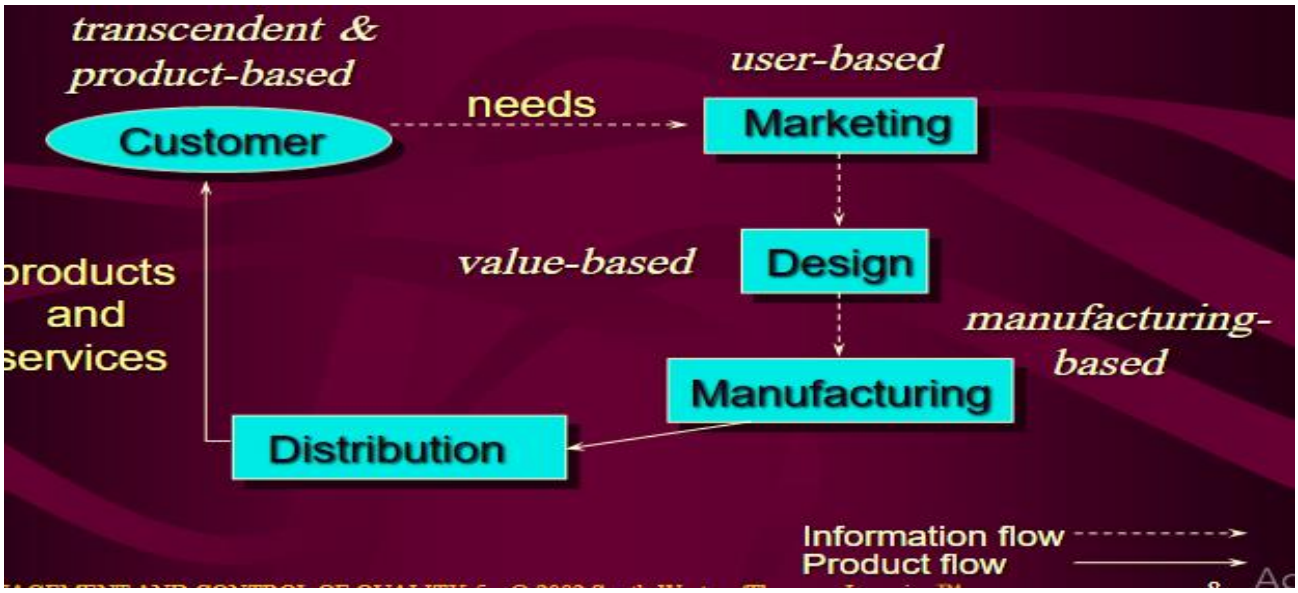

Fig 15. Quality Perspectives

➢ **Activity 08 (Chap III)**

- What is the difference between Quality assurance and Quality Control?

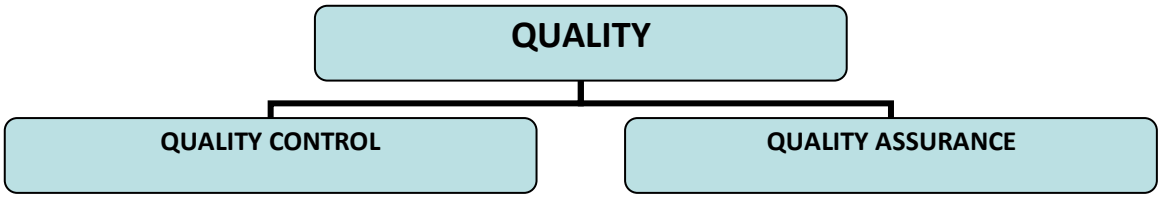

Fig 16. Types of Quality

III-3 QUALTY ASSURANCE

The caliber of the good, service, or outcome. It is the process of ensuring that a product is free from defects and meets all standards. The main goal of quality assurance is to prevent delivered flaws in order to save expensive rework.

Fig 17. Quality Assurance

III-3-1 Characteristics

- It is a process-based approach that is proactive.
- Begins from the outset of the project to comprehend the expectations and requirements for the product, both explicit and implicit.
- After that, creates the strategy to fulfill these demands and anticipations.
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III-3-2 Quality Assurance Examples

Fig 18. : Audit , Training , Selection Of Control Tools……;

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III-4 QUALTY CONTROL

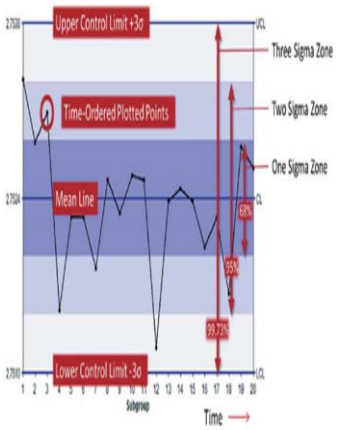
Concerned with the methods and operational actions utilized to meet quality standards. The steps involved in ensuring a high-quality product are part of the quality control process. The goal of these tasks is to find flaws in the real product that is being made.

Fig 19. Quality Control

III-4-1 Characteristics

- As soon as project work starts, control functions are activated;
- It is a reactive strategy that aids in identifying deliverable flaws;
- Ensuring that the deliverables are defect-free and fulfill the quality standards set during the quality assurance process is the aim of quality control.
- If the deliverables are not found in compliance with the requirements, the proper corrective action will be taken;

III-4-2 Quality Control Examples



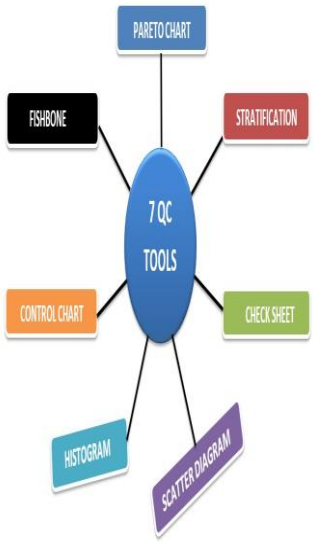
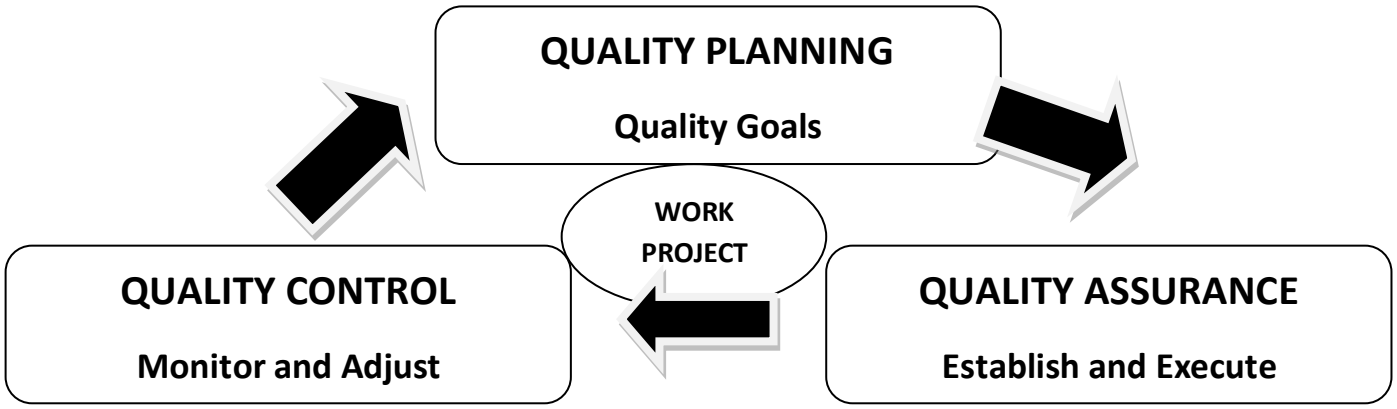


Fig 20. Inspection , Product Testing , Statistical Sampling , 7 Quality Tools ……..

QA & QC both are part of the Quality System

Fig 21. Quality System



- **Activity 09 (Chapter III)**

  - **MCQ 01: Chemical analysis of a finished food product is an example of ?**

a) Food safety audit

b) Quality Control

c) Quality Assurance

d) None of the above

  - **MCQ 02: Quality control is ?**

a) Managerial Tool

b) Process oriented approach

c) Product oriented approach

d) None of the above

- **MCQ 03: Identify the correct one**

a) Quality control and quality assurance are interchangeable in the current ISO;
b) Quality control is a product-focused concept and quality assurance is a process-focused concept;
c) Quality control is a process-focused concept and quality assurance is a product-focused concept.
d) None of the above

- **MCQ 04: The main objective of Quality Assurance is**

a) Proof of fitness of a product
b) Inspection of quality of product
c) Quality Conformance
d) Customer satisfaction

MCQ 05: Regarding quality assurance, which of the following statement(s) is/are correct?

A- QA is a collection of procedures used to guarantee quality in the processes used to create products.

B- QA is a tool for correction and is focused on products.

a) B is true
b) A is true
c) A and B
d) None of these

III-5 Qualty In Agri Food Industry

In addition to price, the quality of products and the services that accompany them are the real criteria for competitive differentiation: Quality, cost and delivery times - three constraints that must mobilize every organization around three inseparable challenges:

- Commercial: fulfillment of customer needs
- Human: inspiring all workers to strive for the same goal

- Economic: the organization's financial results.

Concerns about quality have long been present in the food industry and continue to be the main concerns of consumers. Food product quality refers to a variety of factors, including:

- **Nutritional Quality** Qualité Nutritionnelle
- **Hygienic Quality** Qualité Hygiénique
- **Organoleptic Quality** Qualité Organoleptique (goût).

III-5-1 Quality Issues For The Food Industry

A string of health emergencies at the end of the 1990s made consumers doubt the safety of food. Customers are becoming more and more demanding about the products' health-related qualities.

The rise in the prevalence of obesity and overweight has heightened consumer demands in terms of nutrition.

Quality is a crucial component of business strategy and a deciding factor in consumer choice in the modern food industry.

Fig 22. Quality in Food Industry

III-5-2 Nutritional Quality

The agri-food sector has established several nutrition-related programs, with a primary focus on four areas:

- Nutritional optimization of food stuffs
- Consumer information and education.
- Good practice in communication and marketing
- Support for research

Fig 23. Nutritional Labeling

- **Nutritional optimisation of food stuffs**

Reduction of sugar, salt, fat, trans fatty acids, saturated fatty acids....

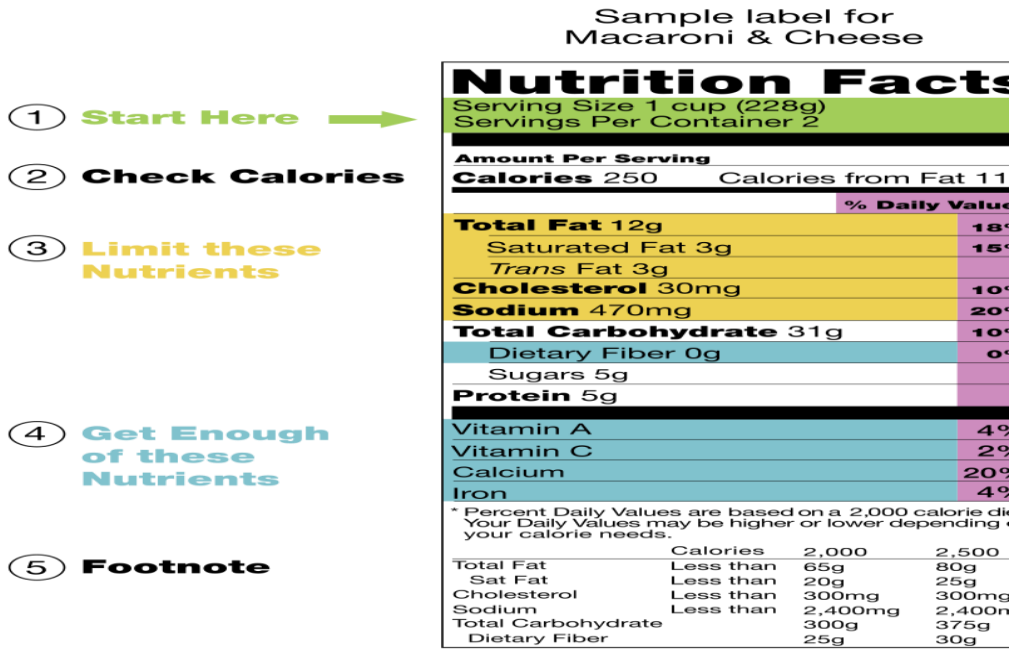
Existing product reformulation is a methodical process that progressively acclimates consumers to the product. These days, the "nutrition" component is considered when designing any new product.

Fig 24. Nutritional optimization

- **Consumer information and education**

➢ **Activity 10 (Chapter III)**

- Decribe the Figure below



- **Food Labeling** is supported by the **FAO** as a useful instrument to safeguard consumer health in terms of nutrition and food safety. Food labels include details regarding the identity, composition, and safe handling, preparation, and consumption of the product.

The aim is to improve consumer information to promote healthy eating and physical activity in television programs and advertisements.

- **Good practice in communication and marketing**

Fig 25. Good Practice in food

➢ **Activity 11 (Chapter III)**

Decribe the Figures below

Deontology code, stop food advertising on children's television screens. There is strong evidence that children's eating habits are impacted by powerful food marketing messages in ways that are harmful to a healthy diet.

- **Support for research**

Many manufacturers fund research programs on nutrition and food.

Fig 26. Funding of Researches

III-5-3 HYGIENE QUALITY

The agri-food sector has been employing a range of strategies to guarantee that its goods are promoted in the most sanitary a manner for many years.

- **Raw material control on receipt;**
- **Work-in-progress, completed goods, supplier audits;**

- **HACCP, good hygiene procedures, and progressively more efficient traceability systems ;**
- **The food industry has created and is still creating a number of standards related to sanitary quality.**

- **Certification**

The act of an impartial body attesting to a company's quality organization's compliance with a standard is called certification.

- **Standards**

A standard is an openly available, non-free document that lays out an optional set of guidelines created by a reputable organization following consensus-building and discussion among all parties.

- AFNOR .Association Française de Normalisation
- ISO International Organisation for Standardisation
- Organisme certificateur = AFAQ standard France
- ALGERAC Algeria

Fig 27. Some names of standards organisations

-ISO

A commonly used document that is created by consensus and approved by an established organization. It describes characteristics, regulations, or directions for actions or their results that offer the maximum degree of order in a certain situation. Standards (public/private) = standard.

- ISO 9001: general quality management standard (also known as ISO 9001:2000)

- ISO 22 000, food safety standard
- ISO 14 000, environmental standard

Fig 28. ISO Standards

III-5-4 ORGANOLEPTIC QUALITY (TASTE)

Food is evaluated orally using an organoleptic method, which uses science to evaluate the product's sensory qualities in terms of taste, smell, sight, and touch.

Since consumers purchase items based on their taste, the food sector places a high value on innovation in this field. 'Taste' is the most important factor for determining meal quality.