Food quality and safety management in Agri-food chains

Otegbayo Bolanle (Ph.D)
Overview of presentation

• Background
• Food quality
• Food safety
• Quality management system
• Conclusion
Background

• Quality and safety in the food chain are the most important issues facing the agricultural and food industries in order to face increasingly competitive global market.

• Consumer awareness of quality and safety has increased.

• Serious food crises

• Increased consumer’s ability to link food safety problem to a particular processor, farmer or activity (traceability)
What is food?

- Any substance that people eat or drink to achieve an adequate nutritional status.
  - to maintain life and physical, cognitive and social development
  - Meet physiological requirements in terms of quantity, quality and safety
  - socially and culturally acceptable.
What is quality?

• Quality is a total sum of features, characteristics and properties of a product which bear on its ability to satisfy stated or implied needs.

• “Degree of excellence, relative nature, kind or character”
Quality is ..... 

- Quality is ..... 
- Fitness for use (Juran) 
- Conformance to requirement 
- Performance to standard expected 
- Meeting the customer’s needs the first time and every time 
- Quality is meeting or exceeding customers’ expectations
Quality is ..... 

When the consumer returns and not the product
"CONGRADULATIONS, MARTHA. THIS IS A MEAL FIT FOR A KING."
Why quality?

• Increasing competition
• Increasing customer expectation/concerns
• Increasing legislative requirement/controls
• Increasing Macro/Microeconomic pressures
Quality as a competitive tool

- Quality as perceived by the consumer/customer is key to assessing value for money
- High quality increases profits via higher margins
- High quality reduces cost and therefore improves profits by
  - Eliminating waste
  - Improving efficiency
- Quality is means for gaining competitive advantage
Food quality

- Food quality is the combination of attributes or characteristics of a product that are significant in determining the degree of its acceptability.

- These attributes could be extrinsic or intrinsic.

  - Intrinsic attributes
    - Physical product characteristics, can be measured objectively.

  - Extrinsic attributes
    - Production system
Food quality...

**Extrinsic**
- Environmental aspect
- Animal welfare
- Organic production
- Use of pesticides
- Specific processing technology
- Packaging material
- Use of genetically modified organism

**Intrinsic**
- Safety (microbiological or chemical)
- Nutritional value (actual or non-actual)
- Sensory properties (taste, texture, colour, flavour)
- Shelf life
- Convenience
- Product reliability
Food safety.....

- Absence or acceptable and safe level of contaminants, adulterants, naturally occurring toxins or any other substance that may make food injurious to health on an acute or chronic basis.

- It is the requirement that products must be “free” of hazards with an acceptable risk
  - Hazard is a potential source of danger
  - Risk is a measure of the probability of severity of harm to human health

Food is safe if the risks are judged acceptable (Mercier, 1994)
Food safety...

- Food safety can be affected by:
  - Growth of pathogenic micro-organisms
  - Presence of toxic substances e.g. chemical contaminants (pesticides)
  - Presence of foreign objects e.g. physical contaminants (glass, wood, thread, stones etc.)
  - Occurrence of calamities
Food chain/Agri-food chain

- Is the sequence of steps and operations involved in production, processing, distribution, storage and handling of a food and its ingredients from primary production to consumption.
- It means from “Farm to Fork” or “Stable to Table”
Fig 2: Agri-food chain
Thank you for listening!!!!!!