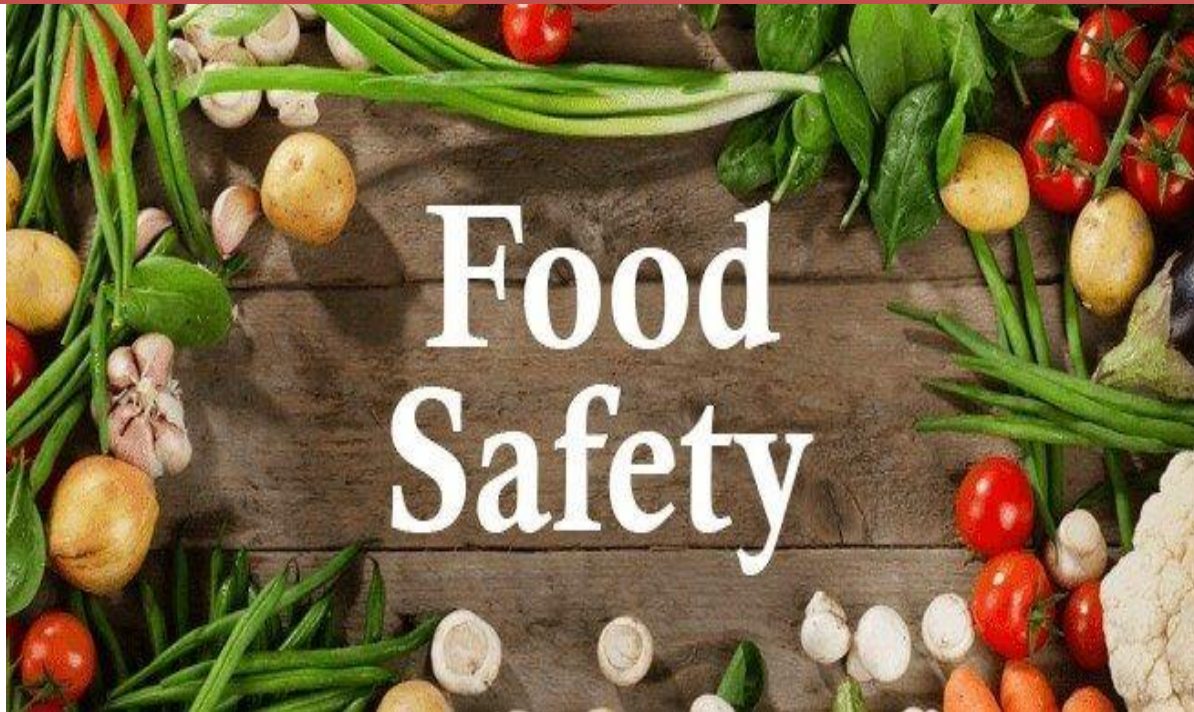


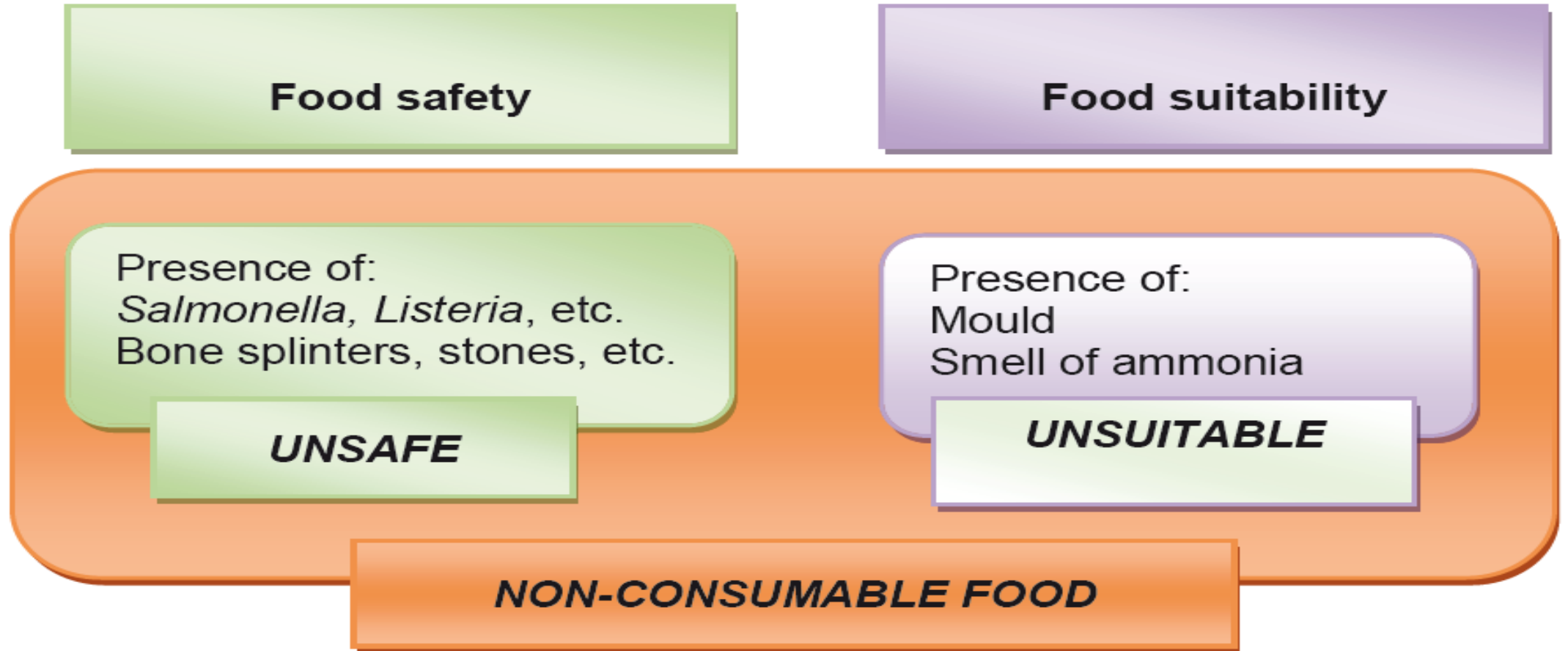
VETERINARY PUBLIC HEALTH AND FOOD SAFETY (second part)

Introduction of Food safety

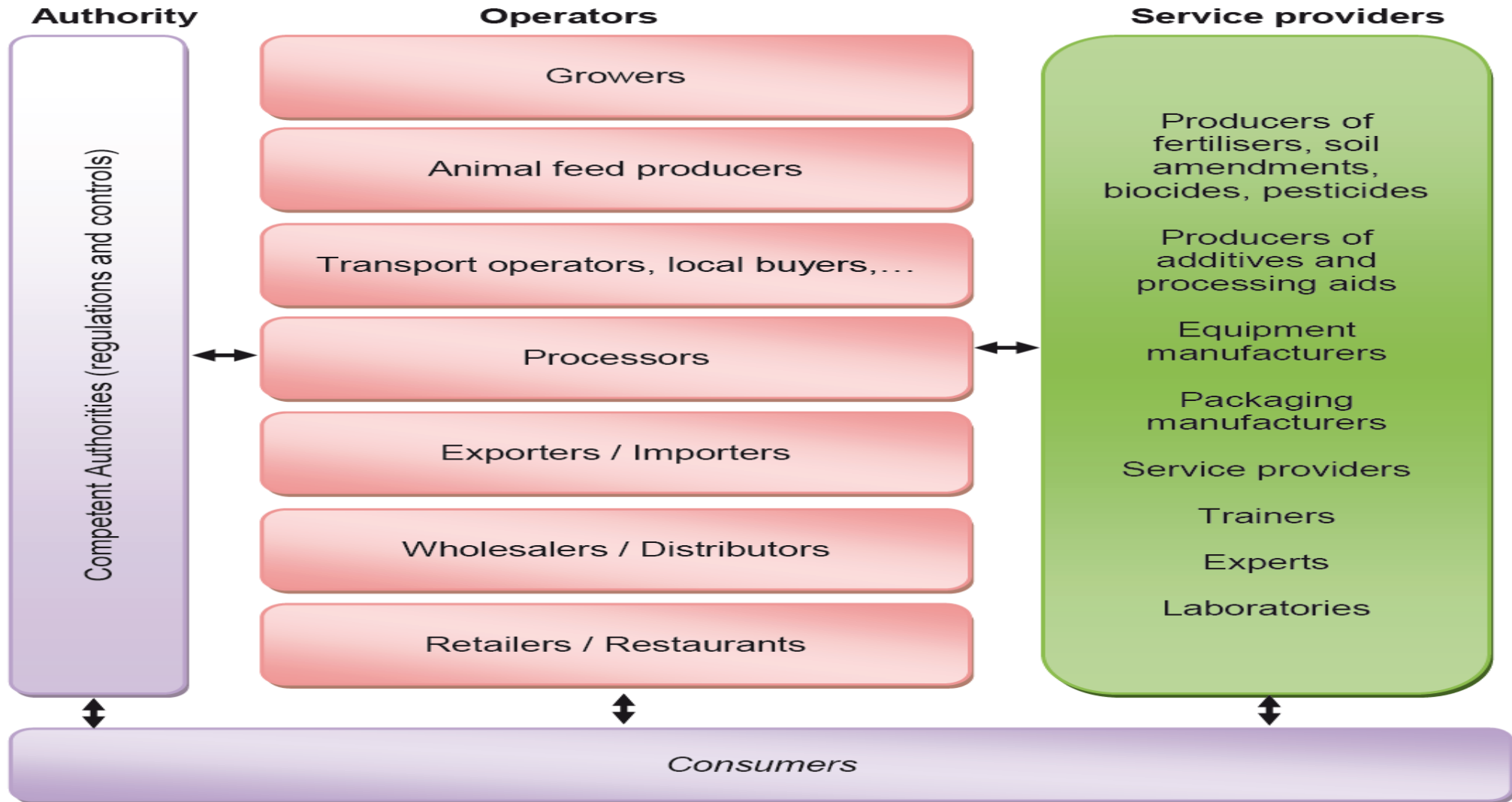


- **Food Hygiene** is the measures and conditions necessary to control hazards and ensure fitness for human consumption of a foodstuff taking into account its intended use” (European regulations).
- Food hygiene comprises two components:
 - **Food safety**: is the assurance that food will not cause harm to the consumer when it is prepared and /or eaten according to its intended use.
 - **Food suitability**: concerns the **intrinsic characteristics of the product**, namely taste, smell, texture and presentation, characteristics that can change with the presence of spoilage microbes (bacteria, yeast and mould).
 - Suitability is the assurance that the food is 'acceptable' for human consumption.

❖ Food safety and suitability must be assured at every link of the food chain



Who is responsible for food hygiene ?



General Principles of Food Hygiene

- **Primary production**
- **Establishment design and facilities**
- **Control of operations**
- **Maintenance and sanitation**
- **Personal Hygiene**
- **Transportation**
- **Product information and consumer awareness**
- **Training**

Primary production

- **Environmental hygiene**

Where the environment/ surrounding poses a threat to food safety.

- **Hygienic production of Food Sources**

Control of contamination from air, soil, water, feed-stock, pesticides, veterinary drugs or any other agent used in primary production. Protect food sources from fecal and other contaminant.

- **Handling storage and transport**

Use appropriate storage materials and equipment. Protect food and food ingredients from contamination by pests, chemicals, microbiological or physical or other objectionable substances during handling storage and transportation. Cross contamination.

- **Cleaning maintenance and personal hygiene.**

Establishment Design and Facilities

- **Nature of operations, associated risks – Premises and equipment and facilities to minimize risk and ensure food safety**
- **Location:**
 - Potential sources of contamination from surroundings.
- **Internal design, structures and layout of the premises rooms and equipment :**
 - Should facilitate measures that prevent contamination, durable, movable and capable of being disassembled to allow for maintenance, cleaning, disinfecting and monitoring
- **Facilities especially temporary or mobile facilities :**
 - Directly or indirectly impact food safety: water quality, air quality, drainage and waste disposal, temperature control, personal hygiene, lighting, storage ensure effective protection from contamination during storage.

Control of Operations

- **Control of food hazards through the use of HACCP system:**
 - Potential sources of contamination from surroundings, Time and Temperature.
- **Key aspects of hygiene control systems:**
 - Specific process steps, Microbiological and other specifications, microbial cross contamination, physical and chemical contamination.
- **Incoming material requirements:**
 - Specification to be identified and applied, where possible inspected and sorted before processing.
- **Packaging:**
 - Design and materials used.
- **Water:**
 - In contact with food and used as an ingredient Special care for Ice and steam.
- **Management and supervision:**
 - Size of the business, nature of activity and type of food.
- **Documentation and records:**
 - Period that exceeds shelf life.
- **Recall procedures:**
 - Complete recall, handling and communication.

Maintenance and Sanitation

- **Cleaning methods and procedures:**
 - Appropriate for the type of product and type of machine. Hidden residual food/pest infestation.
- **Cleaning Programs:**
 - Method, frequency and monitored for their suitability and effectiveness.
- **Pest Control Systems:**
 - Preventing access, preventing harborage and infestation, monitoring and detection, eradication measures.
- **Waste Management:**
 - Method, frequency and effectiveness.
- **Monitoring Effectiveness:**
 - Periodic Audit, microbial sampling.

Personal Hygiene

- **Health Status of Employees.**
- **Illness and injuries:**
 - Communicable diseases and surface injuries to hands or parts that come in contact with food items.
- **Personal cleanliness:**
 - Clothing
- **Personal Behavior**
 - Smoking, spitting, chewing and eating, sneezing , personal effects.
- **Visitors**
 - Rules and guidelines for entry and access and safety or protective covering.

Transportation

- **Design of conveyances and bulk containers.**
 - Proper segregation to prevent cross contamination, Time, temperature and humidity controls available and monitored, Appropriate for type of packaging.
- **Use and maintenance.**
 - Mixed and prior usage, appropriate scheduling and corrective measures.

Product information and consumer awareness

- **Lot identification**
 - Codex standard & FSSAI rules
- **Product information**
 - Bear adequate information to enable the next person in the food chain to handle, display, store prepare and use the product safely and correctly.
- **Labelling**
 - Codex standards and FSSAI rules
- **Consumer education**
 - Hygiene, nutrition, label instructions

Training

- **Awareness and responsibility**
- **Training Programs**
 - **Nature of food and its ability to sustain growth of harmful micro-organisms.**
 - **Manner in which food is handled/packed .**
 - **Extent/Nature of processing or further preparation before final consumption.**
 - **Conditions under which the food will be stored.**
 - **Expected length of time before consumption.**
- **Instructions and supervisions**
- **Refresher Training**

- **Food safety management** is the application of food policies, systems and processes in a food operation in order to prevent food borne illnesses and protect consumer health.
- The food safety standards addresses the chemical, physical and biological risks through the use of
 - Good Manufacturing Practices (GMP),
 - Good Hygiene Practices (GHP) and
 - Hazard Analysis Critical Control Point System HACCP.