

Food Preservation Method

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Lecture content

Food Preservation: Overview

Preservation Using Chemicals and Microbes

Preservation by Controlling Water, Structure, and Atmosphere

Preservation Using Heat and Energy

Food Preservation

Preservation methods start with the complete analysis and understanding of the whole food chain,

including growing,

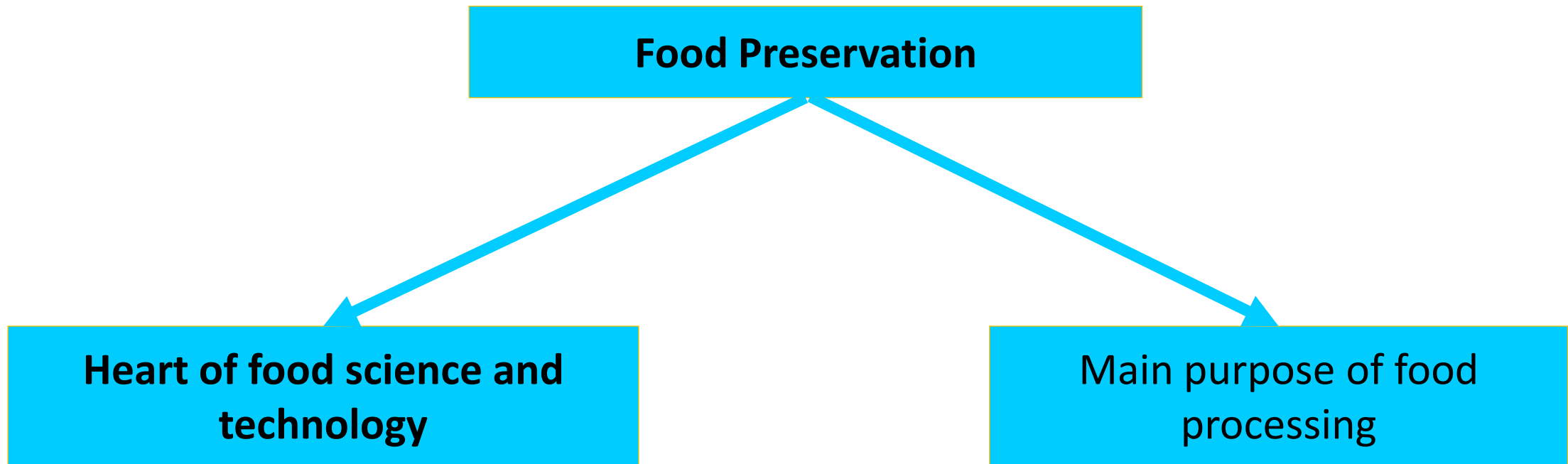
harvesting,

Processing,

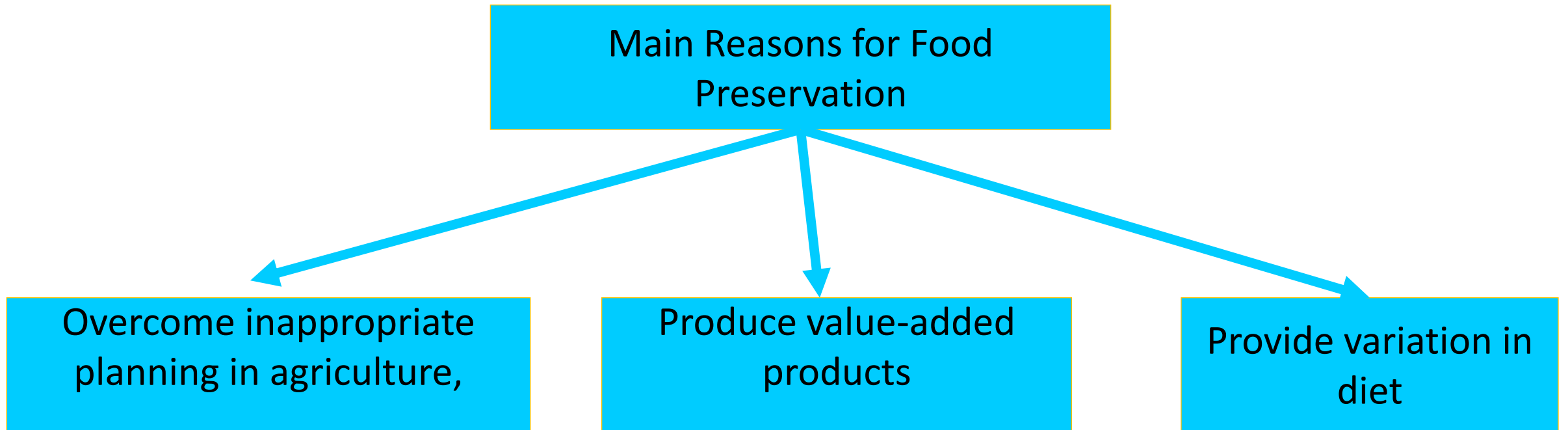
packaging,

and distribution;

Food preservation



Why Preservation?



Why to preserve food?



If we are able to preserve foods, we enjoy any kind's foods in any season

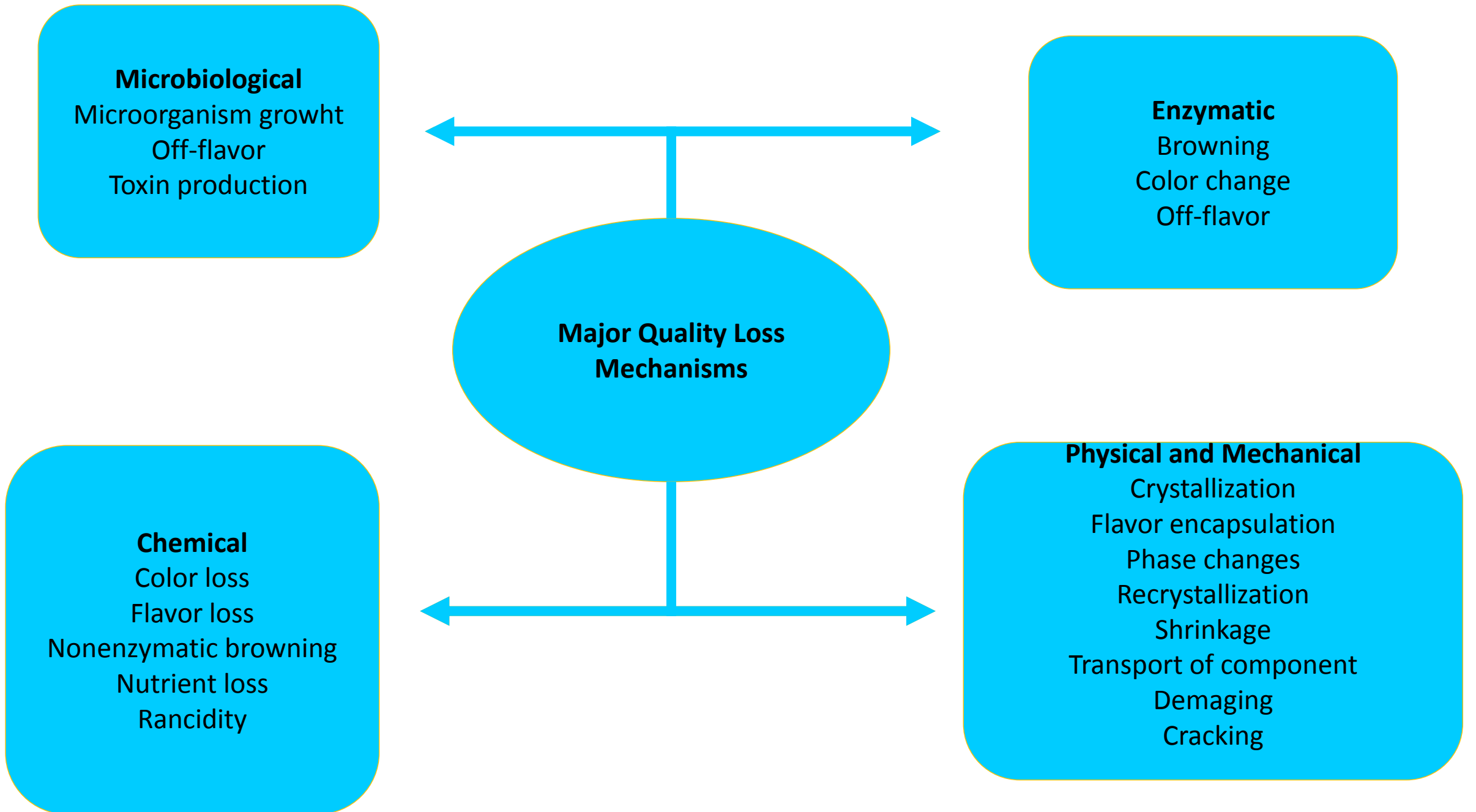
We eat food even it is not available in our areas

We can store our food easily and without worries

Important Factor

In food preservation, the important points that need to be considered are

- ✓ The desired level of quality (sensory, nutritional, functional, microbiological)
- ✓ The preservation length,
- ✓ The group for whom the products are preserved



Storage Life of Some Fresh Foods at Normal Atmospheric Conditions

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graph TD; A[Storage Life of Some Fresh Foods at Normal Atmospheric Conditions] --> B[Perishable (1-2 days)]; A --> C[Semiperishable]; A --> D[Nonperishable]; B --> B1[Meat, Fish and Milk]; C --> C1[Fruits and vegetables (1-2 weeks)]; C --> C2[Root Crops (3-4 weeks)]; D --> D1[Grain, pulses, seeds and nuts (12 months)];
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Perishable (1-2 days)

Meat, Fish and Milk

Semiperishable

Fruits and vegetables (1-2 weeks)

Root Crops (3-4 weeks)

Nonperishable

Grain, pulses, seeds and
nuts
(12 months)

Food Preservation Methods

Inhibition

Low-temperature storage
Reduction of water activity
Decrease of oxygen
Increase of carbon dioxide
Acidification
Fermentation
Adding preservatives
Adding antioxidants
Control of pH
Freezing
Drying
Concentration
Surface coating
Structural modifications
Chemical modifications
Gas removal
Changes in phase transition
Hurdle technology

Inactivation

Sterilization
Pasteurization
Irradiation
Electrifying
Pressure treatment
Blanching
Cooking
Frying
Extrusion
Light
Sound
Magnetic field

Avoid recontamination

Packaging
Hygienic processing
Hygienic storage
Aseptic processing
HACCP
GMP
ISO 9000
TQM
Risk analysis and management