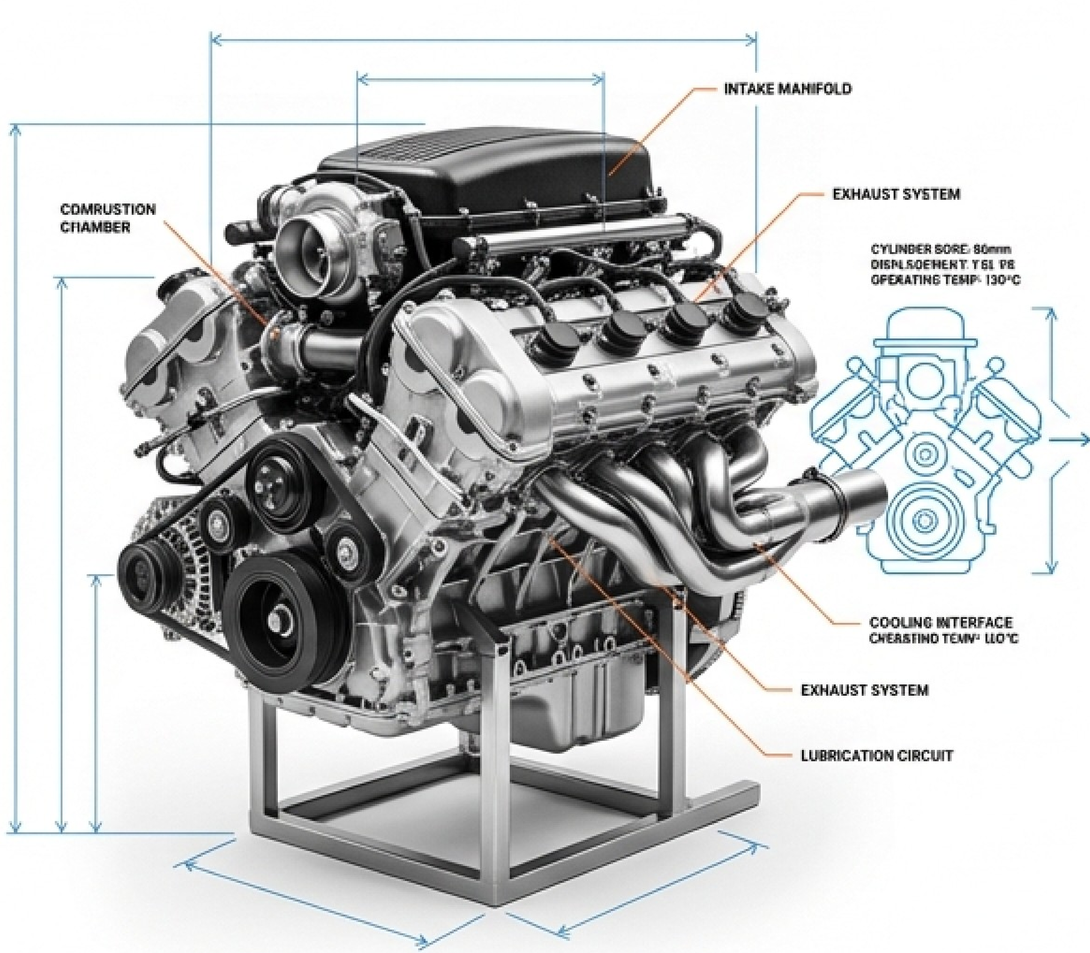
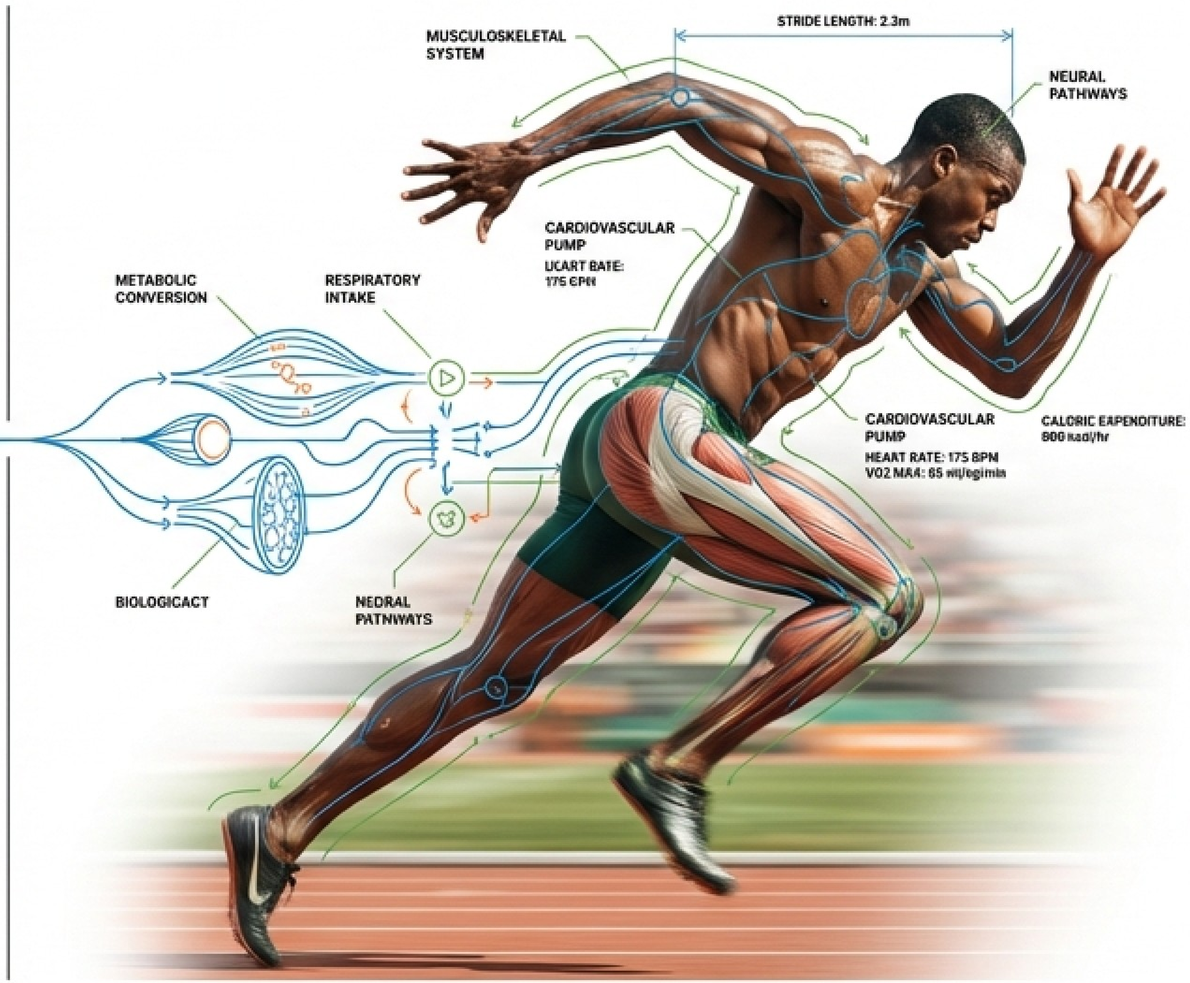
HUMAN BODY: THE USER MANUAL

A Guide to Inputs, Maintenance, and System Integrity





SUBJECT: FOOD AND NUTRITION

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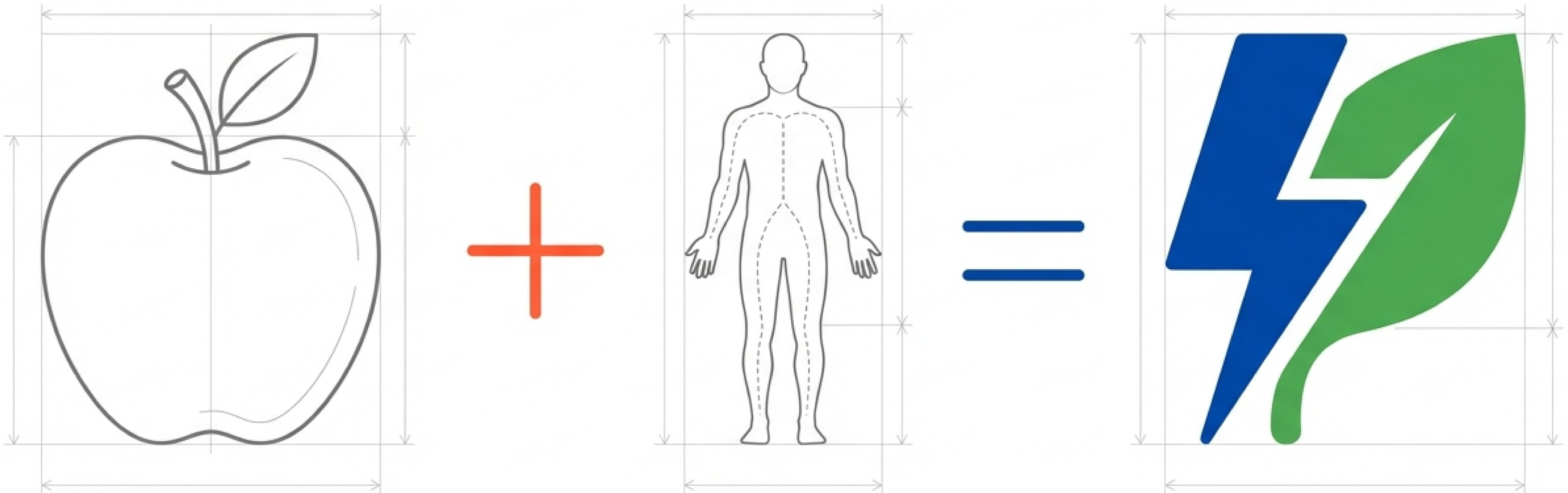
The Operational Definition



Food

Any substance consumed to provide nutritional support. The raw input.

Nutrition

The internal process of taking in food and utilising it for growth, energy, repair, and maintenance.

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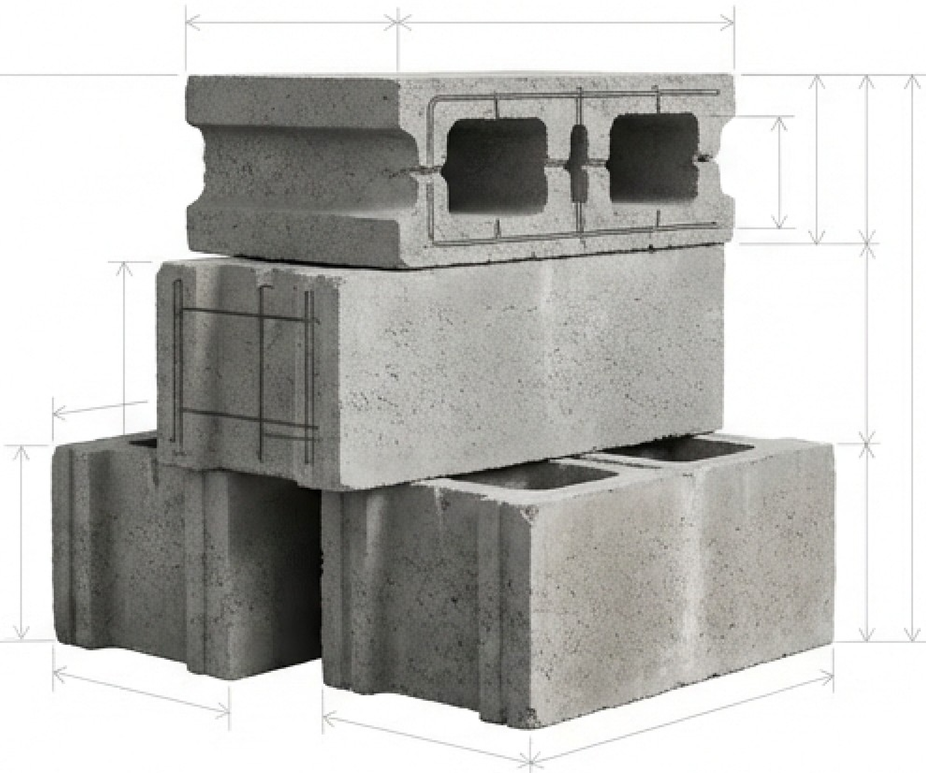
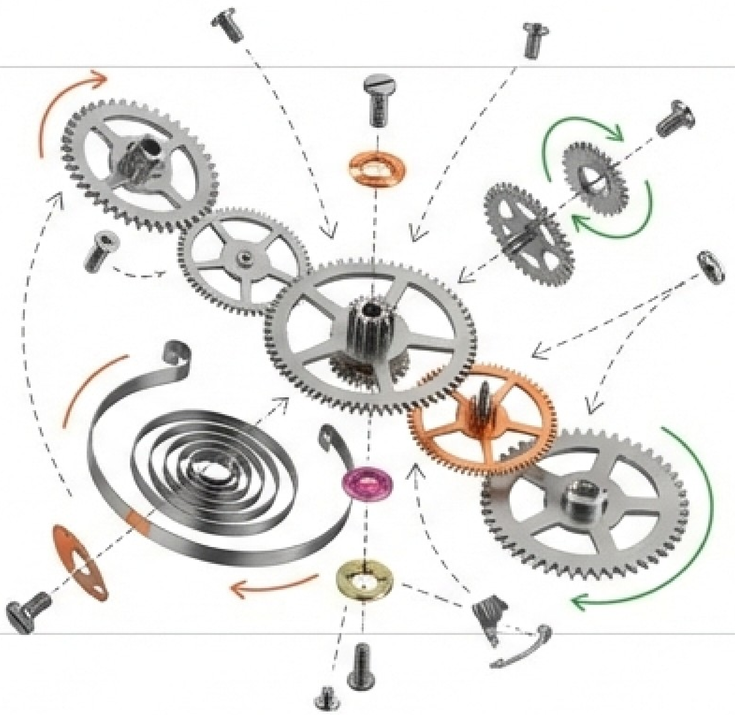
The Fuel Mix: Categorising Nutrients

MACRONUTRIENTS



Required in large quantities. Primary energy source and structural material.

MICRONUTRIENTS



Required in trace amounts. Protection and regulation systems.

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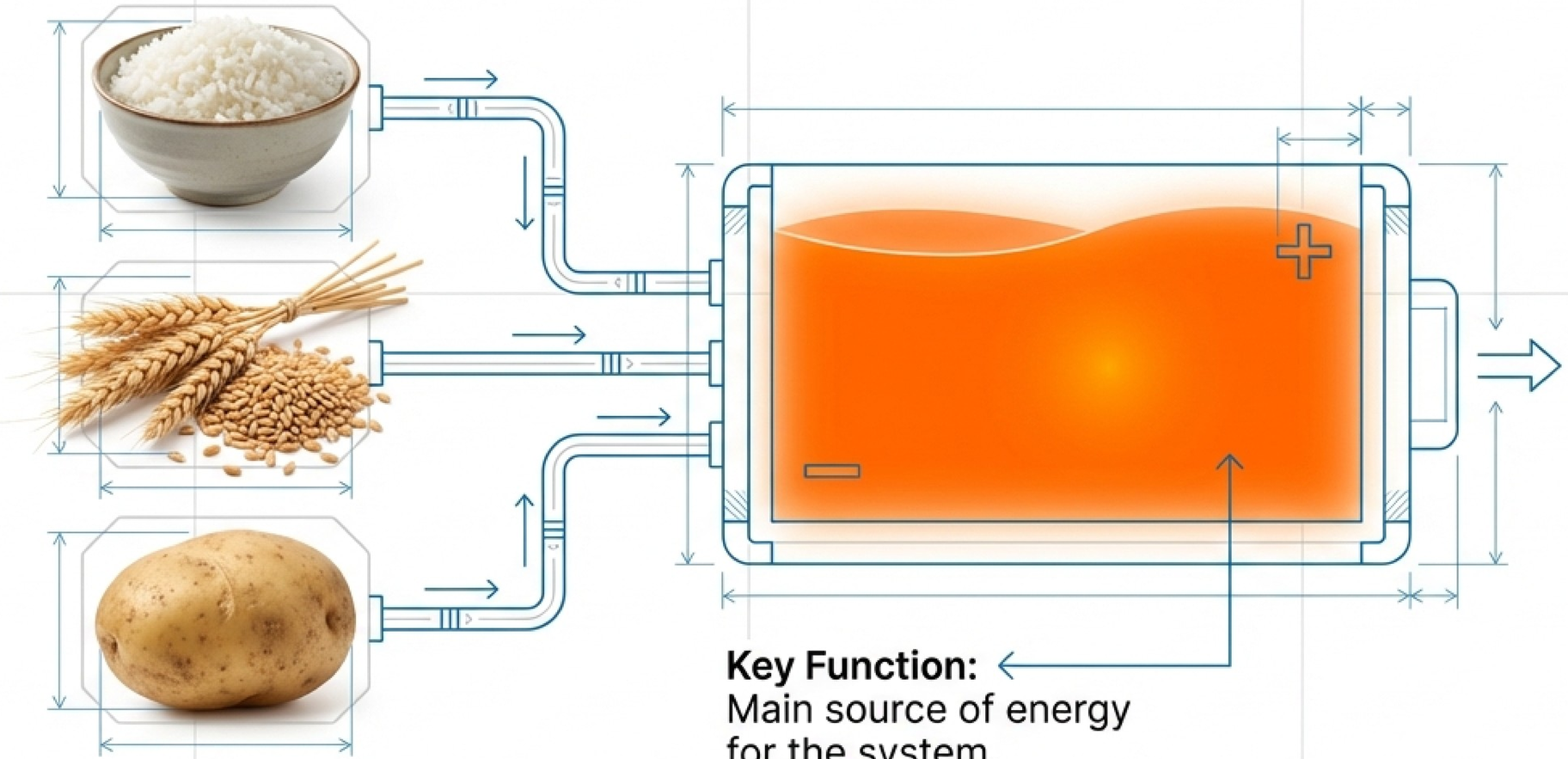
CATEGORY: MACRONUTRIENT

Carbohydrates: The Primary Power Source



Key Function:
Main source of energy for the system.

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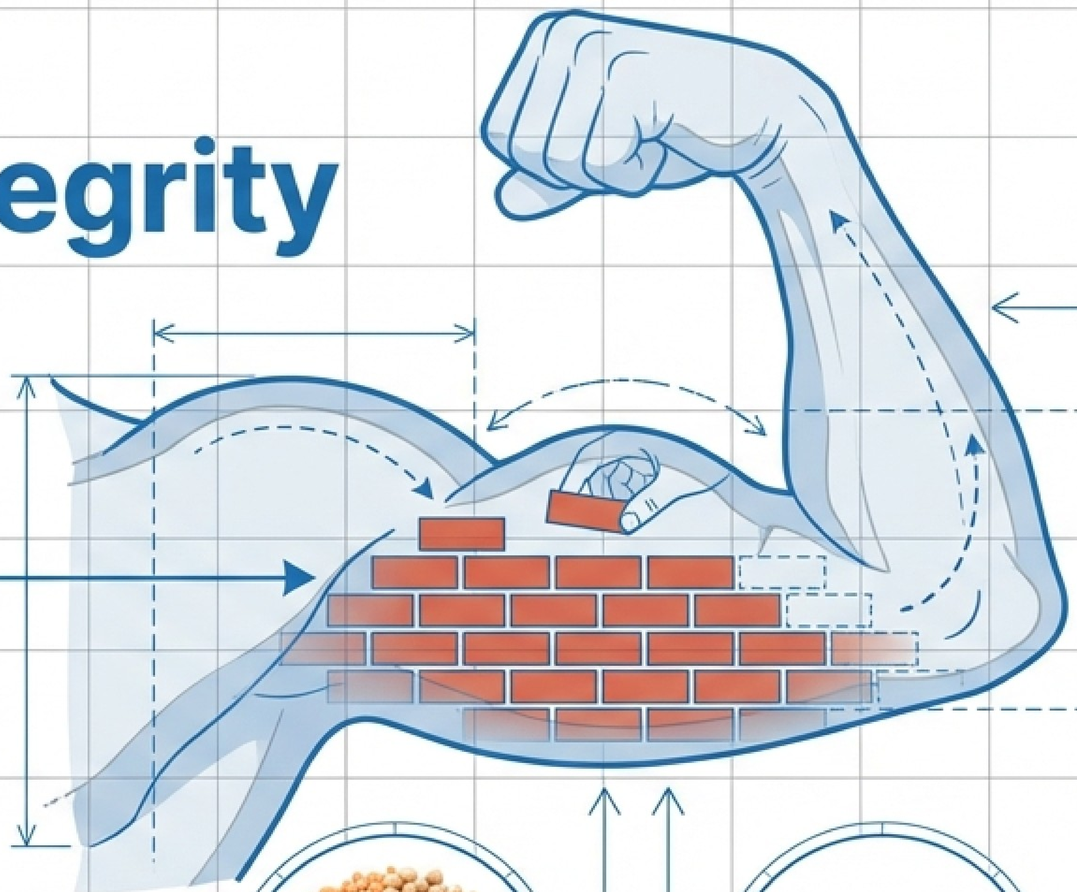
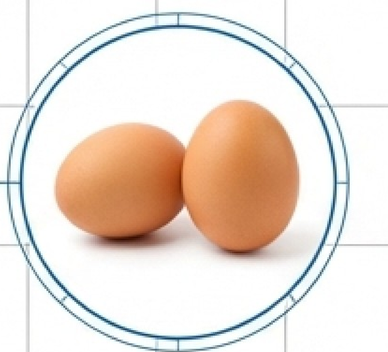
CATEGORY: MACRONUTRIENT

Proteins: Structural Integrity

Key Function:
The body-building nutrient necessary for growth and repair.





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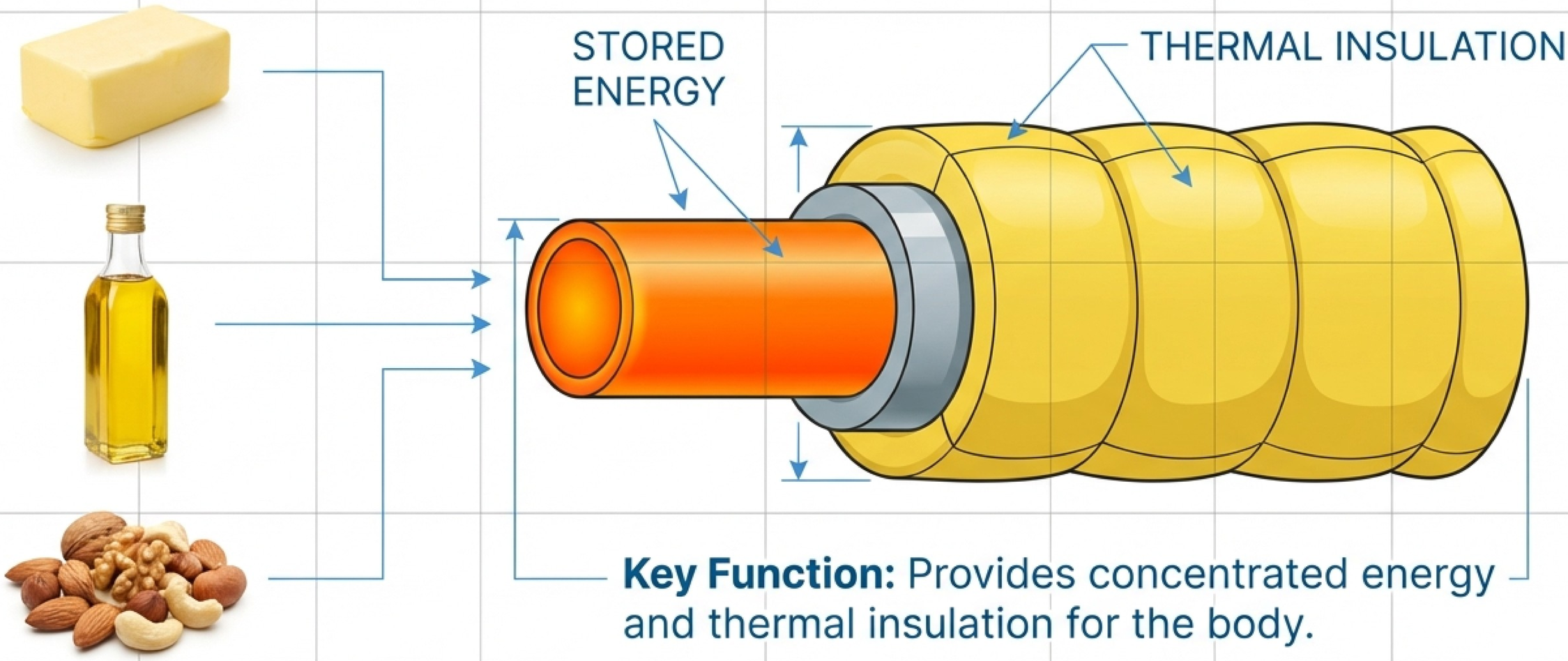
CATEGORY: MACRONUTRIENT

Fats: Reserves & Insulation



Key Function: Provides concentrated energy and thermal insulation for the body.

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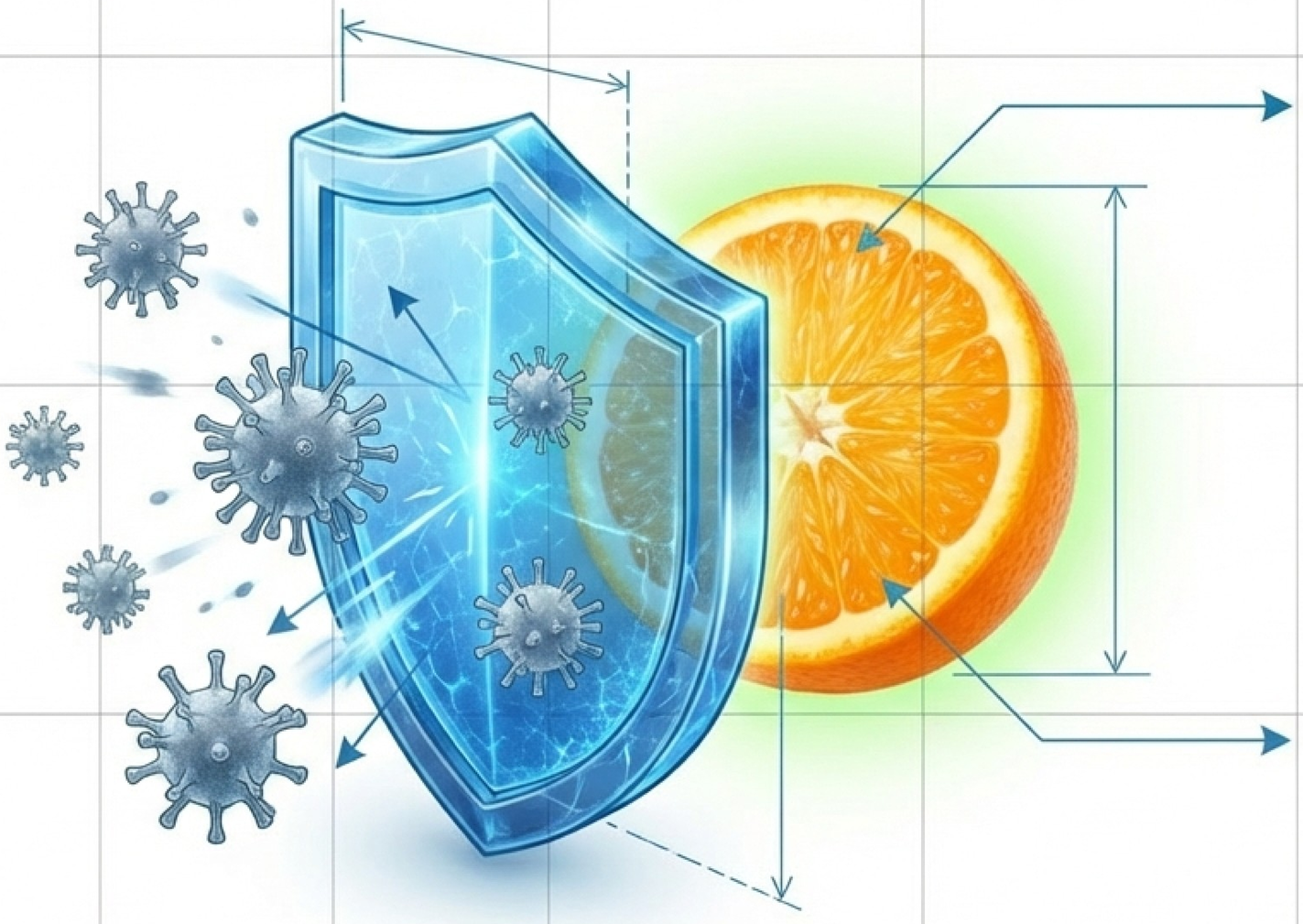
CATEGORY: MICRONUTRIENT

Vitamins: The Defense System



Key Function: Protects the body from diseases and regulates health.

Primary Source:
Citrus fruits (Vitamin C).

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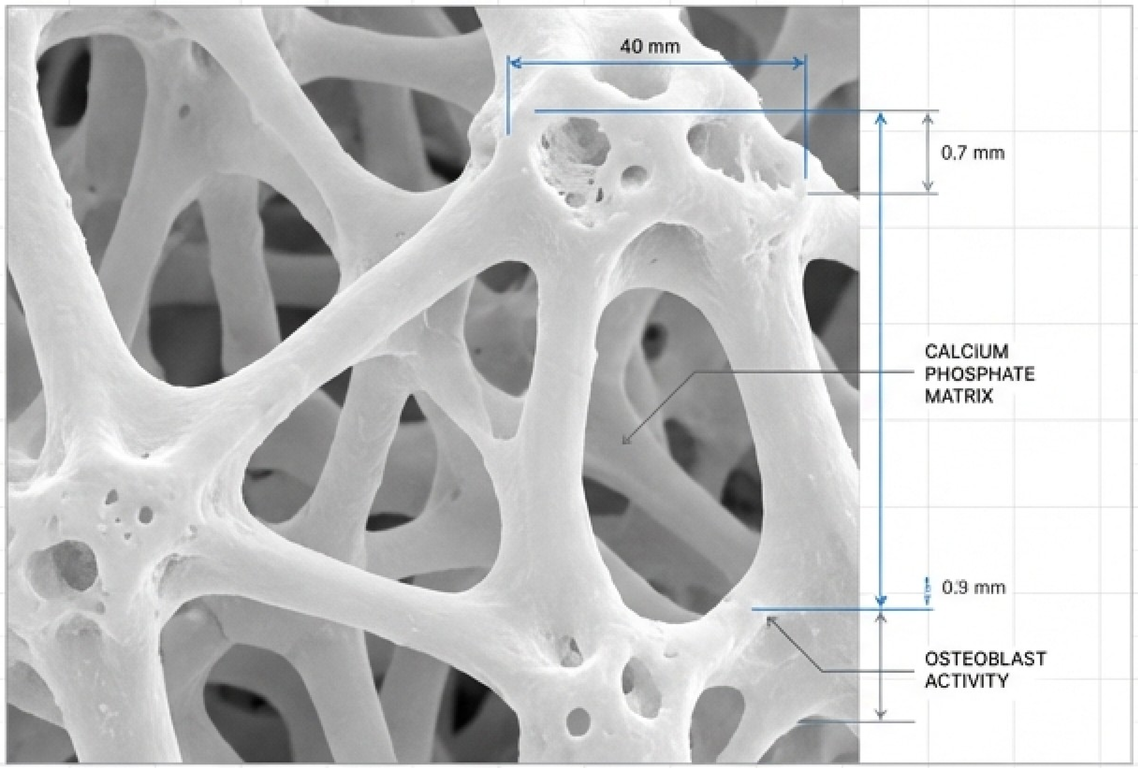
Minerals: Internal Hardware

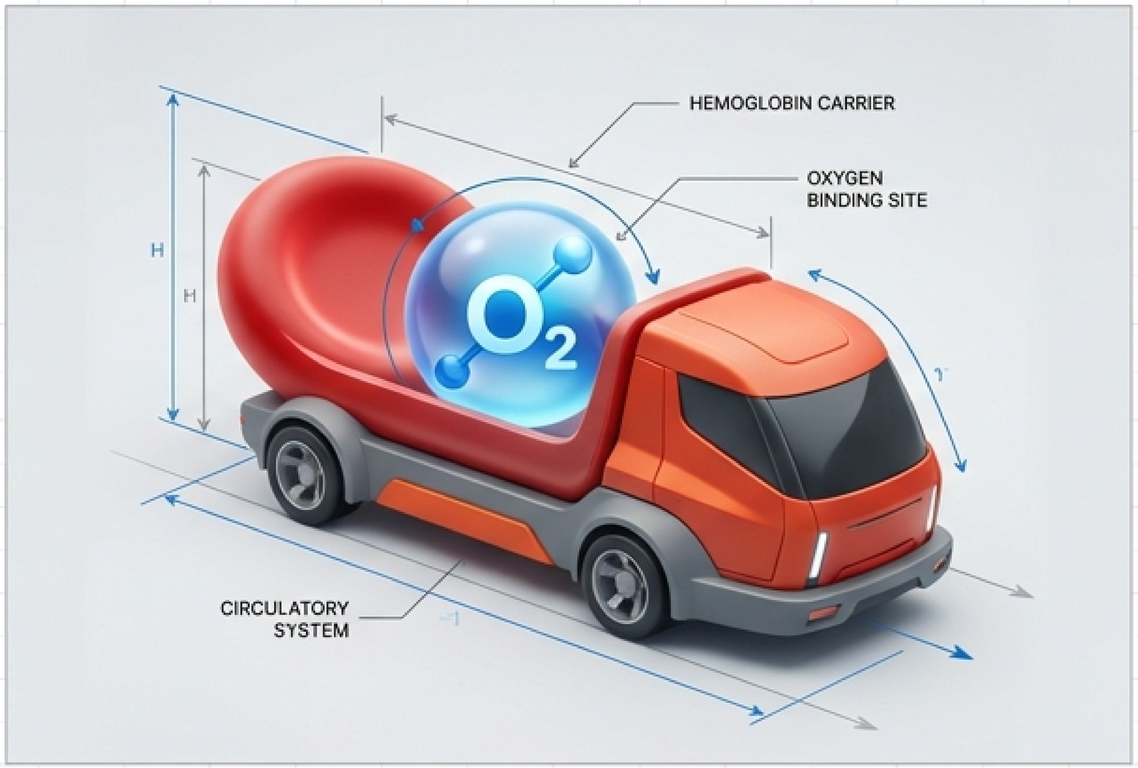
CATEGORY: MICRONUTRIENT

STRUCTURE (CALCIUM)



→ Essential for building strong bones and maintaining healthy blood.

TRANSPORT (IRON)



→ Essential for building strong bones and maintaining healthy blood.

→ **Key Function:** Essential for building strong bones and maintaining healthy blood.

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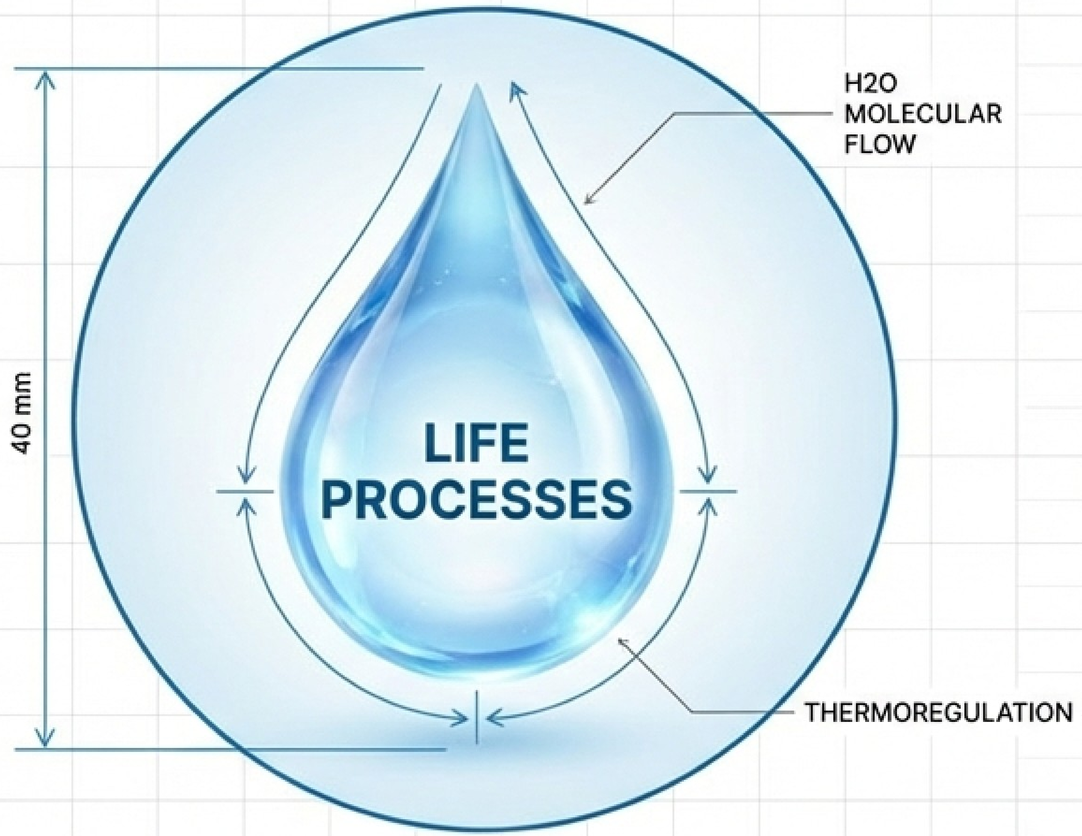
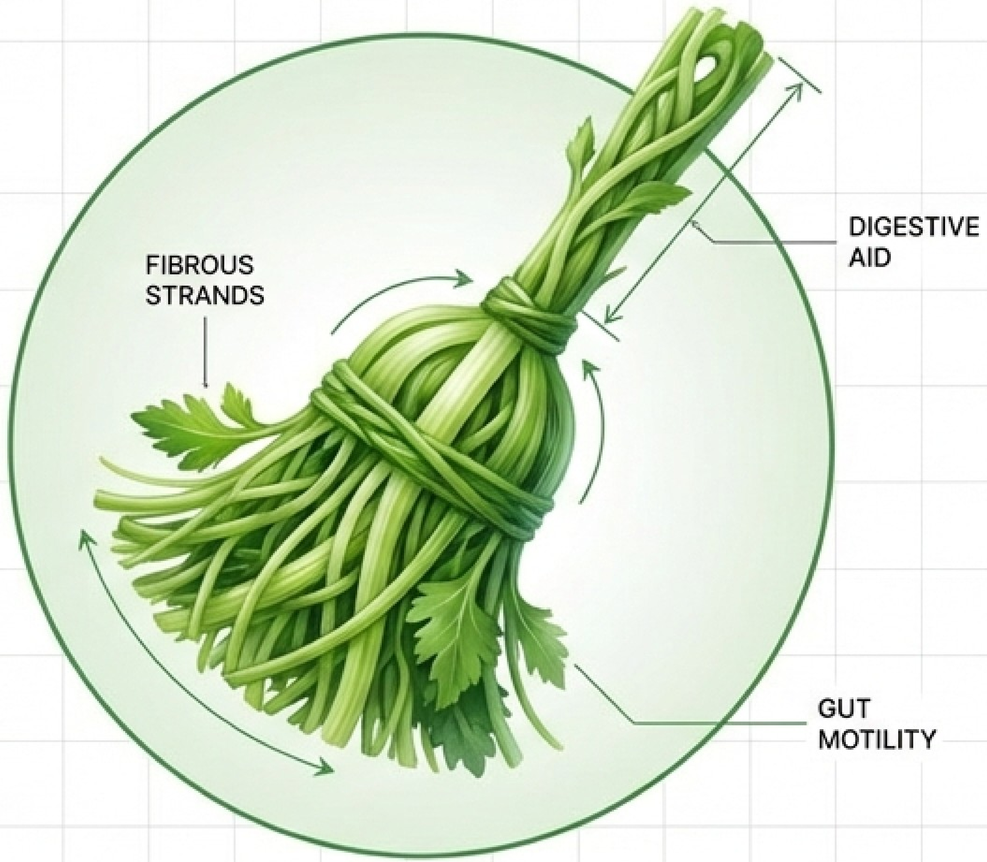
System Maintenance: Cleaning & Cooling



Water: Essential for all metabolic operations.



Roughage: Fibrous material (e.g., green vegetables) that aids digestion.

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The Blueprint: A Balanced Diet

A diet containing all nutrients in the right proportion.

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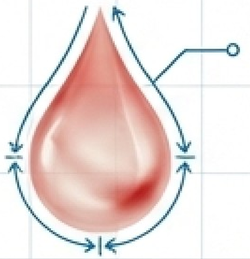
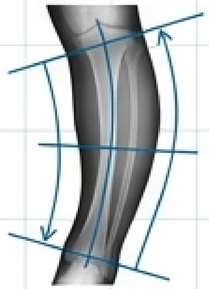
System Errors: Deficiency Diseases

MISSING INPUT: VITAMIN C	→	**ERROR: SCURVY** 
MISSING INPUT: IRON	→	**ERROR: ANEMIA** 
MISSING INPUT: VITAMIN D	→	**ERROR: RICKETS** 

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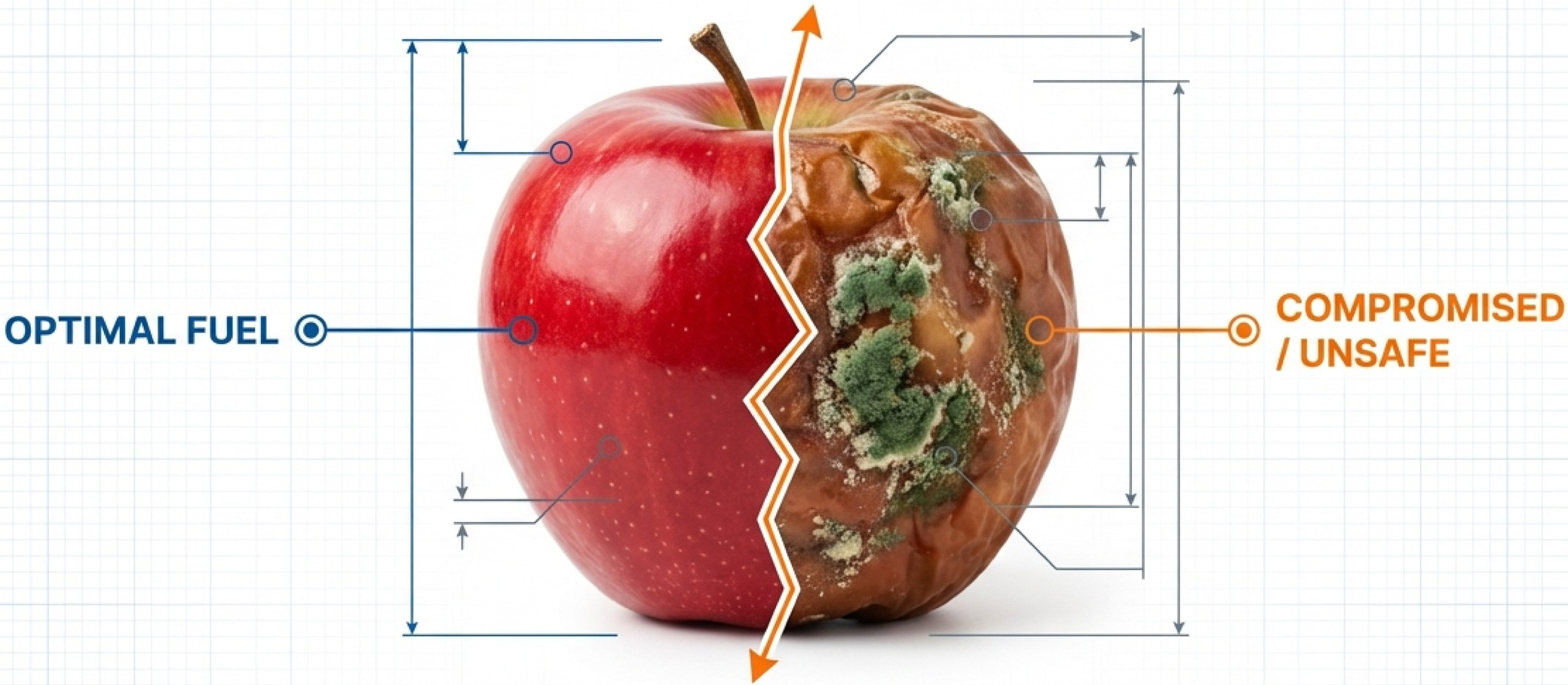
Threat Analysis: Food Spoilage



Definition: The process in which food becomes unsafe or unsuitable for consumption.

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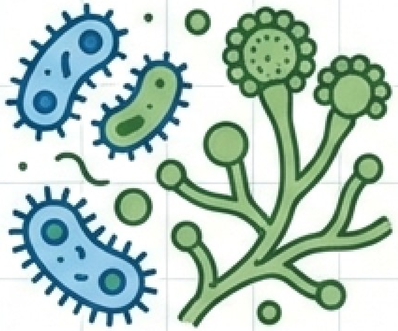
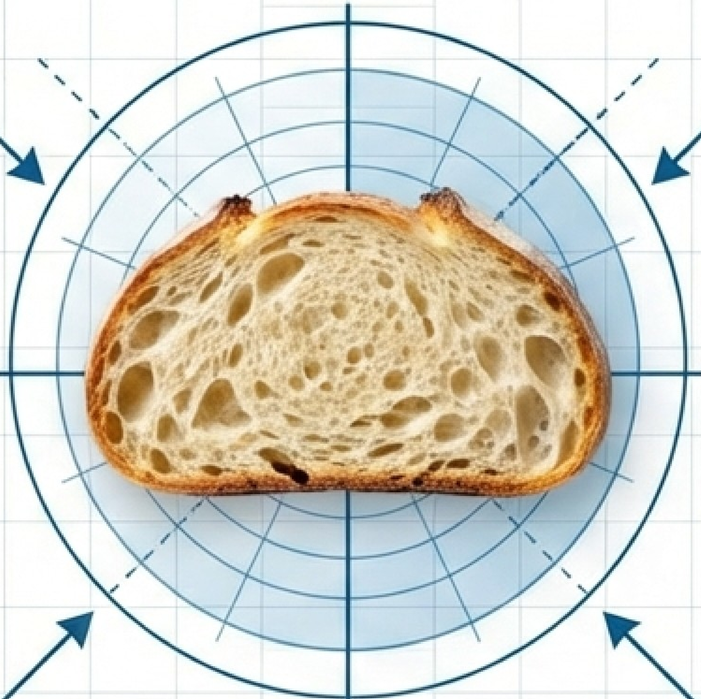
The Culprits: Causes of Spoilage

Microorganisms

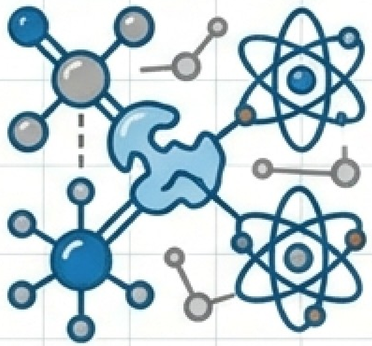


Environment



Conditions

Internal



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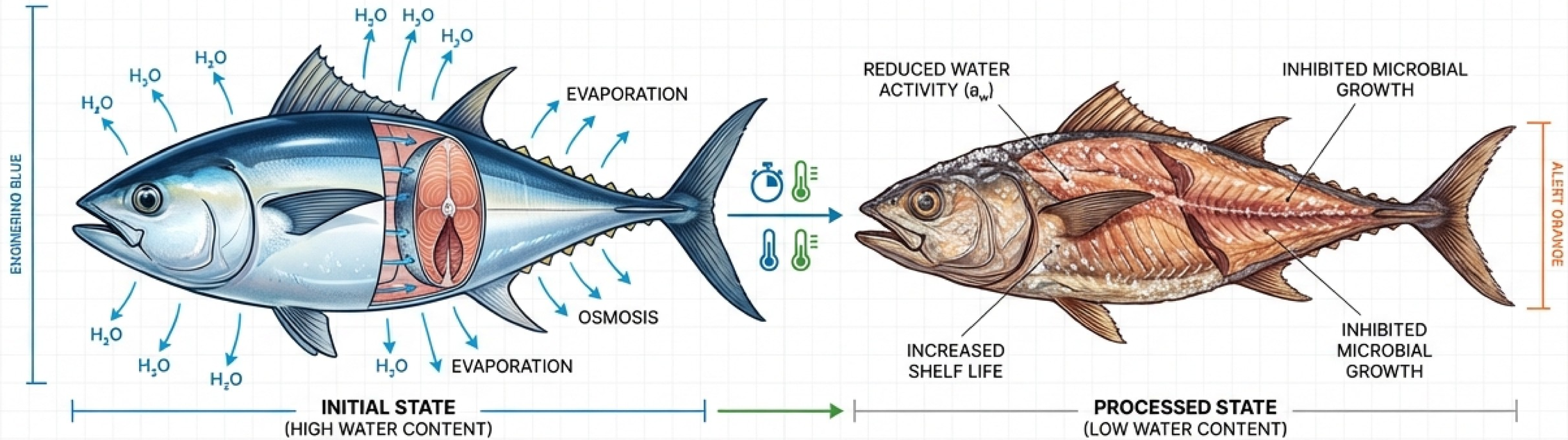
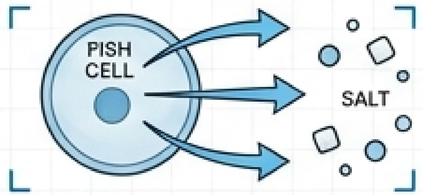
Countermeasure A: Moisture Removal

Logic: Removing moisture prevents microorganism growth.



- 1. **Drying** (Sun or machine drying)
- 2. **Salting & Sugaring** (Draws out water via osmosis)



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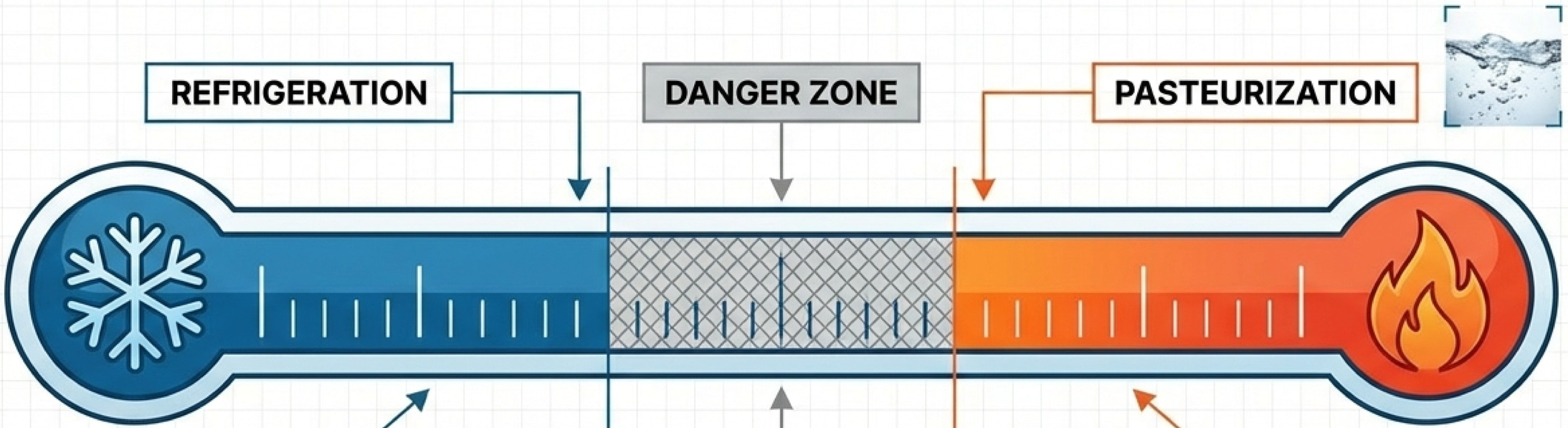
Countermeasure B: Temperature Control



Low temp slows bacterial activity.

High heat (boiling milk) kills bacteria.

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Countermeasure C: Isolation

Technique: Canning

Logic: Storing food in sealed containers cuts off air supply and prevents new microorganisms from entering.

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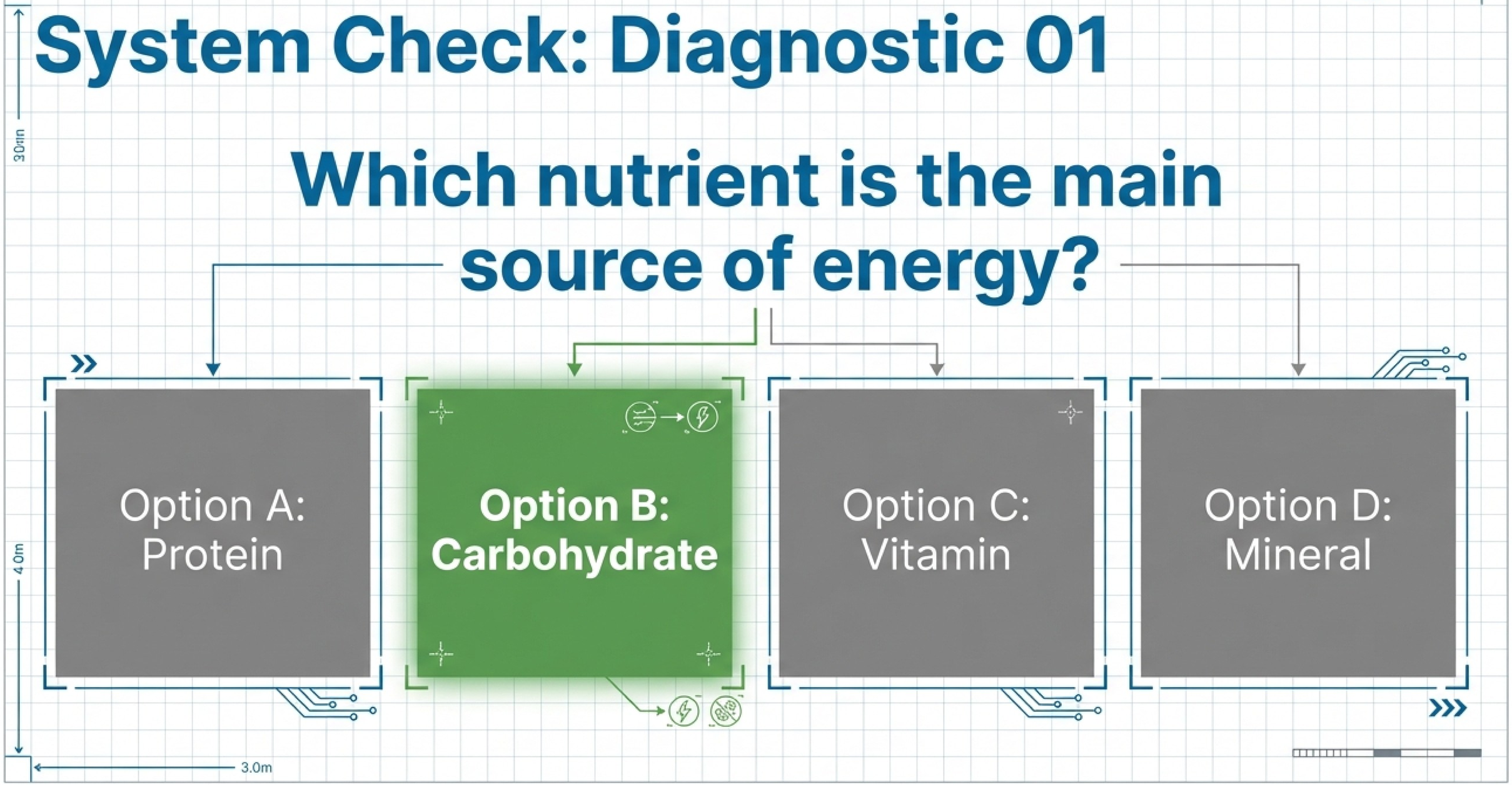
System Check: Diagnostic 01

Which nutrient is the main source of energy?



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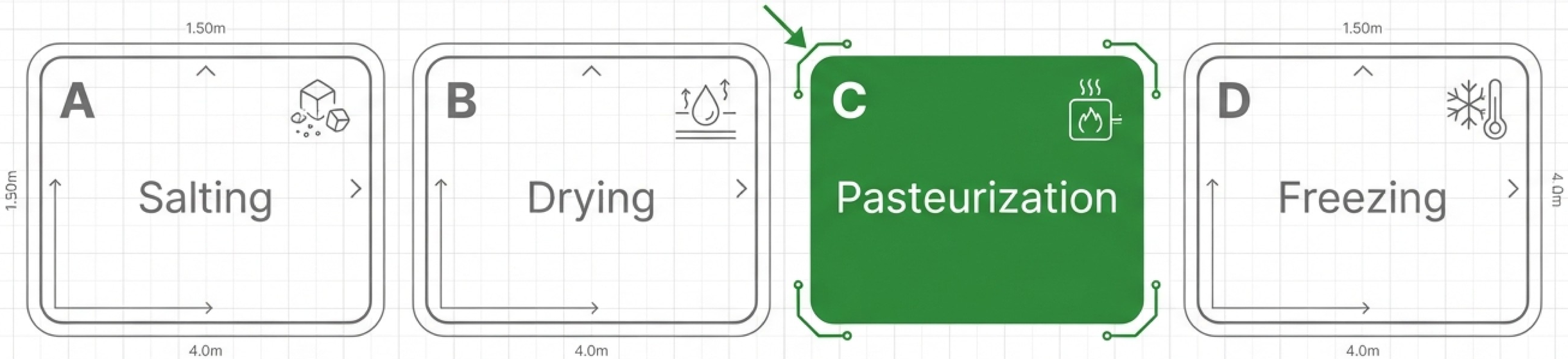
System Check: Diagnostic 02

Which method is used to preserve milk?



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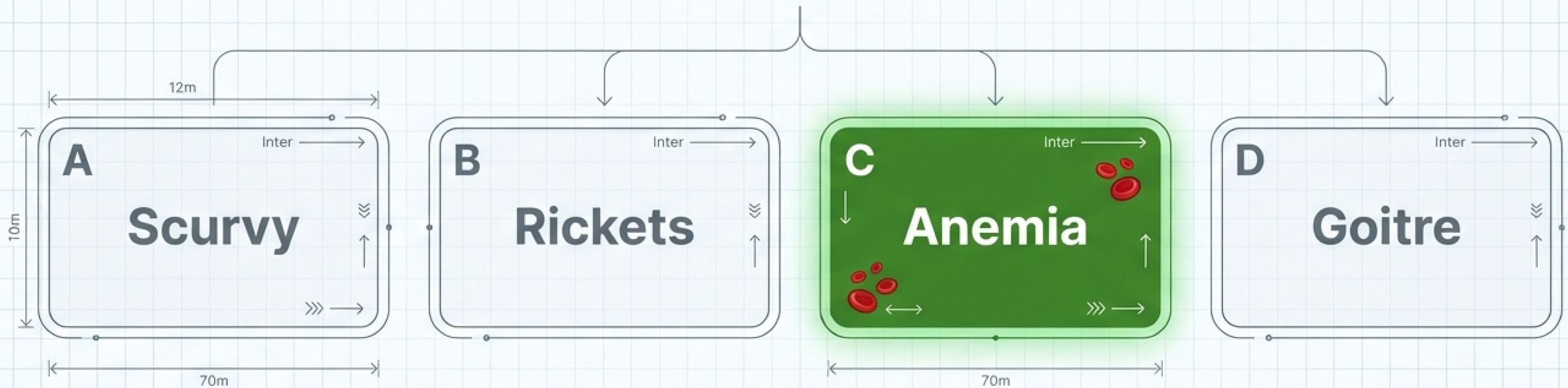
System Check: Diagnostic 03

Iron deficiency causes...



KNOWLEDGE DATABASE UPDATED. SYSTEM OPTIMAL.

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