

Tishk International University
Faculty of Applied Sciences
Nutrition and Dietetics Department
Principles of Food Science



Food Additives & Ingredients

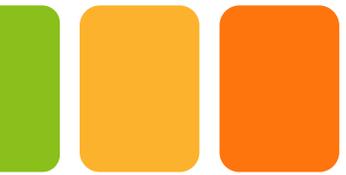


Lecture No.: 5

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Pre-Lab Objectives

Understand types of food additives.

Learn functions of common ingredients.

Prepare for hands-on practical tests.

What Are Food Additives?

Food additives are substances added to food to preserve flavor, enhance taste, appearance, or extend shelf life.



Major Types of Food Additives



Preservatives



Colorants



Flavor Enhancers



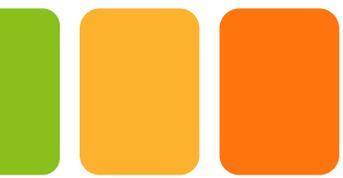
Emulsifiers



Stabilizers & Thickeners



Antioxidants



Major Types of Food Additives

1. Preservatives:

- Used to prevent spoilage from bacteria, molds, and yeast, and extend shelf life. Examples: sodium benzoate. potassium sorbate.

2. Colorants (Food Colors)

- Added to enhance or restore the color of food, making it more appealing. Examples: caramel color. beta-carotene. artificial food dyes.

3. Flavor Enhancers

- Improve or intensify the flavor of food without adding a separate flavor of their own. Examples: monosodium glutamate (MSG). disodium inosinate.

4. Emulsifiers:

- Help mix ingredients that normally separate, such as oil and water, improving texture and stability. Examples: lecithin. polysorbates.

5. Stabilizers & Thickeners

- Improve consistency, create smooth textures, and prevent ingredient separation. Examples: xanthan gum. carrageenan. gelatin.

6. Antioxidants

- Prevent oxidation, which can cause spoilage, browning, or rancidity.
- Examples: ascorbic acid (vitamin C), tocopherols (vitamin E).

Practical Activity 1: Identifying Additives

- Collect food labels.
- Identify listed additives.
- Record E-numbers.
- Classify each additive.



Food ingredients are the individual components or substances that are used to make a food product.

They include anything added to food during preparation, processing, or production to provide taste, texture, color, nutrition, or preservation.

Examples of Food Ingredients

- Basic ingredients: flour, sugar, salt, water, oil
- Nutritional ingredients: vitamins, minerals, proteins
- Flavoring ingredients: spices, herbs, natural or artificial flavors
- Functional ingredients: emulsifiers, stabilizers, thickeners
Preservation ingredients: acids, antioxidants, preservatives



Why Food Ingredients Are Used?

Food ingredients serve many purposes, such as:

Improving taste and flavor

Enhancing texture and appearance

Providing nutrients

Helping food stay fresh and safe longer

Maintaining quality during storage and transport

Practical Activity 1: Ingredient Function Test

- Prepare 2 samples of natural juice.
- Add vitamin C tablet to of them.
- Observe texture, color, stability.
- Analyze differences.

Practical Activity 2: Ingredient Function Test

- Prepare 2 samples of coffee and milk.
- Add the food taste enhancer to it.
- Observe texture, color, stability.
- Analyze differences.

Practical Activity 3: Ingredient Function Test

- Prepare samples with powdered juice
- Observe texture, color, stability.
- Compare the sample with the natural juice.

