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Food Preservation and Its Techniques

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INTRODUCTION

Food preservation is a technique widely used to preserve food quality, improve its sensory properties. Preservation increases the shelf life and imparts their original properties. Foods that are easily deteriorated are preserved for further use. Food preservation is a critical control that influences. The retention of food quality is important to ensure the consumption of food with high nutritional value for our health. Thus, the best way to retain food quality and prevent them from deterioration is by preservation methods. There are various methods that can be used to preserve food including conventional methods and modern methods.

Conventional Methods:

1. Drying, 2.Refrigeration, 3. Fermentation

Modern Methods:

1. Canning, 2. Pasteurization, 3. Freezing, 4. Irradiation, 5. Addition of chemicals

Fig-1: Various Types of Food Items

Methods:

Drying:

Drying or dehydrating food is a method of food preservation which removes enough moisture from the food, so bacteria, yeast and molds can't grow. Drying is done by;

a. Dehydrators, b. Oven drying, c. Sun drying, d. Air drying, e. Microwave drying, f. Refrigeration:

The most common food preservation method is to store food in the refrigerator. Example: almost all types of foods can be easily refrigerated, including drinks, meats (raw and cooked), fruits, meals, vegetables, egg white, oil etc. Refrigeration (cold temperature) slow down the bad bacterial growth greatly, so food can be kept for longer time. Refrigeration doesn't affect flavour or texture.

Fermentation:

The fermentation is a process that involves the breakdown of carbs by bacteria and yeast, which results in a distinctive tart flavor and is used to make foods like yogurt, cheese, and sauerkraut.

Fermented foods have been associated with several positive health effects, including improved digestive health, stronger immunity, and increased availability of beneficial nutrients.

Canning:

Canning is widely used. Canning includes process of placing foods in jars, cans and heating properly to a specified temperature. It helps to preserve many different foods. High heat destroy microorganisms and inactivate enzymes to preserve the safety and quality of the food. Canning includes;

a. Water bath canning , b. Pressure canning, c. Atmosphere steam canning

Pasteurization:

Pasteurization is generally a mild heat treatment given to foods to kill various harmful bacteria (pathogens) and extend shelf life.

Pasteurization may be applied for both packaged and unpackaged solids and liquids food products. Examples of pasteurized products include ;

1. Beer, 2.Dairy products, 3.Egg, 4.Milk, 5. Nut, 6. Syrup, 7. Vinegar , 8. Wine

Freezing:

Frozen food is one of the largest sectors of food industry and its value is increasing throughout the world. There are two main types of freezing system which includes; Mechanical (which use a circulating refrigerant to reduce the temperature of air or a liquid which is passed over the food) and Cryogenic (it uses the direct application of liquid nitrogen or carbon dioxide on the food). Both systems are used to freeze the food using various freezer designs, including tunnel, spiral, fluidized bed, impingement, spray, immersion and some other freezers.

Irradiation:

Food irradiation (the application which ionize radiation to food) is a technology that improves the safety and extends the shelf life of various food products by reducing or eliminating the microorganisms and insects from food. Like pasteurized milk and canning fruits and vegetables, irradiation can make food safer for consumption.

During irradiation, energy passes from the foodas a ray of light passes through a window. This energy destroys most of the bacteria that can cause disease, and allows food to retain its high quality.

Addition of chemicals

Chemical food preservatives are additives that helps to inhibit fungal and bacterial growth in food.

They include; Sugar, salts (Sodium chloride), vinegar (pickling), benzoates (Sodium benzoate), nitrites (Sodium nitrite), sulphites (sulphur dioxide).

Sodium benzoate is most commonly used as food preservative because of it's ability to inhibit bacterial and fungal growth.

REFERENCES

https://www.researchgate.net/publication/232985760_Saving_Food_Food_Preservation_as_Alternative_Food_Activism

https://www.researchgate.net/publication/319620370_Review_on_methods_for_preservation_and_natural_preservatives_for_extending_the_food_longevity

Handbook of food preservation by M. Shafiur Rahman