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An Overview of Food Preservation Techniques

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Perspective

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DESCRIPTION

Food preservation procedures include those that limit the growth of germs like yeasts (although other methods work by adding harmless bacteria or fungus to the food) and reduce the oxidation of lipids that produce rancidity. Processes that prevent aesthetic degradation, such as the enzymatic browning response in apples after they are chopped during meal preparation, are examples of food preservation.

Food waste may be decreased by preserving food, which is an essential approach to lower production costs and enhance food system efficiency, improve food security and nutrition, and contribute to environmental sustainability. It can, for example, lessen the environmental effect of food production.

Many food preservation systems combine many food preservation methods. Boiling (to lower the fruit's moisture content and kill germs, for example), sugaring (to inhibit re-growth), and sealing in an airtight container are all steps in the process of preserving fruit by converting it into jam (to prevent recontamination).

Burial

Food can be preserved by burying it owing to a multitude of variables including absence of light, oxygen, cold temperatures, pH level, and desiccants in the soil. Burial can be used in conjunction with other techniques like

salting or fermentation. Most foods can be stored in sand, which is highly dry and salty (therefore a desiccant), or in frozen soil.

Many root vegetables are extremely resistant to deterioration and just require storage in cold, dark circumstances, such as burial in the ground or in a storage clamp (not to be confused with a root cellar). Cabbage was historically buried for preservation on northern US farms during the autumn season. Some methods yield crunchy sauerkraut, while others produce sauerkraut. In the traditional manufacture of kimchee, a similar procedure is employed.

Meat is sometimes buried under conditions that allow it to be preserved. The heat can kill microorganisms, the dry ash can desiccate, and the dirt can prevent oxygen and additional contamination if buried on hot coals or ashes. When buried in a cold environment, the soil works as a refrigerator or, in permafrost conditions, a freezer.

Rice may be stored effectively by burying it underground in Orissa, India. During the dry season, this approach allows you to keep for three to six months.

Bog butter has been used to preserve butter and related items in Irish peat bogs for millennia. Century eggs are historically made by immersing eggs in alkaline mud (or another alkaline material), which causes them to ferment "inorganically" rather than rotting. Fermentation protects them while also breaking down some of the more complex, less delicious proteins and lipids into simpler, more tasty proteins and fats.

Canning

Canning is the process of heating food, sealing it in sterilised cans or jars, and then boiling them to kill or weaken any lingering microorganisms. Nicolas Appert, a French confectioner, created it. The French Navy was using this technique to preserve meat, fruit, vegetables, and even milk by 1806. Although Appert had created a novel method of preservation, the linkage between microbes, food deterioration, and sickness was not identified until 1864, when Louis Pasteur established the link between germs, food spoilage, and illness.

Foods have variable levels of natural protection against spoiling, thus the last step may need to be done in a pressure cooker. High-acid fruits, such as strawberries, may be canned without preservatives and with a short boiling cycle, but marginal vegetables, such as carrots, require a longer boiling cycle and the inclusion of additional acidic ingredients. Pressure canning is required for low-acid goods like vegetables and meats. Once a can or bottle has been opened, food preserved by canning or bottling is immediately at danger of deterioration.