FOOD PRESERVATION: THEN AND NOW

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Since earlier period, men have used numerous ways to preserve food and these ways have evolved over time. Primarily, food preservation aims to scale back the quantity of pathogens which will cause decay and to stop oxidation process which will cause rancidity. As an important element of food industry, food preservation has been employed for different purposes but most importantly for consumers to be able to purchase and consume food that are out season.

Early Methods

One of the earliest food preservation techniques is drying which involves dehydrating food until there is not enough moisture to support microbial activity through steps like air drying, sun drying, smoking or wind drying. Drying removes the moisture needed by bacteria, yeasts, and molds need to grow. If properly dried and stored, dehydrated foods are shelf stable (safe for storage at room temperature). The drying method is easy to do, very safe, and can be used for most types of foods (meats, fruits, and vegetables). 1

Another old food preservation methodology is salting. Salt or common salt was the primary natural chemical preservative added to foods and has been used extensively within the preservation of fish, meat and vegetables ever since. The worth of salt in preserving foods was therefore extremely prized by the traditional Romans that it had been used as a sort of currency. Salt remained the foremost used variety of food preservation till far more recent times when modern food preservation ways were developed like refrigeration, chilling and canning foods. In fact, the worth of salt in food preservation still continues nowadays wherever it's usually employed in combination with alternative preservation ways; it additionally remains a primary methodology of food

preservation in countries/ area unit as wherever there are restricted refrigeration facilities or access to newer technologies.  

In addition, smoking meat imparts an attractive and appealing sensory property, additionally to conserving meats. Smoking has 3 preservation mechanisms: (1) heat, (2) chemical, and (3) surface dehydration. Heat from smoke preparation will kill microorganisms, counting on time and temperatures used. Some chemical compounds in wood smoke have associate antimicrobial impact, contributory to food preservation, however these compounds are typically deficient by themselves.

A popular methodology of home food preservation throughout Minnesota, chilling could be a fast and convenient way to preserve fruits and vegetables at home. Home frozen fruits and vegetables of prime quality and most biological process value is made done properly.

When refrigeration isn't however on the market, men deem fermentation that could be a present method that alchemically transforms vegetables, beans, grains, fruits, milk, loony and seeds into savoury and nutrient substances that are full of enzymes and specific phytonutrients distinctive to every ferment. The range of rich and tasty sensations that resulted were eventually embraced by several ethnicities and adopted as regional dishes and condiments. A number of these popular fermented foods still legendary and consumed nowadays like miso, kimchi, kefir, tempeh and dish.


Recent Development

Earliest food preservation techniques of drying, salting, smoking, chilling and fermenting are still widely employed in combination of a lot of subtle technologies to satisfy the strain of a bigger population and to boost food safety. A number of these technologies are removal and inactivation, high hydrostatic pressure process, industrial radio frequency heating systems, high-intensity pulsed electrical fields, and ultraviolet radiation light.

Common food process techniques which will be used to cut back microbial masses are removal that involves 3 operations together with filtration, action and separation that are driven by a fluid mechanics or hydraulics pressure gradient and inactivation which mixes physical ways and chemical reactions which will kill microorganism and spores. On the opposite hand, high hydrostatic pressure process (HPP) has been with success applied to inactivate microbes in heat-sensitive drinks and solid foods like dip, jams and jellies, fruit juices, tomato salsas and applesauce. HPP has additionally been applied to ham, cooked ready-to-eat meat merchandise and food merchandise like oysters. Supported the growing scientific proof and quick development, HPP is associate example of other technologies which will be used for in-package pasteurization to manage post process contamination.

Although industrial microwave pasteurization and sterilization systems are used for 3 decades, industrial radio frequency heating systems for the aim of food pasteurization or sterilization are not yet totally commercial. High-intensity pulsed electrical fields (PEFs) are employed in the u. s. for the industrial pasteurization of juice merchandise in compliance with the mandates of FDA’s juice HACCP laws (21 C.F.R. 120). PEFs have additionally been used with success to treat condiment, food and milk.

UV lightweight has been used for the removal of air in food factories, treatment of potable, water for food and nutrient formulation, wash water and waste, and surface treatment of contact
surfaces and merchandise within the store trade. FDA approval of ultraviolet radiation, ultraviolet light emitted by unaggressive mercury lamps as a secure alternative to thermal treatments of juice merchandise, together with recent engineering developments, light-emitting diode to the growing interest in analysis and development of ultraviolet radiation technology.\textsuperscript{6}