

Food for Keeps

Eating healthy is a matter of choice for most of us today, but it wasn't so simple for early Americans. We know that a healthy diet includes eating plenty of fresh fruits and vegetables and that we can usually get a variety of these at the grocery store year round. Early Americans could only get fresh fruits and vegetables during the growing season. There were no refrigerated rail cars or trucks to bring food from more temperate climates. For the rest of the year they had to rely on food preservation techniques that were difficult and time-consuming.

DRYING

Drying was a technique used by early American colonists to preserve apples, peaches, pears and apricots along with some vegetables, meat and fish. Nets woven of hair were used to support the fruit or fish and allow good air circulation. The food had to be turned frequently and protected from insects, bird droppings and blowing dirt.

The tribes of the American Great Plains developed their own method for drying bison meat. This provided a safe food supply through the long periods between hunting seasons. After eating their fill of the fresh bison meat, the Indians would take the remaining meat and make pemmican. They would slice the meat thin and hang it on scaffolds. They hung streamers along with the meat, so they would blow in the wind and keep wolves away. Once the meat was dry they pounded it and placed it in buffalo rawhide bags about the size of a pillow case. Sometimes they added dried berries for flavor. The sugar from the berries also helped with preservation. They poured hot melted marrow in so that it surrounded each particle of meat. Then they sewed the bag shut. Before the contents became hard from cooling, they walked on it to flatten it. A single sack weighed close to 90 pounds and could be placed across small logs or rocks to keep them off the damp ground.

SALTING

Salting was another method colonists used to preserve food. Salt pork, beef or fish (and some cheese) often provided the only animal protein available during the winter other than wild game.

Hog butchering was done in the fall, as soon as it was cold enough to chill the carcass rapidly. A certain amount of the meat was reserved fresh, for immediate use, and some was made into sausage. The rest, especially the hams (hind legs) and side meat, was treated with salt containing saltpeter (potassium nitrate). This was stored until it had lost a great deal of water through osmosis. It was then exposed to hickory or fruit-wood smoke for several days. After that it was hung in a ventilated shed or barn for 6-18 months as it gradually lost moisture.

SUGARING

As a preservative, sugar acts like salt in reducing water activity enough to prevent the growth of spoilage bacteria. Early settlers used sugar to preserve fruits for winter use. The fruits were boiled with sugar, and the containers were sealed with beeswax or a mixture of candle wax and rosin. Sometimes a piece of paper would be pasted to the top of the jar with egg white. Sugar was also used as a preservative in meat preparations.

PICKLING OR BRINING

Fruits and vegetables were the most difficult foods to get out of season. Pickling or brining was a fairly simple way to preserve vegetables without changing their flavor too much. The vegetables were submerged in a mild salt and vinegar brine in a crock.

COLD STORAGE

Cold storage was possible in the northern US. Root cellars, in which the winter temperatures hovered between 30 and 40 degrees F., were common. In especially cold weather, a large tub of water was placed on the floor. This water gave off heat as it turned to ice, keeping the vegetables from freezing. If a family didn't have room for a root cellar, a pit served much the same purpose. Vegetables were laid in layers, separated by straw, and the whole was covered with earth.

Ice houses were the first refrigerators. During the winter, these above-ground houses were filled with blocks of ice cut from streams and lakes and packed in sawdust for insulation. The ice could then be deliv-

ered to homeowners during the spring and summer. The ice was used to keep dairy products, fish and meat from spoiling. The ice box did not become popular until the mid-1800s. It had to be recharged frequently with a new block of ice

Although settlers in the South had access to a more varied food supply year round, they had more difficulty getting ice for short term protection against the warmer climate. Ice was shipped from Massachusetts to the southern states in the early 19th Century, but because of the cost it was available only to wealthier people.

Eggs could be stored in the root cellar or basement. The eggs were dipped in boiling water for 20 seconds then coated all over with butter or glycerin and packed in sawdust. They would keep this way for 2-3 weeks.

CANNING, FREEZING AND REFRIGERATION

The invention of canning created a revolution in food preservation and availability. The development of commercial freezing and refrigeration made preservation of fresh meat possible. Refrigerated rail cars, then refrigerated trucks, also increased the availability of fresh fruits and vegetables.

PASTEURIZATION

Microbial contamination of dairy products led to widespread use of pasteurization in these foods. Louis Pasteur had perfected this method to save the wine industry in France in the late 1870s. It involved heating to reduce the number of disease producing bacteria.

IRRADIATION

One of the most recently developed food preservation methods is irradiation. Irradiation kills E coli, a deadly bacteria found in beef and other foods. Irradiation pasteurizes food by using energy, just as milk is pasteurized using heat. Irradiation destroys insects, fungi, or bacteria that cause spoilage and human disease. During irradiation, energy passes through food much like a ray of light passes through a window. This energy destroys most of the bacteria that can cause disease yet allows food to retain its high quality. Hospitals use irradiation to sterilize food for patients with weak immune systems, and astronauts have eaten irradiated foods for many years.

Today's processed foods retain most of their nutritive value during processing, and in most cases the loss of nutrients due to processing is less than loss from cooking.