

# Freezing Fruits and Vegetables

Freezing is a quick and convenient way to preserve fruits and vegetables at home. It is the method of food preservation that preserves the greatest quantity of nutrients. To maintain top nutritional quality in frozen fruits and vegetables, it is essential to:

- Select fresh, firm-ripe produce
- Blanch vegetables as directed
- Store the frozen product at 0 °F
- Use within suggested storage times.

## CHEMICAL CHANGES

Harvested fresh, fruits and vegetables continue to undergo chemical changes that can cause spoilage and deterioration of the product. This is why these products should be frozen as soon after harvest as possible and at their peak degree of ripeness. Enzymes in the fruits and vegetables must be inactivated to prevent the loss of nutrients and color and flavor changes that will occur.

**Enzymes in Vegetables:** Enzymes are inactivated by the blanching process, which is the exposure of the vegetables to boiling water or steam for a brief period of time. The vegetable must then be cooled rapidly in ice water to prevent it from cooking. In most cases blanching is absolutely essential for producing top-quality frozen vegetables.

**Enzymes in Fruits:** The major problems associated with enzymes in fruits are the development of brown colors and loss of vitamin C. Because fruits are usually served raw, they are not blanched like vegetables. Instead, ascorbic acid (vitamin C) is used either in its pure form or in commercial mixtures.

**Preventing Rancid Flavors:** Rancid oxidative flavors may develop through contact of the frozen product with air. This problem can be prevented by using a wrapping material that does not permit air to pass into the product and by removing as much air as possible from the freezer bag or container before freezing.

## MICROBIAL GROWTH IN THE FREEZER

The freezing process does not actually destroy the microorganisms that may be present on fruits and vegetables. While blanching destroys some microorganisms and there is a gradual decline in the number during freezer storage, sufficient populations are still present to multiply and cause spoilage of the product when it thaws. For this reason it is necessary to inspect carefully any frozen products that have accidentally thawed if the power goes off or the freezer door is left open.

## RECOMMENDED STORAGE TIMES

Longer storage of fruits and vegetables than those recommended will not make the food unsafe for use but will decrease its quality.

**Fruits:** Most frozen fruits maintain high quality for eight to 12 months. Unsweetened fruits lose quality faster than fruits packed in sugar or sugar syrups.

**Vegetables:** Most vegetables will maintain high quality for 12 to 18 months at 0 °F or lower. However, it is a good idea to use your home-frozen vegetables before the next year's crop is ready for freezing.

## SELECTING FREEZER CONTAINERS

Use good-quality freezer containers that are both moisture- and vapor-proof so that moisture can be kept in the product and air kept away from it. Plastic sandwich bags and bread wrappers are not suitable for freezing.

## **FREEZER TEMPERATURE**

To maintain top quality, frozen fruits and vegetables should be stored at 0 °F or lower. Higher temperatures increase the rate at which deterioration can take place and can shorten the shelf life of frozen foods..

## **METHODS OF PACKING FRUITS**

There are three ways to pack fruits for freezing: sugar pack, syrup pack and unsweetened pack (for more info on the different types of packs contact your local County Extension Office). Although some fruits may be packed without sweeteners, the flavor of many fruits is retained better with the use of sugar. Gooseberries, currants, cranberries, blueberries and rhubarb give as good quality packs with or without sugar.

## **METHODS OF PACKING VEGETABLES**

**Dry Pack:** This is the term used to describe the packing of blanched and drained vegetables into containers or freezer bags. Pack the vegetables tightly to cut down on the amount of air in the container. If the vegetables are packed in freezer bags, press air out of the unfilled part of the bag.

**Tray Pack:** This is the method of freezing individual pieces of blanched and drained vegetables on a tray or shallow pan, then packing the frozen pieces into a freezer bag or container. This method produces a product similar to commercially frozen plastic bags of individual vegetable pieces and is particularly good for peas, corn and beans. Pack the frozen pieces into a bag or container as soon as they are frozen. Long exposure will result in loss of moisture.

**Microwave Oven-Blanching:** Directions for microwave-blanching of vegetables are not based on any published research. Recent research indicates some of these times are not sufficient to adequately blanch some vegetables. Inadequate blanching does not cause a food safety problem, but quality may suffer. Water is a more reliable method of blanching.

For more information on Freezing Fruits and Vegetables at home contact your local County Extension Office or your Food Preservation Regional Extension Agent at 205-410-3696.