



Freezing Fruits and Vegetables

Renee R. Boyer, Professor and Extension Specialist, Food Science and Technology, Virginia Tech

Patsy Pelland, Extension Agent, Prince Edward County

Frank Conforti, Associate Professor, Human Nutrition, Foods, and Exercise, Virginia Tech

Freezing extends the shelf life of food. Blanching food before freezing prevents the enzymes in foods from affecting the quality of the foods during storage. Only vegetables can be blanched before freezing. If fruit is blanched, and then frozen, the fruit will become mushy after defrosting.

Equipment Preparation

Proper packaging of foods is important in freezing. The two types of containers used for packaging are rigid containers and flexible bags or wraps.

- Select containers that are designed for freezing food – like freezer bags, plastic freezer containers, or canning/freezing jars. Containers should be moisture/vapor resistant to prevent “freezer burn.”
- Wash all containers in hot soapy water. Discard any containers that are cracked or chipped.
- Rinse with hot water and let air dry on a clean towel or rack.

Food Selection and Blanching

Choose young, tender vegetables or well-ripened fruits for freezing. Tomatoes may be cooked, pureed, or juiced before freezing.

Wash, peel, and trim away bruised areas. Cut into serving sizes, if desired, before freezing.

Blanch all vegetables (except peppers and onions) to preserve quality. To blanch, place prepared foods in a metal strainer that fits into a large saucepan. Lower food into boiling water and begin counting the blanching time. Use one gallon of water for each pound of firm vegetables

(about 4 cups) and two gallons of water for each pound of leafy greens (about 8 cups). Don't add more vegetables than suggested at one time, as larger amounts will lower the temperature of the water. Time and temperature are critical to destroying the enzymes that cause spoilage.

Cool the blanched vegetables by removing the vegetables from the boiling water and immediately plunging them into ice water until cool. This process prevents the vegetable from overcooking and retains its color and nutrients. Remove the blanched vegetable from the ice water, drain, and dry thoroughly. It is important to freeze vegetables dry because extra moisture can decrease the quality. Table 1 on page 2 provides information regarding specific procedures for certain vegetables. The blanch times are listed according to size of cut vegetables. Blanch smaller sizes for the minimum recommended time and larger sizes for the maximum recommended time.

Preparing Fruit for Freezing

Fruits may be frozen in sugar syrup, dry sugar, or with no sugar at all. Sugar syrup is preferred because it coats the cut fruit and protects it from the action of enzymes that change the color and appearance of the fruit. If no sugar is added, the fruit will not remain firm and will turn brown from the enzyme action. Use dry sugar for fruits that readily produce juice, such as strawberries and peaches. Sugar syrup is used to pack fruits that form juice slowly, such as pineapples and apples. Fruits packed in sugar or with syrup generally have a better texture and flavor than those packed dry, however, small berries such as cranberries, blueberries, raspberries, blackberries, and currants can be frozen without sugar.

Table 1. Preparation and blanch recommendations for commonly frozen vegetables.

Vegetables young, tender, crisp	Preparation wash, blanch, chill in ice water	Blanch boiling water
Asparagus	Cut in desired lengths.	2-4 minutes
Beans, string	Cut, slice, or leave whole.	3-4 minutes
Beans, lima	Shell, sort, wash.	2-4 minutes
Broccoli	Peel stock, trim. Split lengthwise.	3 minutes
Brussels sprouts	Wash well and sort (small, medium, large).	3-5 minutes
Cabbage	Cut to medium or coarse shreds.	1.5 minutes
Carrots	Peel. Cut in slices or dice.	3 minutes
Cauliflower	Soak 30 min. in salt water (4 tsp. salt/gal. water).	3 minutes (water containing salt)
Corn, whole kernel	Husk, desilk, blanch, cut from cob.	4-5 minutes
Greens, all kinds	Wash well. Discard tough leaves and stems.	2-3 minutes
Okra	Trim stem – do not break pods.	3-4 minutes
Peas, pod	Wash, remove stems and strings.	2-3 minutes
Peas, green, blackeye	Shell, sort, wash.	1-2 minutes
Summer squash	Wash, cut into 1/2-inch slices.	3 minutes
Turnips/Parsnips	Wash, peel, cut into 1/2-inch cubes.	3 minutes

If using sugar syrup, prepare as follows:

Syrup	Sugar	Water	Syrup Yield
Light (less sweet)	1 cup	4 cups	4 1/2 cups
Medium	1 3/4 cups	4 cups	5 cups
Heavy	2 3/4 cups	4 cups	5 1/3 cups

Bring water and sugar to a boil and boil until sugar is dissolved, about 1 minute.

When preparing fruits that will turn brown when exposed to air (apples, peaches, or pears), dip them in a commercial preparation of ascorbic acid or in lemon juice to prevent the change in color. As an alternative you can add a pinch of citric acid or ascorbic acid to your sugar syrup. In the supermarket, Fruit Fresh® is sold for such a purpose.

Packing and Storing the Food

Pack the food in the appropriate freezer container. Allow 1/2 inch of headspace for dry food and 1 to 2 inches for food covered with liquid. After packing, wipe the top of each package clean. Seal airtight.

When filling plastic storage bags, be sure the fruit is covered by the sugar syrup. Remember to “burp” the bag, to expel all of the air before you seal it. This will prevent freezer burn and keep the food from drying out.

Label the container with the date and the name of the product.

Place bags, containers, or jars in the freezer and store at 0°F (18°C) or below.

Be sure that your freezer temperature remains steady. Fluctuation (freeze, thaw, refreeze) in temperature will adversely affect the quality of the food.

When containers are removed from the freezer, thaw in the refrigerator or in a pan of cool running water.