

# Freezing Fruits and Vegetables

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## *Why Freeze Fruits and Vegetables?*



When you freeze fruits and vegetables, you preserve most of the flavor, color, texture, and nutritive value.



Freezing these foods can be quickly and easily done in your home.



You will save on food costs by freezing home-grown fruits and vegetables at peak seasons.

Maintain the storage temperature at no higher than 0° F. When you place packages of freshly processed food in the freezer, allow space for air to circulate around containers.

Material for this folder was provided by the Frozen Foods Laboratory, Department of Horticulture, and its members, J. D. Winter and Shirley Trantanella.

# Freezing Fruits

## Select fruits that are—

- fully ripe but not soft or mushy.
- tree- or vine-ripened. These are best in flavor, color, and food value.

## *When You Freeze Fruits*

1. **Sort** fruits carefully, discarding parts which are green or of poor quality.
2. **Prepare** fruits as you will use them—stemmed, pitted, etc.
3. **To make sugar sirup:** dissolve needed sugar in cold water. Stir and let stand until solution is clear. You may substitute light corn sirup cup for cup for one-third of sugar without noticeably affecting flavor.
4. **For sugar pack:** sprinkle required amount of sugar over fruit. Let stand until sugar begins to dissolve. Gently stir fruit until pieces are coated with sugar and juice.
5. **Use of ascorbic acid:** in freezing peaches, apricots, nectarines, or sweet cherries, add  $\frac{1}{2}$  teaspoon ascorbic acid for each four cups of water used in making the sirup. Mix ascorbic acid with two to three tablespoons of sirup and add to remainder of sirup just before pouring over fruit. Avoid beating. If you use commercial ascorbic acid preparations, follow manufacturer's directions.
6. **Fill containers** with sirup-packed fruit to within  $\frac{1}{2}$  inch of the top. Fruits like peaches which tend to darken should be held under sirup with crumpled locker paper between lid and fruit.
7. **To freeze apricots, sweet cherries, peaches, and strawberries without sugar:** cover with water containing one teaspoon ascorbic acid to four cups of water. (Only recommended for those who cannot use added sugar.) Berries frozen dry (no sugar or liquid) lose much of their vitamin C.
8. **Label containers** with name of fruit, type of pack, and date.

## *When You Use Frozen Fruit*

Thaw fruit at room temperature in original package to preserve quality and nutritive value. If faster defrosting is required, place package in front of an electric fan or submerge (if watertight) in cool or lukewarm water. Serve as soon as defrosted, preferably while a few ice crystals remain.

# How to Prepare Fruits for Freezing

Fruits	Varieties	Preparation
APPLES	Most firm-fleshed cooking varieties are suitable—especially apples suitable for pies	Peel and cut into pie slices. To prevent darkening, submerge the slices for 5 minutes in sodium bisulfite (USP grade) solution (1½ teaspoonful in a gallon of water at 60°-70° F.). Mix solution in glass, earthenware, stainless steel, or enameled container. Drain. Pack in sugar using 5-7 pounds apples to 1 pound of sugar. Press and pack tightly so that juice will cover as much fruit as possible. OR: scald slices in steam 2-3 minutes. Cool and pack in sugar as above.
APRICOTS	Blenheim (Royal), Moorpark, Tilton	Dip 6 fully ripened apricots into boiling water 15-20 seconds until skins loosen. Chill, peel, halve, and remove pits. Fill containers ½ full of sirup—3 cups sugar to 4 cups water with ½ teaspoon ascorbic acid. Pack apricots in sirup. OR: soft ripe fruit may be halved, steamed 4 minutes, crushed, and packed with 1 pound sugar to 5 pounds fruit.
BLACKBERRIES, BOYSENBERRIES, DEWBERRIES, LOGANBERRIES, and YOUNGBERRIES	Any available varieties	Pack in sugar sirup using 3 cups sugar to 4 cups water. OR: crush and pack in sugar using 1 pound sugar to 4 pounds of fruit. For pies: pack dry without sugar.
BLUEBERRIES	Any available variety—cultivated or wild	Scald wild berries in steam 1 minute. Cool in ice water. Pack cultivated and wild varieties dry with no sugar.
SOUR CHERRIES	Any good quality cherry	For pies: use 1 pound of sugar to 4 pounds of fruit.
SWEET CHERRIES	Bing,* Lambert, Black Tartarian, Windsor, Schmidt	Pack in sirup using 2 cups sugar to 4 cups water, ½ teaspoon ascorbic acid, and either 1 teaspoon citric acid or 4 teaspoons lemon juice.
CRANBERRIES	Any available variety	Wash and pack without sugar.
CURRANTS	Red Lake and similar large fruit varieties	Pack in sugar using 1 pound sugar to 4 pounds of fruit. For cooking: pack dry without sugar.
GOOSEBERRIES	Any good cooking variety	Pack dry without sugar.
FRUIT CUP	Apricots; cherries, Bing or Marschano; grapefruit; oranges; peaches; pineapple; pomegranate seeds; Thompson seedless grapes; Tokay grapes	Use simple combinations of fruits, preparing each as for table use in attractive sizes and shapes. Pack all except citrus fruits in sugar sirup using 2-3 cups sugar, ½ teaspoon ascorbic acid, and 4 cups water. For citrus fruit sprinkle with sugar and let stand in refrigerator until it forms its own juice. If citrus fruit mix is to be kept for 3 months or more add ¼ teaspoon ascorbic acid to sugar used for each 4 cups of fruit.
FRUIT PUREE	Any fruit you would crush or chop for combination with other foods or table use	Crush or chop fruit. Add 1 cup sugar to 6-8 cups purée.
MUSKMELONS	Beauty Osage, Bender's Surprise, Golden Gopher, Iroquois, other firm-fleshed varieties	Cut flesh into ½- to ¾-inch cubes or balls. Cover with sugar sirup, using 2 cups of sugar to 4 cups of water. Whole seedless grapes may be added.
PEACHES	Dixgem,† Redhaven,† Southland,† Sunbeam,† Triogen,† Elberta, July Elberta, J. H. Hale, Fire Glow, Halehaven, Sunhigh	Dip 3-4 peaches into boiling water until skins loosen. Chill and follow instructions given for apricots. OR: non-browning varieties may be frozen with dry sugar: ¼ teaspoon ascorbic acid and 2 pounds sugar with 8 pounds fruit (about 4 quarts).
NECTARINES	Any available variety	Same as apricots for preparation and packing.
PINEAPPLE		Slice or cut into wedges. Cover with sirup—2½ cups sugar to 4 cups juice or juice plus water. OR: pack without sugar and cover with pineapple juice.
RASPBERRIES	Red—Latham, Madawaska,* Taylor,* Chief Purple—Sodus* Black—Logan	Pack raspberries in sirup—3 cups sugar to 4 cups water. OR: pack in dry sugar—1 pound of sugar to 4-5 pounds of fruit. Black raspberries—for jam—pack without sweetening.
STRAWBERRIES	Sparkle,* Burgundy,* Red Rich,* Superfection, Blakemore, Duncip, Gem, Wayzata, Beaver, and Premier are acceptable but are not freezing varieties	Pack whole, sliced, or crushed berries in 1 pound of sugar to 4-5 pounds of fruit. Sliced is preferred form. OR: pack whole berries in sirup—3-4 cups sugar to 4 cups of water.

\* Preferred.

† Non-browning varieties.

# Freezing Vegetables

## Select vegetables that are—

- at peak flavor and texture—same as for immediate table use.

## Tips on handling—

- When possible harvest in cool part of the morning.
- Process as quickly as possible to keep top quality. If processing is delayed, cool vegetable in ice water or crushed ice and store in refrigerator to preserve flavor and quality and to prevent vitamin loss.

## *When You Freeze Vegetables*

1. **Blanch** all vegetables before freezing to inactivate enzymes, otherwise flavor and vitamins will be lost during storage. Blanching brightens the color and helps retain texture. Blanch by scalding in boiling water.
2. **Assemble** the following equipment: large kettle (enamelware, aluminum, or stainless steel) with two or more gallon capacity; close mesh wire basket or large loose cheesecloth bag; pans for cooling; timer or clock with second hand.
3. **To blanch in boiling water:**
  - ★ Allow one gallon water for each pound of vegetable except for leafy greens, which need two gallons per pound.
  - ★ Bring water to rolling boil.
  - ★ Immerse wire basket or loose cheesecloth bag containing vegetable.
  - ★ Cover kettle and boil at top heat the required length of time, starting to count time as soon as the vegetable is put in water.
  - ★ Cool immediately in cold running water or ice water for about same length of time as used for scalding.
  - ★ Drain and pack in containers.
  - ★ If vegetables are to be taken to a locker plant, store in refrigerator. **Not more than two hours should elapse before freezing.**
4. **To steam scald** (recommended only for broccoli):
  - ★ Put one inch of water in kettle, bring to rolling boil.
  - ★ Suspend a thin layer of vegetable in a wire basket or loose cheesecloth over rapidly boiling water.
  - ★ Cover and process vegetable required amount of time (see table).

# How to Prepare Vegetables for Freezing

Vegetable	Varieties	Preparation
ASPARAGUS	Martha Washington, Mary Washington	Wash and sort medium and large stalks. Leave whole or cut in 1- to 2-inch lengths. Scald medium stalks 3 minutes, large stalks (1/2- to 3/4-inch diameter) 4 minutes. Cool.
BEANS (GREEN PODDED)	Kentucky Wonder (pole), Blue Lake Stringless (pole), Topcrop, Wade, Supergreen, Rival, Giant Stringless Green Pod, Tendergreen	Wash, snap off tips, and sort for size. Cut or break into suitable pieces. Scald 3 1/2 minutes. Cool.
BEANS (YELLOW PODDED)	Brittle Wax, Pure Gold, Cherokee, Pencil Pod Black Wax	Process same as green podded beans.
BEANS, LIMA	Burpee's Bush, Baby Fordhook, Early Market, Peerless, Fordhook No. 242, Dreer Bush	Wash, shell, and sort. Scald small and medium beans 3 minutes, large beans 4 minutes. Cool.
BEETS	Detroit Dark Red, Gould's Early Bunching, and other garden varieties of good quality and color	Select small- or medium-sized beets. Remove tops and wash. Cook until tender. Chill. Remove skins. Slice or dice larger beets.
BROCCOLI	Italian Green Sprouting, Freezer's Sprouting Green	Discard off-color heads or any which have begun to blossom. Remove tough leaves and woody butt ends. Cut stalks to fit container. Cut through stalks lengthwise, leaving heads 1 inch in diameter. Soak 1/2 hour in salt brine (1/2 cup salt to 1 quart water) to drive out small insects. Rinse and drain. Scald 4 minutes in water. Steam scald 5 minutes. Cool. Pack heads and stalk ends alternately in container.
BRUSSELS SPROUTS	Half Dwarf Improved, Long Island Improved	Wash and trim. Soak 1/2 hour in salt brine (see broccoli). Rinse and drain. Scald medium heads 4 minutes, larger heads 5 minutes.
CARROTS	Nancy, Nantes, Imperator, Red Cored Chantenay	Use tender carrots harvested in cool weather. Top, wash, and scrape. Dice or slice 1/4 inch thick. Scald 3 1/2 minutes. Cool.
CAULIFLOWER	Snowball, Snowdrift, Early Snowball, Burpee Dry Weather, Stella Nova	Trim and wash. Split heads into individual pieces, 1 inch in diameter. Soak 1/2 hour in salt brine (see broccoli). Rinse and drain. Scald 4 minutes. Cool.
SWEET CORN	Corn on Cob—Golden Freezer, Cream O'Gold, Golden Bantam Cut Corn—Any good table corn—especially hybrid corn	Husk, remove silks, and trim ends. Use a large kettle (12- to 13-quart capacity). Scald whole-grain corn to be cut from the cob 4 1/2 minutes. Use schedule on page 8 for corn on the cob. Cream style—slice through unscalded tips. Scrape, add water. Cook 4 minutes.
EGGPLANT	Any good variety of good color and quality	Peel, cut in 1/4- to 1/2-inch slices, or dice. Soak sliced or diced vegetable 5 minutes in solution of 1/2 teaspoon ascorbic acid to 4 cups of cold water. Scald 4 1/2 minutes in water with 1/2 teaspoon ascorbic acid, or 3 teaspoons lemon juice, or 1 teaspoon citric acid to 4 cups of water. Chill and package in layers separated by double sheets of locker paper.
GARDEN HERBS	Any commonly grown varieties	Wrap sprigs or leaves in foil or seal in film bags and store in a carton or glass jar. Wash but do not scald the leaves.
MUSHROOMS		Wash and remove base of stem. Freeze small mushrooms whole. Cut large ones into 4 or more pieces. Add ascorbic acid to scalding water as for eggplant. Scald medium or small whole mushrooms 4 minutes, cut pieces 3 minutes. Cool.
PEAS	Freezonian,* Shasta,* Little Marvel,* Thomas Laxton,* Hundredfold (Laxtonian), Laxton's Progress, Victory Freezer, Oneida, Burpeana Early Dwarf, Lincoln	Shell small amount at a time. Scald 1 1/2 to 2 minutes. Scald black-eyed peas 2 minutes.
PEPPERS (GREEN)	Any variety	Wash, cut out stem, and remove seeds. Halve, slice, or dice. Scald halved peppers 3 minutes, sliced or diced 2 minutes. Cool.
PEPPERS (PIMENTO)		Roast in an oven at 400° F. for 3-4 minutes. Cool, skin, and pack dry without additional heating.
PUMPKIN	Any good pie pumpkin	Cut or break into fairly uniform pieces. Remove seeds. Bake at 350° F., or steam until tender. Cool, scoop pulp from rind, and mash or put through ricer. Pie mix may be prepared using favorite recipe, but omit cloves.
RHUBARB	Valentine,* Canada Red,* MacDonald Red,* other varieties	Remove leaves and woody ends, wash, and cut in 1-inch lengths. (Do not scald.) For sauce: pack in sugar sirup using 3 1/2 cups sugar to 4 cups water or pack in sugar, using 4 cups rhubarb to 1 cup sugar. For pies: pack without sugar.
SPINACH AND OTHER GREENS	Spinach—Bloomsdale Long Standing, King of Denmark, Nobel Swiss chard—Fordhook, Lucullus	Sort and remove tough stems. Wash. Scald most leafy greens 2 minutes. Scald collards and stem portions of Swiss chard 3-4 minutes. Scald very tender spinach 1 1/2 minutes. Cool.
SUMMER SQUASH	Summer Crookneck, Zucchini	Wash, peel, and cut into pieces. Scald 1/4-inch slices 3 minutes, 1/2-inch slices 6 minutes.
WINTER SQUASH	For pies—Banana, Golden Delicious, Greengold For table use—Buttercup, Greengold, Rainbow, Faribo Hybrid R	Prepare as for pumpkin. Two or more varieties may be blended or you may blend squash with pumpkin.

\* Preferred.

## Preparation for Corn on the Cob

Size of ears	No. ears scalded with 12 qts. water	Diameter	Scald (minutes)
Midget	24	1¼" or less	8
Small	14	Between 1¼" and 1½"	8
Medium to large	10	Over 1½"	11

## When You Cook Frozen Vegetables

All vegetables may be cooked from the frozen state except corn on the cob, which should be partially defrosted. Cook frozen vegetables in a small amount of water—about ½ cup or less. Add salt to taste. Cook only until tender—about half as long as if the same vegetable were fresh. Pressure saucepan may be used following manufacturer's directions for length of cooking time. Pack should be thawed enough to break it up before pressure cooking.

## Containers

Use containers designed for use in freezing or use wide-mouth glass canning jars. Select containers which are easy to fill and empty, use least freezer space, and are economical.

### Common types

- 1. Bag in box:** box re-usable, inset bag replaceable. Inner bag may be cellophane, Pliofilm, polyethylene, or specially treated paper. Tops of film bags may be twisted and tied with Twist-ems, soft strong string, or rubber bands especially made for this use. (Heat sealing is difficult to do and is not always effective.)
- 2. Rigid cartons:** a. waxed or plastic-lined with well fitting lids. Not made for re-use. b. plastic—re-usable.
- 3. Glass jars:** wide mouth preferable for convenience. Moisture-proof and vapor-proof. Re-usable. Disadvantages: may break or require too much space.
- 4. Metal cans:** designed for canning—sealed with mechanical sealer. Also new frozen-food types don't require sealer. Not widely available, however.
- 5. Polyethylene bags without box.**

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