

Reliable Food Preservation Resources

Always use a recipe tested for safety of the final product when canning! The USDA revised several home canning processes in 1994. Recipes published prior to 1994, should be checked against a current, reliable resource for safety. Not all recipes found on the web or in other publications are scientifically tested. Unsafe recipes and procedures may result in severe illness.

Books:

The All New Ball® Book of Canning and Preserving, 2016

Ball Blue Book Guide to Preserving 37th edition , 2014.

Complete Guide to Home Canning, 2015 revision, USDA Bulletin No. 539.

Download PDF: <http://nchfp.uga.edu/index.html>

Order: Purdue University online store, <https://www.extension.purdue.edu/usdacanning/> (\$19 plus S&H).

So Easy to Preserve, 6th Edition, 2014. University of Georgia Cooperative Extension, about \$20 per book
Phone: 706-542-2657 or www.soeasytopreserve.com. Office of Communications, 117 Hoke Smith Annex, Co-operative Extension Services , The University of Georgia, Athens, GA 30602-1456

Putting Food By, 5th Edition. Greene, Hertzberg & Vaughan. The Stephen Greene Press, Lexington, MA, 2010.

Websites: tested recipes, “how to” videos, printable factsheets and more:

- **USDA’s National Center for Home Food Preservation:** <http://www.uga.edu/nchfp>
- **Ball:** <http://www.freshpreserving.com/>

Family and Community Health Sciences (FCHS)

Promoting Healthy Families, Schools & Communities

For additional food, nutrition & food safety information visit these websites:

<http://njaes.rutgers.edu> or <http://getmovinggethealthynj.rutgers.edu>

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Family and Community Health Sciences (FCHS)

More Cooperative Extension Resources:

Pennsylvania State University, Cooperative Extension: <http://extension.psu.edu/food/preservation>

University of Nebraska-Lincoln Extension in Lancaster County

- **Pinterest**—Canning or Freezing: <http://www.pinterest.com/nebraskacarol/unl-canning-and-freezing/>

USDA's National Center for Home Food Preservation: Links for frequently requested information:

Fruit : <http://food.unl.edu/preservation/fruits>

Tomato : <http://food.unl.edu/preservation/tomatoes>

Vegetables : <http://food.unl.edu/preservation/vegetables>

Jellies and Jams: <http://food.unl.edu/preservation/jam-jelly>

Pickles: <http://food.unl.edu/preservation/pickles>

Classes:

FCHS home food preservation classes: Contact your local Rutgers Cooperative Extension office to inquire about classes.

FCHS Master Food Preservers: These trained volunteers work with FCHS to educate the public about safe home food preservation. Contact your local FCHS professional for to learn how to become a FMFP.



Preserving Food: Freezing Vegetables

Freezing is an excellent way to preserve fresh vegetables at home. Freezing does not sterilize food; the extreme cold simply retards growth of microorganisms and slows down changes that affect quality or cause spoilage in food.

The quality of frozen vegetables depends on the quality of the fresh products and how they are handled from the time they are picked until they are ready to eat. It is important, also, to start with high-quality vegetables because freezing will not improve the product's quality.

Selecting Freezer Containers

Before preparing vegetables for freezing, assemble the containers you will use. The selection of containers depends on the vegetable being frozen, personal preference and the types that are readily available. Containers should be moisture-vapor resistant, durable, easy to seal and should not become brittle at low temperatures.

Containers suitable for freezing vegetables include plastic freezer containers, flexible freezer bags and their protective cardboard cartons, or glass canning jars. Foods packed in wide-mouth jars are easier to remove than those packed in narrow-mouth jars.

Some household containers are not recommended for freezing. The cardboard cartons that milk, ice cream or cottage cheese come in are not moisture-vapor resistant enough. Regular (not canning) jars break too easily at freezer temperatures.

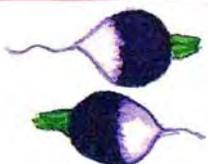
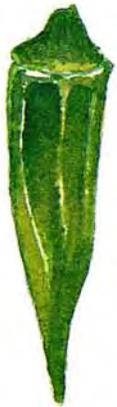
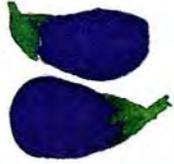
Preparing the Vegetables

Use vegetables at peak flavor and texture for freezing. Whenever possible, harvest in the cool part of the morning and freeze within a few hours. Wash vegetables thoroughly in cold water, lifting them out of the water as grit settles to the bottom of the washing container. Sort according to size for blanching and packing.

Blanching

Blanching (scalding vegetables in boiling water or steam for a short period of time) is a must for almost all vegetables to be frozen. Blanching slows or stops the action of enzymes that can cause loss of flavor, color and texture. Blanching cleanses the surface of dirt and organisms, brightens the color and helps retard loss of vitamins. Blanching also wilts or softens vegetables and makes them easier to pack.

Blanching time is crucial and varies with the vegetable and its size. Underblanching stimulates the activity of enzymes and is worse than no blanching. Overblanching causes loss of flavor, color, vitamins and minerals. See the directions for freezing each vegetable for the correct blanching times.



Water Blanching – For home freezing, the most satisfactory way to heat all vegetables is in boiling water. Use a blancher with a blanching basket and cover, or fit a wire basket into a large kettle with a lid.

Use one gallon of water per pound of prepared vegetables. Put the vegetables in a blanching basket and lower into vigorously boiling water. Place a lid on the blancher and start counting blanching time as soon as the water returns to a boil. Keep heat high for the time given in the directions for the vegetables you are freezing.

Steam Blanching – Heating in steam is recommended for a few vegetables. For broccoli, pumpkin, sweet potatoes and winter squash, both steaming and boiling are satisfactory methods. Steam blanching takes about 1 1/2 times longer than water blanching.

To steam, use a kettle with a tight lid and a basket that holds the food at least three inches above the bottom of the kettle. Put an inch or two of water in the kettle and bring the water to a boil.

Put the vegetables in the basket in a single layer so steam reaches all parts quickly. Cover the kettle and keep heat high. Start counting steaming time as soon as the lid is on. Steam blanch for the time recommended for each vegetable.

Microwave Blanching – Microwave blanching is not recommended. Research has shown that some enzymes may not be inactivated. Flavors could be off and texture and color lost. If you choose to risk low quality vegetables by microwave blanching, work in small quantities, using the directions for your specific microwave oven. Microwave blanching has not been shown to save time or energy.

Cooling

As soon as blanching is complete, cool vegetables quickly and thoroughly to stop the cooking process. To cool, plunge the basket of vegetables immediately into a large quantity of cold water, 60°F or below. Change water frequently or use cold running water or iced water. If ice is used, have about one pound of ice for each pound of vegetables. Cooling vegetables should take the same amount of time as blanching.

Drain vegetables thoroughly after cooling. Extra moisture can cause a loss of quality when vegetables are frozen.

Types of Pack

Two basic packing methods are recommended for frozen vegetables—dry pack and tray pack.

Dry Pack – Place the blanched and drained vegetables into meal-size freezer bags or containers. Pack tightly to cut down on the amount of air in the package. Leave 1/2-inch headspace at the top of rigid containers and close securely. For freezer bags, fill to within three inches of the top, twist and fold back top of bag; tie with a twist or rubber band about 1/2- to 3/4-inch from the food. This will allow space for the food to expand. Provision for headspace is not necessary for foods such as broccoli, asparagus and brussel sprouts that do not pack tightly in containers.

Tray Pack – Place chilled, well-drained vegetables in a single layer on shallow trays or pans. Place in freezer until firm, then remove and quickly fill bags or containers. Close and freeze immediately. Tray-packed foods do not freeze in a block, but remain loose, so the amount needed can be poured from the container and the package reclosed.

Labeling and Storing

Label packages with the name of the product and the freezing date. Freeze at once at 0° F or lower. Because speed in freezing is important for best quality, put no more unfrozen vegetables into the freezer at one time than will freeze in 24 hours—usually two to three pounds of vegetables per cubic foot of freezer space.

For quickest freezing, place packages against the refrigerated surface of the freezer. After vegetables are frozen, rearrange the packages and store close together. Most vegetables maintain high quality for 8 to 12 months at 0°F or lower. Longer storage will not make food unfit for use, but may impair quality.

It is a good idea to post a list of the frozen vegetables near the freezer and to check off packages as they are used. Remember, frozen vegetables should be cooked without thawing.

Directions for Freezing Vegetables

Vegetable	Preparation	Blanching Time (in boiling water unless otherwise stated)
Asparagus	Wash thoroughly, sort by size. Cut in 2-inch lengths or leave in spears. Blanch, cool and drain. Package, seal and freeze.	Small stalks - 2 minutes Medium stalks - 3 minutes Large stalks - 4 minutes
Beans: green or wax	Select young tender beans. Wash and remove ends. Leave whole, slice or cut into 1-inch to 2-inch lengths. Blanch, cool and drain. Package, seal and freeze.	3 minutes
Beans: lima, butter or pinto	Select beans ready for table use with slightly rounded, bright green pods. Wash, shell and sort according to size. Blanch, cool and drain. Package, seal and freeze.	Small beans - 2 minutes Medium beans - 3 minutes Large beans - 4 minutes
Beets	Wash and sort according to size. Leave tap root; trim tops leaving 1/2-inch of stem. Cook in boiling water until tender. Cool, peel (removing stem and tap root) and cut into slices or cubes. Package, seal and freeze.	Cook: Small beets - 25-30 minutes Medium beets - 45-50 minutes
Broccoli	Wash and trim. If insects are present soak 1/2 hour in solution of 4 teaspoons salt to 1 gallon of cold water. Split lengthwise into pieces no more than 1 1/2 inches across. Blanch, cool and drain. Package, seal and freeze.	In water - 3 minutes In steam - 5 minutes
Brussels Sprouts	Select green, firm, compact heads. Make sure no insects are present. Trim, removing coarse outer leaves. Wash and sort. Blanch, cool and drain. Package, seal and freeze.	Small - 3 minutes Medium - 4 minutes Large - 5 minutes
Cabbage (for cooked dishes)	Select fresh, compact heads. Remove coarse outer leaves. Cut into medium to coarse shreds, or thin wedges, or separate head into leaves. Blanch, cool and drain. Package, seal and freeze.	1 1/2 minutes
Carrots	Select tender, mild-flavored carrots. Remove tops. Wash and peel. Leave small carrots whole. Cut others in 1/4-inch cubes, thin slices or lengthwise strips. Blanch, cool and drain. Package, seal and freeze.	Small, whole - 5 minutes Diced, sliced or strips - 2 minutes
Cauliflower	Choose tender, firm, snow-white heads. Break into pieces about 1 inch across. Wash. If insects are present, soak 1/2 hour in solution of 4 teaspoons salt to 1 gallon of cold water. Drain. Blanch, cool and drain. Package, seal and freeze.	3 minutes

Directions for Freezing Vegetables

Vegetable	Preparation	Blanching Time (in boiling water unless otherwise stated)
Corn: sweet	Select ears with plump kernels and thin sweet milk. Husk ears, remove silk and wash.	— —
whole kernel and creamed	Blanch, cool and drain. For whole kernel corn, cut corn off cob about 2/3 the depth of kernels. For cream style corn, cut at 1/2 the depth of kernels and scrape cob with back of knife to remove juice. Package, seal and freeze.	4 minutes
on the cob	Sort ears according to size. Small ears—1 1/4 inches or less in diameter. Medium ears—1 1/4 to 1 1/2 inches in diameter. Large ears—over 1 1/2 inches in diameter. Blanch, cool completely and drain. Package, seal and freeze.	Small ears - 7 minutes Medium ears - 9 minutes Large ears - 11 minutes
Eggplant	Wash, peel and slice 1/3 inch thick. Blanch in 1 gallon of water containing 4 1/2 teaspoons citric acid or 1/2 cup lemon juice. Cool and drain. Package, seal and freeze. <i>For Frying</i> —Package the drained slices with freezer wrap between slices. Seal and freeze.	4 minutes
Greens: beet greens, collards, chard, kale, mustard greens, spinach or turnip greens	Select tender leaves. Wash and remove stems. Blanch, cool and drain. Package, seal and freeze.	Collards - 3 minutes Other greens - 2 minutes
Mushrooms	Choose mushrooms free of spots. Sort by size; wash and trim ends. For better color, soak 5 minutes in a solution of 1 pint water and 1 teaspoon lemon or 1 1/2 teaspoons citric acid. Blanch, cool and drain. <i>Optional Method</i> —Sauté in butter or margarine until tender. Package, seal and freeze.	In steam - 5 minutes Buttons or quarters - 3 1/2 minutes Slices - 3 minutes
Okra	Wash pods and separate into small pods (4 inches or less) and large pods. Remove the stems at the end of the seed cells, being careful not to expose the seed cells. Blanch, cool, drain. Leave whole or slice crosswise. Package, seal and freeze. <i>For Frying</i> —Slice blanched pods crosswise and dredge with flour or meal. Spread in a single layer on a shallow pan. Freeze just until firm. Package, seal and freeze.	Small pods - 3 minutes Large pods - 4 minutes
Peas: edible pod (snow, sugar, sugar snap or Chinese	Choose table-ready, tender pods. Wash, remove blossom ends and strings. Leave whole. Blanch, cool and drain. Package, seal and freeze.	Small pods - 1 1/2 minutes Medium pods - 2 minutes

Directions for Freezing Vegetables

Vegetable	Preparation	Blanching Time (in boiling water unless otherwise stated)
Peas: field	Wash pods, shell, blanch, cool and drain. Package, seal and freeze.	2 minutes
Peas: green	Pick sweet and tender table-ready peas. Shell, blanch, cool and drain. Package, seal and freeze.	1 1/2 minutes
Peppers: hot	Wash and remove stems. Package, seal and freeze.	— —
Peppers: sweet	Wash, cut in half, remove stems and seeds. If desired, cut into 1/2-inch strips or rings. <i>For Use in Cooked Dishes</i> —Blanch, cool and drain. Package, seal and freeze. <i>For Use in Uncooked or Cooked Foods</i> —Do not blanch. Package, seal and freeze.	Halves - 3 minutes Strips or rings - 2 minutes
Peppers: pimiento	Peel by roasting in oven at 400° to 450° F for 6 to 8 minutes or until skins can be rubbed off. Wash off charred skins, remove stems and seeds. Package, seal and freeze.	— —
Potatoes: Irish	Select new potatoes directly from the garden. Peel or scrape and wash. Blanch and cool. Package, seal and freeze. <i>For French Fries</i> —Wash and peel mature potatoes. Cut into 1/3-inch by 3/8-inch strips. Rinse in cold water. Dry thoroughly. Deep fry in hot fat (360° F) for about 5 minutes until tender but not brown. Drain and cool. Package, seal and freeze. To serve, heat in a 475° F oven until golden brown.	3 to 5 minutes
Pumpkin and Winter Squash (including spaghetti squash)	Select mature squash or pumpkin. Wash, cut into small pieces and remove seeds. Cook until soft in boiling water, in steam, or in 350° F oven. Remove pulp from rind. Mash, cool, package and freeze.	Cook until tender.
Summer Squash (including Zucchini)	Select young tender squash. Wash and cut into 1/2-inch slices. Blanch, cool and drain. Package, seal and freeze.	3 minutes
	<i>Grated Zucchini for Baking</i> —Steam in small quantities until translucent. Pack in amounts used in recipes, allowing headspace. Put containers in cold water to cool. Seal and freeze. Drain before using in baking.	In steam - 1-2 minutes

Directions for Freezing Vegetables

Vegetable	Preparation	Blanching Time (in boiling water unless otherwise stated)
Sweet Potatoes	Wash and sort sweet potatoes according to size. Cook until tender in water, steam or in the oven. Cool, peel and cut in halves, slice or mash. To prevent whole or sliced sweet potatoes from darkening, dip for 5 seconds in a solution of 1 tablespoon citric acid or 1/2 cup lemon juice per quart of water. To prevent mashed sweet potatoes from darkening, mix 2 tablespoons orange or lemon juice with each quart of mashed sweet potatoes. Package, seal and freeze.	Cook until tender.
Tomatoes	Wash, dip in boiling water for 30 seconds to loosen skins. Peel, core, leave whole or cut in pieces. Package, seal and freeze.	— —
juice	Wash and trim tomatoes. Cut into quarters or eighths. Simmer 5 to 10 minutes. Press through a sieve. Cool, package, seal and freeze.	— —
stewed	Remove stems, peel, and quarter ripe tomatoes. Cover and cook until tender (10 to 20 minutes). Cool, package, seal and freeze.	— —
Turnips	Select small to medium, firm, mild-flavored turnips. Wash, peel and cut into 1/2-inch cubes. Blanch, cool and drain. Package, seal and freeze.	2 minutes

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Preserving Food: Freezing Fruit

Freezing is one of the easiest, most convenient and least time-consuming ways to prepare foods at home. Freezing does not sterilize food; the extreme cold simply retards growth of microorganisms and slows down changes that affect quality or cause spoilage in food. Properly frozen fruits will retain much of their fresh flavor and nutritive value. Their texture, however, may be somewhat softer than that of fresh fruit.

Selecting Freezer Containers

Before preparing fruit for freezing, assemble the containers you will use. The selection of containers depends on the fruit being frozen, personal preference and the types that are readily available. Containers should be moisture-vapor resistant, durable, easy to seal and should not become brittle at low temperatures.

Containers suitable for freezing fruits include plastic freezer containers, flexible freezer bags or glass canning and freezing jars. If jars are used, be sure to use wide-mouth jars for fruits packed in liquid. Regular (narrow mouth) jars break too easily at the neck.

Some household containers are not recommended for freezing. The cardboard cartons that milk, ice cream or cottage cheese come in are not moisture-vapor resistant enough. Regular (not canning) jars break too easily at freezer temperatures.

Preparing the Fruit

Sort, wash and drain fruits carefully, discarding parts that are green or of poor quality. Do not allow fruit to soak in wash water or it will lose nutrients and flavor. Prepare fruits as they will be used—stemmed, pitted, peeled or sliced. Prepare enough fruit for only a few containers at a time, especially those fruits that darken rapidly.

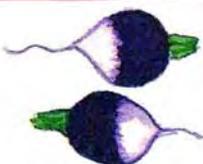
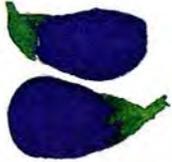
Do not use galvanized equipment in direct contact with fruit. The acid in the fruit dissolves zinc, which can be harmful in large amounts. Also, be wary of using iron utensils or chipped enamelware, as metallic off-flavors can result.

Types of Packs

There are several ways to pack fruits for freezing: syrup pack, sugar pack, dry pack or unsweetened pack.

Most fruits have a better texture and flavor if packed in sugar or syrup. However, the sugar is not necessary to safely preserve the fruit. For those watching their sugar intake, it can be left out or an artificial sweetener can be substituted.

The type of pack will depend on the intended use. Fruits packed in syrup are generally best for uncooked dessert use; those packed in dry sugar or unsweetened are best for most cooking purposes, because there is less liquid in the product.



Syrup Pack – The proportion of sugar to water depends upon the sweetness of the fruit to be frozen. A 40-percent syrup is recommended for most fruits. Lighter syrups are desirable for mild-flavored fruits to prevent masking of flavors. Heavier syrups may be needed for very sour fruits. A small piece of crumpled, water-resistant paper can be used to hold the fruit down in the syrup, if necessary.

Sugar Pack – Sprinkle sugar over the fruit and mix gently until the juice is drawn out and the sugar dissolved. Soft sliced fruits such as peaches, strawberries, figs, deseeded grapes, plums and cherries will yield sufficient syrup for covering if the fruit is layered with sugar and allowed to stand for 15 minutes. Some small whole fruits may be coated with sugar and frozen.

Dry Pack – The dry pack is good for small whole fruits such as berries, that give a good quality product without sugar. Simply pack the fruit into a container, seal and freeze.

A tray pack is an alternative that may make the fruit easier to remove from the container. Simply spread a single layer of prepared fruit on shallow trays and freeze. When frozen, promptly package and return to the freezer. The fruit pieces remain loose and can be poured from the container and the package re-closed. Be sure to package the fruit as soon as it is frozen, to prevent freezer burn.

Other Unsweetened Packs – In addition to a dry pack, unsweetened fruit can be packaged in water, unsweetened juice or pectin syrup.

Unsweetened packs generally yield a product that does not have the plump texture and good color of those packed with sugar. The fruits freeze harder and take longer to thaw. However, some fruits such as raspberries, blueberries, steamed apples, gooseberries, currants, cranberries, rhubarb and figs give a good quality product without sugar.

RECIPE

PECTIN SYRUP

1 box powdered pectin
2 3/4 cups water

Combine pectin and 1 cup water in saucepan. Heat to boiling and boil 1 minute. Remove from heat and add remaining water. Cool. Makes about 3 cups of moderately thick syrup. Add more water if thinner syrup is desired.

For fruit packed in water, unsweetened juice, or pectin syrup, submerge fruit by using a small piece or crumpled water resistant material, as for syrup pack. Seal tightly.

The pectin syrup is often used for fruits, such as strawberries or peaches, that retain their texture better than if frozen in water or juice.

Packs for Purées and Juices – Purées and juices can be packed as is. Sugar may be added, if desired.

Using Artificial Sweeteners

Sugar substitutes may be used in any of the unsweetened packs. Both saccharin and aspartame work well in frozen products or they can be added to the fruit just before serving.

Artificial sweeteners give a sweet flavor but do not furnish the beneficial effects of sugar, such as color protection and thickness of syrup.

Labels on the products give the equivalents to a standard amount of sugar. Use directions on the container to determine the amount of sweetener needed.

Preventing Discoloration

Some fruits such as peaches, apples, pears and apricots darken quickly when exposed to air and during freezing. They may also lose flavor when thawed. There are several ways to prevent darkening of fruit and flavor loss.

Ascorbic Acid (Vitamin C) – Ascorbic acid or vitamin C is effective in preventing discoloration in most fruits. Not only does it preserve natural color and flavor of fruits, but it adds nutritive value as well.

Ascorbic acid in powdered form is available at some drugstores or where freezing supplies are sold. Ascorbic acid tablets may be more readily available and less expensive, but are more difficult to dissolve. They do need to be finely crushed before use. Fillers in the tablets may make the syrup cloudy, but they are not harmful. One-half teaspoon powdered ascorbic acid=1500mg.

Follow the directions below for using ascorbic acid in the various types of packs. Use the amount specified in the directions for freezing each specific fruit.

In syrup or liquid packs – Add powdered or crushed ascorbic acid to cold syrup shortly before using. Stir it in gently so you do not stir in air. Keep syrup refrigerated until use.

In sugar or dry packs – Dissolve the ascorbic acid in two or three tablespoons of cold water and sprinkle dissolved ascorbic acid over fruit just before adding sugar.

In crushed fruits, fruit purées and fruit juices – Add ascorbic acid to prepared fruit and stir well.

Ascorbic Acid Mixtures – Ascorbic acid mixtures are special anti-darkening preparations, usually made of ascorbic acid mixed with sugar, or with sugar and citric acid. The important active ingredient in these mixtures is ascorbic acid. Follow the manufacturer’s directions for use. Do not confuse this with the ascorbic acid specified in the table, *Directions for Freezing Fruits*.

Citric Acid or Lemon Juice – Citric acid or lemon juice are sometimes used in place of ascorbic acid. Neither, however, is as effective as ascorbic acid. When used in large quantities, they often mask natural fruit flavors.

Steaming – Steaming works best for fruits that will be cooked before use. Steam the fruit just until hot according to the directions for each fruit.

Syrups for Freezing Fruits

Type of Syrup	Percent Sugar*	Cups of Sugar**	Cups of Water	Yield of Syrup in (Cups)
Very Light	10%	1/2	4	4 1/2 cups
Light	20%	1	4	4 3/4 cups
Medium	30%	1 3/4	4	5 cups
Heavy	40%	2 3/4	4	5 1/3 cups
Very Heavy	50%	4	4	6

* Approximate.

** In general, up to one-fourth of the sugar may be replaced by corn syrup or mild-flavored honey. A larger proportion of corn syrup may be used if a very bland, light colored type is selected.

To make the syrup, dissolve sugar in lukewarm water, mixing until solution is clear. Chill syrup before using. Use just enough cold syrup to cover the prepared fruit after it has been placed in the container (about 1/2 to 2/3 cup of syrup per pint). To keep the fruit under the syrup, place a small piece of crumpled parchment paper or other water-resistant wrapping material on top and press fruit down into the syrup before sealing the container.

Packaging, Labeling and Storing

Most foods require headspace between the packed food and closure. This allows for expansion of the food as it freezes.

Before closing freezer containers, make sure sealing edges are free of moisture and food particles. Seal the container and label plainly. Include name of food, date and type of pack.

Freeze packaged fruits as quickly as possible at 0°F or below. For quickest freezing, place packages against the refrigerated surfaces of the freezer. Freeze no more food at one time than will freeze within 24 hours—usually two to three pounds of fruit per cubic foot of freezer space. After fruit is frozen, rearrange the packages and store close together.

Most fruits maintain high quality for eight to twelve months at 0°F or below; citrus fruits and citrus juices, for four to six months. Unsweetened fruits lose quality faster than those packed in sugar or syrup. Longer storage will not make the food unfit for use, but may impair its quality. It is a good idea to post a list of the frozen foods with freezing dates near the freezer and check the packages off the list as they are removed.

Headspace to Allow Between Packed Food and Closure (inches)

TYPE OF PACK	Container with wide top opening		Container with narrow top opening	
	PINT	QUART	PINT	QUART
Liquid Pack*	1/2	1	3/4***	1 1/2
Dry pack**	1/2	1/2	1/2	1/2

* Fruit packed in juice, sugar, syrup or water; crushed or purée; juice

** Fruit packed without added sugar or liquid.

*** Headspace for juice should be 1 1/2 inches.

Directions for Freezing Fruits

NOTE: The following fruits can all be packed using one of the unsweetened packs. However, the texture of some will be different than when sugar is used.

Fruit	Preparation	Type of Pack (Choose One)
Apples	Wash, peel, core and slice crisp, firm fruit. Slice medium apples into twelfths, large ones into sixteenths.	<ul style="list-style-type: none"> Syrup pack in a 40 percent syrup. If ascorbic acid is used, use 1/2 teaspoon per quart of syrup. Sugar pack using 1/2 cup sugar per quart of fruit, after steaming or boiling for 1 1/2 to 2 minutes to prevent darkening. Cool fruit in cold water and drain before mixing fruit and sugar. Dry pack using the instructions or sugar pack, but omitting the sugar.
Apricots	Wash, halve and pit firm, ripe apricots. Peel and slice if desired. If apricots are not peeled, heat in boiling water for 1/2 minute to keep skins from toughening during freezing. Cool in cold water, drain.	<ul style="list-style-type: none"> Syrup pack in 40 percent syrup. If ascorbic acid is used, use 3/4 teaspoon per quart of syrup. Sugar pack using 1/2 cup sugar per quart of fruit. Mix until all sugar is dissolved. If ascorbic acid is used, use 1/4 teaspoon dissolved in 1/4 cup water.
Blackberries or Dewberries	Wash and sort fully ripe, firm berries. Discard any soft or defective berries.	<ul style="list-style-type: none"> Syrup pack in 40 or 50 percent syrup. Sugar pack using 3/4 cup sugar per quart of berries. Use dry pack.
Blueberries or Huckleberries	Wash and sort fully ripe berries, removing leaves, stems and defective berries.	<ul style="list-style-type: none"> Use dry pack. Do not wash the berries until just before serving. Crush or purée the berries and then mix with 1 to 1 1/8 cups sugar per quart of crushed or puréed berries.
Cherries: sour	Wash, stem and pit bright red, tree-ripened cherries.	<ul style="list-style-type: none"> Syrup pack in 60 to 65 percent syrup. Sugar pack using 3/4 cups sugar per quart of fruit. Mix until sugar is dissolved.
Cherries: sweet	Wash, stem and pit bright, fully-ripe cherries of dark-colored varieties.	<ul style="list-style-type: none"> Syrup pack in 40 percent syrup. If ascorbic acid is used, use 1/2 teaspoon per quart of syrup.
Citrus Fruits	Wash and peel firm tree-ripened fruit that is heavy for its size. Divide fruit into sections, removing membrane and seeds.	<ul style="list-style-type: none"> Syrup pack in 40 percent syrup made from excess juice or water. Juice-Squeeze juice from the fruit, being careful not to press any oil from the rind. Freeze as is or add 2 tablespoons sugar per quart of juice.
Cranberries	Wash and drain firm, deep-red berries with glossy skins.	<ul style="list-style-type: none"> Use dry pack. Syrup pack in 50 percent syrup.
Figs	Wash fully ripe fruit. Peel if desired.	<ul style="list-style-type: none"> Syrup pack in 35 percent syrup. If ascorbic acid is used, use 3/4 teaspoon per quart of syrup, or use 1/2 cup lemon juice per quart of syrup. Use dry pack. If ascorbic acid is used, use 3/4 teaspoon per 3 tablespoons of water.

Fruit	Preparation	Type of Pack (Choose One)
Grapes	Sort, stem and wash fully ripe, firm, sweet grapes. Leave seedless grapes whole; cut table grapes with seeds in half and remove seeds.	<ul style="list-style-type: none"> • Syrup pack in 40 percent syrup. • Juice-Crush grapes. Add 1 cup water per gallon crushed grapes. Simmer 10 minutes. Strain juice through jelly bag. Let juice stand overnight in refrigerator or other cool place so tartrate crystals will settle. Pour off clear juice and freeze. (When freezing juice for jelly-making, be sure to use some slightly underripe fruit.)
Melons: Cantaloupe, Honeydew or Watermelon	Select firm-fleshed, well-colored, ripe melons. Remove seeds and peel. Cut into slices, cubes or balls.	<ul style="list-style-type: none"> • Syrup pack in 30 percent syrup.
Peaches or Nectarines	Sort, wash and peel well-ripened fruit.	<ul style="list-style-type: none"> • Syrup pack in 40 percent syrup. If ascorbic acid is used, use 1/2 teaspoon per quart of syrup. • Sugar pack using 2/3 cup sugar per quart of fruit. Mix until sugar dissolves. If ascorbic acid is used, dissolve 1/4 teaspoon in 1/4 cup water and sprinkle over the fruit. • Crush or purée peeled and pitted peaches and mix with 1 cup sugar per quart prepared fruit: (Heating the pitted peaches for 4 minutes in just enough water to prevent scorching makes them easier to purée.) If ascorbic acid is used, use 1/8 teaspoon per quart of prepared fruit.
Pears	Wash, peel, core and slice crisp, firm, well-flavored pears.	<ul style="list-style-type: none"> • Syrup Pack-Heat pears in boiling 40 percent syrup for 1 to 2 minutes. Drain and cool. Pack pears in cold 40 percent syrup. If ascorbic acid is used, use 3/4 teaspoon per quart of syrup.
Plums	Sort and wash ripe fruit that is soft enough to yield to gentle pressure. Leave whole or cut in halves or quarters and pit.	<ul style="list-style-type: none"> • Syrup pack in 40 to 50 percent syrup. If ascorbic acid is used, use 1/2 teaspoon per quart of syrup.
Raspberries	Wash and drain fully-ripe, well-colored berries.	<ul style="list-style-type: none"> • Sugar pack using 3/4 cup sugar for each quart of berries. Mix carefully to avoid crushing. • Syrup pack in 40 percent syrup. • Use dry pack.
Strawberries	Wash and remove caps from fully ripe, firm berries with a deep-red color.	<ul style="list-style-type: none"> • Syrup pack whole berries using a 50 percent syrup. • Sugar pack whole, sliced or crushed berries using 3/4 cup sugar per quart of fruit.

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