Online Publications

FCS3-336

# Freezing Fresh Fruits

Freezing has advantages over other methods of preservation for fruits. Freezing keeps the natural color, fresh flavor, and nutritional value of fruits. With the exception of pears, which become mushy, most fruits freeze very well. Fruits are best frozen soon after harvesting when they are firm and ripe and at the peak of their quality. For thawed fruits with a pleasing color, texture, flavor, and maximum nutritional value, select varieties suitable for freezing, use strict sanitary procedures, and follow the guidelines in this publication.

## Before Packaging

Before you begin the freezing process, gather all the ingredients and equipment you will need. Begin by washing the fruit in cold water. Wash a small quantity at a time as too much handling may bruise delicate fruits. Immediately drain the fruit thoroughly. If you allow fruits to soak in water, they lose water-soluble nutrients and flavor and become waterlogged. Cut or crush larger fruits into smaller pieces. Less-than-perfect fruit is suitable for crushed or pureed packs. It is best to prepare enough fruit for only a few containers at one time, around 2 to 3 quarts. Approximate yields of frozen fruits from fresh are listed at the end of this publication. Remember that yield will vary with the size, quality, maturity, variety, trim, and cut size of the fruit.

## Types of Packs

Most fruits have a better texture and flavor if packed in sugar or syrup. Some may be packed without sweetening, as sugar is not necessary to safely freeze fruits. The method used to pack the fruit will depend on how you plan to use it. There are several ways to pack fruits for freezing: syrup pack, sugar pack, dry pack, or unsweetened pack. Whichever method you use, leave the appropriate headspace. Fruits packed in a syrup are generally best for dessert use, while those packed in dry sugar or unsweetened are best for most cooking purposes because there is less liquid.

| Headspace to Allow between Packed Food and Closure | | | | |
|---|---|---|---|---|
| **Type of Pack** | **Container with wide top opening** | | **Container with narrow top opening** | |
| | **Pint** | **Quart** | **Pint** | **Quart** |
| Liquid Pack* | ½ inch | 1 inch | ¾ inch*** | 1½ inch |
| Dry Pack** | ½ inch | ½ inch | ½ inch | ½ inch |

* Fruit packed in juice, sugar, syrup, or water; crushed or pureed fruit; or fruit juice.
** Fruit packed without added sugar or liquid.
***Headspace for juice should be 1½ inches.

## Syrup Pack

To make syrup, dissolve sugar in lukewarm water and mix until the solution is clear. Chill the syrup before using.

A 40% syrup is recommended for most fruits. To prevent masking of flavor, mild-flavored fruits may require lighter syrups. Heavier syrups may be needed for very sour fruits. Below is a master recipe from which any of the syrups can be made. Directions for each fruit contain the percentage of syrup needed for a successful syrup pack. It takes ½ to b cup of syrup for each pint package of fruit. When packing fruit into containers, be sure the syrup covers the fruit, so that the top pieces will not change in color and flavor. To keep the fruit under the syrup, place a small piece of crumpled waxed paper or other water-resistant wrapping material on top and press fruit down into syrup before closing and sealing the containers.

# Sugar Pack

Fruits such as sliced peaches, strawberries, figs, deseeded grapes, plums, and cherries will produce enough syrup to cover the fruit if the fruit is layered with sugar and allowed to stand 15 minutes. Some small whole fruits may be coated with sugar and immediately frozen. First, cut the fruit into a bowl or shallow pan. Sprinkle the quantity of sugar needed (given in the directions for each fruit on following pages) over the fruit. Mix gently until the juice is drawn out and the sugar is dissolved. Pack the fruit into a container, seal, label, and freeze.

# Dry Pack

The dry pack is good for small whole fruits such as berries. Simply pack the fruit into a container, seal, label, and freeze. To make dry packing easier, spread a single layer of washed fruit on shallow trays and freeze. When the fruit is frozen, promptly package and return to the freezer.

| **Master Recipe for Syrup** | | | | |
|---|---|---|---|---|
| **Type of Syrup** | **% Syrup** | **Sugar (cups)** | **Water (cups)** | **Yield of Syrup (cups)** |
| Very Light | 10% | ½ | 4 | 4½ |
| Light | 20% | 1 | 4 | 4¾ |
| Medium | 30% | 2 | 4 | 5 |
| Medium | 35% | 2½ | 4 | 5 |
| Heavy | 40% | 3 | 4 | 5½ |
| Very Heavy | 50% | 4¾ | 4 | 6½ |
| Very Heavy | 60% | 7 | 4 | 7¾ |
| Very Heavy | 65% | 8¾ | 4 | 8 |
| *Dissolve sugar in lukewarm water. Chill before use. The syrup may be made a day ahead and kept cold in the refrigerator until time to use. Up to one-quarter of the sugar may be replaced by corn syrup or mild-flavored honey.* | | | | |

# Unsweetened Pack with Liquid

Unsweetened fruit may be packed in water, unsweetened juice, or pectin syrup. However, fruits packaged without sugar do not have the plump texture and good color of those packed with sugar. Raspberries, blueberries, steamed apples, gooseberries, currants, cranberries, rhubarb, and figs freeze well without sugar. Pectin syrup, instead of water or juice, is often used for peaches or strawberries because they retain their texture better if frozen in pectin syrup.

Pectin Syrup Yield: 3 cups 1 package powdered pectin 2¾ cups water Mix together pectin and 1 cup of water. Boil for 1 minute. Remove from heat and add remaining water. Cool. Add more water if a thinner syrup is desired.

# Preventing Discoloration

Some fruits, such as peaches, apples, pears, and apricots, darken during freezing. They may also lose their flavor after thawing. Discoloration can be prevented or lessened with an anti-darkening treatment. Use the amount and type specified in the directions for freezing specific fruits because not all fruits are protected equally well by all treatments.

## Ascorbic Acid

Ascorbic acid, commonly referred to as vitamin C, is the most effective treatment in preserving the natural color and flavor of fruits for freezing, and it adds nutritive value. The powdered form is available at some pharmacies or where freezing supplies are sold. Ascorbic acid tablets may be easier to find and less expensive, but they are more difficult to dissolve. Crush the tablets finely before use. Fillers in the tablets may make the syrup cloudy but are not harmful. Make only as much ascorbic acid solution as needed. One-half teaspoon of powdered ascorbic acid equals 1500 milligrams. Commercial ascorbic acid mixtures are available. Follow the manufacturer's directions when using these. In a syrup pack, add dissolved ascorbic acid to the cold syrup before using. Stir gently so air is not incorporated into the syrup. All syrups should be kept in the refrigerator until used. In a sugar pack, sprinkle the dissolved ascorbic acid over the fruit juice before adding the sugar. In an unsweetened pack, sprinkle the dissolved ascorbic acid over the fruit and mix thoroughly just before packing. If fruit is packed in water, dissolve the ascorbic acid in the water. If fruit is packed in fruit juices, add the ascorbic acid directly to the juice and stir only enough to dissolve the ascorbic acid. In crushed fruits and fruit purees, add the dissolved ascorbic acid to the fruit preparation and mix gently.

## Citric Acid or Lemon Juice

Citric acid or lemon juice is sometimes used in place of ascorbic acid. When used in large quantities, they mask natural fruit flavors and make the fruits too sour.

## Steaming

Steaming works best for fruits that will be cooked before serving. Steam fruits just until hot.

# Directions for Freezing

## Sliced Apples

Apples packed in sugar or frozen unsweetened are good for pie making. A 40% syrup pack is preferred for apples to be used for fruit salad. To prevent darkening, treat each quart of syrup with ½ teaspoon of powdered ascorbic acid. Select unblemished, ripe apples that are crisp and firm, not mealy in texture. Wash, peel, and core. Slice medium apples into twelfths, large apples into sixteenths. To syrup pack, slice apples directly into cold syrup in freezer container, starting with ½ cup of 40% syrup for each pint container. Press fruit down in containers and add enough syrup to cover. Leave headspace. Seal, label, and freeze. To sugar pack, slice apples into a solution of 2 tablespoons of salt to 1 gal-lon of water. Soak apples in the solution no more than 15 minutes. Drain thoroughly. Sprinkle ½ cup sugar evenly over each quart of apple slices and stir. Pack apples into containers and press fruit down, leaving appropriate headspace. Seal, label, and freeze. For an unsweetened pack, follow the directions for the sugar pack, omitting the sugar.

## Applesauce

Wash apples. Peel, if desired, core, and slice. Add 1 cup water for every quart of apple slices, and cook until tender. Cool and strain if necessary. Sweeten to taste with ¼ to ¾ cup sugar for each quart of apples. Pack into containers, leaving headspace. Seal, label, and freeze.

## Blackberries, Boysen-berries, Dewberries, Loganberries, Raspberries, and Youngberries

A 40 or 50% syrup pack is preferred for berries to be served uncooked. Berries to be used to make pies or jam can be satisfactorily frozen using a sugar or unsweetened pack. Seedy berries are best for use in making purees or juice. Select firm, plump, ripe berries with glossy skins. Sort and remove any leaves and stems. Wash and drain. To syrup pack, pack berries into freezer containers; cover with 40 or 50% syrup, depending on the sweetness of the fruit. Leave headspace. Seal, label, and freeze. To sugar pack, add ¾ cup sugar to 1 quart berries. Stir until most of the sugar is dissolved. Fill containers, leaving headspace. Seal, label, and freeze. For crushed or pureed berries, prepare as for whole berries. Then crush. To puree, press through a sieve. Add 1 cup of sugar to each quart of crushed berries or puree. Stir until sugar is dissolved. Pack into containers, leaving headspace. Seal, label, and freeze.

## Blueberries, Huckleberries, and Elderberries

A 40% syrup pack is preferred for berries to be served uncooked. Unsweetened berries are satisfactory for cooking. Select full-flavored, ripe berries all about the same size, preferably with tender skins. Sort, wash, and drain. Steam for 1 minute, and cool immediately to tenderize skin. To syrup pack, cover berries in freezer container with cold 40% syrup. Leave headspace. Seal, label, and freeze. For crushed or pureed berries, select fully ripened berries. Sort, wash, and drain. Crush or press berries through a fine sieve to puree. To each quart of crushed berries or puree, add 1 to 1c cups sugar. Stir until sugar is dissolved. Pack into containers, leaving headspace. Seal, label, and freeze.

## Cherries, Sour

A 60 to 65% syrup pack is best for sour cherries to be served uncooked. A sugar pack is preferable for those to be used for pies or other cooked products. Select bright red, tree-ripened, red-tart cherries. Stem, sort, and wash thoroughly. Drain and pit. To syrup pack, cover cherries in freezer containers with cold 60 to 65% syrup, depending on the tartness of the cherries. Leave headspace. Seal, label, and freeze. To sugar pack, add ¾ cup sugar to each quart of cherries. Stir until sugar is dissolved. Pack into containers, leaving headspace. Seal, label, and freeze. To crush cherries, prepare as for whole cherries. Crush coarsely. Add 1 to 1½ cups sugar, depending on sweetness desired to each quart of crushed fruit. Stir until sugar is dissolved. Pack into containers, leaving headspace. Seal, label, and freeze. To puree cherries, prepare as for whole cherries. Crush cherries, heat to boiling point, cool, and press through a sieve. Add ¾ cup sugar to 1 quart puree. Pack puree into containers, leaving head-space. Seal, label, and freeze. To juice cherries, prepare as for whole cherries. Crush cherries, heat to 165°F to start the flow of juice, and strain juice through a jelly bag. Cool and refrigerate overnight. Pour off clear juice for freezing, or juice may be packed as soon as it cools, then strained when it is thawed for serving. Add 1½ to 2 cups sugar to each quart of juice, or pack without added sugar. Pour into containers, leaving headspace. Seal, label, and freeze.

## Cherries, Sweet

Sweet cherries should be prepared quickly to avoid changes in color and flavor. Dark varieties are best for freezing. Select well-colored, tree-ripened fruit with a sweet flavor. Sort, stem, wash, and drain. Remove pits, if desired—they tend to give an almond-like flavor to the fruit. Pack cherries into containers. Cover with a cold 40% syrup, to which ½ teaspoon of powdered ascorbic acid has been added to each quart. Leave head-space. Seal, label, and freeze.

## Cranberries

Choose firm, deep-red cranberries with glossy skins. Stem and sort. Wash and drain. Unsweetened cranberries

freeze very well. To syrup pack, cover cranberries in freezer containers with a cold 50% syrup. Leave headspace. Seal, label, and freeze. To puree cranberries, prepare as for freezing whole. Cook each quart of cran-berries in 2 cups of water until skins crack open. Press through a sieve. Add sugar to taste, about 2 cups for each quart of puree. Pack into containers, leaving headspace. Seal, label, and freeze.

## Gooseberries

Whole gooseberries may be frozen in a 50% syrup pack or without sweetening. For use in pies or preserves, the unsweetened pack is best. Choose fully ripe berries if freezing for pie filling. Choose berries a little under-ripe for jelly-making. Sort, remove stems and blossom ends, and wash. Pack into containers, leaving headspace. Seal, label, and freeze.

## Grapes

Whole or halved grapes are best frozen with a 40% syrup, but grapes to be used for juice or jelly can be frozen without sweetening. Select firm-ripe grapes with tender skins and full color and flavor. Wash and stem. Leave seedless grapes whole. Cut table grapes with seeds in half, and remove seeds. To puree grapes, wash, stem, and crush the grapes. Bring to a boil. Drain off free juice and freeze. Cool the crushed grapes, and press through a sieve. To 1 quart of puree, add ½ cup sugar. Pack into containers, leaving headspace. Seal, label, and freeze. The puree may develop a gritty texture because of tartrate crystals, but these crystals disappear when the puree is heated. To make juice from grapes, wash, stem, and crush grapes. Strain through a jelly bag. Let juice stand overnight in the refrigerator while any sediment sinks to the bottom. Pour off the clear juice for freezing. Pour juice into containers, leaving headspace. Seal, label, and freeze. If tartrate crystals form in frozen juice, they may be removed by straining the juice after it thaws.

## Melons

***Cantaloupe, Honeydew, and Watermelon***

Slices, cubes, or balls of melon freeze well in a 30% syrup. Select firm-fleshed, well-colored, ripe melons. Wash melon, cut in half, remove seeds, and peel. Cut melons into slices, cubes, or balls. Pack into containers, leaving headspace. Seal, label, and freeze.

## Peaches

Peaches in halves and slices have better quality when packed in 40% syrup or with sugar, but a water pack will serve if sweetening is not desired. Add ½ teaspoon of powdered ascorbic acid for each quart of syrup. Select firm, ripe peaches with no green color in the skins. Sort, wash, pit, and peel. Halve or slice if desired. To sugar pack, add b cup sugar to each quart of prepared fruit and mix well. Sprinkle ¼ teaspoon of powdered ascorbic acid dissolved in ¼ cup cold water to each quart of fruit over the peaches before adding sugar. Pack into containers, leaving headspace. Seal, label, and freeze. To water pack, cover peaches with cold water containing 1 teaspoon of powdered ascorbic acid to each quart of water in freezer containers. Leave headspace. Seal, label, and freeze. To crush or puree peaches, dip peaches in boiling water for ½ to 1 minute to loosen skins. Cool in cold water, remove skins, and pit. Crush peaches coarsely. To puree, press through a sieve, or heat pitted peaches 4 minutes in just enough water to prevent scorching, and then press through a sieve. Mix 1 cup of sugar with each quart of crushed or pureed peaches. For better quality, add c tea-spoon of powdered ascorbic acid to each quart of fruit. Pack into containers, leaving headspace. Seal, label, and freeze.

## Pears

Select pears that are well-ripened and firm but not hard. Wash, peel, cut in halves or quarters, and remove cores. Heat pears in boiling 40% syrup for 1 to 2 minutes, depending on size of pieces. Drain and cool. Pack pears into freezer containers and cover with cold 40% syrup. For a better product, add ¾ teaspoon of powdered ascorbic acid to each quart of cold syrup. Leave headspace. Seal, label, and freeze.

## Plums

Frozen plums are very good for use in pies and jams or in salads and desserts. The unsweetened pack is preferred for plums to be used for jams. Choose firm, tree-ripened fruit of deep color. Sort and wash. To syrup pack, pack whole or cut fruit into freezer containers. Cover fruit with cold 40 or 50% syrup, depending on tartness of fruit. For improved quality, add ½ teaspoon powdered ascorbic acid to each quart of syrup. Leave headspace. Seal, label, and freeze. To puree, cut plums in half and remove pits. Puree may be prepared from unheated or heated fruit, depending on the softness of the fruit. To prepare puree from unheated fruit, press raw fruit through a sieve. For better quality, add ¼ to ½ teaspoon powdered citric acid to each quart of puree. To prepare puree from heated fruit, add 1 cup of water for each 4 quarts of fruit. Bring to boil, cook 2 minutes, cool, and press through a sieve. Mix ½ to 1 cup of sugar with each quart of puree, depending on tartness of fruit. Pack into containers, leaving headspace. Seal, label, and freeze. To make juice from plums, wash plums, then simmer until soft in enough water to barely cover. Strain through a jelly bag. Cool. If desired, sweeten with 1 to 2 cups of sugar for each quart of juice, depending on tartness of fruit. Pour into containers, leaving headspace. Seal, label, and freeze.

## Rhubarb

Rhubarb pieces are best either unsweetened or packed in a 40% syrup. Wash, trim, and cut into 1- to 2-inch pieces or in lengths to fit the package. Heating rhubarb in boiling water for 1 minute and cooling promptly in cold water helps retain color and flavor. Choose firm, tender, well-colored stalks with good flavor and few fibers. To puree rhubarb, add 1 cup of water to 1½ quarts of washed rhubarb and boil 2 minutes. Cool and press through a sieve. Mix b cup sugar with 1 quart of puree. Pack into containers, leaving headspace. Seal, label, and freeze. To make juice from rhubarb, wash, trim, and cut into pieces 4 to 6 inches long. Add 1 quart water to 4 quarts rhubarb and bring to a boil. Press through a jelly bag. Cool. Sweeten, if desired, using ½ cup sugar to each quart of juice. Pour into containers, leaving headspace. Seal, label, and freeze.

## Strawberries

Whole or sliced strawberries freeze well in a 50% syrup or with added sugar. Large berries are better sliced or crushed. Sort berries, wash them in cold water, drain well, and remove caps. Choose firm, ripe, red berries, preferably with a slightly tart flavor. To sugar pack, add ¾ cup sugar and ½ teaspoon powdered ascorbic acid to 1 quart of strawberries and mix thoroughly. Put into containers, leaving headspace. Seal, label, and freeze. To slice or crush, prepare as for whole strawberries. Then slice or crush partially or completely. Add ¾ cup sugar to 1 quart of strawberries and mix thoroughly. Pack into containers, leaving headspace. Seal, label, and freeze. To puree, prepare as for whole strawberries. Press berries through a sieve. Add b cup sugar to 1 quart of puree and mix well. Put into containers, leaving headspace. Seal, label, and freeze. To make juice, choose fully ripe strawberries. Sort and wash them in cold water. Drain well and remove caps. Crush strawberries and strain juice through a jelly bag. Sweeten with b to 1 cup sugar to each quart of juice or leave unsweetened. Pour into containers, leaving headspace. Seal, label, and freeze.

| **Table of Fruit Yields** | | |
|---|---|---|
| **Fruit** | **Fresh** | **Frozen** |
| Apples | 1 bu (48 lb) | 32 to 40 pt |
| Berries | 1 crate (16 qt) | 20 to 24 pt |
| Cherries | 1 bu (56 lb) | 36 to 44 pt |
| Cranberries | 1 box (25 lb) | 50 pt |
| Melons | 1 dozen (28 lb) | 22 pt |
| Peaches | 1 bu (48 lb) | 32 to 48 pt |

| | | |
|---|---|---|
| Pears | 1 bu (50 lb) | 40 to 50 pt |
| Plums | 1 bu (56 lb) | 38 to 56 pt |
| Raspberries | 1 crate (24 pt) | 24 pt |
| Rhubarb | 15 lb | 15 to 22 pt |
| Strawberries | 1 crate (16 qt) | 24 to 28 pt |

*Prepared by Sandra Bastin, Ph.D., R.D., Extension Specialist in Food and Nutrition*

---

**Equal opportunity statement**