

# How to Freeze Fruits

**F**rozen foods can add variety to your meals year-round. As with any method of food preservation, following specific guidelines will assure you of high-quality, safe food.

## Tips for successful freezing

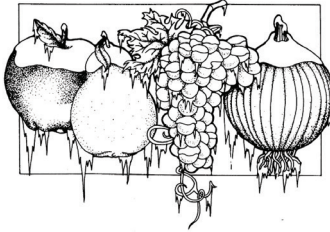
- Select varieties suitable for freezing. Check a seed catalog or ask the grower.
- Work under sanitary conditions.
- Choose fresh, firm, ripe fruits of good quality. Freezing does not improve quality. Sort for size, ripeness and color.
- If fruit can't be frozen immediately, refrigerate it.
- Work with small quantities—enough for only a few containers at a time—to prevent loss of quality and nutrients.
- Wash and drain all fruits before removing hulls (caps), cores, pits, seeds, skins or shells. Wash small lots at a time through several changes of cold water. Lift produce out of the water so that the dirt washed off will not get back on the food. Do not let fruits soak.
- When preparing fruit for freezing do not use galvanized, copper or iron equipment. Acid in the fruit could react with the metals to form harmful compounds or off-flavors.
- Yields will vary depending on the condition of the produce and the preparation and packing methods used. See Table 1 for the approximate yield of frozen fruit from fresh.
- Prepare each fruit as directed below.

## How to prevent darkening

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

Crystalline (powdered) ascorbic acid, or vitamin C, is the most effective agent in preventing darkening of fruit. Not only does it preserve natural color and flavor of fruits, but it also adds nutritive value. Ascorbic acid in crystalline

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or powdered form is available at some drugstores or where freezing supplies are sold.

Ascorbic acid tablets are more readily available and less expensive, but are more difficult to dissolve. Also, fillers in the tablets may make the syrup cloudy. Three thousand milligrams of ascorbic acid in tablet form equal 1 teaspoon of crystalline ascorbic acid. To use, dissolve ascorbic acid in a little cold water. If using tablets, crush

them so they will dissolve more easily. Use the amount specified for each fruit.

## How to use ascorbic acid with different freezing methods

- **Syrup pack.** Add dissolved ascorbic acid to cold syrup shortly before using. Stir it in gently so that you will not stir in air. Keep syrup refrigerated until used.
- **Sugar pack.** Sprinkle dissolved ascorbic acid over fruit just before adding sugar.
- **Unsweetened pack.** Sprinkle dissolved ascorbic acid over fruit, and mix thoroughly just before packing. If fruit is packed in water or juice, dissolve the ascorbic acid in the water or juice.
- **Fruit juices.** Add ascorbic acid directly to the juice. Stir only enough to dissolve ascorbic acid.
- **Crushed fruits and fruit purees.** Add dissolved ascorbic acid to fruit preparation and mix.

Commercial 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 usually is ascorbic acid. Follow manufacturer's directions for use. Do not confuse these mixtures with the ascorbic acid specified in directions for individual fruits found in this publication.

Citric acid or lemon juice are sometimes used in place of ascorbic acid. Neither, however, is as effective as ascorbic acid. When used in quantities high enough to prevent darkening, they often mask natural fruit flavors and make a tart-tasting product. To use, dissolve ¼ teaspoon crystalline citric acid or 3 tablespoons of lemon juice in a quart of cold water. Place prepared fruit in the mixture for 1 to 2 minutes. Drain and pack the fruit.

Steaming works best for fruits that will be cooked before use. Steam the fruit in single layers over boiling water just until hot.

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Reviewed by  
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**Table 1. Approximate yield of frozen fruits from fresh.**

Fruit	Fresh, as purchased or picked	Frozen pints
Apples	1 bu. (48 lbs.) 1¼ to 1½ lbs.	32 to 40 1
Apricots	1 bu. (48 lbs.) ⅔ to ⅞ lb.	60 to 72 1
Berries <sup>a</sup>	1 crate (24 qts.) 1½ to 1½ lbs.	32 to 36 1
Cantaloupes	1 dozen (28 lbs.) 1 to 1¼ lbs.	22 1
Cherries, sweet or sour	1 bu. (56 lbs.) 1¼ to 1½ lbs.	36 to 44 1
Cranberries	1 box (25 lbs.) ½ lb.	50 1
Grapes	1 bu. (48 lbs.) 2 lbs.	20 to 24 1
Peaches	1 bu. (48 lbs.) 1 to 1½ lbs.	32 to 48 1
Pears	1 bu. (50 lbs.) 1 to 1¼ lbs.	40 to 50 1
Pineapple	5 lbs.	4
Plums	1 bu. (50 lbs.) <sup>b</sup> 1 to 1½ lbs.	34 to 50 1
Raspberries	1 crate (24 pts.) 1 pt.	24 1
Rhubarb	15 lbs. ⅔ to 1 lb.	15 to 22 1
Strawberries	1 crate (24 qts.) ⅔ qt.	38 1

<sup>a</sup> Includes blackberries, blueberries, boysenberries, dewberries, elderberries, gooseberries, huckleberries, loganberries and youngberries.

<sup>b</sup> As defined by the Missouri Department of Agriculture.

Sugar syrups work during preparation by excluding air from the fruit. Slice fruit directly into the syrup, and then use the same syrup for packing the fruit. To make this as effective as other methods, add ascorbic acid to the syrup.

## Types of packs

There are several ways to pack fruits for freezing: syrup pack, sugar pack, unsweetened pack, tray pack and artificial sweetener pack. How you plan to use the fruit determines the type of pack.

Intended use	Type of pack
Uncooked desserts	Syrup
Cooking purposes (pies, crisps)	Dry sugar or dry unsweetened
Sweet spreads	Unsweetened (correct amount of sweetening can be added at time of preparation)

Whichever method you choose, be sure to leave the appropriate headspace (Table 2).

**Table 2. Headspace for wide-mouth rigid containers.**

Type of pack	Pint	Quart
Liquid pack (fruit packed in juice, sugar, syrup or water; crushed or pureed fruit and freezer jams)	½ inch	1 inch
Dry pack (Fruits packed without added sugar or liquid) <sup>a</sup>	½ inch	½ inch
Fruit juice	1½ inches	1½ inches

<sup>a</sup> Tray-packed fruits do not need any headspace.

**Caution: Do not use narrow-mouth jars for freezing foods packed in liquid, as expansion of the liquid could cause the jars to break at the neck.**

**Table 3. Syrups for use in freezing fruits.**

Type of syrup	Sugar <sup>a</sup>	Water	Syrup yield
20 percent (very light)	1¼	4	4⅓
30 percent (light)	2	4	5
40 percent (medium)	3	4	5½
50 percent (heavy)	4¾	4	6½
60 percent (very heavy)	7	4	7¾

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

## Syrup pack

The sweetness of the fruit to be frozen depends on the proportion of sugar to water used. A 40 percent syrup is recommended for most fruits. Lighter syrups are desirable for mild-flavored fruits to prevent masking the flavors. Heavier syrups may be needed for very sour fruits. See Table 3 for proportions of sugar and water to use for the different syrups. To make the syrup, dissolve sugar in lukewarm water, and mix until the 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 ½ to ⅔ cup of syrup per pint. Leave appropriate headspace (Table 2). To keep fruit under the syrup, place a small piece of crumpled, water-resistant paper, such as waxed paper, on top of the fruit and gently press fruit down into the syrup. Seal container tightly, label and freeze.

## Sugar pack

Sprinkle sugar over fruit and mix gently until the juice is drawn out and the sugar dissolved. Soft-sliced fruits such as peaches, strawberries, grapes, plums and cherries will yield sufficient syrup for covering if the fruit is layered with sugar and allowed to stand 15 minutes. Pack into containers, leaving appropriate headspace (Table 2). To keep fruit under the syrup, place a small piece of crumpled, water-resistant paper, such as waxed paper, on top of the fruit and gently press fruit down into the syrup. Seal container tightly, label and freeze.

## Unsweetened pack

Most fruits have a better texture, color and flavor if packed in sugar or syrup. However, sugar is not necessary to safely preserve fruit. If you wish to cut down on sugar, you can pack fruit dry without any sugar, or cover fruit with water or unsweetened juice containing ascorbic acid. For a juice pack, use unsweetened, light-colored, complementary juices, such as apple, pineapple, orange or white grape juice. For all unsweetened packs, leave appropriate headspace (Table 2). When fruit is packed in unsweetened water or juice, keep fruit submerged by placing a small piece of crumpled, water-resistant paper, such as waxed paper, on top of the fruit and gently press fruit down into the juice or water. Seal container tightly, label and freeze.

Raspberries, blueberries, blanched apples, gooseberries, cranberries and rhubarb can be frozen without sugar and still be a good-quality product.

## Tray pack

The tray pack is a dry unsweetened pack that is good for small, whole fruits such as blueberries, raspberries and cranberries that give a good-quality product without sugar. Spread a single layer of prepared fruit on shallow trays and freeze. Leave in the freezer just long enough to freeze firm. Longer exposure to dry freezer air will result in moisture loss and a decrease in quality. When fruit is frozen, promptly package, leaving no headspace, seal tightly, label and return to the freezer. The fruit pieces remain loose and can be poured from the container and the package reclosed.

## Puree pack

Puree fruit, and add ascorbic acid. Sweetening is optional. Pack with appropriate headspace (Table 2), seal container tightly, label and freeze.

## Artificial sweetener pack

Sugar substitutes work well in frozen fruit. They can be used in any of the unsweetened or dry packs, or they can be added to the fruits just before serving.

Artificial sweeteners give a sweet flavor but do not provide the beneficial preservation effects of sugar, such as color protection or syrup thickness. The label on a sweetener package will tell you how much sweetener is equivalent to standard amounts of sugar. Use the label directions to determine the amount needed.

## Thawing and using

Fruit is best served while it is still partially frozen with a few ice crystals still remaining. If thawed completely, frozen fruit will become mushy because of cell wall damage from ice crystals that form during the freezing process. Thaw fruit in the refrigerator, in the container you froze it in, about 12 hours per pint. For a shorter thawing time, run cold water over container until thawed. Thaw only enough fruit for one meal. Serve the juice from frozen fruit, too, as it is flavorful and contains nutrients.

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## Tips

- Freeze a few big, red, ripe strawberries individually with the stem on for use as a garnish or in iced drinks.
- Freeze lemon juice in ice cube trays for use in iced tea or lemonade.
- Freeze mixed fruit for serving as fruit cocktail.
- Freeze fruits, juices and puree in amounts needed for meals or favorite recipes.
- Fruit pie filling freezes well. It may be frozen in the pie shell baked or unbaked, see MU publication GH1505, Freezing Home-Prepared Foods.

## Freezing instructions for specific fruits

### Apples

When you plan to use apples in uncooked desserts or fruit cocktail, the syrup-pack method is preferred. A sugar or unsweetened pack is good for pie making. Select full-flavored apples that are crisp and firm, not mealy in texture. Wash, peel and core. Slice medium apples into 12 sections, large ones into 16.

### Syrup pack

Use 40 percent syrup. To prevent browning, add ½ teaspoon crystalline ascorbic acid to each quart of syrup. Slice apples directly into syrup in container starting with ½ cup syrup to a pint container. Press fruit down in containers, add enough syrup to cover, leave headspace, seal and freeze.

### Sugar pack

To prevent darkening of apples, treat each quart with ½ teaspoon of ascorbic acid dissolved in 3 tablespoons of cold water, or steam blanch for 1½ to 2 minutes. Mix ½ cup sugar with 1 quart (1¼ pounds) of fruit. Pack apples into containers, and press fruit down, leave headspace, seal and freeze.

### Applesauce

Select full-flavored apples. Wash apples, peel if desired, core and slice. To each quart of apple slices, add 1/3 cup water or apple juice; cook until tender. Cool. Strain, if desired. Sweetening can be added if needed: ¼ to ¾ cup sugar for each quart of sauce. Or use your regular recipe for applesauce.

Pack into containers, leave headspace, seal and freeze.

### Apricots

Select firm, ripe, uniformly yellow apricots. Sort, wash, halve and pit. Peel and slice if desired. If apricots are not peeled, heat them in boiling water 30 seconds to keep skins from toughening during freezing. Cool in cold water, and drain.

### ***Syrup pack***

Use 40 percent syrup. For a better quality frozen product, add ¾ teaspoon crystalline ascorbic acid to each quart of syrup. Pack apricots directly into containers, cover with syrup, leave headspace, seal and freeze.

### ***Sugar pack***

Before combining apricots with sugar, treat with the following mixture to prevent darkening: ¼ teaspoon crystalline ascorbic acid and ¼ cup cold water.

Dissolve crystalline ascorbic acid in cold water and sprinkle over 1 quart (⅞ pound) of fruit. Mix ½ cup sugar with each quart of fruit. Stir until sugar is dissolved. Pack apricots into container, press down until fruit is covered with juice, leave headspace, seal and freeze.

### ***Avocados***

Select avocados that yield to gentle pressure with skins free from dark blemishes. Avocados are best frozen as puree. Avocados are not satisfactory frozen whole or sliced.

### ***Puree***

Peel fruit, cut in half and pit. For a better quality product, add ⅛ teaspoon crystalline ascorbic acid or 3 tablespoons lemon juice to each quart of puree. Pack into containers, leave headspace, seal and freeze.

### ***Bananas***

Select firm, ripe bananas. Peel; mash thoroughly. Add 1 tablespoon lemon juice or ½ teaspoon ascorbic acid per cup of mashed banana. Pack into containers, leave headspace, seal and freeze.

### ***Blackberries, boysenberries, dewberries, loganberries, youngberries***

Select fully ripe, firm berries. Wash carefully in cold water, discarding soft, underripe or defective fruit, leaves and stems. Drain.

### ***Syrup pack***

Pack whole berries into containers and cover with 40 to 50 percent syrup, depending on sweetness of fruit. Leave headspace, seal and freeze.

### ***Sugar pack***

Gently mix ¾ cup sugar with 1 quart (1½ pounds) berries. Fill containers, leave headspace, seal and freeze.

### ***Unsweetened pack***

Tray freeze; then pack berries into containers, leaving no headspace, seal and freeze.

### ***Blueberries***

Select full-flavored, ripe berries. Wash berries, and remove leaves, stems and immature or defective berries. Preheating in steam tenderizes skin and improves the flavor of the product.

### ***Unsweetened pack***

Tray freeze; then pack berries into containers, leaving no headspace, seal and freeze.

### ***Cherries, sour***

Select bright red, tree-ripened cherries. Wash, stem and pit.

### ***Syrup pack***

Pack cherries into containers, cover with 60 percent syrup, leave headspace, seal and freeze.

### ***Sugar pack***

To 1 quart (1½ pounds) cherries add ¾ cup sugar. Mix until sugar is dissolved. Pack into containers, leave headspace, seal and freeze.

### ***Cherries, sweet***

Select bright, fully ripened cherries of dark-colored varieties. Wash, stem and pit.

### ***Syrup pack***

Pack cherries into containers and cover with a 40 percent syrup. For a better-quality product, add ½ teaspoon crystalline ascorbic acid to each quart of syrup. Leave headspace, seal and freeze.

### ***Gooseberries***

Choose fully ripe berries if freezing for pie; choose berries a little underripe for jelly. Sort, remove stems and blossom ends, and wash berries. The unsweetened pack is best for use in pies or preserves.

### ***Unsweetened pack***

Tray freeze; then pack into containers, leaving no headspace, seal and freeze.

### ***Syrup pack***

Pack into containers, cover with 50 percent syrup, leave headspace, seal and freeze.

### ***Grapes***

Choose fully-ripe, firm, sweet grapes. Sort, stem and wash. Leave seedless grapes whole; cut table grapes with seeds in half and remove seeds.

### ***Syrup pack***

Pack into containers, cover with 40 percent syrup, leave headspace, seal and freeze.

### ***Unsweetened pack***

Tray freeze seedless only; then pack into containers, leaving no headspace, seal and freeze.

### ***Puree***

Wash, stem and crush the grapes. Heat to boiling. Drain off free juice and freeze it separately. Use a colander to remove seeds and hulls. To 1 quart (2 pounds) puree, add ½

cup sugar. Pack into containers, leave headspace, seal and freeze.

### **Juice**

For beverages, select fully ripe, firm, sweet grapes. For jelly making, select as recommended in specific jelly recipe. Wash, stem and crush grapes. Add 1 cup water per gallon crushed grapes. Simmer for 10 minutes. Strain juice through a jelly bag. To remove tartrate crystals, let juice stand overnight in refrigerator. Pour off clear juice for freezing. Discard sediment that sinks to bottom. Pour juice into containers, leave headspace, seal and freeze. If tartrate crystals form in frozen juice, they may be removed by straining the juice after thawing.

### **Melons (cantaloupe, crenshaw, honeydew or watermelon)**

Select firm-fleshed, well-colored, ripe melons. Cut in half; remove seeds and rind. Cut melons into slices, cubes or balls.

#### **Syrup pack**

Pack into containers, cover with 30 percent syrup, leave headspace, seal and freeze.

#### **Unsweetened pack**

Pack into containers, leaving no headspace, seal and freeze.

### **Peaches or nectarines**

Select well-ripened fruit and handle carefully to avoid bruising. Sort, wash and peel. Note: Peeling without a boiling water dip gives a better product. Slice or halve if desired.

#### **Syrup pack**

Use 40 percent syrup. For a better quality product, add ½ teaspoon crystalline ascorbic acid for each quart of syrup. Slice fruit directly into syrup in container—starting with ½ cup syrup to a pint container. Press fruit down, add syrup to cover, leave headspace, seal and freeze.

#### **Sugar pack**

Before combining peaches or nectarines with sugar treat with the following mixture to prevent darkening: ¼ teaspoon crystalline ascorbic acid and ¼ cup cold water.

Dissolve crystalline ascorbic acid in cold water and sprinkle over 1 quart (1½ pounds) of fruit. Mix ⅔ cup sugar with each quart of fruit. Stir until sugar is dissolved. Pack into containers, leave headspace, seal and freeze.

#### **Unsweetened pack**

Pack peaches or nectarines into containers and cover with a mixture of 1 teaspoon crystalline ascorbic acid per quart of cold water or juice. Leave headspace, seal and freeze.

### **Puree**

Coarsely crush peeled and pitted peaches or nectarines. Press through a sieve or puree in a blender or food processor. (Heating pitted fruit for about 4 minutes in just enough water to prevent scorching makes them easier to puree.) Mix 1 cup sugar with each quart (2 pounds) of pureed fruit. For better quality, add ⅛ teaspoon crystalline ascorbic acid to each quart of fruit. Pack into containers, leave headspace, seal and freeze.

### **Pears**

Select full-flavored pears that are crisp and firm, not mealy in texture. Wash, peel and core. Slice medium pears into 12 sections, large ones into 16.

#### **Syrup pack**

Heat pears in boiling 40 percent syrup for 1 to 2 minutes, depending on size of pieces. Drain and cool. Pack pears into containers and cover with 40 percent syrup. For a better product, add ¾ teaspoon crystalline ascorbic acid to each quart of syrup. Leave headspace, seal and freeze.

### **Persimmons**

Select orange-colored, soft-ripe persimmons. Sort, wash, peel and cut into sections. Press fruit through a sieve to make a puree. For a better product, add ⅛ teaspoon crystalline ascorbic acid or 1½ teaspoons crystalline citric acid to each quart of puree. Puree made from native (Missouri) varieties needs no sugar. Puree made from cultivated varieties may be packed with or without sugar.

#### **Unsweetened pack**

Pack unsweetened puree into containers, leave headspace, seal and freeze.

#### **Sugar pack**

Mix 1 cup sugar with each quart (2 pounds) of puree, pack into containers, leave headspace, seal and freeze.

### **Pineapple**

Select firm, ripe pineapple with full flavor and aroma. Pare, and remove core and eyes. Slice, dice, crush or cut into wedges or sticks.

#### **Unsweetened pack**

Pack fruit tightly into containers without sugar, leave headspace, seal and freeze.

#### **Syrup pack**

Pack fruit tightly into containers. Cover with plain, unsweetened pineapple juice or a 30 percent syrup made with pineapple juice. Leave headspace, seal and freeze.

**Note:** If you plan to use frozen pineapple in gelatin desserts, bring it to a boil and simmer 2 to 3 minutes and then cool before freezing. Raw pineapple, either fresh or frozen, contains an enzyme that prevents a gel from forming. Heating the pineapple before freezing will prevent this problem.

## Plums

Select firm, ripe fruit soft enough to yield to slight pressure. Sort and wash. Leave whole or cut in halves or quarters, and pit.

### Syrup pack

Pack fruit into containers and cover with 40 to 50 percent syrup, depending on tartness of fruit. For improved quality, add ½ teaspoon crystalline ascorbic acid to each quart of syrup. Leave headspace, seal and freeze.

### Puree

Select fully ripe fruit. Wash, cut in halves and pit. Puree may be prepared from unheated fruit if the plums are soft, or from heated fruit for firmer plums. To prepare puree from unheated fruit, press raw fruit through a sieve. For better quality, add either ¼ teaspoon crystalline ascorbic acid or ½ tablespoon crystalline citric acid to each quart (2 pounds) of puree.

To prepare puree from heated fruit, add 1 cup water for each 4 quarts (4 pounds) of fruit. Bring to a boil, cook 2 minutes, cool and press through a sieve. Mix ½ to 1 cup sugar, depending on tartness of fruit, to each quart (2 pounds) or puree. Pack into containers, leave headspace, seal and freeze.

### Plum sauce

Cook unsweetened puree until thickened. Add 1 cup sugar (and spices if desired) for each 4 cups of puree. Simmer until sugar dissolves. Cool, pack into containers, leave headspace, seal and freeze.

### Juice

For beverages, select fully ripe plums. For jelly making, select as recommended in specific jelly recipe. Wash plums, cut in halves and pit. Simmer in enough water to barely cover until soft. 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, leave headspace, seal and freeze.

## Raspberries

Harvest fully ripe, firm, well-colored berries. Remove those that are immature or defective. Wash and drain.

### Sugar pack

To 1 quart (1½ pounds) berries, add ¼ cup sugar. Mix carefully to avoid crushing. Pack into containers, leave headspace, seal and freeze.

### Syrup pack

Pack berries into containers, cover with 40 percent syrup, leave headspace, seal and freeze.

### Unsweetened pack

Tray freeze; then pack berries into containers, leaving no headspace, seal and freeze.

## Strawberries

Select fully ripe, firm berries with a deep red color. Discard immature and defective fruit. Wash and drain berries and then remove caps. Sugar and syrup packs produce a better quality product than unsweetened strawberries.

### Whole berries, syrup pack

Put berries into containers, cover with 50 percent syrup, leave headspace, seal and freeze.

### Whole berries, sugar pack

Add ¾ cup sugar to 1 quart (1½ pounds) strawberries and mix thoroughly. Put into containers, leave headspace, seal and freeze.

### Sliced or crushed

Prepare as for whole strawberries; then slice or crush partially or completely. To 1 quart (1½ pounds) sliced or crushed berries, add ¾ cup sugar; mix thoroughly. Pack into containers, leave headspace, seal and freeze.

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- GH1504 *Quality for Keeps: Freezing Meat, Poultry, Fish, Eggs and Dairy Products*
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