



Freezing Fruit Basics

Guide E-321

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This publication is scheduled to be updated and reissued 11/10.

You can enjoy the taste of summer fruit during fall and winter months if you pick and freeze the fruit when it's young and tender. Freezing is an economical, simple way to preserve large quantities of fruit.

PREPARING FRUIT FOR FREEZING

Bacterial contamination can occur during fruit preparation. Clean equipment and all working surfaces before use. Wash hands thoroughly before starting and after touching any unclean area. Wash fruit thoroughly removing soil and debris.

Only prepare as much fruit as can be handled in a time period that doesn't result in degradation of the fruit. Wash fruit rapidly in several changes of cool tap water. Lift fruit out to prevent soil from being re-deposited. In addition to removing surface soil, the cold water firms the fruit and reduces loss of vitamin rich juices. Many fruits are peeled before further processing by submerging fruit in boiling water for 30–45 seconds and cool immediately in ice water. Skins should come off easily. Drain and towel dry. Cut fruit and remove pits or seeds. To prevent darkening, treat white and light colored fruit (apples, pears, peaches, nectarines, apricots) by dipping in a solution of ascorbic acid. Available in powdered form and often mixed with sugar, ascorbic acid can be purchased from pharmacies and supermarkets along with other food preservation equipment and supplies. Various brands are available and instructions for their use with various fruits are printed on the package. Although unsweetened pineapple juice, citric acid and lemon juice are also used as anti-darkening treatments, they are less effective. Apples and rhubarb can be blanched for 2 minutes to prevent darkening.

FREEZING PROCESS

Oxidation (rancidity) can occur during freezer storage causing off flavors through exposure of frozen product to air. Using high quality plastic bags or containers designed for freezing can prevent rancid flavor development as well as protect against freezer burn which is a result of moisture loss.

The process of freezing involves freezing the water in the cellular spaces of fruit tissue. As this water freezes it expands forming ice crystals that rupture cell walls resulting in softer texture once fruit is thawed. To reduce cellular damage chill and freeze fruit quickly so that the ice crystals formed are smaller.

Packaged fruit should be frozen in a freezer set at -10°F for at least 24 hours before freezing large quantities of food. Freeze only the amount of food that can be frozen within a 24 hour period (2-3 lbs per cubic foot of freezer space).

When freezing large quantities of food, packaged fruit should be chilled to less than 40°F in a refrigerator then transferred to the freezer. This will speed up the freezing process and will maintain eating quality of the frozen fruit. Properly frozen and stored products should be used within one year. Label containers with food name and date processed.

Fruit to be used in cooked dishes (such as pies and sweetened spreads) and small berries may be tray frozen. Simply place the prepared fruit on a cookie sheet and freeze until solid. Place frozen fruit into freezer containers, label and date.

SUGAR PACK

Sugar packing works well with juicy fruit such as peaches or cut strawberries as it discourages darkening. Mix prepared fruit with sugar and ascorbic acid. A good rule of thumb is $1/2$ to $2/3$ cups of sugar to each quart of prepared fruit. Gently stir until fruit is coated and sugar is dissolved. Pack fruit into freezer containers and freeze.

SYRUP PACK

Syrup packing preserves fruit with the firmest texture such as pears or apples. Prepare desired syrup (see below) and chill completely in the refrigerator prior to preparing the fruit. If using freezer bags, support them in a bowl while filling. Spoon fruit into the container and cover with chilled syrup. Allow room for expansion: 3/4 inch below closure in pints; 1–2 inches or more in larger sizes. Remove air and seal.

Freezer Syrups With Sugar and Honey

Syrup	Water	Sugar	Honey*
Light	4 cups	2 cups	----
	3 cups	----	1 cup
Medium	4 cups	3 cups	----
	2 cups	----	2 cups
Heavy	4 cups	4 1/2 cups	----

*Honey is sometimes substituted for sugar because of its flavor, but it is not more nutritious. Honey should not be given to infants under one year of age as it may contain botulism spores, which are not destroyed in immature intestinal tracts.

ARTIFICIAL SWEETENERS

Artificial sweeteners, both aspartame and saccharin, work well when freezing fruit. However, they don't prevent darkening or increase thickness of freezing syrups. Fruit freezes harder and thaws more slowly. Many prefer to use artificial sweeteners just before serving. Follow directions on the artificial sweetener for amounts needed when freezing fruit. Fruit may also be packed in water but it will be less firm when thawed. Overripe fruit may be frozen as a puree. Peaches should be gently cooked to release juices. Add ascorbic or citric acid to uncooked light-colored purees to preserve color. Use fruit purees as a topping on ice cream or other desserts. Use frozen fruits within 8–12 months for best taste.

INDIVIDUALLY QUICK FROZEN (IQF)

Berries and other delicate fruits store better when individually quick frozen. Once frozen, fruit can be packaged then stored in a freezer. A major advantage of this process is that the fruit pieces do not clump and individual pieces can be removed without thawing the entire package. Dry ice is used for this process and is available at many grocery stores and local ice making facilities. Caution: Insulated mitts or gloves should be worn when handling dry ice since it will cause freezer burn upon contact with skin.

Follow these steps for IQF fruit: Place fruit pieces into a large stainless steel bowl. While dry ice is in the package, break up block with a hammer. Wearing insulated gloves carefully un-wrap dry ice and pour pieces into bowl. Gently stir with a stainless steel spoon until fruit is evenly covered with dry ice. Cover bowl loosely with a clean towel and place bowl into a refrigerator. After 30 minutes remove bowl from refrigerator using insulated gloves or mitts. Using stainless steel spoon transfer frozen fruit into a labeled sealable container. Store packaged IQF fruit promptly in freezer.

FREEZER CONTAINERS

Choose containers that are moisture-vapor resistant; durable and leak proof; resistant to oil, grease or water; nonabsorbent of off flavors or odors; resistant to cracking at low temperatures; and easy to seal and mark with contents and date. Suitable containers include wide-mouth glass jars that can be used for both freezing and canned foods, rigid plastic containers and flexible plastic bags. Tighten lids on glass jars after the product is frozen to prevent breakage due to inadequate head space.

Square containers use freezer space more economically than round ones. Lids should fit securely or be sealed with freezer tape. Label contents with special instructions such as the amount of sugar or lemon juice used, the name of the fruit, and date of preservation. Use a freezer pen which won't run or fade when exposed to moisture. This information is especially important if fruit will be used in jams or other recipes later.

THAWING AND PREPARING FRUITS TO EAT

Growth of spoilage organisms can continue during freezer storage especially when the freezing process is slow, or when the temperature rises above 0°F.

Open package just before serving and serve while slightly frozen. Allow for any sugar added at the time of freezing when using frozen fruit in cooked recipes. Freshly made jellies, jams, marmalades and preserves from frozen berries are superior in flavor, color and texture to those made from fresh berries as the juices are fully released by the freezing process.

INSTRUCTIONS FOR FREEZING FRUITS

Apples	Peel, core, slice. Best if blanched 2 minutes, rinsed in ice water, drained, then sugar-packed or syrup-packed with medium syrup. For pies Place apple slices in boiling water for 2 minutes and cool in ice water. Make filling when defrosted using any recipe desired.	Grape Juice	Heat grapes and then press or strain juice through cloth bag. Sweeten to taste with sugar. Pour into container and freeze.
Applesauce	To each quart of apples add 1/3 cup water and 1/4 tsp ascorbic acid. Cook until tender, puree and add 1/4 cup sugar to 4 cup hot puree. Stir until dissolved. Cool and pack into freezer containers.	Melons	Remove seeds, peel and cut melon into cubes or slices. Best packed in light syrup. Serve slightly frozen.
Apricots	Not necessary to peel, but submerge fruit in boiling water for 1/2 minute to keep peel from toughening; remove pits and treat for discoloration. Dry-pack or use medium syrup.	Peaches/ Nectarines	Remove skins from peaches by submerging in boiling water for 30–45 seconds and cool immediately in ice water. Skins should come off easily. Drain, remove pit and cut. It is unnecessary to peel nectarines, but dip nectarines in boiling water for 30 seconds to prevent skin from toughening. Treat with ascorbic acid to prevent darkening. Can be dry-frozen, but best in medium syrup. Serve slightly frozen.
Bananas	Puree; add 1/8 tsp ascorbic or citric acid or 1 tbsps. lemon juice per cup.	Pears	Peel, core and cut. Best if lightly cooked in boiling medium syrup for 1 minute. Cool before packing pears and syrup into freezer container.
Berries (except strawberries)	Wash carefully in cool tap water. Drain. Dry-pack, sugar pack or freeze in medium syrup. Soft berries such as raspberries and blackberries freeze best in syrup. Use dry packed berries partially frozen.	Pineapple	Peel, core, cut or crush before packing fruit. Juice will accumulate, even without sugar. May also be packed with light syrup. Serve slightly frozen.
Cherries	Sour: Wash in cool tap water, stem and pit. Mix one part sugar to four parts fruit or freeze in a heavy syrup. Sweet: Wash, stem and pit. (Un-pitted frozen cherries will have a slight almond-like flavor.) Treat light-colored cherries, such as Royal Anne, with ascorbic acid to prevent darkening. Tray freeze sweet cherries; sugar-pack or syrup-pack tart cherries in medium syrup.	Plums	Washed plums can be frozen without further preparation. Tray freeze, then dry-pack. Eat slightly frozen. May also be sugar-packed or frozen in medium syrup.
Figs	Wash. Peel if desired. Use a light or medium syrup. Add either 1/2 cup of lemon juice or 3/4 tsp. ascorbic acid to one quart of freezer syrup for a better product. Pack foods into containers, cover with cold syrup and freeze.	Pomegranates	Select completely ripe pomegranates. Wash, cut in half and place cut side down. Break shell with a blunt instrument to open section walls and release juice. Pack juice and pulp into containers. Cover with a cold light syrup, leave head space, freeze.
Grapes	Remove seeds. Dry-pack or pack in a syrup made from frozen lemonade (6 oz.) concentrate mixed with 12 oz. water.	Rhubarb	Wash, discard leaves and cut stalks into 1-inch pieces. Treat with ascorbic acid to prevent darkening. May also be sugar packed or blanched 2 minutes and packed in medium syrup.
		Strawberries	Gently wash berries in several changes of cool tap water and drain. Remove caps and drain berries. May be sugar packed or packed with a medium syrup. May also be tray frozen with no sugar. Puree very ripe strawberries. For each two cups of puree fruit, add 1/4 cup sugar and 1 tsp. lemon juice.

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Revised November 2005

Las Cruces, NM