THE OHIO STATE UNIVERSITY EXTENSION

FACT SHEET

Family and Consumer Sciences

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Freezing Fruits

Freezing fruits is the simplest, easiest, and quickest method of preservation. Freezing costs more than canning or drying because of freezer purchase and operating costs, but preserves more nutrients and fresh flavor, if done properly.

Freezing does not completely destroy bacteria, molds, and yeasts that cause food spoilage, but it does significantly retard their growth. As soon as food is thawed, microorganisms will continue to grow. It also slows chemical changes that affect quality.

Natural enzymes in fruits cause flavor, color, texture, and nutritive value changes. Freezing slows enzyme activity but does not stop it. You can prevent enzyme browning in light-colored fruits by treating them with ascorbic acid and other commercial products.

Selecting and Washing

Fully ripe fresh fruits lose quality rapidly after harvesting. Harvest only the amount you can preserve within a few hours; otherwise, refrigerate, then freeze as soon as possible.

Choose fully ripe, but firm, fruit. Underripe fruits may be bitter. Freeze soft, very ripe fruits as purées.

To thoroughly remove dirt, bacteria, and pesticide residue, wash all fruits in cold water. Drain and rinse several times with cold water. Lift fruits from water to prevent redepositing of dirt and residues. Do not let fruits soak.

Packaging Materials

Air leads to flavor loss or off flavors. If moisture evaporates, frozen food becomes dry, tough, and may develop grayish spots called "freezer burn." *To prevent air exposure and moisture loss, use only moisture-proof, vapor-proof packaging designed for freezing.* Examples are "can or freeze" glass jars, plastic freezer containers, heavyweight aluminum foil, plastic-coated freezer paper, and heavy duty plastic wraps and bags. Only sealing tape designated for freezer use will adhere at freezing temperatures.

Rigid freezer containers are often reusable and have straight sides and flat lids to allow for easy stacking in the freezer. The straight sides also make it easier to remove frozen food. Place freezer bags in rigid containers for easy stacking.

DO NOT use cardboard cartons; they are not sufficiently moisture resistant and vapor resistant for long-term frozen food storage. Also, DO NOT reuse plastic containers from cottage cheese, ice cream, whipped topping, margarine, etc. These containers are not designed to protect foods in long-term freezer storage.

Pack fruit and syrup tightly in freezer bags or rigid containers. Squeeze air from bags before sealing. Leave ½ to 1 inch headspace for expansion in rigid containers. Whole berries and cut fruit pieces may be frozen in a single layer on a tray until solid. Package

at once in freezer bags or freezer containers. Label and date product and return it to freezer.

Freezing

Because water in fruits expands during freezing and breaks cell walls, thawed fruits may leak juices and be soft. To retain quality, freeze fruits quickly at lowest possible freezer setting. Freeze only 2 to 3 pounds of food per cubic foot of available storage space in 24 hours.

Storing

Maintain freezer at 0 degrees Fahrenheit (F) or less to best protect the quality of foods, including fruits. If power fails, keep freezer closed; food should stay frozen 24 to 48 hours. If available, protect food with 25 pounds of dry ice per 10 cubic feet of freezer space. Food can safely be refrozen if it still contains ice crystals. Some loss of quality and food value will occur.

Keep an inventory and use oldest foods first. The more food you put into your freezer in a year, the less the operating cost per pound. *Use frozen fruits within one year*. Citrus fruit and juices should be used within 6 months.

Thawing

Defrost fruit in its original package in one of the following ways: (1) at room temperature in a pan of cool water—only use the thawing in water method if water can be kept cool (under 70 degrees F) and the food can thaw in less than 2 hours; (2) in a microwave oven (only if fruit is to be used right away); or (3) in the refrigerator. Allow 6 to 8 hours in the refrigerator for thawing a 1 pound package of fruit packed in syrup or slightly longer for unsweetened fruit. Allow ½ to 1 hour for fruit thawing in running cool water. Serve fruit with a few ice crystals still remaining. Completely thawed fruits will be limp or mushy and may discolor.

Directions for Freezing Fruit

1. Wash and sort fruit. Discard poor quality pieces. Work with small quantities. Pare and remove pits, seeds, and blemishes. Leave whole, slice, or purée (see chart or directions for individual fruits).
2. Treat washed and sorted fruit with ascorbic acid (available at drugstores, 1 teaspoon = 3 grams) or some other treatment to prevent discoloration of fruits, particularly apples, peaches, and nectarines. Add crystalline ascorbic acid to chilled syrup just before using or follow manufacturer's directions if using other anti-darkening products.
3. Pack with sugar or syrup or leave unsweetened (dry). Unsweetened fruits lose quality faster than sweetened fruits. Sugar helps fruit retain its flavor, color, and texture, but is not necessary to preserve fruit safely. Artificial sweetener can also be added to fruit prior to freezing. Artificial sweeteners give a sweet flavor but do not furnish the beneficial effects of sugar.

Types of Pack

The type pack used will depend on the intended use. Fruits packed in syrup are generally best for

Syrups for use in freezing fruits

Type of syrup	*Percent syrup**	*Cups of sugar***	*Cups of water*	*Yield of syrup in cups*
Very light	10	½	4	4½
Light	20	1	4	4¾
Medium	30	1¾	4	5
Heavy	40	2¾	4	5⅓
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 large proportion of corn syrup may be used if a very bland, light-colored type is selected.

uncooked dessert use; those packed in dry sugar or unsweetened are best for most cooking purposes because there is less liquid in the product.

Sugar pack—Sprinkle sugar over the fruit and mix gently. Allow to stand for 10–15 minutes to draw out juice, which will dissolve sugar, or freeze immediately.

Syrup pack—Dissolve sugar in lukewarm water until the solution is clear. Cool, then add ascorbic acid and just enough syrup to cover fruit (about ½ to ⅔ cup per pint). To keep fruit under syrup, place a small crumpled piece of plastic or freezer wrap on top and press fruit down into syrup before sealing the container. One-fourth of the sugar may be replaced by light corn syrup or mild-flavored honey.

Dry pack—Pack fruit in container, seal, and freeze. Good for small whole fruits that taste good without sugar.

Tray pack—Spread a single layer of fruit on shallow trays and freeze. When frozen, package promptly and return to freezer. This pack allows portions to be used when needed.

Other unsweetened packs—Unsweetened fruit may also be packed in water, unsweetened juice, or pectin syrup. Pectin syrup is often used for fruits such as strawberries or peaches that retain their texture better than if frozen in water or juice. (To make pectin syrup, dissolve 1 package powdered pectin in 1 cup water, heat to boiling, and boil for 1 minute. Add 1¾ cup water and cool.) To keep the fruit under liquid, follow directions for syrup pack.

Artificial sweeteners—Sugar substitutes can be used in any of the unsweetened or dry packs or they can be added to the fruits before serving. However, sugar substitutes do not offer the beneficial effects of sugar.

How to prepare fruits for freezing

Fruits	***Preparation***
Apples	Wash, peel, core, and slice. **Syrup pack**—Use cold 40 percent syrup; add ½ teaspoon (1500 mg) ascorbic acid per quart of syrup. Slice apples into syrup in container, seal, and freeze. **Sugar pack**—To prevent darkening, dissolve ½ teaspoon (1500 mg) ascorbic acid in 3 Tablespoons water, sprinkle over fruit or steam blanch 1½ to 2 minutes. Mix ½ cup sugar to 4 cups fruit. Pack, seal and freeze. **Dry and tray pack** can be used. Treat with ½ teaspoon (1500 mg) ascorbic acid in 3 Tablespoons water to prevent browning.
Apricots	Wash, halve, and pit. Peel and slice if desired. If not peeled, heat in boiling water ½ minute to keep skins from toughening during freezing. Cool in cold water and drain. **Syrup pack**—Use cold 40 percent syrup and add ¾ teaspoon (2250 mg) ascorbic acid per quart of syrup. Seal and freeze. **Sugar pack**—Pre-treat fruit by dissolving ¼ teaspoon (750 mg) ascorbic acid in 3 Tablespoons cold water; sprinkle over 4 cups fruit. Mix ½ cup sugar per quart of fruit and stir until dissolved. Pack, seal, and freeze.
Bananas	Peel and mash thoroughly. Add ½ teaspoon (1500 mg) ascorbic acid per cup of mashed banana. Pack, seal, and freeze.
Blackberries	Wash carefully in cold water; discarding soft, under-ripe or defective fruit; drain well. **Syrup pack**—Pack berries into containers and cover with cold 40 to 50 percent syrup. Seal and freeze. **Sugar pack**—Gently mix ¾ cup sugar with 1 quart (4 cups) berries. Pack, seal, and freeze. **Dry pack**—Pack, seal, and freeze berries, OR freeze first on a tray and then pack into containers, seal, and return to freezer.

How to prepare fruits for freezing	
Fruits	***Preparation***
Blueberries	**Dry pack**—Do not wash (washing results in a tougher-skinned product). Pack berries into container or freeze on a tray, then package. Wash before using while berries are still frozen. **Sugar pack**—Wash first, then mix ⅔ cup sugar to 4 cups berries. Pack, seal, and freeze.
Cherries, red sour	Wash, stem, and pit. **Syrup pack**—Use cold 50 percent syrup; pack, seal, and freeze. **Sugar pack**—Mix ¾ cup sugar to 4 cups cherries, then pack, seal, and freeze. **Dry pack**—Pack, seal, and freeze, OR freeze first on a tray and then pack into containers, seal, and return to freezer.
Cherries, sweet	Wash, stem, and pit. **Syrup pack**—Use cold 30–40 percent syrup with ½ teaspoon ascorbic acid per quart syrup. Pack, seal, and freeze. **Dry pack**—Pack, seal, and freeze, OR freeze first on a tray and then pack into containers, seal, and return to freezer.
Cranberries	Stem and sort. Wash and drain. **Syrup pack**—Use cold 50 percent syrup. **Dry pack**—Pack, seal, and freeze, OR freeze first on a tray and then pack into containers, seal, and return to freezer.
Grapes	Sort, stem, and wash. Leave seedless grapes whole; cut grapes with seeds in half and remove seeds. **Syrup pack**—Cover with 40 percent cold syrup, seal, and freeze. **Juice**—Crush grapes. Add 1 cup water per gallon of grapes. Simmer for 10 minutes then strain through a jelly bag. Let set overnight in refrigerator to remove tartrate crystals. Pour off clear juice for freezing and discard sediment. Pack, seal, and freeze.
Melons (cantaloupe, honeydew, or water-melon)	Scrub melon, peel, and remove seeds, then cut melons into slices, cubes, or balls. **Syrup pack**—Put in containers and add cold 30 percent syrup. Seal and freeze. **Unsweetened**—Pack into containers, seal, and freeze.
Peaches, nectarines	Sort, wash, and peel. **Syrup pack**—Use cold 40 percent syrup and add ½ teaspoon (1500 mg) ascorbic acid per quart (4 cups) of syrup. Slice peaches directly into cold syrup in containers, press fruit down, and add syrup to cover. **Sugar pack**—To retard darkening, sprinkle ascorbic acid solution (¼ teaspoon in 3 Tablespoons cold water) on each quart fruit. Mix ⅔ cup sugar to 4 cups fruit. Pack, seal, and freeze.
Plums, prunes	Wash, halve, or quarter and pit. **Syrup pack**—Cover with cold 40–50 percent syrup. To improve quality, add ½ teaspoon (1500 mg) ascorbic acid to each quart syrup. Seal and freeze.

How to prepare fruits for freezing	
Fruits	***Preparation***
Raspberries	Sort, wash, and drain well. **Syrup pack**—Pack berries in containers and cover with cold 40 percent syrup. Seal and freeze. **Sugar pack**—To 1 quart berries add ¾ cup sugar and mix carefully to avoid crushing. Pack, seal, and freeze. **Dry pack**—Pack, seal, and freeze berries, OR freeze first on a tray and then pack into containers, seal, and return to freezer.
Rhubarb	Wash, trim, and cut into 1-inch lengths. Heating rhubarb in boiling water 1 minute, then cooling promptly in cool water helps retain color and flavor. **Syrup pack**—Pack into containers and cover with cold 40 percent syrup, seal, and freeze. **Dry pack**—Pack tightly into containers without sugar, seal, and freeze.
Strawberries	Wash and remove caps. **Syrup pack**—Cover berries in container with a cold 50 percent syrup, seal, and freeze. **Sugar pack**—Mix ¾ cup sugar to 4 cups berries, stir, and let stand 15 minutes. Pack, seal, and freeze. **Dry pack**—Pack, seal, and freeze berries, OR freeze first on a tray and then pack into containers, seal, and return to freezer.

References

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