

# Canning Fruits

Fact Sheet No. 9.347

Food and Nutrition Series | Preparation

by P. Kendall\*

## Select Equipment

**Water bath canners.** Any big metal container may be used as a boiling water bath canner if it is deep enough and has a tight-fitting cover and a wire or wooden rack. Rack dividers prevent jars from touching each other or falling against the side of the canner. Be sure the container is at least 4 to 5 inches deeper than the height of jars used to allow adequate space for the rack and briskly boiling water. For pint jars, you need a container at least 10 inches deep. For quart jars, the container should be at least 12 inches deep.

A deep pressure canner may be used as a boiling water bath. Cover but do not fasten the lid. Also, leave the petcock wide open so steam can escape and pressure does not build up inside the canner.

**Canning jars.** Standard mason jars are recommended for home canning. Commercial food jars that are not heat-tempered, such as mayonnaise jars, break easily. Sealing also can be a problem if sealing surfaces do not exactly fit canning lids. Be sure all jars and closures are perfect. Discard any with cracks, chips, dents or rust. Defects prevent airtight seals.

Before use, wash jars in hot soapy water and rinse well. To remove scale or hard water films on jars, soak several hours in a solution of 1 cup vinegar (5 percent) per gallon water. Keep jars warm until ready to fill and place in canner.

Prepare two-piece metal canning lids. Lids can be used only once, but the screw bands can be reused as long as they are in good condition. Read the manufacturer's

instructions for heating the lids. Some need to be covered with hot water, others need to be boiled for a minute or more. Do not reuse lids from commercially canned foods.

## Prepare Fruit

Choose fresh, firm fruits for canning. The sooner you get them from the garden to the jar, the better. For even cooking, sort fruits for size and ripeness. Wash all fruits thoroughly, whether or not they will be pared. Handle gently to avoid bruising. Dirt contains some of the bacteria hardest to kill. Don't soak fruits; they may lose flavor and nutrients.

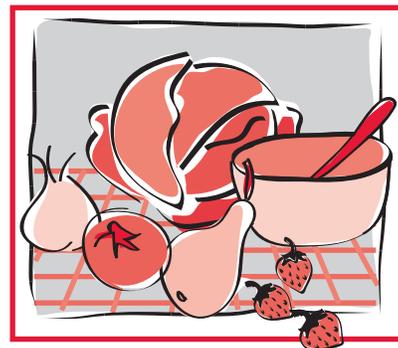
Some peeled or cut fruits darken when exposed to air. Any of these simple treatments help prevent darkening:

- Use a commercial ascorbic acid mixture, available in grocery and drug stores. Follow instructions.
- Drop fruit in a solution of 1 teaspoon ascorbic acid (vitamin C) and 1 gallon water. Drain before canning.
- Drop fruit into a citric acid or lemon juice solution (1 teaspoon citric acid U.S.P. grade or 3/4 cup lemon juice to 1 gallon water). Drain fruit before canning.

## Sweeten Fruit If Desired

Sugar helps canned fruit hold its shape, color and flavor but is not needed to prevent spoilage. Fruits also can be packed in boiling hot water or juice. Processing is the same for unsweetened and sweetened fruit. Any of the following may be used to provide sweetness.

**Sugar syrup.** Mix sugar with water or with juice extracted from some of the fruit. Heat sugar and water or juice together until the sugar dissolves; skim if



## Quick Facts

- Do not can overripe fruit.
- Do not use the open kettle method for canning fruits. Never can in any oven (electric, gas or microwave).
- Use jar size, processing methods and time given in reliable, up-to-date canning instructions.
- Increase water-bath processing times at altitudes of 1,000 feet or more to compensate for the lower temperature of boiling water at high altitude.
- Check jars for seals within 24 hours of canning. Treat unsealed jars as a fresh product.

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**Table 1. Sugar syrup proportions adequate for 9-pint load.**

| Water or juice (cups) | Sugar cups | Type syrup             |
|-----------------------|------------|------------------------|
| 6 1/2                 | 3/4        | very light (10% sugar) |
| 5 3/4                 | 1 1/2      | light (20% sugar)      |
| 5 1/4                 | 2 1/4      | medium (30% sugar)     |

necessary. Use the proportions in Table 1 as desired for the sweetness of the fruit and your taste.

**Extracted juice.** Thoroughly crush ripe, sound, juicy fruit. Heat to simmering (185 to 210 degrees F) over low heat. Strain through a jelly bag or other cloth.

**Sugar mixed directly with fruit.** Add 1/4 to 1/2 cup sugar to each quart of prepared fruit. Bring to a simmer over low heat. Pack fruit hot in the hot juice that cooks out.

**Sweeteners other than sugar.** Light corn syrup, brown sugar or mild-flavored honey can replace as much as half the sugar used in canning fruit. It is best not to use molasses, sorghum or other strong-flavored syrups. Their flavors overpower the fruit flavor and they may darken the fruit.

**Artificial sweeteners.** Add these to fruit canned in plain water just before serving. Saccharin-based sweeteners can turn bitter during processing. Aspartame-based sweeteners lose their sweetening power during processing.

## Pack Jars

Fruits can be packed into jars raw or preheated and packed hot.

**To raw pack.** Put cold, raw fruits into clean, hot glass canning jars and cover with boiling-hot syrup, juice or

water. Pack most raw fruits tightly into the jars because they shrink during processing.

**To hot pack.** Heat fruits in syrup, water, extracted juice or steam before packing. Juicy fruits can be preheated without added liquid and packed in the juice that cooks out. Pack hot food loosely in clean, hot glass canning jars. Food should be at or near boiling temperature when it is packed. Hot packing is the preferred style of pack for foods processed in a boiling water bath.

**Either pack.** Use enough syrup, water or juice to fill around the solid food in the jar and to cover the food. See Table 2 for the correct amount of space to leave between the top of the fruit and the top of the jar. This headspace is important to obtain a good seal.

Remove any trapped air bubbles by sliding a nonmetallic spatula between the food and the sides of the jar. If necessary, add more liquid to obtain the proper headspace. Wipe jar rim with a clean, dampened paper towel to remove any food particles. Place pretreated lid on the jar, gasket side down. Screw the metal band down fingertip tight.

## Process in Boiling Water Bath

Place filled and capped jars on rack in boiling water bath canner or deep kettle that has been half-filled with hot (140 F) water for raw-packed foods or very hot water (170 F) for hot-packed foods.

When canner is filled, add boiling water as needed to bring water an inch or two over the tops of jars. Do not pour boiling water directly on glass jars.

Turn heat on high until water boils vigorously. Set timer for recommended altitude-adjusted time. Cover canner with lid and lower heat setting to maintain gentle boil throughout processing time. Add boiling water, if needed, to keep water level above jars. When processing time is up, turn off heat and remove canner lid. Using a jar lifter, remove jars and place them on a rack, dry towel or newspaper. Allow the jars to cool untouched, away from drafts, for 12 to 24 hours before testing seals.

## Day-After Canning Jobs

Test the seal on the jar lids. Press flat metal lids at center of lid. They should be slightly concave and not move. Remove screw bands, wash and store in a dry place. Wipe jars and lids to remove any food residue.

Label sealed jars with contents, canning method used and date. Store in a cool, dry, dark place. Stored properly, canned fruits should retain their high quality for about one year.

Treat unsealed jars as fresh. Eat the food immediately, refrigerate it for use within a week, freeze it, or recan it. If recanned, repeat the entire process.

## Spoilage

**Don't taste or use food that shows any sign of spoilage!**

Look closely at all jars before opening them. A bulging lid or leaking jar is a sign of spoilage. When you open a jar, look for other signs, such as spurting liquid, an "off odor," or mold. Dispose of all spoiled canned food in a place where it will not be eaten by people or pets.

**Table 2. Directions for canning fruit; preparation methods and processing times for canning in a boiling water bath.\***

**General directions:** Fill jars according to the raw or hot pack method described for each fruit. Release air bubbles by inserting a flat plastic (not metal) spatula between food and jar. Slowly turn jar and move spatula up and down to release bubbles. Adjust headspace to level recommended. Clean jar rim with dampened paper towel. Add lids and adjust as manufacturer directs. Process in a boiling water bath as directed for altitude. Begin timing when water returns to boiling.

| Fruit                                                                                                                                                                   | Pack | Preparation                                                                                                                                                                                                                                                                                                                                                                     | Jar Size        | Process time (in minutes) at altitudes of: |                |                |                |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|--------------------------------------------|----------------|----------------|----------------|
|                                                                                                                                                                         |      |                                                                                                                                                                                                                                                                                                                                                                                 |                 | 0-1,000 ft                                 | 1,001-3,000 ft | 3,001-6,000 ft | 6,001-9,000 ft |
| <b>Apples</b> , sliced                                                                                                                                                  | Hot  | Prepare syrup if desired. Wash, peel, core and slice apples. Use an anti-darkening treatment. Boil drained apples 5 minutes in 1 pint syrup or water per 5 pounds apples, stirring occasionally. Fill jars with hot slices and hot syrup or water, leaving 1/2-inch headspace.                                                                                                  | pints or quarts | 20                                         | 25             | 30             | 35             |
| <b>Applesauce</b>                                                                                                                                                       | Hot  | Wash, peel and core apples. Slice into anti-darkening solution. Place drained apples into larger saucepan; add 1/2 cup water per 4 cups sliced apples. Cook until tender (5 to 20 minutes). Press through sieve or food mill, or leave chunky. Sweeten with 1/8 cup sugar per quart of sauce, if desired. Reheat sauce to simmer. Pack hot into jars, leave 1/2 inch headspace. | pints or quarts | 15<br>20                                   | 20<br>25       | 20<br>30       | 25<br>35       |
| <b>Apricots</b> , halved or sliced                                                                                                                                      |      | Follow directions and processing times for peaches. (Peeling is optional.)                                                                                                                                                                                                                                                                                                      |                 |                                            |                |                |                |
| <b>Berries</b> , whole (including blueberries, blackberries, dewberries, huckleberries, loganberries, mulberries, elderberries, gooseberries, raspberries and currants) | Raw  | Wash berries in cold or ice water to firm fruit. Use scissors to snip off "heads and tails" of gooseberries. Drain. Prepare and boil syrup, if desired. Add 1/2 cup syrup, juice or water to each clean jar. Pack berries into jars, leaving 1/2-inch headspace. Shake jars while filling to get a full pack. Fill jars to 1/2 inch from tops with boiling syrup or water.      | pints or quarts | 15<br>20                                   | 20<br>25       | 20<br>30       | 25<br>35       |
|                                                                                                                                                                         | Hot  | Best for firm berries that hold their shape well. Wash and drain berries; place in saucepan. Cover with water and heat to boiling for 30 seconds. Pack hot fruit in jars, leaving 1/2-inch headspace. Fill jars to 1/2 inch from tops with boiling liquid.                                                                                                                      | pints or quarts | 15                                         | 20             | 20             | 25             |
| <b>Cherries</b> , whole (sweet or sour)                                                                                                                                 | Raw  | Prepare syrup, if desired. Wash cherries; remove pits if desired. Add 1/2 cup hot water, juice or syrup to each jar. Pack fruit in jars, leaving 1/2-inch headspace. Fill jars to 1/2 inch from tops with hot liquid.                                                                                                                                                           | pints or quarts | 25                                         | 30             | 35             | 40             |
|                                                                                                                                                                         | Hot  | Wash cherries; remove pits if desired. In large saucepan add 1/2 cup water, juice or syrup for each quart of drained fruit and bring to a boil. Fill jars with cherries and cooking liquid, leaving 1/2-inch headspace.                                                                                                                                                         | pints or quarts | 15<br>20                                   | 20<br>25       | 20<br>30       | 25<br>35       |
| <b>Fruit purees</b> (except figs and tomatoes)                                                                                                                          | Hot  | Use sound, ripe fruit. Wash; remove pits if necessary. Cut large fruit in pieces. Measure fruit into large saucepan. Add 1 cup hot water for each quart of fruit. Simmer until soft, stirring frequently. Press through a strainer or food mill. Add sugar to taste, if desired. Reheat to simmering. Pack hot into jars, leaving 1/4-inch headspace.                           | pints or quarts | 15                                         | 20             | 20             | 25             |
| <b>Grapes</b> , whole                                                                                                                                                   | Raw  | Prepare syrup, if desired. Wash, drain and remove stems from grapes. Pack grapes into jars, leaving 1-inch headspace. Fill jars to 1 inch from tops with boiling liquid.                                                                                                                                                                                                        | pints or quarts | 15<br>20                                   | 20<br>25       | 20<br>30       | 25<br>35       |
|                                                                                                                                                                         | Hot  | Blanch grapes in boiling water for 30 seconds. Drain. Proceed as for raw pack.                                                                                                                                                                                                                                                                                                  |                 |                                            |                |                |                |
| <b>Grapefruit and orange sections</b>                                                                                                                                   | Raw  | Wash and peel fruit; remove white tissue to prevent a bitter taste. Prepare syrup if desired and bring to a boil. Fill jars with sections, leaving 1/2-inch headspace. Fill jars to 1/2-inch from tops with hot syrup or boiling water.                                                                                                                                         | pints or quarts | 10                                         | 15             | 15             | 20             |

Table 2. Directions for canning fruit; preparation methods and processing times for canning in a boiling water bath continued.\*

| Fruit                  | Pack | Preparation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Jar Size        | Process time (in minutes)<br>at altitudes of: |                    |                    |                    |
|------------------------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|-----------------------------------------------|--------------------|--------------------|--------------------|
|                        |      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                 | 0-<br>1,000 ft                                | 1,001-<br>3,000 ft | 3,001-<br>6,000 ft | 6,001-<br>9,000 ft |
| Peaches or nectarines  | Raw  | Prepare syrup, if desired. Wash fruit. Dip peaches in boiling water 30-60 seconds to loosen skins, then dip quickly in cold water and peel. Nectarines do not need to be peeled. Cut fruit in half, remove pits and slice, if desired. Use an anti-darkening treatment. Pack drained fruit into jars, cut side down, leaving 1/2-inch headspace. Fill jars to 1/2 inch from tops with boiling syrup or water.                                                                                                                                                                                                                                                                                                                                                                                                                                             | pints           | 25                                            | 30                 | 35                 | 40                 |
|                        |      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | quarts          | 30                                            | 35                 | 40                 | 45                 |
|                        | Hot  | Prepare syrup, if desired. Wash and prepare fruit as for raw pack. Heat drained fruit in hot syrup or water. Pack hot fruit in jars, leaving 1/2-inch headspace. Fill jars to 1/2 inch from tops with boiling syrup or water.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | pints           | 20                                            | 25                 | 30                 | 35                 |
|                        |      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | quarts          | 25                                            | 30                 | 35                 | 40                 |
| Pears                  |      | Wash pears, peel. Cut in halves or quarters and core. Proceed as for peaches, using the raw or hot pack.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                 |                                               |                    |                    |                    |
| Pears, Asian           | Hot  | <b>Note: All home-canned Asian Pears must be acidified before canning in a boiling water canner to make them safe from the microorganism that causes botulism.</b> Choose ripe, mature fruit of ideal quality for eating fresh or cooking. Prepare syrup if desired. Wash and peel pears. Cut lengthwise in halves, remove cores and slice if desired. Place into ascorbic acid mixture to protect color. Drain pear pieces, place into prepared syrup or water, and boil 5 minutes. Fill hot jars with hot fruit and cover with boiling cooking liquid. <b>Add 1 tablespoon bottled lemon juice per pint jar or 2 tablespoons per quart jar.</b> Remove any trapped air bubbles by sliding nonmetallic spatula between the food and the sides of the jar. Add additional liquid as needed to provide 1/2-inch headspace. Wipe jar rim clean and process. | pints           | 20                                            | 25                 | 30                 | 35                 |
|                        |      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | quarts          | 25                                            | 30                 | 35                 | 40                 |
| Pineapple              | Hot  | Select firm, ripe pineapples. Wash and peel, removing eyes and tough fibers. Slice or cube. Prepare syrup if desired. In large saucepan, add pineapple to syrup, water or juice; simmer 10 minutes. Fill jars with hot pieces and cooking liquid, leaving 1/2-inch headspace.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | pints           | 15                                            | 20                 | 20                 | 25                 |
|                        |      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | quarts          | 20                                            | 25                 | 30                 | 35                 |
| Plums, halved or whole | Raw  | Prepare syrup, if desired. Wash and stem. To can whole, prick skins. Freestone varieties may be halved or pitted. Pack fruit into jars, leaving 1/2-inch headspace. Fill jars to 1/2 inch from tops with boiling syrup or water.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | pints           | 20                                            | 25                 | 30                 | 35                 |
|                        |      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | quarts          | 25                                            | 30                 | 35                 | 40                 |
|                        | Hot  | Prepare syrup, if desired. Wash and prepare plums as for raw pack. Add plums to hot syrup, juice or water and boil 2 minutes. Cover saucepan and let stand 20 to 30 minutes. Fill jars with hot plums and cooking syrup, leaving 1/2-inch headspace.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | pints           | 20                                            | 25                 | 30                 | 35                 |
|                        |      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | quarts          | 25                                            | 30                 | 35                 | 40                 |
| Rhubarb, stewed        | Hot  | Wash rhubarb. Trim off leaves and cut into 1/2 to 1-inch pieces. Add 1/2 cup sugar to each quart rhubarb and let stand to draw out juice. Bring to boiling. Pack hot into jars, leaving 1/2-inch headspace.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | pints or quarts | 15                                            | 20                 | 20                 | 25                 |

\*Procedures from USDA *The Complete Guide to Home Canning*, AIG-539, 2009.