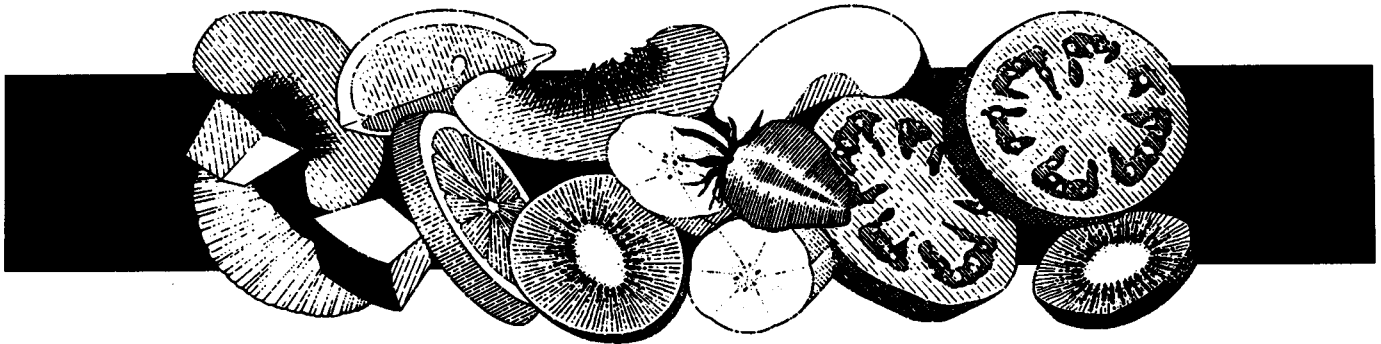




# Home Canning Fruits and Tomatoes

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Home canning preserves the natural goodness of foods, and keeps them from spoiling. Foods spoil because of the action of yeasts, molds, bacteria and enzymes. This action is stopped by the home canning process which treats food with heat and protects it with an airtight seal. Processing times and temperatures vary with different kinds of food.

## Processing

The boiling water method is recommended for canning fruits, fruit juices, tomatoes, tomato juice, jellies and jam, rhubarb and pickled vegetables. Boiling-water canners may be purchased; however, any big, clean kettle with a rack and tight-fitting lid can be used if it is deep enough to hold jars upright and permit the water to boil gently one or two inches over the tops of jars.\*

## Containers - Jars and Lids

Use only standard, mason-type jars designed for home canning. Check the top rim of jars for cracks, chips and dents. Do not use any jars with defects that would prevent an airtight seal.

A two-piece, self-seal lid should be used. It has a metal disk or flat, and a metal ring or screw band.

\*Processing times are also available for some fruits and tomatoes in the pressure canner. Contact your County Extension Agent – Family and Consumer Sciences.

This lid seals, as the jar cools after processing. The top of the jar must have a smooth edge to make a seal. The metal disk can be used only once, but the ring may be re-used if it is not rusty or dented. Pretreat lids according to manufacturer's instructions.

## Packing Methods

Foods may be packed raw or they may be pre-heated before being packed into canning jars. Follow specific instructions for each food.

**Hot Pack.** Bring foods and liquid to a boil in a pan for a specified period of time before packing into jars. Hot pack foods can be packed fairly loosely, as shrinkage has already taken place during pre-heating.

**Raw (or cold) Pack.** Pack raw, unheated food in jars; add boiling liquid; close jars and process. This method requires less time and may be used for certain foods, but it may cause food to float upward in jar, leaving a large portion of liquid near bottom of jar.

## Precautions

Before processing, place the lid on the jar, and tighten the metal ring fingertip tight. After processing, do not tighten the ring, or the seal may be broken. When the canned product is thoroughly cool, remove the metal ring for storage.

Test jars within 24 hours to be sure they have sealed. To test do one of these three things:

- ◆ Tap the metal disk with a spoon or fork. If the seal is good, there will be a clear ringing sound. If the seal is poor, there will be a dull thud.
- ◆ Look at the seal. If the lid is curved down, the jar is sealed.
- ◆ Press the center of the lid. If it is down and will not move, the jar is sealed.

## How to Can Fruits and Rhubarb

### Preliminary Steps

Use the recommended hot pack or raw pack method when canning fruit, fruit juices, tomatoes, tomato juice, rhubarb and pickled vegetables. See specific instructions for each food.

1. Use only fresh, firm, ripe produce.
2. Wash all jars in hot, soapy water and rinse well before canning. When food is processed for 10 minutes or more, it is not necessary to sterilize jars.
3. Adding syrup to canned fruit helps to retain its flavor, color and shape. It does not prevent spoilage of these foods. The following guidelines for preparing and using syrups offer a new "very light" syrup, which approximates the natural sugar content of many fruits. The sugar content in each of the five syrups is increased by about 10 percent. Quantities to make enough syrup for a canner load of pints or quarts are provided for each syrup type.

**Procedure:** Heat water and sugar together. For raw pack, bring to a boil and pour over raw fruit in jars. For hot packs, bring water and sugar to boil, add fruit, reheat to boil, and immediately pour into jars.

Commercial unsweetened juices such as apple, pineapple or white grape juice can be used as substitutes for a sugar syrup pack. Extracted juice from the fruit being canned can also be used.

4. While preparing a canner load of jars, keep peeled, halved, quartered, sliced, or diced apples, apricots, nectarines, peaches, and pears in a solution of 3,000 milligrams ascorbic acid to 1 gallon of cold water. You can get ascorbic acid in several forms:

**Pure powdered form:** seasonally available among canners' supplies in supermarkets. One level teaspoon of pure powder equals 3,000 milligrams. Use 1 teaspoon per gallon of water as a treatment solution.

**Vitamin C tablets:** economical and available year-round. Finely crush and dissolve necessary number of tablets per gallon of water as a treatment solution. The number of tablets used depends on the milligrams per tablet.

**Commercially prepared mixes of ascorbic and citric acid.** If you choose to use an ascorbic acid mixture, follow the manufacturer's directions. Citric acid powder is sold in supermarkets, but is less effective in controlling the darkening of fruit.

5. Prepare and pack the foods according to the directions given for each.

**Preparing and Using Syrups – Measures of Water and Sugar**

Syrup Type	Approximate Percentage Sugar	For 9 Pt. Load*		For 7 Qt. Load		Fruits commonly packed in syrup**
		Cups Water	Cups Sugar	Cups Water	Cups Sugar	
Very Light	10	6 1/2	3/4	10 1/2	1 1/4	Approximates natural sugar level in most fruits and adds the fewest calories.
Light	20	5 3/4	1 1/2	9	2 1/4	Very sweet fruit. Try a small amount the first time to see if your family likes it.
Medium	30	5 1/4	2 1/4	8 1/4	3 3/4	Sweet apples, sweet cherries, berries, grapes.
Heavy	40	5	3 1/4	7 3/4	5 1/4	Tart apples, apricots, sour cherries, gooseberries, nectarines, peaches, pears, plums.
Very Heavy	50	4 1/4	4 1/4	6 1/2	6 3/4	Very sour fruit. Try a small amount the first time to see if your family likes it.

\*This amount is also adequate for a 4-quart load.

\*\*Many fruits that are typically packed in heavy syrup are excellent and tasteful products when packed in lighter syrups. It is recommended that lighter syrups be tried, since they contain fewer calories from added sugar.

## Artificial Sweeteners

If artificial sweeteners are used, it is best to add them just before serving fruit, not before processing. Saccharin-based sweeteners tend to turn bitter during processing. Aspartame-based sweeteners lose their sweetening power.

## Processing in a Boiling-Water Canner

After packing, the fruit is ready to be processed. The following steps for processing in a boiling-water canner apply to all packing methods.

1. Free jar of bubbles. Check for proper headspace.
2. Wipe off the sealing surface of the container with clean, damp paper towel. Close with lid.
3. Place the closed containers of food in the boiling-water canner. For a raw pack, water in canner should be hot, but not boiling; for all other packs, water should be boiling. Add additional boiling water to the canner to cover the tops of the jars by 1 to 2 inches.
4. Place the lid on the canner.
5. See specific food for the length of time to process. Count the processing time as soon as the water comes to a rolling boil. Adjust the heat to maintain a boiling temperature.
6. At the end of the processing time, remove the containers from the canner. Place the jars right side up on a rack at least one inch apart and away from drafts so they can cool quickly.

## Preparation and Packing Directions for Specific Foods

Use only fresh, sound, ripe fruit.

### Apples

**Preparation:** Pare and core apples; cut in pieces. Treat to prevent discoloration. (See Preliminary Steps.) Drain.

**Hot Pack:** Boil apples in syrup or water for 5 minutes, stirring as needed to prevent burning. Pack hot fruit in jars. Cover with hot syrup or water, leaving 1/2-inch headspace at top of jar. Close and process.

### Applesauce

**Preparation:** Cut into small pieces and pretreat for discoloration. Add 1 cup of boiling water to

each gallon of apples. Cover the kettle and cook for 5 to 20 minutes until tender, stirring as needed to prevent burning. Press through sieve or food mill to remove cores, seeds and peelings. Add sugar and spice according to taste; heat to simmering.

**Hot Pack:** Pack hot fruit and liquid into jars, leaving 1/2-inch headspace. Close and process.

### Apricots

Follow methods for peaches. Peeling may be omitted.

### Berries (Except Strawberries)

**Preparation:** Discard soft or moldy berries. Crush smaller imperfect berries for juice. Add sugar to juice or water to make syrup, and bring to a boil. Pack according to one of the following methods.

**Raw Pack:** Fill jars with prepared berries, shaking down gently while filling. Cover with hot syrup, juice or water, leaving 1/2-inch headspace. Close and process.

**Hot Pack:** For blueberries, currants, elderberries, gooseberries and huckleberries. Heat berries in boiling water for 30 seconds and drain. Fill jars and cover with hot juice, syrup or water leaving 1/2-inch headspace. Close and process.

### Cherries (Sweet or Sour)

**Preparation:** Remove pits, if desired. If pitted, place cherries in water containing ascorbic acid (see Preliminary Steps) to prevent stem-end discoloration. If not pitted, prick skins on opposite sides to prevent splitting. Cherries may be canned in water, apple juice, white grape juice or syrup.

**Raw Pack:** Add 1/2 cup hot water, juice or syrup to each jar. Fill jars with drained cherries, shaking down gently as you fill. Add more hot liquid, leaving 1/2-inch headspace. Close and process.

**Hot Pack:** 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. Close and process.

### Figs

**Preparation:** Cover with water and boil 2 minutes. Drain.

**Hot Pack:** Gently boil figs in light syrup for 5 minutes. Add to hot jars 2 tablespoons bottled lemon juice per quart or 1 tablespoon per pint; or add 1/2 teaspoon citric acid per quart or 1/4 teaspoon per pint to jars. Fill jars with hot figs and cooking syrup, leaving 1/2-inch headspace. Close and process.

## Fruit Puree (Peach, Apricot and Pear)

**Preparation:** Peel and remove seeds and pits. Measure fruit into large saucepan, crushing slightly if desired.

**Hot Pack:** Add 1 cup of hot water for each quart of fruit. Cook slowly until fruit is soft, stirring frequently. Press through sieve or food mill. If desired, add sugar to taste. Reheat pulp to boil or until sugar dissolves, if added. Pack hot puree into clean jars leaving 1/4-inch headspace. Close and process.

## Grapefruit and Orange Sections

**Preparation:** With a sharp knife cut slices from both ends of the unpeeled fruit, cutting into the flesh or sections. Remove the rest of the peel and white membrane. Remove all white tissue to prevent a bitter taste. Run the blade of a paring knife between the sections and membranes, separating them.

**Raw Pack:** Prepare a very light, light or medium syrup; bring to boil. Fill jars with sections and hot syrup, leaving 1/2-inch headspace. Close and process.

## Peaches

**Preparation:** Peel or place fully ripe, firm fruit in wire basket or cheesecloth and dip in boiling water 30 to 60 seconds or until skins loosen. Plunge into cold water quickly. Slip off skins. Cut into halves and remove seed. Slice if desired. To prevent darkening, keep peeled fruit in ascorbic acid solution.

**Hot Pack:** In a large saucepan place drained fruit in syrup, water or juice and bring to a boil. Fill jars with hot fruit and cooking liquid, placing halves in layers, cut side down. Leave 1/2-inch headspace. Close and process.

**Raw Pack:** Pack raw fruit in jars cut side down. Cover with syrup, leaving 1/2-inch headspace. Close and process. Raw packs usually produce poorer quality peaches.

## Pears

**Preparation:** Can only ripe, mellow pears. Gather Kieffer pears when they become slightly yellow. Wrap in paper and allow to mellow. This may require 2 to 3 weeks. Summer pears may be canned after ripening on tree. Peel, cut into halves and core. A melon baller or metal measuring spoon is suitable for coring pears. To prevent discoloration keep pears in an ascorbic acid solution.

Prepare a very light, light or medium syrup or pack pears in apple juice, white grape juice or water. Raw packs make poor quality pears, but if desired, follow instructions for peaches.

**Hot Pack:** Boil drained pears 5 minutes in syrup, juice or water. Fill jars with hot fruit and cooking liquid, leaving 1/2-inch headspace. Close and process.

## Pineapple

**Preparation:** Peel and remove eyes and tough fiber. Slice or cube. Pineapple may be packed in water, apple juice, white grape juice, or in very light or medium syrup.

**Hot Pack:** In a large saucepan add pineapple to syrup, water or juice and simmer 10 minutes. Fill jars with hot pieces and cooking liquid, leaving 1/2-inch headspace. Close and process.

## Plums

**Preparation:** To can whole, prick skin on two sides of each plum to prevent bursting. Freestone varieties may be halved and pitted. Plums may be packed in water or syrup.

**Hot Pack:** Add plums to water or hot syrup 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. Close and process.

## Rhubarb-Stewed

**Preparation:** Remove leaves and blemishes. Cut into 1/2-inch to 1-inch pieces.

**Hot Pack:** In a large saucepan add 1/2 cup sugar for each quart of rhubarb. Let stand until juice appears. Heat gently to boiling. Fill jars without delay, leaving 1/2-inch headspace. Close and process.

## Tomatoes

Select only disease-free, preferably vine-ripened, firm fruit for canning. Caution: Do not can tomatoes from dead or frost-killed vines. Green tomatoes are more acidic than ripened fruit and can be canned safely with any of the following recommendations.

**Acidification:** To insure safe acidity in whole, crushed, or juiced tomatoes, add two tablespoons of bottled lemon juice or 1/2 teaspoon of citric acid per quart of tomatoes. For pints, use one tablespoon bottled lemon juice or 1/4 teaspoon citric acid. Acid can be added directly to the jars before filling with product. Add sugar to offset acid taste, if desired.

## Tomato Juice

**Preparation:** Wash, remove stems, and trim off bruised or discolored portions. To prevent juice from separating, quickly cut about 1 pound of fruit into quarters and put directly into saucepan. Heat immediately to boiling while crushing. Continue to slowly add and crush freshly cut tomato quarters into the boiling mixture. Make sure the mixture boils constantly and vigorously while you add the remaining tomatoes. Simmer 5 minutes after you add all pieces.

If you are not concerned about juice separation, simply slice or quarter tomatoes into a large saucepan. Crush, heat, and simmer for 5 minutes before juicing. Press both types of heated juice through a sieve or food mill to remove skins and seeds. Add bottled lemon juice or citric acid to jars. Heat juice again to boiling. Add 1 teaspoon of salt per quart, 1/2 teaspoon per pint, if desired. Fill jars with hot tomato juice, leaving 1/2-inch headspace. Close and process.

## Tomatoes-Crushed

**Procedure:** Wash tomatoes and dip in boiling water for 30 seconds or until skins split. Dip in cold water, slip off skins, and remove cores. Trim off any bruised or discolored portions and quarter. Heat about one-sixth of the quarters quickly in a large pot, crushing them with a wooden mallet or spoon as they are added to pot. This will draw juice. Continue heating the tomatoes, stirring to prevent burning.

Once the tomatoes are boiling, gradually add remaining quartered tomatoes, stirring constantly. These remaining tomatoes do not need to be

crushed. They will soften with heating and stirring. Continue until all tomatoes are added. Then boil gently for 5 minutes. Add bottled lemon juice or citric acid to jars. See acidification directions on page 4. Add 1 teaspoon of salt per quart, 1/2 teaspoon per pint, to the jars if desired. Fill jars immediately with hot tomatoes, leaving 1/2-inch headspace. Close and process.

## Standard Tomato Sauce (Unseasoned)

**Preparation:** Prepare and press as if for making tomato juice. Simmer in large diameter saucepan until sauce reaches desired consistency. Boil until volume is reduced by about one-third for thin sauce, or by one-half for thick sauce. Add bottled lemon juice or citric acid to jars. Fill jars, leaving 1/4-inch headspace. Close and process.

## Tomatoes-Whole or Halved (packed in tomato juice or without added liquid)

**Preparation:** Wash tomatoes. Dip in boiling water for 30 to 60 seconds or until skins split, then dip in cold water. Slip off skins and remove cores. Leave whole or cut in half. Add bottled lemon juice or citric acid to jars. Add 1 teaspoon of salt per quart, 1/2 teaspoon per pint, if desired. For raw packs, fill jars with raw-packed tomatoes, leaving 1/2-inch headspace. For hot pack, bring tomatoes to a boil in water or tomato juice and boil gently for 5 minutes. Fill jars with tomatoes, allowing 1/2-inch headspace. Cover hot or raw pack tomatoes with hot juice or water or press tomatoes until spaces fill with juice, leaving 1/2-inch headspace. Close and process.

## Reference

*Complete Guide to Home Canning*, 1988. The United States Department of Agriculture.

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## Processing Time

Fruit	Jar Size	In Boiling-Water Canner Process Time at Different Altitudes*			
		0-1,000 feet	1,001-3,000 feet	3,001-6,000 feet	Over 6,000 feet
<b>Apples</b>					
Hot Pack	Pints or Quarts	20 minutes	25 minutes	30 minutes	35 minutes
<b>Applesauce</b>					
Hot Pack	Pints	15 minutes	20 minutes	20 minutes	25 minutes
	Quarts	20 minutes	25 minutes	30 minutes	35 minutes
<b>Apricots</b>					
	See Peaches				
<b>Berries (Except Strawberries)</b>					
Hot Pack	Pints or Quarts	15 minutes	20 minutes	20 minutes	25 minutes
Raw Pack	Pints	15 minutes	20 minutes	20 minutes	25 minutes
	Quarts	20 minutes	25 minutes	30 minutes	35 minutes
<b>Cherries</b>					
Hot Pack	Pints	15 minutes	20 minutes	20 minutes	25 minutes
	Quarts	20 minutes	25 minutes	30 minutes	35 minutes
Raw Pack	Pints or Quarts	25 minutes	30 minutes	35 minutes	40 minutes
<b>Figs</b>					
Hot Pack	Pints	45 minutes	50 minutes	55 minutes	60 minutes
	Quarts	50 minutes	55 minutes	60 minutes	65 minutes
<b>Fruit Puree</b>					
Hot Pack	Pints or Quarts	15 minutes	20 minutes	20 minutes	25 minutes
<b>Grapefruit and Orange Sections</b>					
Raw Pack	Pints or Quarts	10 minutes	15 minutes	15 minutes	20 minutes
<b>Nectarines</b>					
	See Peaches				
<b>Peaches</b>					
Hot Pack	Pints	20 minutes	25 minutes	30 minutes	35 minutes
	Quarts	25 minutes	30 minutes	35 minutes	40 minutes
Raw Pack	Pints	25 minutes	30 minutes	35 minutes	40 minutes
	Quarts	30 minutes	35 minutes	40 minutes	45 minutes
<b>Pears</b>					
Hot Pack	Pints	20 minutes	25 minutes	30 minutes	35 minutes
	Quarts	25 minutes	30 minutes	35 minutes	40 minutes
<b>Pineapple</b>					
Hot Pack	Pints	15 minutes	20 minutes	20 minutes	25 minutes
	Quarts	20 minutes	25 minutes	30 minutes	35 minutes
<b>Plums</b>					
Hot & Raw Pack	Pints	20 minutes	25 minutes	30 minutes	35 minutes
	Quarts	25 minutes	30 minutes	35 minutes	40 minutes
<b>Rhubarb-Stewed</b>					
Hot Pack	Pints or Quarts	15 minutes	20 minutes	20 minutes	25 minutes
<b>Tomato Juice</b>					
Hot Pack	Pints	35 minutes	40 minutes	45 minutes	50 minutes
	Quarts	40 minutes	45 minutes	50 minutes	55 minutes
<b>Tomatoes-Crushed</b>					
Hot Pack	Pints	35 minutes	40 minutes	45 minutes	50 minutes
	Quarts	45 minutes	50 minutes	55 minutes	60 minutes
<b>Standard Tomato Sauce</b>					
	Pints	35 minutes	40 minutes	45 minutes	50 minutes
Hot Pack	Quarts	40 minutes	45 minutes	50 minutes	55 minutes
<b>Tomatoes-Whole or Halves</b>					
(in juice or without added liquid)					
Hot & Raw Pack	Pints or Quarts	85 minutes	90 minutes	95 minutes	100 minutes
(in water)					
Hot & Raw Pack	Pints	40 minutes	45 minutes	50 minutes	55 minutes
	Quarts	45 minutes	50 minutes	55 minutes	60 minutes

\*Note importance of adjustment in times for altitude.

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