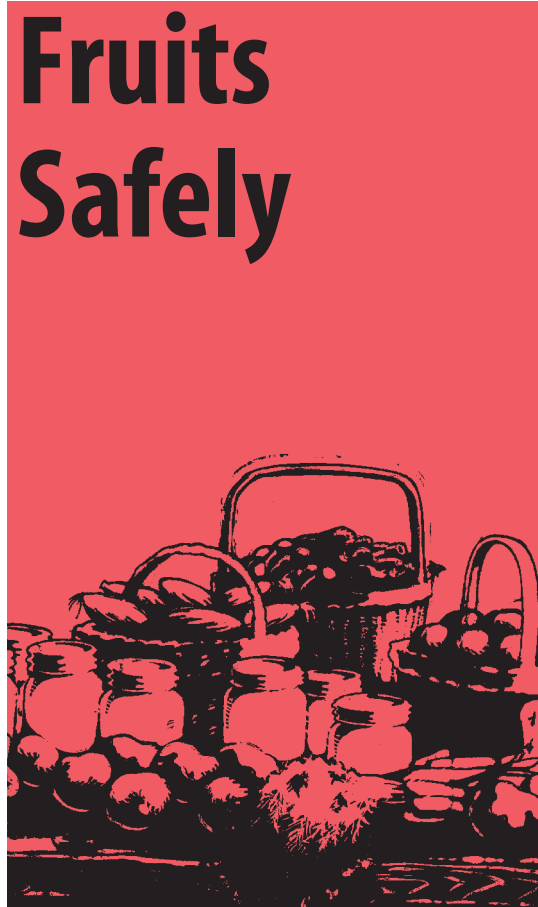


B0430

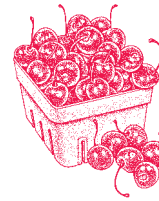
University of Wisconsin-Extension Cooperative Extension

**Wisconsin Safe Food
Preservation Series**

Canning



Barbara H. Ingham



Do you ever wish you could savor the taste of orchard-fresh ripe, juicy fruit all year

long? Canning is one way of preserving fruits, and it can be fun — and very rewarding. Follow these research-tested recipes for safe and easy preparation and preservation of your garden and orchard bounty.

Ripe, juicy cherries, peaches, pears and other fruits are some of the most delicious foods available. Canning fruits can bring a colorful touch of summer to family meals all year round.

Fruit can be safely and healthily canned in either a sweet syrup, or in water or fruit juice. Fruit canned in syrup holds its shape, color and flavor, even after canning. Canning fruit in water or fruit juice helps reduce the sugar content of the canned fruit.

Properly canned peaches, pears and plums are usually superior in quality to the same fruits when frozen. But other fruits, especially soft berries, look and taste better if you freeze them.

To avoid spoilage, all fruits must be heat processed after jars are properly filled and capped. Most recipes for canned fruit call for processing in a **boiling water canner**. This yields a safe, high quality product.

The processing times in this publication are designed to prevent spoilage caused by bacteria, yeasts or molds at Wisconsin elevations, and have been tested in U.S. Department of Agriculture laboratories or by food scientists at state universities.

Open-kettle canning — filling canning jars with hot fruit and then sealing the jars without heating the filled jars in a boiling water canner — is **not recommended** because of the likelihood of spoilage.



Start with the right ingredients

For the best quality

canned fruit, use tree-ripened, undamaged fruits. Choose fruit ripe enough to eat. Under-ripe fruit will lack flavor and sweetness. Do not can over-ripe, bruised, moldy or damaged fruit, because an unsafe product may result.

Getting started

For safe, high quality canned fruit, use ripe, undamaged fruit and process in a boiling water canner.

Assembling equipment

Boiling water canners are available in several sizes. They should have a rack to keep jars off the bottom of the canner. Some canners have a divided rack or basket to help keep jars upright, and to make it easier to move jars in and out of the canner. The canner must have a tight-fitting lid.

For canning in quart jars, a canner that holds up to seven quart jars is convenient for use on most home ranges. Larger canners may be too big to fit well on even the largest burner of a 30-inch stove top.

For canning in pint jars, you can use a smaller canner or kettle with a rack — provided that the kettle is deep enough that water can be added to cover the jars by 1 to 2 inches and boil freely. The canner must also have a tight-fitting lid.

If a steam pressure canner is deep enough, it can be used as a boiling water canner. Fill the pressure canner with jars, cover with water, and place the lid on the canner. But do not lock the lid in place, and leave the petcock open or weighted pressure control off.

Alternately, fruits may be safely processed in a pressure canner, but this will not produce a high quality product. For instructions on pressure canning fruits, see page 13.



Process all fruits in a boiling water canner for a safe, high quality product.

Any kettle deep enough to allow 1 to 2 inches of water to cover filled jars and boil freely can serve as a boiling water canner. The kettle must have a tight-fitting lid, and a rack or basket so jars do not rest on the bottom of the canner.

Preparing canning jars and lids

Jars: Use standard home canning jars free of cracks or chips. Wash jars in hot, soapy water and rinse well. Wash and rinse all metal screw bands. Keep jars hot until filled.

Sterilizing jars before filling them is not usually necessary, since boiling water processing will heat the jars and contents sufficiently. However, sterilizing is necessary when:

- using large volume jars such as half-gallons for canning fruit juice, or
- processing time is very short (less than 10 minutes).

Sterilize half-gallon jars by boiling for 10 minutes. Keep all jars in hot water until you are ready to fill them. This prevents breakage when the jars are filled with hot fruit or syrup.

Lids: The two-piece vacuum seal lid is the most popular and dependable for home canning. This consists of a flat metal lid with sealing compound to be used only once, and a reusable metal screw band. Follow package directions for pretreating lids.

Do not use porcelain-lined zinc caps or other lids with separate rubber rings. New rubber rings are no longer available.



Equipment you will need

Assemble the following items before you start to can fruit:

Colander, knife, melon baller, 1 to 2 large pans with covers, bowls, blanching basket, sieve, scale, measuring cups and spoons, mixing spoons, spice bag or cheesecloth, thermometer, timer, standard home canning jars, 2-piece lids, jar-filling supplies (funnel, ladle, rubber spatula, lid and jar lifters), pot holders, boiling water canner, wire rack, and labeling supplies.

Selecting fruit

For the best quality canned fruit, use only fresh, firm and undamaged fruits. Fruit should be ripe enough to eat. Fruit allowed to ripen on the plant is sweetest, and first choice to preserve.

Work in small batches as fruit ripens.

If you buy fruit to process, sort out the ripest first, allowing the rest to ripen before canning. Under-ripe fruit will not have fully developed flavor, and will lack natural sweetness.

You can hasten the ripening of some fruits by placing them in a paper bag with an apple, folding over the top of the bag, and letting the fruit stand on your kitchen counter for a day or two. Open the bag each day and remove ripened fruit. Under-ripe fruits that benefit from this treatment include apples, apricots, peaches, pears, plums and tomatoes.

Although it is possible to can soft berries such as strawberries or blackberries, freezing will produce a more attractive product. Ask your county UW-Extension office for the publication *Freezing Fruits and Vegetables* B3278, also available from Cooperative Extension Publications at the address on the back cover.

Do not can over-ripe, bruised, moldy or damaged fruit, because an unsafe product may result.

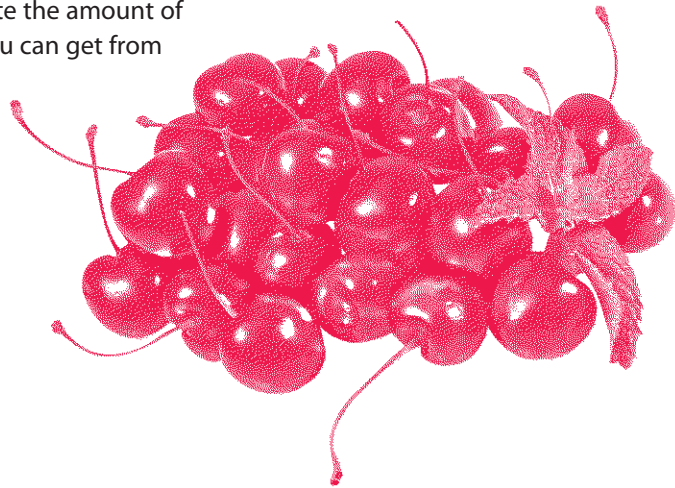


Fruit varieties recommended for Wisconsin can be found in these publications, available from your county UW-Extension office or Cooperative Extension Publications at the address on the back cover:

Apple Cultivars for Wisconsin A2105
Home Fruit Cultivars for Northern Wisconsin A2488
Home Fruit Cultivars for Southern Wisconsin A2582

The number of quarts of canned fruit you can get from a given quantity of fresh fruit depends on the fruit's quality, variety, maturity and size. Yield will also vary according to the size of the pieces canned and whether the fruit is packed hot or raw.

The following chart is a rough guide to help you estimate the amount of canned product you can get from fresh fruit.



YIELD OF CANNED FRUIT FROM FRESH*

Fruit	Measure	Quarts needed	Pounds per quart
Apples	1 bu. (48 lbs.)	16 to 20	2 ¹ / ₂ to 3
Apples, for sauce	1 bu. (48 lbs.)	15 to 18	2 ¹ / ₂ to 3 ¹ / ₂
Apricots	1 lug (24 lbs.)	9 to 12	2 to 2 ¹ / ₂
Berries — except strawberries and cranberries	24-qt. crate (36 lbs.)	12 to 18	1 ¹ / ₂ to 3 (1- to 2-qt. boxes)
Cherries, with stems, unpitted	1 lug (15 lbs.)	6 to 7	2 to 2 ¹ / ₂
	1 bu. (56 lbs.)	22 to 32	2 to 2 ¹ / ₂
Cranberries	1 box (25 lbs.)	25	1
	1 bu. (100 lbs.)	100	1
Figs	1 box (6 lbs.)	2 to 3	2 to 2 ¹ / ₂
Grapes	4-qt. basket (4 lbs.)	1	4
	12-qt. basket	3 to 4	4
	1 bu. (48 lbs.)	10 to 12	4
Nectarines	1 flat (18 lbs.)	6 to 9	2 to 3
Peaches	1 bu. (50 lbs.)	19 to 25	2 to 2 ¹ / ₂
Pears	1 crate (22 lbs.)	8 to 11	2 to 2 ¹ / ₂
	1 box (46 lbs.)	19 to 23	2 to 2 ¹ / ₂
	1 bu. (50 lbs.)	20 to 25	2 to 2 ¹ / ₂
Plums	1 bu. (56 lbs.)	24 to 30	2 to 2 ¹ / ₂
Rhubarb	15 lbs.	7 to 11	2
Strawberries	24-qt. crate (36 lbs.)	12 to 16	6 to 8 cups

* A lug is a shipping container for produce. Weights and measures are those set for Georgia by the Georgia Department of Agriculture, adapted with permission from *So Easy to Preserve* Bulletin 989 by Elizabeth L. Andress and Judy A. Harrison (Athens, Ga.: University of Georgia College of Family and Consumer Sciences), 1999.

Note: bu. = bushel lb. = pound qt. = quart

32 quarts = 4 pecks = 1 bushel

Preparing fruit

Wash fruits just before processing them, including those you will peel. Dirt contains some of the bacteria hardest to destroy. Wash small amounts at a time under running water or through several changes of water, lifting the fruit out of the water so dirt that has been washed off will not settle back on the food.

A colander is a handy tool for thoroughly washing fruit.

Handle berries very carefully and do not let them soak in water.



Wash fruits just before canning. Most fruits should be scrubbed individually under running water. Delicate fruits such as berries can be rinsed and drained using a colander.

Preventing browning

Many light-colored fruits will darken rapidly after peeling exposes them to oxygen. This is called oxidative browning. There are several ways to prevent this color change using antioxidants.

Ascorbic acid — vitamin C — is effective in preventing oxidation of most fruits. Ascorbic acid is most readily available in tablets.

Pharmacies, groceries and health food stores all sell vitamin C tablets of various strengths measured in milligrams (mg). Fillers in these tablets may make syrup cloudy, but are not harmful.

To use vitamin C tablets to prevent browning, first crush or grind to a fine powder. Use three 500 mg tablets (1500 mg total) per quart of water as a dip for sliced apples, peaches, pears or similar fruits while you get them ready. Place prepared fruit in the dip for 1 minute, then drain.

Ascorbic acid may also be crushed and added to:

- **syrup for syrup packs** — 1500 mg per quart of cold syrup — or
- **fruit purées and juices** — 500 mg per quart.

Ascorbic acid mixtures such as FruitFresh,^{®*} can be purchased at most grocery stores. These are most often a mix of ascorbic acid and sugar. Follow the package directions for use.



The cut surfaces of some fruits such as apples, apricots, peaches and pears darken quickly when exposed to air. You can prevent darkening by:

- **dipping in a solution of vitamin C** — 1500 mg per quart of water,
- **sprinkling with a commercial ascorbic acid mixture as the package directs, or**
- **dipping in a solution of bottled lemon juice** — 3 tablespoons per quart of water.

Lemon juice or **citric acid** can help prevent darkening of some fruits — but not as effectively as ascorbic acid. Use 3 tablespoons bottled lemon juice per quart of water as a dip. Place prepared fruit in the dip for 1 or 2 minutes, then drain.

Sweetening fruit

Sweetening with sugar syrup:

Sugar helps canned fruit hold its shape, color and flavor. For that reason, sugar syrups are called for in most canning instructions. Use 1 to 1½ cups of syrup per quart to cover the fruit.

To make sugar syrup: Mix sugar with water or fruit juice. Use a syrup suited to the fruit's natural sweetness and your taste. Fruit canned in lighter syrup will have fewer calories and be more economical.

Proportions of sugar and liquid for various syrups are listed in the chart below. Heat sugar and water or juice together until the sugar dissolves.

- If you are packing fruit raw, bring the syrup to a boil. Pour boiling hot syrup over fruit in jars.
- If you are packing fruit hot, cook fruit in syrup before packing into jars.

Proportions for sugar syrups

Syrup	Water or juice	Sugar	Yield of syrup	Calories per cup
Very light	4 cups	½ cup	4 cups	77
Light	4 cups	1 cup	4½ cups	154
Medium	4 cups	2 cups	5 cups	308
Heavy	4 cups	3 cups	5½ cups	420
Very heavy	4 cups	4 cups	6½ cups	563

Note: 1 quart = 2 pints = 4 cups

* Reference to products is not intended to endorse them, nor to exclude others that may be similar. If you use these products, follow the manufacturer's current label directions.

Sweeteners other than sugar: Light corn syrup or mild-flavored honey can replace up to half the sugar in canning fruit.

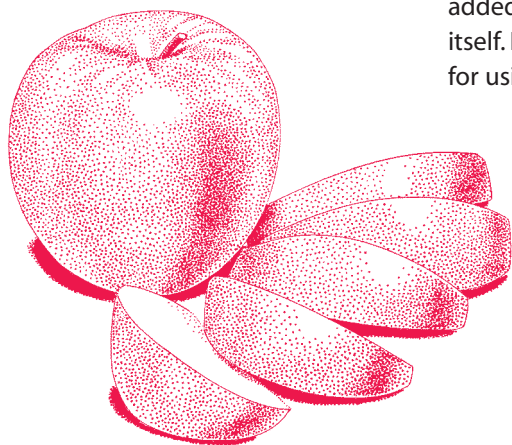
Do not use brown sugar, molasses, sorghum or other strong-flavored syrups. Their flavors overpower the fruit flavor, and may darken the fruit.

Using fruit juice to sweeten fruit: Most fruits can be successfully canned in unsweetened fruit juice or water, rather than the traditional sugar syrup. Fruit juices may be canned without sweeteners as well. Because sugar is not used to prevent spoilage, processing times are the same for unsweetened fruit as for fruits in syrup.

For the best flavor and eating quality, select fully ripe yet firm fruits, and can them in their own juice, or in a mild fruit juice such as white grape juice. Apple juice, white grape juice, pineapple juice or blends of these three juices are all good for canning many fruits.

A juice-packed fruit will usually be more flavorful than a water pack because the natural fruit flavors are not diluted by water surrounding the pieces of fruit. However, either may be used as an alternative to sugar syrup.

If you are on a diabetic exchange diet, count exchanges for home preserved no-sugar-added fruits as you would fresh or commercially prepared sugar-free fruits. Remember, however, that juice-packed products do contain some added natural sugars from the juice itself. Follow your diet's instructions for using juice-packed fruits.



Suggested juice syrups*

Apple/mixed juice syrups

Juice syrup	Fruit juice	Bottled lemon juice	Boiling water	Yield of syrup
Light	1/3 cup apple	1 teaspoon	2/3 cup	1 cup
Medium	2/3 cup apple	1 1/4 teaspoon	1/3 cup	1 cup
	2/3 cup apple-pear	1 teaspoon	1/3 cup	1 cup
Heavy	1/2 cup apple concentrate (frozen)	1 1/2 teaspoon	1/2 cup	1 cup

White grape juice syrups

Juice syrup	White grape juice	Bottled lemon juice	Boiling water	Yield of syrup
Light	1/4 cup	1 teaspoon	3/4 cup	1 cup
Medium	1/2 cup	1 1/2 teaspoon	1/2 cup	1 cup
Heavy	1 cup	2 teaspoons	None	1 cup

* Yields are approximate. Adapted from *Canning & Preserving Without Sugar* © 2000 by Norma MacRae with permission from The Globe Pequot Press, Guilford, Connecticut, (800) 962-0973: www.globe-pequot.com

Using sugar substitutes (artificial sweeteners): In general, non-nutritive sweeteners are not recommended for canning. Sugar substitutes containing aspartame (brand names Equal® and NutraSweet®) lose their sweetening power on heating, and should not be used for canning. Saccharine-based sweeteners — such as Sweet 'N Low®, Sugar Twin® or Sweet 10® — become bitter on prolonged heating.

Sucralose® — also labeled Splenda® — is a relatively new non-nutritive sweetener made from sugar. This stable sweetener will not produce an aftertaste on heating, and may be used in canning fruits.**

Many fully ripe fruits can be successfully canned in unsweetened fruit juice or water. You can add sugar substitutes to the fruit or juice before serving.

** Reference to products is not intended to endorse them, nor to exclude others that may be similar. If you use these products, follow the manufacturer's current label directions.



Fruit can be canned in a sugar-based syrup, fruit juice or water. Sugar helps canned fruit hold its shape, color and flavor. For that reason, sugar syrups are called for in most canning instructions. But for those seeking to limit the sweetness or calories of canned fruit, many fruits can be successfully canned in unsweetened fruit juice. Fruit canned in juice should be fully ripe, and canned in its own juice when possible. Because sugar is not required to prevent spoilage, processing times are the same for fruit canned in syrup or in juice.

Hot pack: Heat fruits in syrup, juice or water for packing. Juicy fruits may be preheated without added liquid and packed in the juice that cooks out. Pack hot fruit loosely into clean, hot jars. Be sure to leave the recommended amount of headspace.

Syrup or other liquid should completely cover the fruit and fill in around solid pieces in the jar. Fruit at the top of the jar tends to darken if it is not covered with liquid.

To prevent light-colored fruit such as apples, peaches or pears from darkening during storage, add a small amount of ascorbic acid or citric acid — 1/4 teaspoon per quart — to each jar before processing.

Packing fruit into jars

Before filling clean, hot jars, pretreat two-piece vacuum seal lids as the package directs.

Fruits may be packed raw into jars or preheated and packed hot. Fruits are less likely to float in syrup if they are packed hot.

Raw pack: Put cold, raw fruit into clean, hot jars and cover with boiling hot syrup, juice or water. Most raw fruits should be tightly packed, since they will shrink slightly during processing. But do leave the full amount of headspace required between the top of the liquid and the top of the jar (see next page).

Fruits may be packed raw or hot into clean, hot jars:

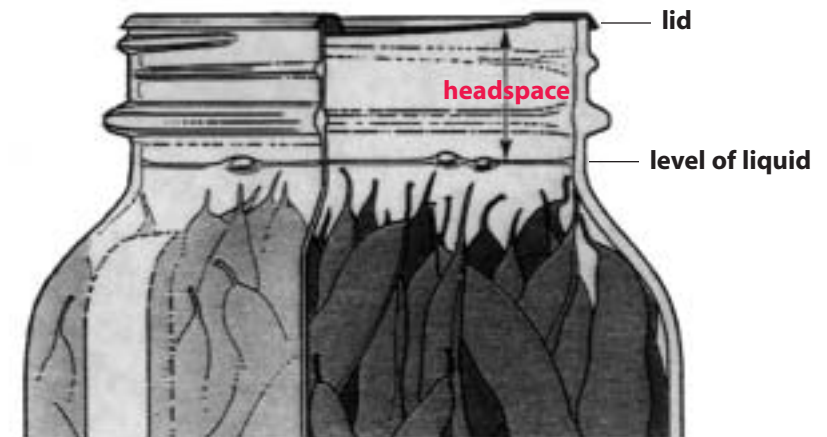
- **For raw pack,** tightly pack raw fruit into jars and cover with boiling hot syrup, juice or water.
- **For hot pack,** heat fruit first in syrup, water or juice, then loosely pack hot into jars with hot liquid.

Headspace is the unfilled space above the food in a jar and below the lid. When canning fruits, most recipes call for 1/2-inch headspace. See the illustration below.

Remove air bubbles by sliding a rubber spatula or bubble freer between the fruit and the sides of the jar in several places. Add hot liquid as needed to adjust headspace to the recommended level.

Wipe jar rims and threads with a clean damp cloth or towel to remove any food particles or syrup. Place a pretreated lid on each jar. Screw the metal band on firmly, but not too tightly.

During processing, the metal bands will expand enough to allow air and steam to escape from jars. Then, as contents cool after processing, the remaining steam condenses and a partial vacuum forms. This keeps the center of the lid depressed when the jar is properly sealed.



Reprinted with permission from *Complete Guide to Home Canning*. Agriculture Information Bulletin No. 539 (Washington, D.C.: U.S. Department of Agriculture), 1994: <http://extension.usu.edu/publica/foodpubs.htm>

Processing in a boiling water canner

Whether you packed fruit raw or hot determines how hot the canner will be when you add the jars. Fill a boiling water canner with:

- **hot water** (140° F) for raw-packed fruits.
- **very hot water** (170° F) for hot-packed fruits.

Place filled jars in enough hot water to cover the jars and lids by at least 1 inch. Add boiling water carefully around jars if needed to bring the level to this point. Do not pour boiling water directly on jar lids.

Put a tight-fitting lid on the canner. When the water returns to a full rolling boil, start counting the processing time. Processing times in this publication are safe for all Wisconsin elevations.

When the processing time is complete, carefully remove jars from the canner without tilting, and place them upright on a rack or counter. Do not cover the jars during cooling.

Do not retighten the bands on two-piece lids, even though they will be loose. If liquid has boiled out during processing, do not remove the lid to add more. As the jar of fruit cools, the lid will snap down in the center, forming a concave surface.

When jars have cooled, test for seal.

Lid tops should be depressed and remain that way, and will ring when tapped with a spoon. After 24 hours, you can carefully remove the screw bands.

Wash and dry the jar lids and threads. Label, date and store the jars in a cool, dry place out of direct sunlight for up to 1 year.

When jars fail to seal

If any jars fail to seal, use the fruit right away, or refrigerate it and use it within a day or two.

Jars of fruit that fail to seal can also be reprocessed within 24 hours. Repack the jars with hot fruit and boiling syrup, and process it just as if it were freshly packed. Use new lids for reprocessing.



Fruits in jars that fail to seal may be safely reprocessed within 24

hours, or refrigerated for use within 1 or 2 days. If you choose to reprocess, do so for the full time, using new lids.

Carefully inspect home-canned fruit before consuming. If seals are broken, or the jars show obvious signs of spoilage (mold, bulging lids or bubbles), do not consume the jar contents. Carefully discard the contents of these jars.

Canning fruits in a pressure canner

Fruits may be safely processed in a pressure canner, but may overcook and become mushy. A boiling water canner is preferable for most fruits.

Pressure canners have dial gauges or weighted gauges. Pressure is measured in **pounds per square inch (psi)**. When pressure is applied, water boils at a temperature higher than the boiling point — 212° F at sea level. Food can be processed in a pressure canner quickly and safely at these higher temperatures.

If you choose to process fruit in a pressure canner, always hot-pack fruit, and process pints or quarts:

- 10 minutes at 6 pounds pressure (6 psi) in a dial-gauge pressure canner, or
- 10 minutes at 10 pounds pressure (10 psi) in a weighted gauge pressure canner.

These processing times and pressures will produce a safe product at all Wisconsin elevations, but may over-process some fruits unnecessarily.

Fruits that can be successfully pressure canned are noted in the following **Canning Fruits Guide**.



For best quality, process canned fruits in a boiling water canner. Fill canner with hot water — 140° F water for raw pack, 170° F water for hot pack. Add jars of fruit, add more water as necessary to bring the level to 1 inch above jar lids, and return water to a boil. Start timing the process once the water returns to a boil.

Fruit may also be safely canned in a pressure canner, but may overcook and become mushy. Better quality will result if you use the pressure canner as a boiling water bath canner — with the lid on but not locked in place, and the petcock open or weighted gauge off.

Storing canned fruit

Remove screw bands carefully, and wipe the outside of the jars before storing. Label each jar to show the date canned, variety or other pertinent information about the product. Store in a cool, dry place out of direct sunlight for up to 1 year.

Protect jars from freezing if you store them in an unheated area. Freezing will not make the fruit unsafe to eat unless the liquid in the jar expands enough to break the seal. Freezing makes the texture of canned fruits less desirable.

Do not taste any suspect foods.

Before using home-canned fruits:

Check the jar carefully before opening it. Bulging jar lids, loose lids or leaks all indicate possible spoilage. When a container is opened, look for other signs — spurting liquid, off-odors or mold. Discard any foods showing these signs of spoilage.



Follow instructions carefully to ensure safe, high quality home-canned fruit.

After processing, label each jar, and store in a cool, dry, dark place for up to 1 year. Check for signs of spoilage — mold, bulging lids, bubbles — before consuming jar contents. And remember: If in doubt, throw it out!



Use the following canning guidelines with:

Preventing browning (antioxidants), page 6

Sugar syrups, page 7

Fruit-based syrups, page 9

Times in this guide are for processing in a boiling water canner yielding a safe, high quality product. If you have a steam pressure canner that is deep enough, you can use it as a boiling water canner — with the lid on but not locked in place, and the petcock open or weighted gauge off.

CANNING FRUITS GUIDE

Apple rings, spiced; hot pack Apples, sliced; hot pack

12 lbs. firm tart apples (no larger than 2¹/₂ inches)

12 cups sugar

6 cups water

1¹/₄ cups white vinegar (5% acetic acid)

3 tbsp. whole cloves

³/₄ cup red hot cinnamon candies or 8 cinnamon sticks

1 tsp. red food coloring (optional)

Wash apples. To prevent browning, peel and slice one apple at a time. Immediately cut crosswise into 1/2-inch slices, remove core area with a melon baller, and immerse in an antioxidant solution (see page 6). To make syrup, combine sugar, water, vinegar, cloves, cinnamon candies or cinnamon sticks, and food coloring if desired in a 6-quart saucepan. Stir, heat to boil, and simmer 3 minutes. Drain apple rings, add to hot syrup, and cook 5 minutes.

Pack hot rings and syrup into clean, hot jars (preferably wide-mouth), leaving 1/2-inch headspace. Remove bubbles, wipe jar rims clean. Adjust lids.

Process in a boiling water canner: 15 minutes for half-pints or pints.

Select apples that are juicy, crispy, and preferably both sweet and tart. Wash, peel and core apples. To prevent browning, slice apples into water containing an antioxidant solution (see page 6). Drain slices, weigh, and place in a large saucepan. Add 2 cups water or very light, light, or medium sugar or fruit juice syrup (see page 7 or 9) per 5 pounds of sliced apples. Boil 5 minutes, stirring occasionally to prevent burning.

Pack hot apple slices into clean, hot jars and cover with boiling water or syrup, leaving 1/2-inch headspace. Remove bubbles, wipe jar rims clean. Adjust lids.

Process in a boiling water canner: 25 minutes for pints or quarts.

Note: Sliced apples can be successfully canned in a pressure canner. See processing directions on page 13.

Note: lb. = pound mg. = milligram 1 quart = 2 pints = 4 cups
tbsp. = tablespoon tsp. = teaspoon

CANNING FRUITS GUIDE

Applesauce; hot pack

Select apples that are sweet, juicy and crisp. For a tart flavor, add 1 to 2 pounds of tart apples to each 3 pounds of sweeter fruit. Wash, peel and core apples. To prevent browning, slice apples into an antioxidant solution (see page 6). Drain slices and place into an 8- to 10-quart kettle. Add $\frac{1}{2}$ cup water. Heat quickly until tender 5 to 20 minutes, stirring occasionally to prevent burning. Press through a sieve or food mill, or skip the pressing step if you desire chunk-style sauce. Sauce may be packed without sugar. If desired, add $\frac{1}{8}$ cup sugar per quart of sauce. Taste and add more, if preferred. Reheat sauce to boiling.

Pack hot sauce into clean, hot jars, leaving $\frac{1}{2}$ -inch headspace. Remove bubbles, wipe jar rims clean. Adjust lids.

Process in a boiling water canner: 20 minutes for pints, 25 minutes for quarts.

Note: Applesauce can be successfully canned in a pressure canner. See processing directions on page 13.

Apricots; hot or raw pack

Select firm, well-colored mature fruit of ideal quality for eating fresh. Wash fruit. To remove skins, dip fruit in boiling water for 30 to 60 seconds until skins loosen. Dip quickly in cold water and slip off skins. Cut in half and remove pits. To prevent darkening, keep fruit in an antioxidant solution (see page 6). Prepare and boil a very light, light, or medium syrup, or pack apricots in water, apple juice or white grape juice (see page 7 or 9).

Hot pack: Drain fruit. In a large saucepan, place drained fruit in syrup, water or juice and bring to a boil. Fill clean, hot jars with hot fruit and cooking liquid, leaving $\frac{1}{2}$ -inch headspace. Place halves in layers, cut side down. Remove bubbles, wipe jar rims clean. Adjust lids.

Process in a boiling water canner: 25 minutes for pints, 30 minutes for quarts.

Raw pack: Fill clean, hot jars with layers of fruit, cut side down. Add hot syrup or juice, leaving $\frac{1}{2}$ -inch headspace. Remove bubbles, wipe jar rims clean. Adjust lids.

Process in a boiling water canner: 30 minutes for pints, 35 minutes for quarts.

Note: Apricots can be successfully canned in a pressure canner. See processing directions on page 13.

CANNING FRUITS GUIDE

Berries, whole

Hot or raw pack:

**Blueberries, currants
elderberries, gooseberries
and huckleberries**

Raw pack:

**Blackberries, boysenberries
and raspberries**

Choose ripe, sweet berries with uniform color. Wash 1 or 2 quarts of berries at a time. Drain, cap and stem if necessary. For gooseberries, snip off heads and tails with scissors. Prepare and boil syrup (see page 7 or 9), if desired. Add $\frac{1}{2}$ cup syrup, juice or water to each clean canning jar.

Hot pack: Place $\frac{1}{2}$ to $\frac{3}{4}$ cup water in saucepan and add berries. Heat for 30 seconds and drain. Fill clean, hot jars with drained berries, and cover with hot juice or syrup, leaving $\frac{1}{2}$ -inch headspace. Remove bubbles, wipe jar rims clean. Adjust lids.

Process in a boiling water canner: 20 minutes for pints or quarts.

Raw pack: Fill clean, hot jars with any of the washed, raw berries, shaking gently to get a full pack. Cover with boiling syrup, juice or water, leaving $\frac{1}{2}$ -inch headspace. Remove bubbles, wipe jar rims clean. Adjust lids.

Process in a boiling water canner: 20 minutes for pints, 25 minutes for quarts.

Note: Freezing berries produces a more flavorful and attractive product.



Cherries, sweet or tart; hot or raw pack

Sort, stem and wash cherries. Remove pits if desired. If pitted, place cherries in an antioxidant solution (see page 6) to prevent stem-end darkening. If canned unpitted, prick skins on opposite sides with a clean needle to prevent splitting. Cherries can be canned in water, juice syrup (see page 9) or sugar syrup (see page 7).

Hot pack: Drain cherries. In a large saucepan, add $\frac{1}{2}$ cup water, juice or syrup for each quart (4 cups) of drained fruit. To prevent browning, add $\frac{1}{4}$ teaspoon ascorbic acid to each quart jar. Bring fruit mixture to a boil, stirring to prevent sticking. Fill clean, hot jars with hot cherries and cooking liquid, leaving $\frac{1}{2}$ -inch headspace. Remove bubbles, wipe jar rims clean. Adjust lids.

Process in a boiling water canner: 20 minutes for pints, 25 minutes for quarts.

continued

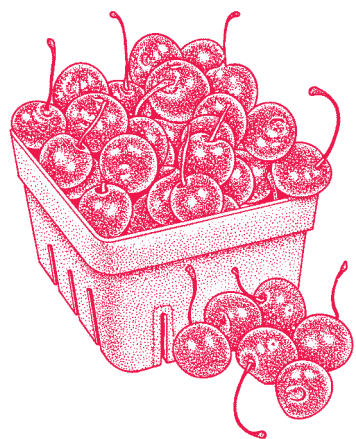
CANNING FRUITS GUIDE

Cherries, sweet or tart; hot or raw pack *(continued)*

Raw pack: Pack fruit into clean, hot jars, shaking jars to get a full pack. To prevent browning, add $\frac{1}{4}$ teaspoon ascorbic acid to each quart jar. Cover with boiling apple juice or white grape juice, water or syrup (see page 7 or 9), leaving $\frac{1}{2}$ -inch headspace. Remove bubbles, wipe jar rims clean. Adjust lids.

Process in a boiling water canner:
30 minutes for pints or quarts.

Note: Cherries can be successfully canned in a pressure canner. See processing directions on page 13.



Cranberries, whole; hot pack

Make heavy syrup (see page 7). Wash, sort and remove stems from cranberries. Drop cranberries into boiling syrup. Boil 3 minutes.

Pack hot into clean, hot jars, leaving $\frac{1}{2}$ -inch headspace. Remove bubbles, wipe jar rims clean. Adjust lids.

Process in a boiling water canner:
20 minutes for pints or quarts.



Cranberry sauce; hot pack

1 quart cranberries

1 cup water

2 cups sugar

Wash and sort cranberries. Cook berries in water until soft. Press through a fine sieve. Add sugar and boil 3 minutes.

Pour boiling hot sauce into clean, hot jars, leaving $\frac{1}{2}$ -inch headspace. Remove bubbles, wipe jar rims clean. Adjust lids.

Process in a boiling water canner:
20 minutes for pints or quarts.

CANNING FRUITS GUIDE

Crabapples, spiced; hot pack

5 lbs. crabapples

$4\frac{1}{2}$ cups apple vinegar (5% acetic acid)

$3\frac{3}{4}$ cups water

$7\frac{1}{2}$ cups sugar

4 tsp. whole cloves

4 sticks cinnamon

6 cubes of fresh ginger root,
 $\frac{1}{2}$ -inch square

Remove blossom petals and wash crabapples, but leave stems attached. Puncture the skin of each crabapple four times with an ice pick or tooth pick. Mix vinegar, water and sugar, and bring to a boil. Add spices tied in a spice bag or cheesecloth. Using a blancher basket or sieve, immerse $\frac{1}{3}$ of the crabapples at a time in the boiling vinegar/syrup solution for 2 minutes. Place cooked fruit and spice bag in a clean 1- or 2-gallon crock and add hot syrup. Cover and let stand overnight. Remove spice bag, drain syrup into a large saucepan, and reheat to boiling.

Fill clean, hot pint jars with apples and hot syrup, leaving $\frac{1}{2}$ -inch headspace. Remove bubbles, wipe jar rims clean. Adjust lids.

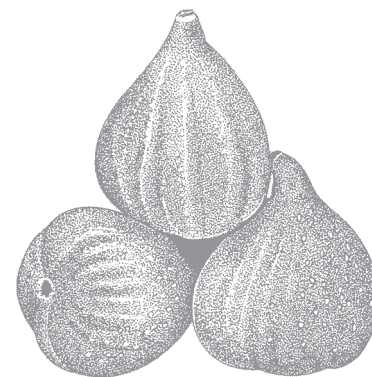
Process in a boiling water canner:
25 minutes for pints.

Figs; hot pack

Wash figs thoroughly in clean water. Drain. Do not peel or remove stems. Cover figs with water and boil 2 minutes. Drain. Gently boil figs in light syrup (see page 7 or 9) for 5 minutes.

To prevent browning, add to each quart jar 2 tablespoons bottled lemon juice; add to each pint jar 1 tablespoon bottled lemon juice. Fill clean, hot jars with hot figs and cooking syrup, leaving $\frac{1}{2}$ -inch headspace. Remove bubbles, wipe jar rims clean. Adjust lids.

Process in a boiling water canner:
50 minutes for pints, 55 minutes for quarts.



CANNING FRUITS GUIDE

Fruit cocktail; hot pack

3 lbs. peaches (12 medium)

3 lbs. pears

1½ lbs. slightly under-ripe seedless green grapes

10-oz. jar maraschino cherries

3 cups sugar

4 cups water

Stem and wash grapes, and keep in an antioxidant solution (see page 6). Wash other fruits. Dip ripe but firm peaches, a few at a time, in boiling water for 1 to 1½ minutes to loosen skins. Dip in cool water and slip off skins. Cut skinned peaches in half, remove pits, cut into ½-inch cubes and keep in the anti-browning solution with grapes. Peel, halve and core pears. Cut into ½-inch cubes, and keep in solution with grapes and peaches. Combine sugar and water in a saucepan and bring to a boil. Drain mixed fruit. Prepare syrup from sugar and water; or use one of the recipes on page 7 or 9.

Ladle ½ cup hot syrup into each clean, hot jar. Add a few cherries to each jar. Then gently fill with mixed fruit and more hot syrup, leaving ½-inch headspace. Remove bubbles, wipe jar rims clean. Adjust lids.

Process in a boiling water canner: 25 minutes for half-pints or pints.

Yield: About 6 pints

Fruit juice; hot pack

Wash and crush fruit. To extract juice, heat to simmering and strain through a damp jelly bag or cheesecloth, or press through a sieve or food mill. Add sugar if desired. Do not sweeten juice if you plan to use it for making jelly later. Refrigerate juice for 24 to 48 hours to allow sediment to settle out. Without mixing, carefully pour off clear liquid and discard sediment. Strain clear liquid through a paper coffee filter or double layers of cheesecloth. Rapidly heat juice in a large saucepan, stirring occasionally, until juice begins to boil.

Sterilize clean jars by covering with water and boiling for 10 minutes. Remove and drain hot sterilized jars for filling.

Pour hot juice into **sterilized** pint, quart or half-gallon jars, leaving just ¼-inch headspace. Wipe jar rims clean. Adjust lids.

Process in a boiling water canner: 10 minutes for pints or quarts, 15 minutes for half-gallons.

CANNING FRUITS GUIDE

Fruit purée — Any fruit except figs and tomatoes; hot pack*

Stem, wash, drain, peel and remove pits, if necessary. Measure fruit into a large saucepan, crushing slightly if desired to create a smoother purée. Add 1 cup hot water for each quart of fruit. Cook slowly until fruit is soft, stirring often. Press through a sieve or food mill. If desired for flavor, add sugar to taste. Reheat pulp and boil until sugar dissolves.

Pack hot purée into clean, hot pint or half-pint jars, leaving just ¼-inch headspace. Remove bubbles, wipe jar rims clean. Adjust lids.

Process in a boiling water canner: 20 minutes for half-pints or pints.

Note: Fruit purées can be successfully canned in a pressure canner. See processing directions on page 13.

* **Caution: Do not can** fig or tomato purées. An unsafe product may result.

Grapes, whole; hot or raw pack

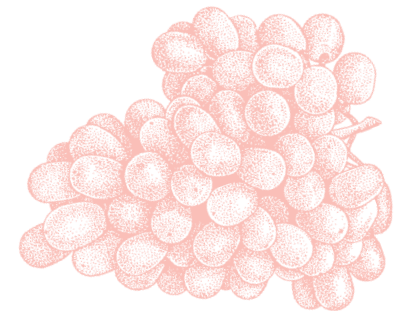
Choose unripe, tight-skinned, preferably green seedless grapes harvested 2 weeks before they reach optimum eating quality. Stem, wash and drain grapes. Prepare very light or light syrup (see page 7 or 9).

Hot pack: Blanch grapes in boiling water for 30 seconds. Drain. Fill clean, hot jars with hot grapes and hot syrup, leaving 1-inch headspace. Remove bubbles, wipe jar rims clean. Adjust lids.

Process in a boiling water canner: 15 minutes for pints or quarts.

Raw pack: Fill clean, hot jars with raw grapes and cover with hot syrup, leaving 1-inch headspace. Remove bubbles, wipe jar rims clean. Adjust lids.

Process in a boiling water canner: 20 minutes for pints, 25 minutes for quarts.



CANNING FRUITS GUIDE

Peaches or nectarines, halved or sliced; hot pack

Wash fruit and dip in boiling water for 30 to 60 seconds until skins loosen. Dip quickly into cold water and slip skins off. Cut in half and remove pits, slice if desired. To prevent browning, keep peeled fruit in an antioxidant solution (see page 6). Drain before heating. Prepare and boil a very light, light or medium syrup (see page 7 or 9). Or pack peaches in water, apple juice or white grape juice.

Place prepared peaches in a large saucepan and heat in syrup, water or juice. Very juicy peaches may be heated with sugar and no added liquid. Bring to a full boil. Fill clean, hot jars with hot fruit and liquid, leaving 1/2-inch headspace. Remove bubbles, wipe jar rims clean. Adjust lids.

Process in a boiling water canner: 25 minutes for pints, 30 minutes for quarts.

Note: Peaches can be successfully canned in a pressure canner. See processing directions on page 13.

Pears; hot pack

Wash and peel pears. Cut lengthwise into halves and remove cores. To prevent browning, dip pears in an antioxidant solution (see page 6). Prepare a very light, light or medium syrup (see page 7 or 9). Or pack pears in apple juice, pear juice or water. Boil drained pears 5 minutes in syrup, juice or water.

Fill clean, hot jars with hot pears and cooking liquid, leaving 1/2-inch headspace. Remove bubbles, wipe jar rims clean. Adjust lids.

Process in a boiling water canner: 25 minutes for pints, 30 minutes for quarts.

Note: Pears can be successfully canned in a pressure canner. See processing directions on page 13.



CANNING FRUITS GUIDE

Plums, halved or whole; hot or raw pack

Select deep-colored, mature fruit of ideal quality for eating fresh or cooking. Stem and wash plums. To can whole, prick skins to prevent splitting. Freestone varieties can be halved and pitted. Prepare a very light, light or medium syrup (see page 7 or 9). Or heat water for packing fruit.

Hot pack: Add plums to hot water or hot syrup and boil 2 minutes. Cover saucepan and let stand 20 to 30 minutes. Fill clean, hot jars with hot plums and cooking liquid or syrup, leaving 1/2-inch headspace. Remove bubbles, wipe jar rims clean. Adjust lids.

Process in a boiling water canner: 25 minutes for pints, 30 minutes for quarts.

Raw pack: Fill clean, hot jars with raw plums, packing tightly. Cover with boiling syrup, juice or water, leaving 1/2-inch headspace. Remove bubbles, wipe jar rims clean. Adjust lids.

Process in a boiling water canner: 25 minutes for pints, 30 minutes for quarts.

Note: Plums can be successfully canned in a pressure canner. See processing directions on page 13.

Rhubarb, stewed; hot pack

Trim leaves from stalks and discard. Rhubarb leaves are toxic. Wash stalks and cut into 1/2-inch pieces. Measure fruit into a large saucepan, and add 1/2 cup sugar per quart of rhubarb. Let stand at room temperature 2 to 3 hours to draw out juice, or add to the saucepan 1/4 cup water for each cup of rhubarb. Slowly heat rhubarb in juice or water, stirring to prevent sticking. Bring to a boil.

Ladle hot rhubarb and juice into clean, hot jars, leaving 1/2-inch headspace. Remove bubbles, wipe jar rims clean. Adjust lids.

Process in a boiling water canner: 20 minutes for pints or quarts.

Note: Stewed rhubarb can be successfully canned in a pressure canner. See processing directions on page 13.





Canning fruit syrups

**Syrup; hot pack
Juice from fresh or frozen:**

**Blueberries, cherries, grapes
raspberries, strawberries**

Select 6½ cups of fresh or frozen fruit of your choice. Sort and wash fresh fruit, remove leaves and stems, and crush in a large saucepan. Heat to boiling and simmer until soft — 5 to 10 minutes. Strain hot fruit through a colander and drain until cool enough to handle. Strain the collected juice through a jelly bag or double layers of cheesecloth.

Discard the dry pulp. The pressed juice should yield about 4½ to 5 cups. Combine the juice with 6¾ cups sugar in a large saucepan and bring to a boil. If you desire some whole fruit pieces in your syrup, add 1 to 2 cups of fresh or frozen fruit along with the sugar and juice in the saucepan. Simmer 1 minute.

Remove hot sweetened juice from heat, skim off foam, and fill clean, hot half-pint or pint jars, leaving ½-inch headspace. Remove bubbles, wipe jar rims clean. Adjust lids.

**Process in a boiling water canner:
15 minutes for half-pints or pints.**

Yield: About 9 half-pints

Canning fruit pie fillings

The following fruit pie fillings are excellent and safe products. Each canned quart makes one 8-inch to 9-inch pie. The fillings may also be used as dessert or pastry toppings.

For successful pies or pastries from canned fruit, Clearjel® is a chemically modified corn starch that produces excellent sauce consistency even after fillings are canned and baked. Other available starches break down when used in these pie fillings, producing a runny sauce.

Clearjel® is hard to find in stores, but available in 1 pound (3½ cups) or 5 pound packages from some local country markets, or the following companies: *

Kitchen Krafts
(800) 776-0575
www.kitchenkrafts.com

Sweet Celebrations (Maid of
Scandinavia)
(800) 328-6722
www.sweetc.com

Follow recipe directions for how much Clearjel® to add.

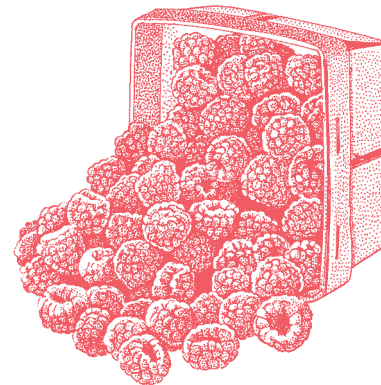
* Mention of products or services is not intended to endorse them, nor to exclude others that may be similar. These are listed as a convenience to readers. If you use this product, follow the manufacturer's current package directions.

The fruit variety may alter the pie's flavor. So first make a single quart, make a pie with that, and serve. Then adjust the sugar and spices in the recipe to suit your personal preferences.

But use the amount of bottled lemon juice listed in these recipes. Do not use less than called for, or an unsafe product may result.

Use fresh fruit in the apple and peach pie filling recipes.

When using frozen cherries and blueberries, select unsweetened fruit. If sugar has been added, reduce the sugar in the recipe somewhat. Thaw fruit overnight in the refrigerator, then collect, measure and use juice from fruit to partially replace the water specified in the recipe.



Times in these recipes are for processing in a boiling water canner, yielding a

safe, high quality product. If you have a steam pressure canner that is deep enough, you can use it as a boiling water canner — with the lid on but not locked in place, and the petcock open or weighted gauge off. Note that headspace for fruit fillings is 1 inch.

You may wish to try 1 quart, then adapt the recipe to suit your taste.

But use the amount of bottled lemon juice listed in these recipes — or more for a tarter apple filling. Do not use less than called for, or an unsafe product may result.

Note:

lb. = pound

oz. = ounce

tblsp. = tablespoon

tsp. = teaspoon

1 quart = 2 pints = 4 cups

To make fruit butters and other traditional favorites, see *Making Jams, Jellies and Fruit Preserves B2909*, available from your county UW-Extension office or the address on the back cover.

FRUIT PIE FILLING RECIPES

Apple pie filling

Ingredients	Yield	
	1 quart	7 quarts
Apples, blanched, sliced fresh	3½ cups (3 medium)	6 quarts
Sugar	¾ cup + 2 tbsp.	5½ cups
Clearjel®	¼ cup	1½ cups
Cinnamon	½ tsp.	1 tbsp.
Cold water	½ cup	2½ cups
Apple juice	¾ cup	5 cups
Bottled lemon juice	2 tbsp.	¾ cup
Nutmeg (optional)	⅛ tsp.	1 tsp.

Use firm, crisp apples such as Stayman, Cortland, Golden Delicious, Rome and other similar quality varieties. If apples lack tartness, add ¼ cup more (total 1 cup) bottled lemon juice for each 6 quarts of slices.

Hot pack: Wash, peel and core apples. Prepare slices ½ inch wide, and place in water containing ascorbic acid to prevent browning (see page 6). Blanch 2 quarts at a time for 1 minute in boiling water, then drain. While blanching other batches of apples, keep blanched apples in a covered pot so they will

stay warm. Combine sugar, Clearjel® and cinnamon in a large kettle with water and apple juice. If desired, add nutmeg. Stir and cook on medium high heat until mixture thickens and begins to bubble. Add bottled lemon juice and boil 1 minute, stirring constantly. Fold in apple slices immediately and fill clean, hot jars with mixture without delay, leaving 1-inch headspace. Remove bubbles, wipe jar rims clean. Adjust lids.

Process in a boiling water canner: 30 minutes for pints or quarts.

Note: lb. = pound oz. = ounce
tbsp. = tablespoon

1 quart = 2 pints = 4 cups
tsp. = teaspoon

FRUIT PIE FILLING RECIPES

Blueberry pie filling

Ingredients	Yield	
	1 quart	7 quarts
Blueberries, fresh or thawed	3½ cups	6 quarts
Sugar	¾ cup + 2 tbsp.	6 cups
Clearjel®	¼ cup + 1 tbsp.	2¼ cups
Cold water or water and juice	1 cup	7 cups
Bottled lemon juice	3½ tbsp.	½ cup

Select fresh, ripe and firm blueberries. Or select unsweetened frozen berries, thaw, then collect and measure the juice and use it to replace all or part of the water in the recipe.

Hot pack: Wash and drain fresh blueberries. In a large kettle, combine sugar, Clearjel® and water or water and juice. Cook on medium-high

heat until mixture thickens and begins to bubble. Add bottled lemon juice and boil 1 minute, stirring constantly. Fold in berries immediately and fill clean, hot jars without delay, leaving 1-inch headspace. Remove bubbles, wipe jar rims clean. Adjust lids.

Process in a boiling water canner: 35 minutes for pints or quarts.



FRUIT PIE FILLING RECIPES

Cherry pie filling

Ingredients	Yield	
	1 quart	7 quarts
Cherries, tart; fresh or thawed	3 ¹ / ₃ cups	6 quarts
Sugar	1 cup	7 cups
Clearjel®	1/4 cup + 1 tbsp.	1 ³ / ₄ cups
Cold water or water and juice	1 ¹ / ₃ cups	9 ¹ / ₃ cups
Bottled lemon juice	1 tbsp. + 1 tsp.	1/2 cup
Cinnamon (optional)	1/8 tsp.	1 tsp.
Almond extract (optional)	1/4 tsp.	2 tsp.

Select fresh, very ripe and firm cherries. Or select unsweetened frozen cherries, thaw, then collect and measure the juice and use it to replace all or part of the water in the recipe.

Hot pack: Wash and pit fresh cherries, and hold in cold water. To prevent stem end browning, add ascorbic acid (see page 6). Combine sugar and Clearjel® in a large saucepan and add water, or water and juice. If desired, add cinnamon

and almond extract. Stir and cook over medium-high heat until mixture thickens and begins to bubble. Add bottled lemon juice and boil 1 minute, stirring constantly. Fold in cherries immediately and fill clean, hot jars without delay, leaving 1-inch headspace. Remove bubbles, wipe jar rims clean. Adjust lids.

Process in a boiling water canner: 35 minutes for pints or quarts.

FRUIT PIE FILLING RECIPES

Peach pie filling

Ingredients	Yield	
	1 quart	7 quarts
Peaches, sliced fresh	3 ¹ / ₂ cups (4 medium)	6 quarts
Sugar	1 cup	7 cups
Clearjel®	1/4 cup + 1 tbsp.	2 cups + 3 tbsp.
Cold water	3/4 cup	5 ¹ / ₄ cups
Bottled lemon juice	1/4 cup	1 ³ / ₄ cups
Cinnamon (optional)	1/8 tsp.	1 tsp.
Almond extract (optional)	1/8 tsp.	1 tsp.

Select ripe but firm, fresh peaches.

Hot pack: Wash and peel peaches. To loosen skins, submerge peaches in boiling water for about 30 to 60 seconds, and then place in cold water. Slip off skins and prepare slices 1/2 inch thick. Place slices in an antioxidant solution (see page 6). In a large kettle, combine water, sugar, Clearjel®, and, if desired, cinnamon and almond extract. Stir and cook over medium-high heat until mixture

thickens and begins to bubble. Add bottled lemon juice and boil sauce 1 minute more, stirring constantly. Drain peach slices. Fold in drained peach slices and continue to heat mixture for 3 minutes. Fill clean, hot jars without delay, leaving 1-inch headspace. Remove bubbles, wipe jar rims clean. Adjust lids.

Process in a boiling water canner: 35 minutes for pints or quarts.



FRUIT PIE FILLING RECIPES

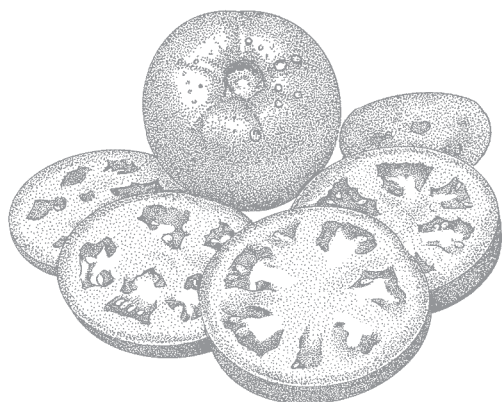
Green tomato pie filling

- 4 quarts green tomatoes, chopped
 - 3 quarts tart apples, cored, peeled and chopped
 - 1 lb. dark seedless raisins
 - 1 lb. white raisins
 - 1/4 cup minced citron, lemon or orange peel
 - 2 cups water
 - 2 1/2 cups brown sugar
 - 2 1/2 cups white sugar
 - 1/2 cup vinegar (5% acetic acid)
 - 1 cup bottled lemon juice
 - 2 tbsp. ground cinnamon
 - 1 tsp. ground nutmeg
 - 1 tsp. ground cloves
- Yield:** About 7 quarts

Sort and wash fresh fruit. Combine all ingredients in a large saucepan. Cook slowly, stirring often, until tender and slightly thickened — about 35 to 40 minutes. Fill clean, hot jars with hot mixture, leaving 1-inch headspace. Remove bubbles, wipe jar rims clean. Adjust lids.

Process in a boiling water canner: 20 minutes for pints or quarts.

Caution: Do not add meat or suet to this recipe. Use the proportions of ingredients and amount of vinegar and lemon juice called for, or an unsafe product may result.



Remedies for canning problems

Problem	Cause	Prevention
Browning or darkening*	Exposure to oxygen in the air Liquid does not cover fruit in the jar. Under-processed fruit — oxidative enzymes naturally present in fruit remain active.	Dip prepared fruit in an antioxidant solution (see page 6). Leave the recommended headspace for both fruit and liquid (see page 11). Follow tested recipes and process for the full time.
Bubbling or fermented fruit	Under-processing Do not use. Moving bubbles and sour smell indicate spoilage.	Follow recommended methods to process. Do not shorten process times or omit processing. Proper processing destroys bacteria, molds and yeasts that cause spoilage.
Crystals form	Tartrate crystals in Concord grape juice	Refrigerate juice from fresh Concord grapes overnight, then strain.
Fruit floats	Heavy syrup Over-ripe fruit Raw packing fruits that should be packed hot — too much air remains in fruit tissue.	Use a light to medium syrup instead. Use just-ripe fruit. Follow tested recipe directions for type of pack.
Liquid lost from jar	Failing to keep water in the canner boiling steadily throughout processing Overfilling jars	Follow recommended processing methods and maintain constant heat. Leave the recommended headspace (see page 11).
Mold	Imperfect seal	Wipe jar rims clean, seal with pretreated standard two-piece lids, and process as recommended.

Remedies for canning problems

Problem	Cause	Prevention
Seal fails, incomplete seal	Fruit or syrup on jar rim	Wipe jar rims with a clean, damp cloth or towel, then cap.
	Jars with chipped rims	Inspect standard home canning jars for chips and cracks.
	Reusing single-use lids	Seal with new pretreated standard two-piece vacuum seal canning lids.
	Improperly pretreating lids, or lids are defective	Use new lids and pretreat as the package directs.
	Retightening the band after processing	Let jars cool, test for seal, then carefully remove metal bands.

Pears and apples sometimes turn pink or blue. This discoloration is caused by a chemical change in these fruits' pigments. Discolored fruit is safe to eat — provided no signs of spoilage are present.



Wisconsin Safe Food Preservation Series publications

Canning Fruits Safely B0430
Canning Meat, Wild Game, Poultry and Fish Safely B3345
Canning Salsa Safely B3570
Canning Vegetables Safely B1159
Freezing Fruits and Vegetables B3278
Homemade Pickles and Relishes B2267
Making Jams, Jellies and Fruit Preserves B2909
Tomatoes Tart and Tasty B2605
Using and Caring for a Pressure Canner B2593
Wisconsin's Wild Game: Enjoying the Harvest B3573

To start with the right ingredients, see also:

Apple Cultivars for Wisconsin A2105
Disease-Resistant Vegetables for the Home Garden A3110
Home Fruit Cultivars for Northern Wisconsin A2488
Home Fruit Cultivars for Southern Wisconsin A2582
Vegetable Cultivars and Planting Guide for Wisconsin Gardens A1653

These are all available from your county UW-Extension office, or the address on the back cover.

Web sites — If you do not have a computer, try your local library. Most public libraries have a free computer connected with the Internet.

Note: With the revised *Making Jams, Jellies and Fruit Preserves* B2909 and *Freezing Fruits and Vegetables* B3278, this publication replaces *Sugar-Free Canning and Freezing* B2719.

Resources

Andress, Elizabeth L., and Judy A. Harrison, *So Easy to Preserve Bulletin* 989 (Athens, Ga.: University of Georgia College of Family and Consumer Sciences), 1999.

Complete Guide to Home Canning. Agriculture Information Bulletin No. 539 (Washington, D.C.: U.S. Department of Agriculture), 1994. Use this food preservation database to search the guide: <http://foodsafety.cas.psu.edu/Presqueryform.htm>

Also on-line at: <http://extension.usu.edu/publica/foodpubs.htm>

MacRae, Norma M., *Canning and Preserving Without Sugar* 4th edition (Guilford, Conn.: Globe Pequot Press), 2000. ISBN 1-56440-992-9. The Globe Pequot Press — (800) 962-0973: www.globe-pequot.com

© 2002 by the Board of Regents of the University of Wisconsin System doing business as the division of Cooperative Extension of the University of Wisconsin-Extension. Send inquiries about copyright permission to: Director, Cooperative Extension Publications, 103 Extension Building, 432 N. Lake St., Madison, WI 53706.

Author: Barbara H. Ingham, food science specialist, Department of Food Science, University of Wisconsin-Madison and UW-Extension. Based on a previous publication by Mary E. Mennes (retired), professor, Department of Food Science, UW-Madison, and food management specialist, UW-Extension.

Reviewers: Jaime Ackerman, extension associate, Department of Human Nutrition, Ohio State University; Elizabeth L. Andress, associate professor and extension food safety specialist, University of Georgia-Athens; Barbara Barker, 4-H youth development agent, Waushara County UW-Extension; Danielle Dalsoren, outreach specialist, UW-Extension; Julie Garden-Robinson, assistant professor and food and nutrition specialist, North Dakota State University Extension Service; Judy Harrison, extension food specialist, University of Georgia Cooperative Extension; Patricia Kendall, Colorado State University; Greg Matysik, youth development specialist, UW-Extension; Donna Peterson, nutrition education coordinator and 4-H volunteer, Iowa County UW-Extension; Carolyn

Raab, extension food and nutrition specialist, Oregon State University; and Karen Schmidt, nutrition education coordinator, Burnett County UW-Extension.

Produced by Cooperative Extension Publications, UW-Extension: Susan Anderson, designer; Rhonda Lee, editor.

University of Wisconsin-Extension, Cooperative Extension, in cooperation with the U.S. Department of Agriculture and Wisconsin counties, publishes this information to further the purpose of the May 8 and June 30, 1914, Acts of Congress. UW-Extension provides equal opportunities and affirmative action in employment and programming, including Title IX and ADA requirements. If you need this material in an alternative format, contact Cooperative Extension Publications at (608) 262-2655 (Voice & TDD), or the UW-Extension Office of Equal Opportunity and Diversity Programs. *Before publicizing, please check this publication's availability.*

This publication is available from your Wisconsin county UW-Extension office or:

Cooperative Extension Publications
45 N. Charter St.
Madison, WI 53715
Toll-free: (877) 947-7827
(877-WIS-PUBS)
Madison: 262-3346
Fax: (608) 265-8052
Internet: www1.uwex.edu/ces/pubs

