



United States
Department of
Agriculture

National Institute
of Food
and Agriculture

Complete Guide to
Home Canning

Guide 2

**Selecting, Preparing,
and Canning Fruit and
Fruit Products**



Guide 2

Selecting, Preparing, and Canning Fruit and Fruit Products

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General

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 of water and sugar to make enough syrup for a canner load of pints or quarts are provided for each syrup type.

Preparing and using syrups						
Measures of Water and Sugar						
For 9-Pt Load* For 7-Qt Load						
Syrup Type	Approx. % Sugar	Cups Water	Cups Sugar	Cups Water	Cups Sugar	Fruits commonly packed in syrup**
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.

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

Other sweeteners: Light corn syrups or mild-flavored honey may be used to replace up to half the table sugar called for in syrups. See the section, “Canned foods for special diets,” page 1-31 for further discussion.

APPLE BUTTER

Use Jonathan, Winesap, Stayman, Golden Delicious, MacIntosh, or other tasty apple varieties for good results.

8 lbs apples
2 cups cider
2 cups vinegar
2-1/4 cups white sugar
2-1/4 cups packed brown sugar
2 tbsp ground cinnamon
1 tbsp ground cloves

Yield: About 8 to 9 pints

Procedure: Wash, remove stems, quarter, and core fruit. Cook slowly in cider and vinegar until soft. Press fruit through a colander, food mill, or strainer. Cook fruit pulp with sugar and spices, stirring frequently. To test for doneness, remove a spoonful and hold it away from steam for 2 minutes. It is done if the butter remains mounded on the spoon. Another way to determine when the butter is cooked adequately is to spoon a small quantity onto a plate. When a rim of liquid does not separate around the edge of the butter, it is ready for canning. Fill hot into sterile half-pint or pint jars, leaving 1/4-inch headspace. Quart jars need not be presterilized but should be clean and kept hot until filling. To presterilize jars, see page 1-14. Remove air bubbles and adjust headspace if needed. Wipe rims of jars with a dampened clean paper towel. Adjust lids and process.

Recommended process time for Apple Butter in a boiling-water canner				
Style of Pack	Jar Size	Process Time at Altitudes of		
		0–1,000 ft	1,001–6,000 ft	Above 6,000 ft
Hot	Half-pints or Pints	5 min	10	15
	Quarts	10	15	20

APPLE JUICE

Quality: Good quality apple juice is made from a blend of varieties. For best results, buy fresh juice from a local cider maker within 24 hours after it has been pressed.

Procedure: Refrigerate juice for 24 to 48 hours. Without mixing, carefully pour off clear liquid and discard sediment. Strain clear liquid through a paper coffee filter or double layers of damp cheese-cloth. Heat quickly, stirring occasionally, until juice begins to boil. Fill immediately into sterile pint or quart jars (see page 1-14 to sterilize jars), or fill into clean hot half-gallon jars, leaving 1/4-inch headspace. Wipe rims of jars with a dampened clean paper towel. Adjust lids and process.

Recommended process time for Apple Juice in a boiling-water canner				
Style of Pack	Jar Size	Process Time at Altitudes of		
		0–1,000 ft	1,001–6,000 ft	Above 6,000 ft
Hot	Pints or Quarts	5 min	10	15
	Half-gallons	10	15	20

APPLES—SLICED

Quantity: An average of 19 pounds is needed per canner load of 7 quarts; an average of 12-1/4 pounds is needed per canner load of 9 pints. A bushel weighs 48 pounds and yields 16 to 19 quarts—an average of 2-3/4 pounds per quart.

Quality: Select apples that are juicy, crispy, and preferably both sweet and tart.

Procedure: Wash, peel, and core apples. To prevent discoloration, slice apples into water containing ascorbic acid (see page 1-11). Raw packs make poor quality products. Place drained slices in large saucepan and add 1 pint water or very light, light, or medium syrup (see page 2-5) per 5 pounds of sliced apples. Boil 5 minutes, stirring occasionally to prevent burning. Fill hot jars with hot slices and hot syrup or water, leaving 1/2-inch headspace. Remove air bubbles and adjust headspace if needed. Wipe rims of jars with a dampened clean paper towel. Adjust lids and process.

Processing directions for canning sliced apples in a dial- or weighted-gauge canner are given on pages 2-31 and 2-32.

Recommended process time for Apples, sliced in a boiling-water canner					
Style of Pack	Jar Size	Process Time at Altitudes of			
		0–1,000 ft	1,001–3,000 ft	3,001–6,000 ft	Above 6,000 ft
Hot	Pints or Quarts	20 min	25	30	35

APPLESAUCE

Quantity: An average of 21 pounds is needed per canner load of 7 quarts; an average of 13-1/2 pounds is needed per canner load of 9 pints. A bushel weighs 48 pounds and yields 14 to 19 quarts of sauce—an average of 3 pounds per quart.

Quality: 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.

Procedure: Wash, peel, and core apples. If desired, slice apples into water containing ascorbic acid (see page 1-11) to prevent browning. Placed drained slices in an 8 to 10-quart pot. Add 1/2 cup water. Stirring occasionally to prevent burning, heat quickly until tender (5 to 20 minutes, depending on maturity and variety). Press through a sieve or food mill, or skip the pressing step if you prefer chunk-style sauce. Sauce may be packed without sugar. If desired, add 1/8 cup sugar per quart of sauce. Taste and add more, if preferred. Reheat sauce to a rolling boil. Fill hot jars with hot sauce, leaving 1/2-inch headspace. Remove air bubbles and adjust headspace if needed. Wipe rims of jars with a dampened clean paper towel. Adjust lids and process.

Recommended process time for Applesauce in a boiling-water canner					
Style of Pack	Jar Size	Process Time at Altitudes of			
		0–1,000 ft	1,001–3,000 ft	3,001–6,000 ft	Above 6,000 ft
Hot	Pints	15 min	20	20	25
	Quarts	20	25	30	35

SPICED APPLE RINGS

12 lbs firm tart apples (maximum diameter, 2-1/2 inches)

12 cups sugar

6 cups water

1-1/4 cups white vinegar (5%)

3 tbsp whole cloves

3/4 cup red hot cinnamon candies or

8 cinnamon sticks and

1 tsp red food coloring (optional)

Yield: About 8 to 9 pints

Procedure: Wash apples. To prevent discoloration, 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 ascorbic acid solution (see page 1-11). To make flavored syrup, combine sugar, water, vinegar, cloves, cinnamon candies, or cinnamon sticks and food coloring in a 6-qt saucepan. Stir, heat to boil, and simmer 3 minutes. Drain apples, add to hot syrup, and cook 5 minutes. Fill hot jars (preferably wide-mouth) with apple rings and hot flavored syrup, leaving 1/2-inch headspace. Remove air bubbles and adjust headspace if needed. Wipe rims of jars with a dampened clean paper towel. Adjust lids and process.

Recommended process time for Spiced Apple Rings in a boiling-water canner				
Style of Pack	Jar Size	Process Time at Altitudes of		
		0–1,000 ft	1,001–6,000 ft	Above 6,000 ft
Hot	Half-pints or Pints	10 min	15	20

SPICED CRAB APPLES

5 lbs crab apples
 4-1/2 cups apple cider vinegar (5%)
 3-3/4 cups water
 7-1/2 cups sugar
 4 tsp whole cloves
 4 sticks cinnamon
 Six 1/2-inch cubes of fresh ginger root

Yield: About 9 pints

Procedure: Remove blossom petals and wash apples, but leave stems attached. Puncture the skin of each apple four times with an ice pick or toothpick. 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 1/3 of the apples at a time in the boiling vinegar/syrup solution for 2 minutes. Place cooked apples 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 hot pint jars with apples and hot syrup, leaving 1/2-inch headspace. Remove air bubbles and adjust headspace if needed. Wipe rims of jars with a dampened clean paper towel. Adjust lids and process.

Recommended process time for Spiced Crab Apples in a boiling-water canner

Style of Pack	Jar Size	Process Time at Altitudes of			
		0–1,000 ft	1,001–3,000 ft	3,001–6,000 ft	Above 6,000 ft
Hot	Pints	20 min	25	30	35

APRICOTS—HALVED OR SLICED

Quantity: An average of 16 pounds is needed per canner load of 7 quarts; an average of 10 pounds is needed per canner load of 9 pints. A bushel weighs 50 pounds and yields 20 to 25 quarts—an average of 2-1/4 pounds per quart.

Quality: Select firm, well-colored mature fruit of ideal quality for eating fresh.

Procedure: Follow directions for peaches. The boiling water dip and removal of skin process is optional. Wash fruit well if skins are not removed; use either hot or raw pack, and use the same process time. (See page 2-19)

BERRIES—WHOLE

Blackberries, blueberries, currants, dewberries, elderberries, gooseberries, huckleberries, loganberries, mulberries, raspberries.

Quantity: An average of 12 pounds is needed per canner load of 7 quarts; an average of 8 pounds is needed per canner load of 9 pints. A 24-quart crate weighs 36 pounds and yields 18 to 24 quarts—an average of 1-3/4 pounds per quart.

Quality: Choose ripe, sweet berries with uniform color.

Procedure: 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 preferred syrup (see page 2-5), if desired. Add 1/2 cup syrup, juice, or water to each clean jar.

Hot pack—For blueberries, currants, elderberries, gooseberries, and huckleberries. Heat berries in boiling water for 30 seconds and drain. Fill hot jars and cover with hot juice, leaving 1/2-inch headspace.

Raw pack—Fill hot jars with any of the raw berries, shaking down gently while filling. Cover with hot syrup, juice, or water, leaving 1/2-inch headspace.

Remove air bubbles and adjust headspace if needed. Wipe rims of jars with a dampened clean paper towel. Adjust lids and process.

Recommended process time for Berries, whole in a boiling-water canner					
Style of Pack	Jar Size	Process Time at Altitudes of			
		0–1,000 ft	1,001–3,000 ft	3,001–6,000 ft	Above 6,000 ft
Hot	Pints or Quarts	15 min	20	20	25
Raw	Pints	15	20	20	25
	Quarts	20	25	30	35

Processing directions for canning berries in a dial- or weighted-gauge canner are given on pages 2-31 and 2-32.

BERRY SYRUP

Juices from fresh or frozen blueberries, cherries, grapes, raspberries (black or red), and strawberries are easily made into toppings for use on ice cream and pastries.

Yield: About 9 half-pints.

Procedure: Select 6-1/2 cups of fresh or frozen fruit of your choice. Wash, cap, and stem fresh fruit and crush in a saucepan. Heat to boiling and simmer until soft (5 to 10 minutes). Strain hot through a colander and drain until cool enough to handle. Strain the collected juice through a

double layer of cheesecloth or jelly bag. Discard the dry pulp. The yield of the pressed juice should be about 4-1/2 to 5 cups. Combine the juice with 6-3/4 cups of sugar in a large saucepan, bring to boil, and simmer 1 minute. To make a syrup with whole fruit pieces, save 1 or 2 cups of the fresh or frozen fruit, combine these with the sugar, and simmer as in making regular syrup. Remove from heat, skim off foam, and fill into hot half-pint or pint jars, leaving 1/2-inch headspace. Remove air bubbles and adjust headspace if needed. Wipe rims of jars with a dampened clean paper towel. Adjust lids and process.

Recommended process time for Berry Syrup in a boiling-water canner				
Style of Pack	Jar Size	Process Time at Altitudes of		
		0–1,000 ft	1,001–6,000 ft	Above 6,000 ft
Hot	Half-pints or Pints	10 min	15	20

CANTALOUPE PICKLES

5 lbs of 1-inch cantaloupe cubes (about 2 medium underripe cantaloupe)*

1 tsp crushed red pepper flakes

2 one-inch cinnamon sticks

2 tsp ground cloves

1 tsp ground ginger

4-1/2 cups cider vinegar (5%)

2 cups water

1-1/2 cups white sugar

1-1/2 cups packed light brown sugar

*Select cantaloupe that are full size but almost fully green and firm to the touch in all areas including the stem area.

Yield: About 4 pint jars

Procedure: Day One: Wash cantaloupe and cut into halves; remove seeds. Cut into 1 inch slices and peel. Cut strips of flesh into 1 inch cubes. Weigh out 5 pounds of pieces and place in large glass bowl. Place red pepper flakes, cinnamon sticks, cloves and ginger in a spice bag and tie the ends firmly. Combine vinegar and water in a 4-quart stockpot. Bring to a boil, then turn heat off. Add spice bag to the vinegar-water mixture, and let steep for 5 minutes, stirring occasionally. Pour hot vinegar solution and spice bag over melon pieces in the bowl. Cover with a food-grade plastic lid or wrap and let stand overnight in the refrigerator (about 18 hours).

Day Two: Carefully pour off vinegar solution into a large 8- to 10-quart saucepan and bring to a boil. Add sugar; stir to dissolve. Add cantaloupe and bring back to a boil. Lower heat and simmer until cantaloupe pieces turn translucent (about 1 to 1-1/4 hours). Remove cantaloupe pieces into a medium-sized stockpot, cover and set aside. Bring remaining liquid to a boil and boil an additional 5 minutes. Return cantaloupe to the liquid syrup, and bring back to a boil. With a slotted spoon, fill hot cantaloupe pieces into hot pint jars, leaving 1-inch headspace. Cover with boiling hot syrup, leaving 1/2-inch headspace. Remove air bubbles and adjust headspace if needed. Wipe rims of jars with a dampened clean paper towel. Adjust lids and process.

Recommended process time for Cantaloupe Pickles in a boiling-water canner

Style of Pack	Jar Size	Process Time at Altitudes of		
		0–1,000 ft	1,001–6,000 ft	Above 6,000 ft
Hot	Pints	15 min	20	25

CANTALOUPE PICKLES, NO SUGAR ADDED

- 6 lbs of one-inch cantaloupe cubes (about 3 medium underripe* cantaloupe)*
- 1 tsp crushed red pepper flakes*
- 2 one-inch cinnamon sticks*
- 2 tsp ground cloves*
- 1 tsp ground ginger*
- 4-1/2 cups cider vinegar (5%)*
- 2 cups water*
- 3 cups Splenda®*

*Select cantaloupe that are full size but almost fully green and firm to the touch in all areas including the stem area.

Yield: About 4 pint jars

Procedure: Follow the directions for Cantaloupe Pickles, weighing out 6 pounds of prepared cantaloupe cubes instead and substituting Splenda® when sugar would be added.

CHERRIES—WHOLE

Sweet or Sour

Quantity: An average of 17-1/2 pounds is needed per canner load of 7 quarts; an average of 11 pounds is needed per canner load of 9 pints. A lug weighs 25 pounds and yields 8 to 12 quarts—an average of 2-1/2 pounds per quart.

Quality: Select bright, uniformly colored cherries that are mature (of ideal quality for eating fresh or cooking).

Procedure: Stem and wash cherries. Remove pits if desired. If pitted, place cherries in water containing ascorbic acid (see page 1-11) to prevent stem-end discoloration. If canned unpitted, prick skins on opposite sides with a clean needle to prevent splitting. Cherries may be canned in water, apple juice, white grape juice, or syrup. If syrup is desired, select and prepare preferred type as directed on page 2-5.

Hot pack—In a large saucepan add 1/2 cup water, juice, or syrup for each quart of drained fruit and bring to boil. Fill hot jars with cherries and cooking liquid, leaving 1/2-inch headspace.

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

Remove air bubbles and adjust headspace if needed. Wipe rims of jars with a dampened clean paper towel. Adjust lids and process.

Recommended process time for Cherries, whole in a boiling-water canner					
Style of Pack	Jar Size	Process Time at Altitudes of			
		0–1,000 ft	1,001–3,000 ft	3,001–6,000 ft	Above 6,000 ft
Hot	Pints	15 min	20	20	25
	Quarts	20	25	30	35
Raw	Pints or Quarts	25	30	35	40

Processing directions for canning cherries in a dial- or weighted-gauge canner are given on pages 2-31 and 2-32.

CRANBERRY ORANGE CHUTNEY

24 ounces fresh whole cranberries
 2 cups chopped white onion
 2 cups golden raisins
 1-1/2 cups white sugar
 1-1/2 cups packed brown sugar
 2 cups white distilled vinegar (5%)
 1 cup orange juice
 4 tsp peeled, grated fresh ginger
 3 sticks cinnamon

Yield: About 8 half-pint jars

Procedure: Rinse cranberries well. Combine all ingredients in a large Dutch oven. Bring to a boil over high heat; reduce heat and simmer gently for 15 minutes or until cranberries are tender. Stir often to prevent scorching. Remove cinnamon sticks and discard. Fill the hot chutney into hot half-pint jars, leaving 1/2-inch headspace. Remove air bubbles and adjust headspace if needed. Wipe rims of jars with a dampened clean paper towel. Adjust lids and process.

Recommended process time for Cranberry-Orange Chutney in a boiling-water canner				
Style of Pack	Jar Size	Process Time at Altitudes of		
		0–1,000 ft	1,001–6,000 ft	Above 6,000 ft
Hot	Half-pints	10 min	15	20

Note: Other dried spices can be added to taste (for example, cloves, dry mustard, or cayenne pepper). Add or adjust spices during the simmering period.

FIGS

Important: All home-canned Figs must be acidified before canning in a boiling water canner to make them safe from the microorganism that causes botulism.

Quantity: An average of 16 pounds is needed per canner load of 7 quarts; an average of 11 pounds is needed per canner load of 9 pints—an average of 2-1/2 pounds yields 1 quart.

Quality: Select firm, ripe, uncracked figs. The mature color depends on the variety. Avoid overripe figs with very soft flesh.

Procedure: 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 2-5) for 5 minutes. **Add 2 tablespoons bottled lemon juice per quart or 1 tablespoon per pint to the jars; or add 1/2 teaspoon citric acid per quart or 1/4 teaspoon per pint to the jars.** Fill hot jars with hot figs and cooking syrup, leaving 1/2-inch headspace. Remove air bubbles and adjust headspace if needed. Wipe rims of jars with a dampened clean paper towel. Adjust lids and process.

Recommended process time for Figs in a boiling-water canner					
Style of Pack	Jar Size	Process Time at Altitudes of			
		0–1,000 ft	1,001–3,000 ft	3,001–6,000 ft	Above 6,000 ft
Hot	Pints	45 min	50	55	60
	Quarts	50	55	60	65

FRUIT PUREES

Important: These recommendations should not be used with bananas, Asian pears, figs, tomatoes, cantaloupe and other melons, papaya, ripe mango or coconut. There are no home canning recommendations available for purees of these products.

Procedure: Stem, wash, drain, peel, and remove pits if necessary. Measure fruit into large saucepan, crushing slightly if desired. Add 1 cup hot water for each quart of fruit. Cook slowly until fruit is soft, stirring frequently. Press through sieve or food mill. If desired for flavor, add sugar to taste. Reheat pulp to boil, or until sugar dissolves if added. Fill hot into hot jars, leaving 1/4-inch headspace. Remove air bubbles and adjust headspace if needed. Wipe rims of jars with a dampened clean paper towel. Adjust lids and process.

Recommended process time for Fruit Purees in a boiling-water canner				
Style of Pack	Jar Size	Process Time at Altitudes of		
		0–1,000 ft	1,001–6,000 ft	Above 6,000 ft
Hot	Pints or Quarts	15 min	20	25

Processing directions for canning purees in a dial- or weighted-gauge canner are given on pages 2-31 and 2-32.

GRAPEFRUIT AND ORANGE SECTIONS

Quantity: An average of 15 pounds is needed per canner load of 7 quarts; an average of 13 pounds is needed per canner load of 9 pints—an average of about 2 pounds yields 1 quart.

Quality: Select firm, mature, sweet fruit of ideal quality for eating fresh. The flavor of orange sections is best if the sections are canned with equal parts of grapefruit. Grapefruit may be canned without oranges. Sections may be packed in your choice of water, citrus juice or syrup.

Procedure: Wash and peel fruit and remove white tissue to prevent a bitter taste. If you use syrup, prepare a very light, light, or medium syrup (see page 2-5) and bring to boil. Fill hot jars with sections and water, juice or hot syrup, leaving 1/2-inch headspace. Remove air bubbles and adjust headspace if needed. Wipe rims of jars with a dampened clean paper towel. Adjust lids and process.

Recommended process time for Grapefruit and Orange Sections in a boiling-water canner				
Style of Pack	Jar Size	Process Time at Altitudes of		
		0–1,000 ft	1,001–6,000 ft	Above 6,000 ft
Raw	Pints or Quarts	10 min	15	20

Processing directions for canning citrus sections in a dial- or weighted-gauge canner are given on pages 2-31 and 2-32.

GRAPE JUICE

Quantity: An average of 24-1/2 pounds is needed per canner load of 7 quarts; an average of 16 pounds per canner load of 9 pints. A lug weighs 26 pounds and yields 7 to 9 quarts of juice—an average of 3-1/2 pounds per quart.

Quality: Select sweet, well-colored, firm, mature fruit of ideal quality for eating fresh or cooking.

Procedure: Wash and stem grapes. Place grapes in saucepan, crush and add just enough boiling water to cover grapes. Heat to simmering and simmer slowly until skin is soft about 10 minutes. Strain through a damp jelly bag or double layers of cheesecloth. Refrigerate juice for 24 to 48 hours. Without mixing, carefully pour off clear liquid and save; discard sediment. If desired, strain through a paper coffee filter for a clearer juice. Add juice to a saucepan and sweeten to taste. Heat and stir until sugar is dissolved. Continue heating with occasional stirring until juice begins to boil. Fill into hot or presterilized jars immediately, leaving 1/4-inch headspace. (To sterilize empty pint and quart jars, see page 1-14.) Wipe rims of jars with a dampened clean paper towel. Adjust lids and process.

Recommended process time for Grape Juice in a boiling-water canner

Style of Pack	Jar Size	Process Time at Altitudes of		
		0–1,000 ft	1,001–6,000 ft	Above 6,000 ft
Hot	Pints or Quarts	5 min	10	15
	Half-gallons	10	15	20

GRAPES—WHOLE

Quantity: An average of 14 pounds is needed per canner load of 7 quarts; an average of 9 pounds is needed per canner load of 9 pints. A lug weighs 26 pounds and yields 12 to 14 quarts of whole grapes—an average of 2 pounds per quart.

Quality: Choose unripe, tight-skinned, preferably green seedless grapes harvested 2 weeks before they reach optimum eating quality.

Procedure: Stem, wash, and drain grapes. Prepare very light, or light syrup (see page 2-5).

Hot pack—Blanch grapes in boiling water for 30 seconds. Drain, and proceed as for raw pack.

Raw pack—Fill hot jars with grapes and hot syrup, leaving 1-inch headspace.

Remove air bubbles and adjust headspace if needed. Wipe rims of jars with a dampened clean paper towel. Adjust lids and process.

Recommended process time for Grapes, whole in a boiling-water canner

Style of Pack	Jar Size	Process Time at Altitudes of			
		0–1,000 ft	1,001–3,000 ft	3,001–6,000 ft	Above 6,000 ft
Hot	Pints or Quarts	10 min	15	15	20
Raw	Pints	15	20	20	25
	Quarts	20	25	30	35

MANGO CHUTNEY

- 11 cups or 4 lbs chopped unripe (hard) mango, either Tommy Atkins or Kent varieties
- 2-1/2 cups or 3/4 lb finely chopped yellow onion
- 2-1/2 tbsp grated fresh ginger
- 1-1/2 tbsp finely chopped fresh garlic
- 4-1/2 cups sugar
- 3 cups white distilled vinegar (5%)
- 2-1/2 cups golden raisins
- 1-1 tsp canning salt
- 4 tsp chili powder

Caution: Handling green mangoes may irritate the skin of some people in the same way as poison ivy. (They belong to the same plant family.) To avoid this reaction, wear plastic or rubber gloves while working with raw green mango. Do not touch your face, lips or eyes after touching or cutting raw green mangoes until all traces are washed away.

Yield: About 6 pint jars

Procedure: Wash all produce well. Peel, core and chop mangoes into 3/4-inch cubes. Chop mango cubes in food processor, using 6 one-second pulses per food processor batch. (Do not puree or chop too finely.) By hand, peel and dice onion, finely chop garlic, and grate ginger. Mix sugar and vinegar in an 8- to 10-quart stockpot. Bring to a boil, and boil 5 minutes. Add all other ingredients and bring back to a boil. Reduce heat and simmer 25 minutes, stirring occasionally. Fill hot chutney into hot pint or half-pint jars, leaving 1/2-inch headspace. Remove air bubbles and adjust headspace if needed. Wipe rims of jars with a dampened clean paper towel. Adjust lids and process.

Recommended process time for Mango Chutney in a boiling-water canner				
Style of Pack	Jar Size	Process Time at Altitudes of		
		0–1,000 ft	1,001–6,000 ft	Above 6,000 ft
Hot	Half-pints or Pints	10 min	15	20

MANGO SAUCE

5-1/2 cups or 3-1/4 lbs mango puree (use slightly underripe to just-ripe mango)

6 tbsp honey

4 tbsp bottled lemon juice

3/4 cup sugar

2-1/2 tsp (7500 milligrams) ascorbic acid

1/8 tsp ground cinnamon

1/8 tsp ground nutmeg

Caution: Handling green mangoes may irritate the skin of some people in the same way as poison ivy. (They belong to the same plant family.) To avoid this reaction, wear plastic or rubber gloves while working with raw green mango. Do not touch your face, lips or eyes after touching or cutting raw green mangoes until all traces are washed away.

Yield: About 6 half-pint jars

Storage Notes: Store in a dark place, away from direct light, to preserve the color of the canned sauce. This sauce is best used within 4 to 6 months; otherwise, discoloration may occur.

Procedure: Wash, peel, and separate mango flesh from seed. Chop mango flesh into chunks and purée in blender or food processor until smooth. Combine all ingredients in a 6- to 8-quart Dutch oven or stockpot and heat on medium-high heat, with continuous stirring, until the mixture reaches

200°F. The mixture will sputter as it is being heated, so be sure to wear gloves or oven mitts to avoid burning skin. Fill hot sauce into hot half-pint jars, leaving 1/4-inch headspace. Remove air bubbles and adjust headspace if needed. Wipe rims of jars with a dampened clean paper towel. Adjust lids and process.

Recommended process time for Mango Sauce in a boiling-water canner					
Style of Pack	Jar Size	Process Time at Altitudes of			
		0–1,000 ft	1,001–6,000 ft	3,001–6,000 ft	Above 6,000 ft
Hot	Half-pints	15 min	20	25	

MIXED FRUIT COCKTAIL

3 lbs peaches

3 lbs pears

1-1/2 lbs slightly underripe seedless green grapes

10-oz jar of maraschino cherries

3 cups sugar

4 cups water

Yield: About 6 pints

Procedure: Stem and wash grapes, and keep in ascorbic acid solution (see page 1-11). Dip ripe but firm peaches, a few at a time, in boiling water for 1 to 1-1/2 minutes to loosen skins. Dip in cold water and slip off skins. Cut in half, remove pits, cut into 1/2-inch cubes and keep in solution with grapes. Peel, halve, and core pears. Cut into 1/2-inch cubes, and keep in solution with grapes and peaches. Combine sugar and water in a saucepan and bring to boil. Drain mixed fruit. Add 1/2 cup of hot syrup to each hot jar. Then add a few cherries and gently fill the jar with mixed fruit and more hot syrup, leaving 1/2-inch headspace. Remove air bubbles and adjust headspace if needed. Wipe rims of jars with a dampened clean paper towel. Adjust lids and process.

Recommended process time for Mixed Fruit Cocktail in a boiling-water canner					
Style of Pack	Jar Size	Process Time at Altitudes of			
		0–1,000 ft	1,001–3,000 ft	3,001–6,000 ft	Above 6,000 ft
Raw	Half-pints or Pints	20 min	25	30	35

NECTARINES—HALVED OR SLICED

Quantity: An average of 17-1/2 pounds is needed per canner load of 7 quarts; an average of 11 pounds is needed per canner load of 9 pints. A bushel weighs 48 pounds and yields 16 to 24 quarts—an average of 2-1/2 pounds per quart.

Quality: Choose ripe, mature fruit of ideal quality for eating fresh or cooking.

Procedure: Follow directions for peaches except do not dip in hot water or remove skins. Wash fruit and use either hot or raw pack, and use the same process time.

PEACHES—HALVED OR SLICED

Quantity: An average of 17-1/2 pounds is needed per canner load of 7 quarts; an average of 11 pounds is needed per canner load of 9 pints. A bushel weighs 48 pounds and yields 16 to 24 quarts—an average of 2-1/2 pounds per quart.

Quality: Choose ripe, mature fruit of ideal quality for eating fresh or cooking.

Procedure: 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, remove pits and slice if desired. To prevent darkening, keep peeled fruit in ascorbic acid solution (see page 1-11). Prepare and boil a very light, light, or medium syrup (see page 2-5) or pack peaches in water, apple juice, or white grape juice. Raw packs make poor quality peaches.

Hot pack—In a large saucepan place drained fruit in syrup, water, or juice and bring to boil. Fill hot jars with hot fruit and cooking liquid, leaving 1/2-inch headspace. Place halves in layers, cut side down.

Raw pack—Fill hot jars with raw fruit, cut side down, and add hot water, juice, or syrup, leaving 1/2-inch headspace.

Remove air bubbles and adjust headspace if needed. Wipe rims of jars with a dampened clean paper towel. Adjust lids and process.

Recommended process time for Peaches, halved or sliced in a boiling-water canner					
Style of Pack	Jar Size	Process Time at Altitudes of			
		0–1,000 ft	1,001–3,000 ft	3,001–6,000 ft	Above 6,000 ft
Hot	Pints	20 min	25	30	35
	Quarts	25	30	35	40
Raw	Pints	25	30	35	40
	Quarts	30	35	40	45

Processing directions for canning peaches in a dial- or weighted-gauge canner are given on pages 2-31 and 2-32.

PEARS—HALVED

Quantity: An average of 17-1/2 pounds is needed per canner load of 7 quarts; an average of 11 pounds is needed per canner load of 9 pints. A bushel weighs 50 pounds and yields 16 to 25 quarts—an average of 2-1/2 pounds per quart.

Quality: Choose ripe, mature fruit of ideal quality for eating fresh or cooking.

Procedure: Wash and peel pears. Cut lengthwise in halves and remove core. A melon baller or metal measuring spoon is suitable for coring pears. To prevent discoloration, keep pears in an ascorbic acid solution (see page 1-11). Prepare a very light, light, or medium syrup (see page 2-5) or pack pears in apple juice, white grape juice, or water. Raw packs make poor quality pears. Boil drained pears 5 minutes in syrup, juice, or water. Fill hot jars with hot fruit and cooking liquid, leaving 1/2-inch headspace. Remove air bubbles and adjust headspace if needed. Wipe rims of jars with a dampened clean paper towel. Adjust lids and process.

Recommended process time for Pears, halved in a boiling-water canner					
Style of Pack	Jar Size	Process Time at Altitudes of			
		0–1,000 ft	1,001–3,000 ft	3,001–6,000 ft	Above 6,000 ft
Hot	Pints	20 min	25	30	35
	Quarts	25	30	35	40

Processing directions for canning pears in a dial- or weighted-gauge canner are given on pages 2-31 and 2-32.

PEARS, ASIAN —HALVED OR SLICED

Important: 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.

Quantity: An average of 17-19 pounds is needed per canner load of 7 quarts; an average of 11-13 pounds is needed per canner load of 9 pints.

Quality: Choose ripe, mature fruit of ideal quality for eating fresh or cooking.

Procedure: Wash and peel pears. Cut lengthwise in halves and remove cores. Slice, if desired. To prevent discoloration, keep pears in an ascorbic acid solution (see page 1-11). Prepare a very light, light, or medium syrup (see page 2-5) or pack pears in apple juice, white grape juice, or water.

Hot pack – Boil drained pears 5 minutes in syrup, juice or water. Fill hot jars with hot fruit and cover with boiling cooking liquid, leaving 1/2-inch headspace. **Add 1 tablespoon bottled lemon juice per pint jar or 2 tablespoons per quart jar.** Remove air bubbles and adjust headspace if needed. Wipe rims of jars with a dampened clean paper towel. Adjust lids and process.

Recommended process time for Asian Pears, halved or sliced in a boiling-water canner					
Style of Pack	Jar Size	Process Time at Altitudes of			
		0–1,000 ft	1,001–3,000 ft	3,001–6,000 ft	Above 6,000 ft
Hot	Pints	20 min	25	30	35
	Quarts	25	30	35	40

PINEAPPLE

Quantity: An average of 21 pounds is needed per canner load of 7 quarts; an average of 13 pounds is needed per canner load of 9 pints—an average of 3 pounds per quart.

Quality: Select firm, ripe pineapples.

Procedure: Wash pineapple. 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, light, or medium syrup (see page 2-5). In a large saucepan, add pineapple to syrup, water, or juice, and simmer 10 minutes. Fill hot jars with hot pieces and cooking liquid, leaving 1/2-inch headspace. Remove air bubbles and adjust headspace if needed. Wipe rims of jars with a dampened clean paper towel. Adjust lids and process.

Recommended process time for Pineapple in a boiling-water canner					
Style of Pack	Jar Size	Process Time at Altitudes of			
		0–1,000 ft	1,001–3,000 ft	3,001–6,000 ft	Above 6,000 ft
Hot	Pints	15 min	20	20	25
	Quarts	20	25	30	35

PLUMS—HALVED OR WHOLE

Quantity: An average of 14 pounds is needed per canner load of 7 quarts; an average of 9 pounds is needed per canner load of 9 pints. A bushel weighs 56 pounds and yields 22 to 36 quarts—an average of 2 pounds per quart.

Quality: Select deep-colored, mature fruit of ideal quality for eating fresh or cooking. Plums may be packed in water or syrup.

Procedure: Stem and wash plums. Plums may be packed in water or syrup. To can whole, prick skins on two sides of plums with fork to prevent splitting. Freestone varieties may be halved and pitted. If you use syrup, prepare very light, light, or medium syrup according to directions on page 2-5.

Hot pack—Add plums to hot water or hot syrup and boil 2 minutes. Cover saucepan and let stand 20 to 30 minutes. Fill hot jars with hot plums and cooking liquid or syrup, leaving 1/2-inch headspace.

Raw pack—Fill hot jars with raw plums, packing firmly. Add hot water or syrup, leaving 1/2-inch headspace.

Remove air bubbles and adjust headspace if needed. Wipe rims of jars with a dampened clean paper towel. Adjust lids and process.

Recommended process time for Plums, halved or whole in a boiling-water canner

Style of Pack	Jar Size	Process Time at Altitudes of			
		0–1,000 ft	1,001–3,000 ft	3,001–6,000 ft	Above 6,000 ft
Hot and Raw	Pints	20 min	25	30	35
	Quarts	25	30	35	40

Processing directions for canning plums in a dial- or weighted-gauge canner are given on pages 2-31 and 2-32.

RHUBARB—STEWED

Quantity: An average of 10-1/2 pounds is needed per canner load of 7 quarts; an average of 7 pounds is needed per canner load of 9 pints. A lug weighs 28 pounds and yields 14 to 28 quarts—an average of 1-1/2 pounds per quart.

Quality: Select young, tender, well-colored stalks from the spring or late fall crop.

Procedure: Trim off leaves. Wash stalks and cut into 1/2-inch to 1-inch pieces. In a large saucepan add 1/2 cup sugar for each quart of fruit. Let stand until juice appears. Heat gently to boiling. Fill hot jars without delay, leaving 1/2-inch headspace. Remove air bubbles and adjust headspace if needed. Wipe rims of jars with a dampened clean paper towel. Adjust lids and process.

Recommended process time for Rhubarb, stewed in a boiling-water canner

Style of Pack	Jar Size	Process Time at Altitudes of		
		0–1,000 ft	1,001–6,000 ft	Above 6,000 ft
Hot	Pints or Quarts	15 min	20	25

Process directions for canning rhubarb in a dial- or weighted-gauge canner are given on pages 2-31 and 2-32.

ZUCCHINI-PINEAPPLE

4 qts cubed or shredded zucchini
46 oz canned unsweetened pineapple juice
1-1/2 cups bottled lemon juice
3 cups sugar

Yield: About 8 to 9 pints

Procedure: Peel zucchini and either cut into 1/2-inch cubes or shred. Mix zucchini with other ingredients in a large saucepan and bring to a boil. Simmer 20 minutes. Fill hot jars with hot

mixture and cooking liquid, leaving 1/2-inch headspace. Remove air bubbles and adjust headspace if needed. Wipe rims of jars with a dampened clean paper towel. Adjust lids and process.

Recommended process time for Zucchini-Pineapple in a boiling-water canner				
Style of Pack	Jar Size	Process Time at Altitudes of		
		0–1,000 ft	1,001–6,000 ft	Above 6,000 ft
Hot	Half-pints or Pints	15 min	20	25

FRUIT SALSAS

SPICY CRANBERRY SALSA

6 cups chopped red onion
 4 finely chopped large Serrano peppers*
 1-1/2 cups water
 1-1/2 cups cider vinegar (5%)
 1 tbsp canning salt
 1-1/3 cups sugar
 6 tbsp clover honey
 12 cups (2-3/4 lbs) rinsed, fresh whole cranberries

***Caution:** Wear plastic or rubber gloves when handling and cutting hot peppers or wash hands thoroughly with soap and water before touching your face or eyes.

Yield: About 6 pint jars

Procedure: Combine all ingredients except cranberries in a large Dutch oven. Bring to a boil over high heat; reduce heat slightly and boil gently for 5 minutes. Add cranberries, reduce heat slightly and simmer mixture for 20 minutes, stirring occasionally to prevent scorching. Fill the hot mixture into hot pint jars, leaving 1/4-inch headspace. Leave saucepot over low heat while filling jars. Remove air bubbles and adjust headspace if needed. Wipe rims of jars with a dampened clean paper towel. Adjust lids and process.

Recommended process time for Spicy Cranberry Salsa in a boiling-water canner				
Style of Pack	Jar Size	Process Time at Altitudes of		
		0–1,000 ft	1,001–6,000 ft	Above 6,000 ft
Hot	Half-pints or Pints	10 min	15	20

MANGO SALSA

6 cups diced unripe mango (about 3 to 4 large, hard green mangoes)

1-1/2 cups diced red bell pepper

1/2 cup finely chopped yellow onion

1/2 tsp crushed red pepper flakes

2 tsp finely chopped garlic

2 tsp finely chopped ginger

1 cup light brown sugar

1-1/4 cups cider vinegar (5%)

1/2 cup water

Caution: Handling green mangoes may irritate the skin of some people in the same way as poison ivy. (They belong to the same plant family.) To avoid this reaction, wear plastic or rubber gloves while working with raw green mango. Do not touch your face, lips or eyes after touching or cutting raw green mangoes until all traces are washed away.

Yield: About 6 half-pint jars

Procedure: Wash all produce well. Peel and chop mango into 1/2-inch cubes. Dice bell pepper into 1/2-inch pieces. Finely chop yellow onions. Combine all ingredients in an 8-quart Dutch oven or stockpot. Bring to a boil over high heat, stirring to dissolve sugar. Reduce to simmering, and simmer 5 minutes. Fill hot solids into hot half-pint jars, leaving 1/2-inch headspace. Cover with hot liquid, leaving 1/2-inch headspace. Remove air bubbles and adjust headspace if needed. Wipe rims of jars with a dampened clean paper towel. Adjust lids and process.

Recommended process time for Mango Salsa in a boiling-water canner

Style of Pack	Jar Size	Process Time at Altitudes of		
		0–1,000 ft	1,001–6,000 ft	Above 6,000 ft
Hot	Half-pints	10 min	15	20

PEACH SALSA

Procedure: Follow directions for Mango Salsa using diced hard, underripe but yellow peaches in place of the mango.

PEACH APPLE SALSA

6 cups chopped Roma tomatoes
 2-1/2 cups diced yellow onions
 2 cups chopped green bell peppers
 10 cups chopped hard, unripe peaches
 2 cups chopped Granny Smith apples
 4 tbsp mixed pickling spice
 1 tbsp canning salt
 2 tsp crushed red pepper flakes
 3-3/4 cups (1-1/4 pounds) packed light brown sugar
 2-1/4 cups cider vinegar (5%)

Yield: About 7 pint jars

Procedure: Place pickling spice on a clean, double-layered, 6-inch-square piece of 100% cheese-cloth. Bring corners together and tie with a clean string. (Or use a purchased muslin spice bag). Wash and peel tomatoes (place washed tomatoes in boiling water for 1 minute, immediately place in cold water, and slip off skins). Chop into 1/2-inch pieces. Peel, wash and dice onions into 1/4-inch pieces. Wash, core, and seed bell peppers; chop into 1/4-inch pieces. Combine chopped tomatoes, onions and peppers in an 8- or 10- quart Dutch oven or saucepot. Wash, peel and pit peaches; cut into halves and soak for 10 minutes in an ascorbic acid solution (1500 mg in half gallon water). Wash, peel and core apples; cut into halves and soak for 10 minutes in ascorbic acid solution. Quickly chop peaches and apples into 1/2-inch cubes to prevent browning. Add chopped peaches and apples to the saucepot with the vegetables. Add the pickling spice bag to the saucepot; stir in the salt, red pepper flakes, brown sugar and vinegar. Bring to boiling, stirring gently to mix ingredients. Reduce heat and simmer 30 minutes, stirring occasionally. Remove spice bag from pan and discard. With a slotted spoon, fill salsa solids into hot pint jars, leaving 1-1/4-inch headspace (about 3/4 pound solids in each jar). Cover with cooking liquid, leaving 1/2-inch headspace. Remove air bubbles and adjust headspace if needed. Wipe rims of jars with a dampened clean paper towel. Adjust lids and process.

Recommended process time for Peach-Apple Salsa in a boiling-water canner

Style of Pack	Jar Size	Process Time at Altitudes of		
		0–1,000 ft	1,001–6,000 ft	Above 6,000 ft
Hot	Pints	15 min	20	25

PIE FILLINGS

General: The following fruit fillings are excellent and safe products. Each canned quart makes one 8-inch to 9-inch pie. The filling may be used as toppings on dessert or pastries. “Clear Jel®” 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, causing a runny sauce consistency. Clear Jel® is available only through a few supply outlets and is not currently available in grocery stores. Find out about its availability prior to gathering other ingredients to make these pie fillings. If you cannot find it, ask your county Extension family and consumer sciences educator about sources for Clear Jel®.

Because the variety of fruit may alter the flavor of the fruit pie, it is suggested that you first make a single quart, make a pie with it, and serve. Then adjust the sugar and spices in the recipe to suit your personal preferences. The amount of lemon juice should not be altered, as it aids in controlling the safety and storage stability of the fillings.

When using frozen cherries and blueberries, select unsweetened fruit. If sugar has been added, rinse it off while fruit is frozen. Thaw fruit, then collect, measure, and use juice from fruit to partially replace the water specified in the recipe. Use only 1/4 cup Clear Jel® per quart, or 1-3/4 cups for 7 quarts. Use fresh fruit in the apple and peach pie filling recipes.

APPLE PIE FILLING

	Quantities of Ingredients Needed for:	
	1 Quart	7 Quarts
<i>Blanched, sliced fresh apples</i>	<i>3-1/2 cups</i>	<i>6 quarts</i>
<i>Granulated sugar</i>	<i>3/4 cups + 2 tbsp</i>	<i>5-1/2 cups</i>
<i>Clear Jel®</i>	<i>1/4 cup</i>	<i>1-1/2 cups</i>
<i>Cinnamon</i>	<i>1/2 tsp</i>	<i>1 tbsp</i>
<i>Cold water</i>	<i>1/2 cup</i>	<i>2-1/2 cups</i>
<i>Apple juice</i>	<i>3/4 cups</i>	<i>5 cups</i>
<i>Bottled lemon juice</i>	<i>2 tbsp</i>	<i>3/4 cup</i>
<i>Nutmeg (optional)</i>	<i>1/8 tsp</i>	<i>1 tsp</i>
<i>Yellow food coloring (optional)</i>	<i>1 drop</i>	<i>7 drops</i>

Quality: Use firm, crisp apples. Stayman, Golden Delicious, Rome, and other varieties of similar quality are suitable. If apples lack tartness, use an additional 1/4 cup of lemon juice for each 6 quarts of slices.

Yield: 1 quart or 7 quarts

Procedure: Wash, peel, and core apples. Prepare slices 1/2-inch wide and place in water containing ascorbic acid to prevent browning (see page 1-11). For fresh fruit, place 6 cups at a time in 1 gallon of boiling water. Boil each batch 1 minute after the water returns to a boil. Drain but keep heated fruit in a covered bowl or pot. Combine sugar, Clear Jel® and cinnamon in a large kettle with water and apple juice. If desired, food coloring and nutmeg may be added. Stir and cook on medium high heat until mixture thickens and begins to bubble. Add lemon juice and boil 1 minute, stirring constantly. Fold in drained apple slices immediately and fill hot jars with mixture without delay, leaving 1-inch headspace. Remove air bubbles and adjust headspace if needed. Wipe rims of jars with a dampened clean paper towel. Adjust lids and process immediately.

Recommended process time for Apple Pie Filling in a boiling-water canner					
Style of Pack	Jar Size	Process Time at Altitudes of			
		0–1,000 ft	1,001–3,000 ft	3,001–6,000 ft	Above 6,000 ft
Hot	Pints or Quarts	25 min	30	35	40

BLUEBERRY PIE FILLING**Quantities of Ingredients Needed for:**

	1 Quart	7 Quarts
<i>Fresh or thawed blueberries</i>	3-1/2 cups	6 quarts
<i>Granulated sugar</i>	3/4 cup + 2 tbsp	6 cups
<i>Clear Jel®</i>	1/4 cup + 1 tbsp	2-1/4 cups
<i>Cold water</i>	1 cup	7 cups
<i>Bottled lemon juice</i>	3 tbsp	1/2 cup
<i>Blue food coloring (optional)</i>	3 drops	20 drops
<i>Red food coloring (optional)</i>	1 drop	7 drops

Quality: Select fresh, ripe, and firm blueberries. Unsweetened frozen blueberries may be used. If sugar has been added, rinse it off while fruit is still frozen.

Yield: 1 quart or 7 quarts

Procedure: Wash and drain fresh blueberries. For fresh fruit, place 6 cups at a time in 1 gallon boiling water. Boil each batch 1 minute after the water returns to a boil. Drain but keep heated fruit in a covered bowl or pot. Combine sugar and Clear Jel® in a large kettle. Stir. Add water and, if desired, food coloring. Cook on medium high heat until mixture thickens and begins to bubble. Add lemon juice and boil 1 minute, stirring constantly. Fold in drained berries immediately and fill hot jars with mixture without delay, leaving 1-inch headspace. Remove air bubbles and adjust headspace if needed. Wipe rims of jars with a dampened clean paper towel. Adjust lids and process immediately.

Recommended process time for Blueberry Pie Filling in a boiling-water canner

Style of Pack	Jar Size	Process Time at Altitudes of			
		0–1,000 ft	1,001–3,000 ft	3,001–6,000 ft	Above 6,000 ft
Hot	Pints or Quarts	30 min	35	40	45

CHERRY PIE FILLING**Quantities of Ingredients Needed for:**

	1 Quart	7 Quarts
<i>Fresh or thawed sour cherries</i>	3-1/3 cups	6 quarts
<i>Granulated sugar</i>	1 cup	7 cups
<i>Clear Jel®</i>	1/4 cup + 1 tbsp	1-3/4 cups
<i>Cold water</i>	1-1/3 cups	9-1/3 cups
<i>Bottled lemon juice</i>	1 tbsp + 1 tsp	1/2 cups
<i>Cinnamon (optional)</i>	1/8 tsp	1 tsp
<i>Almond extract (optional)</i>	1/4 tsp	2 tsp
<i>Red food coloring (optional)</i>	6 drops	1/4 tsp

Quality: Select fresh, very ripe, and firm cherries. Unsweetened frozen cherries may be used. If sugar has been added, rinse it off while the fruit is still frozen.

Yield: 1 quart or 7 quarts

Procedure: Rinse and pit fresh cherries, and hold in cold water. To prevent stem end browning, use ascorbic acid solution (see page 1-11). For fresh fruit, place 6 cups at a time in 1 gallon boiling water. Boil each batch 1 minute after the water returns to a boil. Drain but keep heated in a covered bowl or pot. Combine sugar and Clear Jel® in a large saucepan and add water. If desired, add cinnamon, almond extract, and food coloring. Stir mixture and cook over medium high heat until mixture thickens and begins to bubble. Add lemon juice and boil 1 minute, stirring constantly. Fold in drained cherries immediately and fill hot jars with mixture without delay, leaving 1-inch headspace. Remove air bubbles and adjust headspace if needed. Wipe rims of jars with a dampened clean paper towel. Adjust lids and process immediately.

Recommended process time for Cherry Pie Filling in a boiling-water canner					
Style of Pack	Jar Size	Process Time at Altitudes of			
		0–1,000 ft	1,001–3,000 ft	3,001–6,000 ft	Above 6,000 ft
Hot	Pints or Quarts	30 min	35	40	45

FESTIVE MINCEMEAT PIE FILLING

2 cups finely chopped suet
4 lbs ground beef or 4 lb ground venison and 1 lb sausage
5 qts chopped apples
2 lbs dark seedless raisins
1 lb white raisins
2 qts apple cider
2 tbsp ground cinnamon
2 tsp ground nutmeg
5 cups sugar
2 tbsp salt

Yield: About 7 quarts

Procedure: Cook meat and suet in water to avoid browning. Peel, core, and quarter apples. Put meat, suet, and apples through food grinder using a medium blade. Combine all ingredients in a large saucepan, and simmer 1 hour or until slightly thickened. Stir often. Fill hot jars with mixture without delay, leaving 1-inch headspace. Remove air bubbles and adjust headspace if needed. Wipe rims of jars with a dampened clean paper towel. Adjust lids and process.

Recommended process time for Festive Mincemeat Pie Filling in a dial-gauge pressure canner						
Style of Pack	Jar Size	Process Time	Canner Pressure (PSI) at Altitudes of			
			0–2,000 ft	2,001–4,000 ft	4,001–6,000 ft	6,001–8,000 ft
Hot	Quarts	90 min	11 lb	12 lb	13 lb	14 lb

Recommended process time for Festive Mincemeat Pie Filling in a weighted-gauge pressure canner

Style of Pack	Jar Size	Process Time	Canner Pressure (PSI) at Altitudes of	
			0–1,000 ft	Above 1,000 ft
Hot	Quarts	90 min	10 lb	15 lb

GREEN TOMATO PIE FILLING

4 qts chopped green tomatoes
 3 qts peeled and chopped tart apples
 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%)
 1 cup bottled lemon juice
 2 tbsp ground cinnamon
 1 tsp ground nutmeg
 1 tsp ground cloves

Yield: About 7 quarts

Procedure: Combine all ingredients in a large saucepan. Cook slowly, stirring often, until tender and slightly thickened (about 35 to 40 minutes). Fill hot jars with hot mixture, leaving 1/2-inch headspace. Remove air bubbles and adjust headspace if needed. Wipe rims of jars with a dampened clean paper towel. Adjust lids and process.

Recommended process time for Green Tomato Pie Filling in a boiling-water canner

Style of Pack	Jar Size	Process Time at Altitudes of		
		0–1,000 ft	1,001–6,000 ft	Above 6,000 ft
Hot	Quarts	15 min	20	25

PEACH PIE FILLING

Quantities of Ingredients Needed for:

	1 Quart	7 Quarts
<i>Sliced fresh peaches</i>	3-1/2 cups	6 quarts
<i>Granulated sugar</i>	1 cup	7 cups
<i>Clear Jel®</i>	1/4 cup + 1 tbsp	2 cups + 3 tbsp
<i>Cold water</i>	3/4 cup	5-1/4 cups
<i>Cinnamon (optional)</i>	1/8 tsp	1 tsp
<i>Almond extract (optional)</i>	1/8 tsp	1 tsp
<i>Bottled lemon juice</i>	1/4 cup	1-3/4 cups

Quality: Select ripe, but firm fresh peaches. Red Haven, Redskin, Sun High, and other varieties of similar quality are suitable.

Yield: 1 quart or 7 quarts.

Procedure: Peel peaches. To loosen skins, submerge peaches in boiling water for approximately 30-60 seconds, and then place in cold water for 20 seconds. Slip off skins and prepare slices 1/2-inch thick. Place slices in water containing 1/2 tsp of ascorbic acid crystals or six 500-milligram vitamin C tablets in 1 gallon of water to prevent browning. For fresh fruit, place 6 cups at a time in 1 gallon boiling water. Boil each batch 1 minute after the water returns to a boil. Drain but keep heated fruit in a covered bowl or pot. Combine water, sugar, Clear Jel®, and, if desired, cinnamon and/or almond extract in a large kettle. Stir and cook over medium high heat until mixture thickens and begins to bubble. Add lemon juice and boil sauce 1 minute more, stirring constantly. Fold in drained peach slices and continue to heat mixture for 3 minutes. Fill hot jars without delay, leaving 1-inch headspace. Remove air bubbles and adjust headspace if needed. Wipe rims of jars with a dampened clean paper towel. Adjust lids and process immediately.

Recommended process time for Peach Pie Filling in a boiling-water canner

Style of Pack	Jar Size	Process Time at Altitudes of			
		0–1,000 ft	1,001–3,000 ft	3,001–6,000 ft	Above 6,000 ft
Hot	Pints or Quarts	30 min	35	40	45

Process times for some acid foods in a dial-gauge pressure canner

Type of Fruit	Style of Pack	Jar Size	Process Time (Min)	Canner Pressure (PSI) at Altitudes of			
				0–2,000 ft	2,001–4,000 ft	4,001–6,000 ft	6,001–8,000 ft
Applesauce	Hot	Pints	8	6 lb	7 lb	8 lb	9 lb
	Hot	Quarts	10	6	7	8	9
Apples, sliced	Hot	Pints or Quarts	8	6	7	8	9
Berries, whole	Hot	Pints or Quarts	8	6	7	8	9
	Raw	Pints	8	6	7	8	9
	Raw	Quarts	10	6	7	8	9
Cherries, sour or sweet	Hot	Pints	8	6	7	8	9
	Hot	Quarts	10	6	7	8	9
	Raw	Pints or Quarts	10	6	7	8	9
Fruit Purees	Hot	Pints or Quarts	8	6	7	8	9
Grapefruit and Orange Sections	Hot	Pints or Quarts	8	6	7	8	9
	Raw	Pints	8	6	7	8	9
	Raw	Quarts	10	6	7	8	9
Peaches, Apricots, and Nectarines	Hot and Raw	Pints or Quarts	10	6	7	8	9
Pears	Hot	Pints or Quarts	10	6	7	8	9
Plums	Hot and Raw	Pints or Quarts	10	6	7	8	9
Rhubarb	Hot	Pints or Quarts	8	6	7	8	9

Process times for some acid foods in a weighted-gauge pressure canner

Type of Fruit	Style of Pack	Jar Size	Process Time (Min)	Canner Pressure (PSI) at Altitudes of	
				0–1,000 ft	Above 1,000 ft
Applesauce	Hot	Pints	8	5 lb	10 lb
	Hot	Quarts	10	5	10
Apples, sliced	Hot	Pints or Quarts	8	5	10
Berries, whole	Hot	Pints or Quarts	8	5	10
	Raw	Pints	8	5	10
	Raw	Quarts	10	5	10
Cherries, sour or sweet	Hot	Pints	8	5	10
	Hot	Quarts	10	5	10
	Raw	Pints or Quarts	10	5	10
Fruit Purees	Hot	Pints or Quarts	8	5	10
Grapefruit and Orange Sections	Hot	Pints or Quarts	8	5	10
	Raw	Pints	8	5	10
	Raw	Quarts	10	5	10
Peaches, Apricots, and Nectarines	Hot and Raw	Pints or Quarts	10	5	10
Pears	Hot	Pints or Quarts	10	5	10
Plums	Hot and Raw	Pints or Quarts	10	5	10
Rhubarb	Hot	Pints or Quarts	8	5	10