

# Apples



## Freezing

Freeze only up to 2 pounds of food per cubic foot of freezer capacity per day.

Syrup pack is preferred for apples to be used for uncooked desserts or fruit cocktail. A sugar or dry pack is good for pie making.

Select full-flavored apples that are crisp and firm, not mealy in texture. Wash, peel, and core. Slice the medium apples into twelfths, the large ones into sixteenths.

*For a syrup pack:* Use a chilled 40-percent syrup. Dissolve 2¾ cups of sugar in 4 cups of lukewarm water, mixing until the solution is clear. Chill.

To prevent browning, add ½ teaspoon (1500 mg) of ascorbic acid to each quart of syrup.

Slice the apples into the syrup in a container starting with a ½ cup of syrup for each pint of apples. Fill pint- or quart-size freezer bags to a level of 3 to

4 inches from the tops, add the syrup if needed to cover the apples, squeeze out the air, seal, and label.

*For a sugar pack:* To prevent darkening, dissolve ½ teaspoon (1500 mg) of ascorbic acid in 3 tablespoons of water. Sprinkle over the fruit. Mix ½ cup of sugar with 1 quart (1¼ lbs.) of fruit. Fill freezer bags to a level of 3 to 4 inches from the tops, squeeze out the air, seal, and label.

*For a dry/tray pack:* Follow the directions for a sugar pack, omitting the sugar. Treated apple slices can also be frozen first on a tray and then packed into containers as soon as they are frozen.

## Canning

Prepare apple products as described in the following pages.

Wash the jars. Products processed less than 10 minutes should be filled into sterile empty jars. To sterilize the empty jars, put them right-side up

**Table 1. Recommended processing times in a boiling-water canner**

Product	Jar size	Hot-pack processing times in minutes at different altitudes (in feet)		
		0-1,000	1,001-3000	3,001-6,000
Apple butter	Half-pints or pints	5	10	10
	Quarts	10	15	15
Apple jelly	Half-pints or pints	5	10	10
Apple juice	Pints or quarts	5	10	10
	Half-gallons	10	15	15
Apple pie filling	Pints or quarts	25	30	35
Applesauce	Pints	15	20	20
	Quarts	20	25	30
Sliced apples	Pints or quarts	20	25	30
Spiced apple rings	Half-pints or pints	10	15	15
Spiced crab apples	Pints	20	25	30
Crabapple jelly	Half-pints or pints	5	10	10
Reduced-sugar apple butter	Half-pints	15	20	20
Apple chutney	Pints	10	15	15

**Table 2. Recommended hot-pack processing times in a pressure canner**

Product	Jar Size	Process Time (min.)	Canner gauge pressure at different altitudes (in feet)			
			Dial gauge		Weighted gauge	
			0-2,000	2,001-4,000	1-1,000	Above 1,000
Sliced Apples	Pints or Quarts	8	6	7	5	10
Applesauce	Pints	8	6	7	5	10
	Quarts	10	6	7	5	10

on a rack in a boiling-water canner. Fill the canner and the jars with hot (not boiling) water to 1 inch above the tops of the jars. Boil the jars for 10 minutes at altitudes of less than 1,000 feet. Boil 1 additional minute for each additional 1,000 feet of elevation.

Remove and drain the hot sterilized jars one at a time and fill immediately with food.

Prepare the lids according to the manufacturer's instructions. Place the hot products into the jars. Wipe the sealing edges of the jars with a clean, damp paper towel. Add the lids and tighten the screw bands. Process the jars in a boiling-water or pressure canner.

*To process in a boiling-water canner:* Preheat the canner filled halfway with water to 180°F. Load the closed jars onto the canner rack and lower with the handles, or load one jar at a time with a jar lifter onto the rack in the canner. Add boiling water, if needed, to a level of 1 inch above the jars and add the cover. When the water boils vigorously, reduce the heat to maintain a gentle boil and process the jars of product for the time shown in Table 1.

*To process in a pressure canner:* Place the jar rack, 2 inches of water, and the closed jars in the canner. Fasten the canner lid, and heat the canner on a high setting. After the steam exhausts for 10 minutes, add the weighted gauge or close the petcock to pressurize the canner. Start timing the process when the desired pressure is reached. Regulate the heat to maintain a uniform pressure and process the jars for the time given in Table 2.

When processing is completed, remove the canner from the heat. Air-cool the canner until it is fully depressurized. Slowly remove the weighted gauge or open the petcock, wait for 2 more minutes, and carefully remove the canner lid.

Remove the jars from the canner with a jar lifter and place them on a towel or rack.

Do not retighten the screw bands. Air-cool the jars for 12 to 24 hours. Remove the screw bands and check the lid seals. If the center of the lid is indented, wash, dry, label, and store the jar in a clean, cool, dark place. If the lid is unsealed, examine and replace the jar if it is defective. Use a new lid, and reprocess as before. Wash the screw bands and store separately.

The products are best if eaten within a year and safe as long as the lids remain vacuum sealed.

### Apple Butter

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

*Yield:* About 8 to 9 pints

8 pounds apples

2 cups cider

2 cups vinegar

2¼ cups white sugar

2¼ cups packed brown sugar

2 tablespoons ground cinnamon

1 tablespoon ground cloves

Wash, remove the stems, and quarter and core the fruit. Cook slowly in cider and vinegar until soft. Press the fruit through a colander, food mill, or strainer.

Cook the fruit pulp with the sugar and spices, stirring frequently. To test for doneness, remove a spoonful and hold it away from the 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 sterile half-pint or pint jars with the hot product, leaving ¼-

inch head space. To presterilize jars, see page 1. Quart jars need not be presterilized. Adjust the lids and process according to Table 1 on page 1.

## Apple Jelly

*Yield:* 4 half-pints

4 cups apple juice (about 3 pounds of apples and 3 cups of water)

2 tablespoons lemon juice, optional

3 cups sugar

*To prepare juice:* Select about one-fourth slightly under ripe apples and three-fourths fully ripe apples. Sort, wash, and remove the stems and blossom ends; do not peel or core. Cut the apples into small pieces. Add water, cover, and bring to a boil on high heat.

Reduce the heat and simmer for 20 to 25 minutes or until the apples are soft. Squeeze out the juice through a damp jelly bag or four thicknesses of cheesecloth.

*To make jelly:* Sterilize the canning jars (see page 1). Measure the apple juice into a saucepan. Add the lemon juice and sugar, and stir to dissolve the sugar. Boil over high heat, stirring constantly, to 8°F above the boiling point of water or until the jelly mixture sheets from a spoon.

Remove from the heat; skim off the foam quickly. Pour the jelly immediately into hot sterilized jars, leaving ¼-inch head space. Wipe the jar rims and adjust the lids. Process according to Table 1 on page 2.

## Apple Juice

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.

Refrigerate the juice for 24 to 48 hours. Without mixing, carefully pour off the clear liquid and discard the sediment. Strain the clear liquid through a paper coffee filter or double layers of damp cheesecloth. Heat quickly, stirring occasionally, until the juice begins to boil. Fill immediately into sterile pint or quart jars (see page 1 to sterilize the jars) or fill into clean half-gallon jars, leaving ¼-inch head space. Adjust the lids and process according to Table 1 on page 2.

## Apple Pie Filling

This fruit filling is an excellent and safe product. Each canned quart makes one 8- to 9-inch pie. Fillings may be used as toppings on desserts or pastries. Clear Jel is a starch modified to produce excellent sauce consistency even after fillings are canned and baked.

Other household starches break down, causing runny sauce consistency. (Clear Jel is available from bulk food stores or on the Internet.)

Because the variety of the fruit may alter the flavor of the fruit pie, you should first make a single quart, make a pie, and serve it. Then adjust the sugar and spices in the recipe to suit your personal preference. The amount of lemon juice should not be altered, because it aids in ensuring the safety and storage stability of the fillings. If the filling is too tart, add more sugar to taste.

### Ingredients

	Quantities of ingredients needed for	
	1 quart	7 quarts
<b>Blanched, sliced fresh apples</b>	3½ cups	6 quarts
<b>Granulated sugar</b>	¾ cup + 2 tablespoons	5½ cups
<b>Clear Jel®</b>	¼ cup	1½ cups
<b>Cinnamon</b>	½ teaspoon	1 tbsp.
<b>Cold water</b>	½ cup	2½ cups
<b>Apple juice</b>	¾ cup	5 cups
<b>Bottled lemon juice</b>	2 tablespoons	¾ cup
<b>Nutmeg (optional)</b>	⅛ teaspoon	1 teaspoon
<b>Yellow food coloring (optional)</b>	1 drop	7 drops

Use firm, crisp apples; Stayman, Golden Delicious, Rome, and other varieties of similar quality are suitable. If the apples lack tartness, use an additional ¼ cup of lemon juice for each 6 quarts of slices.

Wash, peel, and core the apples. Prepare ½-inch-wide slices and place them in water containing ascorbic acid to prevent browning. Use 1 teaspoon of ascorbic acid crystals or six 500 mg. vitamin C tablets (crushed) in 1 gallon of water. 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 the heated fruit in a covered bowl or pot. Combine the sugar, Clear Jel, and cinnamon in a large kettle with the water and apple juice. If desired, food

coloring and nutmeg may be added. Stir and cook on a medium high heat until the mixture thickens and begins to bubble. Add the lemon juice and boil 1 minute, stirring constantly. Fold in the drained apple slices immediately and fill the jars with the mixture without delay, leaving 1-inch head space. Adjust the lids and process immediately according to Table 1 on page 5.

## Applesauce

An average of 21 pounds is needed per canner load of 7 quarts; an average of 13½ 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.

Select the 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 the apples. If desired, slice the apples into water containing ascorbic acid to prevent browning. Use 1 teaspoon of ascorbic acid crystals or six 500 mg. vitamin C tablets (crushed) in 1 gallon of water. Place the drained slices in an 8- to 10-quart pot. Add ½ cup of water. Stirring occasionally to prevent burning, heat quickly until tender (5 to 20 minutes, depending on the 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 ⅓ cup of sugar per quart of sauce. Taste and add more, if preferred. Reheat the sauce to boiling. Fill the jars with hot sauce, leaving ½-inch head space. Adjust the lids and process according to Table 1 on page 1 or Table 2 on page 2.

## Apples – Sliced Rings

An average of 19 pounds is needed per canner load of 7 quarts; an average of 12¼ pounds is needed per canner load of 9 pints. A bushel weighs 48 pounds and yields 16 to 19 quarts — an average of 2¾ pounds per quart.

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

Wash, peel, and core the apples. To prevent discoloration, slice the apples into water containing ascorbic acid. Use 1 teaspoon of ascorbic acid crystals or six 500 mg. vitamin C tablets (crushed) in 1 gallon of water. Raw packs make poor quality products. Place the drained slices in a large saucepan and add 1 pint

of water or very light, light, or medium syrup per 5 pounds of sliced apples. Use the table below to make the syrup. Boil for 5 minutes, stirring occasionally to prevent burning. Fill the jars with hot slices and hot syrup or water, leaving ½-inch head space. Adjust the lids and process according to Table 1 or 2 on page 5.

## Spiced Apple Rings

*Yield:* About 8 to 9 pints

12 pounds firm tart apples (maximum diameter is 2½ inches)

12 cups sugar

6 cups water

1¼ cups white vinegar (5%)

3 tablespoons whole cloves

¾ cup red hot cinnamon candies or  
8 cinnamon sticks and

1 teaspoon red food coloring (optional)

Wash the apples. To prevent discoloration, peel, and slice one apple at a time. Immediately cut crosswise into ½-inch slices, remove the core area with a melon baller, and immerse in an ascorbic acid solution. Use 1 teaspoon of ascorbic acid crystals or six 500 mg vitamin C tablets (crushed) in 1 gallon of water. To make a flavored syrup, combine the sugar, water, vinegar, cloves, cinnamon candies or cinnamon sticks, and food coloring in a 6-quart saucepan. Stir, heat to boil, and simmer for 3 minutes. Drain the apples, add to the hot syrup, and cook for 5 minutes. Fill the jars (preferably wide-mouth) with apple rings and hot flavored syrup, leaving ½-inch head space. Adjust the lids and process according to Table 1 on page 5.

## Spiced Crabapples

*Yield:* About 9 pints 5 pounds crabapples

4½ cups apple vinegar (5%)

3¾ cups water

7½ cups sugar

4 teaspoons whole cloves

4 sticks cinnamon

6½-inch-cubes of fresh ginger root

Remove the blossom petals and wash the apples, but leave the stems attached. Puncture the skin of each apple four times with an ice pick or toothpick. Mix the vinegar, water, and sugar, and bring to a boil. Add the spices tied in a spice bag or cheesecloth.

Using a blancher basket or sieve, immerse one-third of the apples at a time in the boiling vinegar/syrup solution for 2 minutes. Place the cooked apples and spice bag in a clean 1- or 2-gallon crock and add the

## Measures of water and sugar in preparing and using syrups

Syrup type	Approximate percent of sugar	For 9-pint load*		For 7-quart load	
		Cups of water	Cups of sugar	Cups of water	Cups of sugar
Very light	10	6½	¾	10½	1¼
Light	20	5¾	1½	9	2¼
Medium	30	5¼	2¼	8¼	3¾

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

hot syrup. Cover and let stand overnight. Remove the spice bag; drain the syrup into a large saucepan and reheat to boiling. Fill the pint jars with the apples and hot syrup, leaving ½-inch head space. Adjust the lids and process according to Table 1 on page 5.

### Crabapple Jelly Without Added Pectin

*Yield:* About 5 or 6 half-pint jars

4 cups crabapple juice (about 3 pounds of crabapples and 3 cups water)

4 cups sugar

#### To Prepare Juice

Select firm, crisp crabapples, about ¼ firm ripe and ¾ fully ripe. Sort, wash and remove stem and blossom ends; do not pare or core. Cut crabapples into small pieces. Add water, cover and bring to boil on high heat. Stir to prevent scorching. Reduce heat and simmer for 20 to 25 minutes, or until crabapples are soft. Do not overcook; excess boiling will destroy the pectin, flavor and color. When fruit is tender, pour everything through a double layer of dampened cheesecloth or a damp jelly bag. Suspend the bag over a bowl or pan, using a stand or colander to hold the bag. Drain the juice without pressing or squeezing, which will cause cloudy jelly. If a fruit press is used, the juice should be restrained through a jelly bag.

#### To Make Jelly

Sterilize canning jars. Measure juice into saucepot. Add sugar and stir well. Boil over high heat until the temperature measures 8°F above the boiling point of water (220°F at sea level), or until the jelly mixture sheets from a metal spoon.

Remove from heat; skim off foam quickly. Pour hot jelly immediately into hot, sterile jars, leaving ¼ inch headspace. Wipe rims of jars with a dampened clean paper towel; adjust two-piece metal canning lids. Process in a boiling water canner.

### Reduced Sugar Apple Butter

*Yield:* About 4 to 5 half-pint jars.

4 pounds apples

1 cup apple cider

½ cup granulated sucralose

1 Tablespoon ground cinnamon

¼ teaspoon ground cloves

½ teaspoon ground allspice

Wash apples well and remove stems. Cut apples into quarters or eighths and remove cores.

Combine unpeeled apples and cider in 8-quart saucepan. Cook slowly and stir occasionally to prevent sticking. Cook until apples are very soft (falling apart).

Position a food mill or strainer securely over a large bowl. Press cooked apples with cider through the food mill or strainer to make a pulp. Be sure to collect all the pulp that comes through the food mill or strainer; for example, scrape any pulp clinging under the food mill into the bowl.

Combine pulp with sucralose and spices in an 8-quart saucepan. Simmer over low heat, stirring frequently.

To test for doneness, spoon a small quantity onto a clean plate; when the butter mounds on the plate without liquid separating around the edge of the butter, it is ready for processing. Another way to test for doneness is to remove a spoonful of the cooked butter on a spoon and hold it away from steam for 2 minutes. It is done if the butter remains mounded on the spoon.

Fill hot apple butter into clean hot jars, leaving ¼-inch headspace. Wipe jar rims with a clean, dampened paper towel and adjust two-piece metal lids and bands.

Process in a boiling water canner. Let cool, undisturbed, 12 to 24 hours and check for seals.

## Apple Chutney

*Yield:* About 6 pint jars

2 quarts chopped, cored, pared tart apples (about 10 medium)

1 cup chopped onions

1 cup chopped sweet red bell peppers (about 2 medium)

2 hot red peppers, seeded and chopped

1½ pounds seedless raisins

4 cups brown sugar

3 tablespoons mustard seed

2 tablespoons ground ginger

2 tablespoons ground allspice

2 teaspoons canning salt

1 clove garlic, crushed

1 quart white vinegar (5%)

Combine all ingredients; simmer until thick, about 1 hour and 15 minutes. As mixture thickens stir frequently to prevent sticking.

Pour boiling hot chutney into hot jars, leaving ½-inch headspace. Remove air bubbles and adjust headspace if needed. Wipe rims of jars with a dampened clean paper towel; adjust two-piece metal canning lids.

Process in a boiling water canner.

## Problems and Solutions

### 1. After canning apples, why do they float?

The fruit is lighter than the sugar syrup. Use firm, ripe fruit. Use the hot pack method to remove air from the fruit. Use a light or medium syrup instead of a heavy syrup. Pack fruit as close as possible and release trapped air before applying the lid.

### 2. Can apples be canned without sugar?

Yes. Sugar is added to improve flavor, help stabilize color, and retain the shape of the fruit. It is not added as a preservative.

### 3. How do you make homemade pectin?

Homemade liquid pectin is made from tart cooking apples that are slightly underripe or from crab apples. Directions can be found at <http://extension.oregonstate.edu/lane/sites/default/files/images/sp50778.pdf>.

### 4. How are apples dried?

Directions for drying apples and many other fruits can be found at [www.rrc.ksu.edu](http://www.rrc.ksu.edu).

## Preserving Apples Nutrition Information

Apples	Serving size	Calories	Fat (g)	Carbohydrates (g)	Fiber (g)	Vit. C (mg)	Sodium (mg)
Apple butter	1 tablespoon	29	0.0	7.2	0.05	0.1	3.0
Apple jelly	1 tablespoon	50	0.0	13.0	0.0	0.0	0.0
Apple juice	½ cup	57	0.0	14.0	0.2	1.1	5.0
Apple pie filling	⅛ of pie	74	0.0	19.4	0.75	1.3	35.0
Applesauce (sweetened)	½ cup	84	0.0	21.5	1.5	2.1	2.0
Applesauce (unsweetened)	½ cup	51	0.0	13.75	1.3	1.2	2.0
Apples – sliced rings	1 cup	137	1.0	34.07	3.5	0.8	6.0
Spiced apple rings	½ cup	180	0.0	47.0	1.0	3.6	0.0
Spiced crab apples	½ cup	190	0.0	49.0	1.0	4.8	0.0
Crabapple jelly	1 tablespoon	40	0.0	11.0	0.0	0.0	0.0
Reduced sugar apple butter	1 tablespoon	15	0.0	3.0	0.0	0.0	0.0
Apple chutney	1 tablespoon	30	0.0	8.0	0.0	2.4	25.0



**Revised by Karen Blakeslee, M.S., Extension Associate, Food Science**

Adapted from *Preserving Apples* by Karen P. Penner, Ph.D., Foods and Nutrition, and Jeanne Dray, Extension Assistant, Foods and Nutrition, April 1995; Complete Guide to Home Canning, USDA AIB No. 539, 2009; and So Easy to Preserve, 5th ed., The University of Georgia Cooperative Extension Service.

Brand names appearing in this publication are for product identification purposes only. No endorsement is intended, nor is criticism implied of similar products not mentioned.

Publications from Kansas State University are available on the World Wide Web at: [www.ksre.ksu.edu](http://www.ksre.ksu.edu)

Publications are reviewed or revised annually by appropriate faculty to reflect current research and practice. Date shown is that of publication or last revision. Contents of this publication may be freely reproduced for educational purposes. All other rights reserved. In each case, credit

Karen Blakeslee, et al., *Preserving Apples*, Kansas State University, October 2010.