Making jelly and jam from fresh produce is an easy food preservation method which requires only fruit, sugar, pectin, and a few basic kitchen tools to get started.

**CANNING KNOWLEDGE**

For best practices, read resources from the National Center for Home Food Preservation. Read *Using Boiling-Water Canners* before beginning to make jam or jelly at home. Read the USDA Complete Guide to Home Canning: Guide 1 Principles of Home Canning if new to canning.

**PROCESSING**

Use a boiling-water canner to process all recipes contained in the following pages.

### STYLE OF PACK | JAR SIZE
--- | ---
Hot | Half-pints or pints

### PROCESSING TIMES

<table>
<thead>
<tr>
<th>At altitude</th>
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</tr>
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<tr>
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**REMAKING SOFT JELLIES**

If jelly does not set properly and is too soft, remake jelly using the following directions. Measure the jelly to be recooked, and work with no more than 4 to 6 cups at a time.

**To remake with powdered pectin:**

For each quart of jelly, mix:
- ¼ cup sugar
- ½ cup water
- 2 tablespoons bottled lemon juice
- 4 teaspoons powdered pectin

Bring to a boil while stirring. Add jelly and bring to a rolling boil over high heat, stirring constantly. Boil hard for ½ minute. Remove from heat, quickly skim foam of jelly, and fill sterile jars, leaving ¼-inch headspace. Adjust new lids and process as recommended below.

**To remake with liquid pectin:**

For each quart of jelly, mix:
- ¾ cup sugar
- 2 tablespoons bottled lemon juice
- 2 tablespoons liquid pectin

Bring jelly only to boil over high heat, while stirring. Remove from heat and quickly add sugar, lemon juice, and pectin. Bring to a full rolling boil, stirring constantly. Boil hard for 1 minute. Quickly skim off foam, and fill sterile jars, leaving ¼-inch headspace. Adjust new lids.

**To remake without added pectin:**

For each quart of jelly, add 2 tablespoons of bottled lemon juice. Heat to boiling, and boil for 3 to 4 minutes. Use one of the tests described in *Testing Jelly Without Added Pectin* by the National Center for Home Food Preservation to determine jelly doneness. Remove from heat. Quickly skim off foam, and fill sterile jars, leaving ¼-inch headspace. Adjust new lids and process as recommended.
**STRAWBERRY JAM**

*Yields about 9 or 10 half-pint jars.*

**Ingredients**
- 5-½ cups crushed strawberries (about three 1-quart boxes)
- 1 package powdered pectin
- 8 cups sugar

**To prepare berries:**
- Select fully ripe berries (not overly ripe) for best flavor.
- Sort, wash, and rinse thoroughly before cooking. Do not soak and drain-of excess water.
- Remove stems and blossoms before crushing.

**To make jam:**
- Measure crushed strawberries and place into kettle.
- Add pectin and stir well. Place on high heat.
- Stirring constantly, bring quickly to a full boil with bubbles over the entire surface.
- Add sugar, continue stirring, and heat again to a full bubbling boil. Optional: to decrease the amount of foam that is formed during the cooking process, add quarter teaspoon butter or margarine.
- Boil hard for 1 minute, stirring constantly. Remove from heat, quickly skim off foam, and fill sterile jars, leaving ¼-inch headspace.
- Follow canning and processing directions below.

Source: National Center for Home Food Preservation. University of Georgia Extension. 
[bit.ly/2Wn7fZE](bit.ly/2Wn7fZE)

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**BLUEBERRY SPICE JAM**

*Yield: about 4 or 5 half-pint jars.*

**Ingredients**
- 2-½ pints fresh blueberries
- 1 tablespoon lemon juice
- ½ teaspoon nutmeg or cinnamon
- 5-½ cups sugar
- ¾ cup water
- 1 box pectin

**To make jam:**
- Wash and thoroughly crush blueberries, one layer at a time, in a saucepan.
- Add lemon juice, spice, and water.
- Stir in the pectin and bring mixture to a full, rolling boil over high heat, stirring frequently.
- Boil hard for 1 minute, stirring constantly. Remove from heat, quickly skim off foam, and fill sterile jars, leaving ¼-inch headspace.
- Follow canning and processing directions below.

Source: National Center for Home Food Preservation. University of Georgia Extension. 
[bit.ly/3zFZE6M](bit.ly/3zFZE6M)


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**CANNING INSTRUCTIONS**


- Sterilize canning jars in boiling water.
- Pour hot jelly immediately into hot, sterilized jars, leaving ¼-inch headspace.
- Wipe rims of jars with dampened clean paper towel; adjust two-piece metal canning lids.
- Process the filled, lidded jars in a boiling water canner.
- Carefully remove jars from boiling water; let cool.
- Remove screw bands after about 12 to 24 hours.
- Label and date product.
- Store product in a dark, dry, cool location.

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**PROCESSING DETAILS**

Determine processing times at altitude using a boiling-water canner:

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<tr>
<th>JAR SIZE</th>
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**PROCESSING TIMES**

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APPLE JELLY (PECTIN-FREE)

Yields about 4 or 5 half-pint jars.

Ingredients
• 4 cups apple juice (about 3 pounds apples and 3 cups water)
• 2 tablespoons strained lemon juice, if desired
• 3 cups sugar

To prepare juice:
• Select about one-fourth under-ripe and three-fourths fully ripe tart apples.
• Sort, wash, and remove stem and blossom ends; do not pare or core.
• Cut apples into small pieces. Add water, cover, and bring to a boil on high heat.
• Reduce heat and simmer for 20 to 25 minutes, or until apples are soft.
• Extract juice.

To make jelly:
• Measure apple juice into a kettle.
• Add lemon juice and sugar and stir well.
• Boil over high heat to 8°F above the boiling point of water, or until jelly mixture sheets from a spoon.
• Remove from heat; skim off foam quickly.
• Follow canning and processing directions below.


GRAPE JELLY

Yields about 8 or 9 half-pint jars.

Ingredients
• 5 cups grape juice (3-1/3 pounds concord grapes and 1 cup water)
• 1 package powdered pectin
• 7 cups sugar

To prepare juice:
• Sort, wash, and remove stem from fully ripe grapes.
• Crush grapes. Add water, cover, and bring to boil on high heat. Reduce heat and simmer for 10 minutes.
• Extract juice. Prevent formation of tartrate crystals in the jelly by letting juice stand in a cool place overnight; strain through two thicknesses of damp cheesecloth to remove crystals that have formed.

To make jelly:
• Measure juice into a kettle.
• Add pectin and stir well.
• Place on high heat, stirring constantly. Bring quickly to a full rolling boil that cannot be stirred down.
• Add sugar, continue stirring, and heat again to a full rolling boil.
• Boil hard for 1 minute; remove from heat; skim off foam quickly.
• Follow canning and processing directions below.

Source: National Center for Home Food Preservation. University of Georgia Extension. bit.ly/372JSH4


CANNING INSTRUCTIONS

For best practices, read resources from the National Center for Home Food Preservation. Read Using Boiling-Water Canners before beginning to make jam or jelly at home. Read the USDA Complete Guide to Home Canning: Guide 1 Principles of Home Canning if new to canning.

• Sterilize canning jars in boiling water.
• Pour hot jelly immediately into hot, sterilized jars, leaving ⅛-inch headspace.
• Wipe rims of jars with dampened clean paper towel; adjust two-piece metal canning lids.
• Process the filled, lidded jars in a boiling water canner.
• Carefully remove jars from boiling water; let cool.
• Remove screw bands after about 12 to 24 hours.
• Label and date product.
• Store product in a dark, dry, cool location.

PROCESSING DETAILS

Determine processing times at altitude using a boiling-water canner:

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University of Illinois Extension
<table>
<thead>
<tr>
<th>Problem</th>
<th>Cause</th>
<th>Prevention</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Formation of crystals</strong></td>
<td>Excess sugar</td>
<td>Use a tested recipe and measure ingredients precisely.</td>
</tr>
<tr>
<td></td>
<td>Undissolved sugar sticking to sides of saucepot.</td>
<td>Dissolve all sugar as jelly cooks. If necessary, wipe side of pan free of crystals with damp cloth before filling jars.</td>
</tr>
<tr>
<td></td>
<td>Tartrate crystals in grape juice.</td>
<td>Extract grape juice and allow tartrate crystals to settle out by refrigerating the juice overnight. Strain juice before making jelly.</td>
</tr>
<tr>
<td></td>
<td>Mixture cooked too slowly or too long.</td>
<td>Cook at a rapid boil. Remove from heat immediately when jellying point is reached. Make small batches at a time; do not double a tested recipe.</td>
</tr>
<tr>
<td><strong>Bubbles</strong></td>
<td>Air became trapped in hot jelly.</td>
<td>Remove foam from jelly or jam before filling jars. Ladle or pour jelly quickly into jar. Do not allow jelly or jam to start gelling before jars are filled.</td>
</tr>
<tr>
<td></td>
<td>May denote spoilage. If bubbles are moving, do not use.</td>
<td>Follow recommended methods for applying lids and processing. (See Mold or Fermentation on following page.)</td>
</tr>
<tr>
<td><strong>Too soft</strong></td>
<td>Overcooking fruit to extract juice.</td>
<td>Avoid overcooking; this lowers the jellying capacity of pectin.</td>
</tr>
<tr>
<td></td>
<td>Using too much water to extract the juice.</td>
<td>Use only the amount of water suggested in the instructions.</td>
</tr>
<tr>
<td></td>
<td>Incorrect proportions of sugar and juice.</td>
<td>Follow recommended proportions.</td>
</tr>
<tr>
<td></td>
<td>Undercooking causing insufficient concentration of sugar.</td>
<td>Cook rapidly to jellying point.</td>
</tr>
<tr>
<td></td>
<td>Insufficient acid.</td>
<td>Lemon juice is sometimes added if the fruit is acid deficient.</td>
</tr>
<tr>
<td></td>
<td>Making too large a batch at one time.</td>
<td>Use only 4 to 6 cups of juice in each batch of jelly.</td>
</tr>
<tr>
<td></td>
<td>Moving product too soon.</td>
<td>Do not move jellied products for at least 12 hours.</td>
</tr>
<tr>
<td></td>
<td>Insufficient time before using.</td>
<td>Some fruits take up to 2 weeks to set-up completely; plum jelly and jellies or jams made from bottled juices may take the longer time.</td>
</tr>
<tr>
<td><strong>Syneresis or “weeping”</strong></td>
<td>Excess acid in juice makes pectin unstable.</td>
<td>Maintain proper acidity of juice.</td>
</tr>
<tr>
<td></td>
<td>Storage place too warm or storage temperature fluctuated.</td>
<td>Store processed jars in a cool, dark, and dry place. Refrigerate after opening.</td>
</tr>
<tr>
<td><strong>Darker than normal color</strong></td>
<td>Overcooking sugar and juice.</td>
<td>Avoid long boiling. Make smaller batches and cook rapidly.</td>
</tr>
<tr>
<td></td>
<td>Stored too long or at too high of temperature.</td>
<td>Store processed jars in a cool, dark, and dry place; use within one year. Refrigerate after opening.</td>
</tr>
</tbody>
</table>

# Causes and Possible Solutions for Problems with Jellied Fruit Products

<table>
<thead>
<tr>
<th>Problem</th>
<th>Cause</th>
<th>Prevention</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cloudiness</td>
<td>Green fruit (starch).</td>
<td>Use firm, ripe fruit, or slightly underripe.</td>
</tr>
<tr>
<td></td>
<td>Imperfect straining of homemade juice.</td>
<td>Do not squeeze juice; let it drip through jelly bag.</td>
</tr>
<tr>
<td></td>
<td>Jelly or jam allowed to stand before it was poured into jars or poured too slowly.</td>
<td>Pour into jars immediately upon reaching gelling point. Work quickly.</td>
</tr>
<tr>
<td>Mold or fermentation: denotes spoilage</td>
<td>Yeasts and mold grow on jelly.</td>
<td>Process in a boiling water canner. Test seal before storing. Pre-sterilize when processed less than 10 minutes in boiling water.</td>
</tr>
<tr>
<td></td>
<td>Imperfect sealing. Common also with paraffin-covered jellies.</td>
<td>Use new flat lids for each jar; make sure there are no flaws. Pre-treat lids per manufacturer's directions. Use ring bands in good condition: no rust, no dents, no bends. Wipe sealing surface of jar clean after filling, before applying lid.</td>
</tr>
<tr>
<td></td>
<td>Improper storage.</td>
<td>Store processed jars in a dark, dry, cool place. Refrigerate after opening.</td>
</tr>
<tr>
<td>Too stiff or tough</td>
<td>Overcooking.</td>
<td>Cook jelly mixture to a temperature 8°F higher than the boiling point of water or until it “sheets” from a spoon.</td>
</tr>
<tr>
<td></td>
<td>Too much pectin in fruit.</td>
<td>Use ripe fruit. Decrease amount if using commercial pectin.</td>
</tr>
<tr>
<td></td>
<td>Too little sugar, which requires excessive cooking.</td>
<td>When pectin is not added, use ¾ cup sugar to 1 cup juice for most fruits.</td>
</tr>
</tbody>
</table>

Published July 2021

## Resources

**Books**
- *So Easy to Preserve, 6th Edition*: [setp.uga.edu](https://setp.uga.edu)

**The Ball *Blue Book***

**Websites and Online Videos**
- National Center for Home Food Preservation: [nchfp.uga.edu](https://nchfp.uga.edu)
- From Garden Gates to Dinner Plates: [go.illinois.edu/CottageFoods](https://go.illinois.edu/CottageFoods)
- University of Illinois Extension Food Preservation Resources: [go.illinois.edu/PreserveFood](https://go.illinois.edu/PreserveFood)

Created by: University of Illinois Extension Nutrition and Wellness

Lead Author: Mary Liz Wright, MS

Learn More [extension.illinois.edu](http://extension.illinois.edu)