

Jelly, Jam, Spreads

Canning Procedures

Prepare products as described on the following pages. All products should be filled while hot into sterile half-pint or pint canning jars, leaving $\frac{1}{4}$ inch of headspace. To sterilize empty jars, put them open side up on a rack in a boiling water canner. Fill the canner and jars with hot (not boiling) water to 1 inch above top of jars. Boil jars for 10 minutes. Remove and drain hot, sterilized jars one at a time and fill with food.

Food residue should be removed from the sealing edge of the jar with a clean, damp paper towel. New two-piece canning lids prepared according to manufacturer's directions should be added. After screw bands are tightened, jars should be processed in a boiling water canner.

To Process in a Boiling Water Canner

Fill canner halfway with water and preheat to 180°F. Load sealed jars into the canner rack and lower with handles, or load one jar at a time with a jar lifter onto rack in canner. Add water, if needed, to 1 inch above jars and add cover. When water boils vigorously, lower heat to maintain a gentle boil and process jars of the product for the time given in Table 1.

When processing is complete, turn off the heat and remove canner lid. Wait 5 minutes. Remove jars from the canner with a jar lifter and place on a towel or rack. Do not retighten screw bands. Air-cool jars for 12 to 24 hours. Remove screw bands and check lid seals. If the center of the lid is indented, wash, dry, label, and store jar in a clean, cool, dark place. If lid is unsealed, examine and replace the jar if defective, use new lids, and reprocess as before. Wash screw bands and store separately. Jelly, jam, and spreads are best if consumed within a year and are safe as long as lids remain vacuum sealed.



Preparing Juice for Jelly

Wash all fruits thoroughly before cooking. Cut firm, larger fruits into small pieces. Crush soft fruits or berries. Add water to fruits as listed in Table 2. Put fruit and water in a large saucepan and bring to a boil. Simmer, stirring occasionally, for the amount of time listed or until the fruit is soft.

When fruit is tender, press lightly through a colander. Then let juice drip through a double layer of cheesecloth or a jelly

bag. Excessive pressing or squeezing of cooked fruit will cause cloudy jelly.

CAUTION: USDA and Purdue Extension recommend a boiling water canning process for all cooked jelly, jam, and fruit spreads. Outdated practices such as paraffin, open kettle, and inverting jars after filling risk bacterial, mold, and yeast growth in the product.

Cooked Jelly, Jam, and Spreads

Fresh fruits and juices, as well as some commercially canned or frozen fruit juices, may be used with commercially prepared powdered or liquid pectin. Powdered and liquid pectin products are not interchangeable (you cannot substitute one for another). Low-sugar and no-sugar pectins are also available. Note: Because sugar has a preservative effect on jellies and jams, those made with less or no sugar may have a softer set and may not hold their color as well as higher-sugar types. The order of combining ingredients depends on the type of pectin used. Complete directions for a variety of fruits are provided with packaged pectin. The following recipes are normally available with packaged pectin:

- Jellies—apple, crab apple, blackberry, boysenberry, dewberry, currant, elderberry, grape, mayhaw, mint,

peach, plum, black or red raspberry, loganberry, rhubarb, and strawberry

- Jams—apricot, blackberry, boysenberry, dewberry, loganberry, red raspberry, youngberry, blueberry, cherry, currant, fig, gooseberry, grape, orange marmalade, peach, pear, plum, rhubarb, strawberry, and spiced tomato

Be sure to use mason canning jars and self-sealing, two-piece lids and process the jars in boiling water as described on page 1. Purchase packaged pectin needed each year. Old pectin may result in poor gels. The following special jelly and jam recipes use regular packaged pectin. Do not use low- or no-sugar pectin in these recipes. If using pectin that is sold in a jar or by bulk, check with the manufacturer for the amount equivalent to one box.

Grape-Plum Jelly with Pectin

- 3½ lb ripe plums
- 3 lb ripe Concord grapes
- 1 cup water
- ½ tsp butter or margarine (optional ingredient to reduce foaming)
- 8½ cups sugar
- 1 box (1¾ oz) powdered pectin

Yields approx. 10 half-pints

Procedure. Wash and pit plums; do not peel. Thoroughly crush plums and grapes, one layer at a time, in a saucepan. Add water. Bring to a boil, cover, and simmer for 10 minutes. Strain juice through a jelly bag or double layer of cheesecloth. Measure sugar and set aside. Combine 6½ cups of juice with butter and pectin in a large saucepan. Bring to a hard boil over high heat, stirring constantly. Add the sugar and return to a full, rolling boil. Boil hard for 1 minute, stirring constantly. Remove from heat, skim off foam, and quickly fill into sterile half-pint jars, leaving ¼ inch of headspace. Adjust lids and process the jars as given in Table 1.

Blueberry-Spice Jam with Pectin

- 2½ pints ripe blueberries
- 1 Tbsp lemon juice
- ½ tsp ground nutmeg or cinnamon
- 5½ cups sugar
- ¾ cup water
- 1 box (1¾ oz) powdered pectin

Yields approx. 5 half-pints

Procedure. Wash and thoroughly crush blueberries, one layer at a time, in a large saucepan. Add lemon juice, spice, and water. Stir in pectin and bring to a full, rolling boil over high heat, stirring frequently. Add the sugar and return to a full, rolling boil. Boil hard for 1 minute, stirring constantly. Remove from heat, quickly skim off foam, and fill into sterile half-pint jars, leaving ¼ inch of headspace. Adjust lids and process the jars as given in Table 1.

Pear-Apple Jam with Pectin

- 2 cups peeled and crushed fully ripe pears
- 1 cup peeled and finely chopped apples
- ¼ tsp ground cinnamon
- 6½ cups sugar
- ½ cup bottled lemon juice
- 6 oz liquid pectin (2 pouches)

Yields approx. 7 to 8 half-pints

Procedure. Wash, peel, and core pears. Crush well and measure 2 cups into a large saucepan. Wash, peel, core, and finely chop 1 cup of apples. Add apples to pears and stir in cinnamon. Thoroughly mix sugar and lemon juice into fruits and bring to a boil over high heat, stirring constantly. Immediately stir in pectin. Bring to a full, rolling boil and boil for 1 minute, stirring constantly. Remove from heat, quickly skim off foam, and fill into sterile half-pint jars, leaving ¼ inch of headspace. Adjust lids and process the jars as given in Table 1.

Strawberry-Rhubarb Jelly with Pectin

- 1½ lb red stalks of rhubarb
- 1½ qt ripe strawberries
- ½ tsp butter or margarine (optional ingredient to reduce foaming)
- 6 cups sugar
- 6 oz liquid pectin (2 pouches)

Yields approx. 7 half-pints

Procedure. Wash and cut rhubarb into 1-inch pieces and blend or grind. Wash, stem, and crush strawberries, one layer at a time, in a saucepan. Place both fruits in a jelly bag or double layer of cheesecloth and gently squeeze out juice. Combine and mix 3½ cups of juice and sugar. Add butter if desired. Bring to a boil over high heat, stirring constantly. Immediately stir in pectin. Bring to a full, rolling boil and boil hard for 1 minute, stirring constantly. Remove from heat, quickly skim off foam, and fill into sterile half-pint jars, leaving ¼ inch of headspace. Adjust lids and process the jars as given in Table 1.

Uncooked Jam or Jelly with Pectin

Uncooked jams and jellies are easy to prepare and have a fresh fruit taste. They can be made from most fresh or frozen fruits or fruit juices. They must be stored in the refrigerator or freezer. Follow pectin directions for when to refrigerate or freeze. Some are refrigerated immediately, while others must not be refrigerated or frozen until the gel is set, which could take up to 24 hours. After the gel has formed, they can be kept up to 3 weeks in a refrigerator or up to a year in a freezer. Freezer storage is best for maintaining natural color as well as flavor. Room temperature is not recommended because uncooked jellied products will mold or ferment in a short time.

Uncooked Berry Jelly

- 3 cups unsweetened berry juice, fresh or frozen (strawberry, raspberry, or blackberry)
- 4½ cups sugar
- 1 box (1¾ oz) powdered pectin
- ½ cup water

Yields approx. 6 half-pint jars

Procedure. Add sugar to 1¼ cups of berry juice. Stir thoroughly. Add the pectin slowly to the water. Heat almost to boiling, stirring constantly. Pour the pectin mixture into the remaining 1¾ cups of berry juice. Stir until pectin is completely dissolved. Let the pectin mixture stand for 15 minutes. Stir occasionally. Mix the juice mixture with the pectin mixture. Stir until all sugar is dissolved.

Pour into freezer containers or canning jars, leaving ½ inch of headspace. Cover with a tight lid. Let stand at room temperature until set (up to 24 hours). Store in refrigerator or freezer.

Uncooked Blackberry or Raspberry Jam from Fresh Fruit

- 3 cups crushed blackberries or raspberries (about 1½ quarts)
- 5½ cups sugar
- 1 box (1¾ oz) powdered pectin
- ¾ cup water

Yields approx. 7 half-pint jars

Procedure. If blackberries are very seedy, put part of them through the sieve or a food mill. Measure 3 cups of prepared berries. Place in an extra-large mixing bowl. Add sugar, mix well, and let stand for 10 minutes, stirring occasionally. Dissolve the powdered pectin in the water,

bring to a boil, and boil for 1 minute. Add pectin to berries and sugar and stir for 3 minutes. Pour the jam into freezer containers or canning jars, leaving ½ inch of headspace. Cover the container. Let stand at room temperature until set (up to 24 hours). Freeze or refrigerate.

Recipes with Reduced Amounts of Sugar

Several jelling agents cause jams and jelly to thicken. Several pectin products are available that require low to no sugar or may be used with artificial sweeteners. Read labels carefully. The texture of these products may be different than that of products made with sugar. Some weeping may occur. The following recipes use reduced amounts of sugar.

Grape Jelly with Gelatin

- 2 Tbsp unflavored gelatin powder
- 1 bottle (24 oz) unsweetened grape juice
- 2 Tbsp bottled lemon juice
- 2 Tbsp liquid artificial sweetener (saccharin is acceptable)

Yields approx. 3 half-pints

Procedure. In a saucepan, soften the gelatin in the grape and lemon juices. Bring to a full, rolling boil to dissolve gelatin. Boil for 1 minute and remove from heat. Stir in sweetener. Fill quickly into hot, sterile half-pint jars, leaving ¼ inch of headspace. Adjust lids. Do not process or freeze; store in refrigerator and use within 4 weeks.

Apple Jelly with Gelatin

- 2 Tbsp unflavored gelatin powder
- 1 qt bottled unsweetened apple juice
- 2 Tbsp bottled lemon juice
- 2 Tbsp liquid saccharin sweetener
- Food coloring, if desired

Yields 4 half-pints

Procedure. In a saucepan, soften gelatin in apple and lemon juices. To dissolve gelatin, bring to a full, rolling boil and boil for 2 minutes. Remove from heat. Stir in sweetener and food coloring, if desired. Pour into sterile half-pint jars, leaving ¼ inch of headspace. Adjust lids. Do not process or freeze; store in refrigerator and use within 4 weeks.

Variation. For spiced apple jelly, add two 3-inch sticks of cinnamon and four whole cloves to mixture before boiling. Remove both spices before adding the sweetener and food coloring.

Peach-Pineapple Spread

- 4 cups drained peach pulp obtained as directed below
- 2 cups drained, unsweetened, crushed pineapple
- ¼ cup bottled lemon juice
- 2 cups sugar (optional)

Yields 5 to 6 half-pints

Variation. The above recipe may also be made with any combination of peaches, nectarines, apricots, and plums. It may also be made without sugar or with as much as 2 cups of sugar. Nonnutritive sweeteners may be added; however, the sweetening power of aspartame may be lost within 3 to 4 weeks.

Procedure. Thoroughly wash 4 to 6 pounds of firm, ripe peaches. Drain well. Peel and remove pits. Grind fruit flesh with a medium or coarse blade, or crush with a fork. Do not use a blender. Place ground or crushed fruit in a 2-quart saucepan. Heat slowly to release juice, stirring constantly, until fruit is tender. Place cooked fruit in a jelly bag or strainer lined with four layers of cheesecloth. Allow juice to drip for about 15 minutes. Save the juice for jelly or other uses. Measure 4 cups of drained fruit pulp for making spread. Combine the 4 cups of pulp, pineapple, and lemon juice in a 4-quart saucepan. Add up to 2 cups of sugar, if desired, and mix well. Heat and boil gently for 10 to 15 minutes, stirring often. Fill quickly into jars, leaving ¼ inch of headspace. Adjust lids and process the jars as given in Table 1.

Remaking Soft Jams and Jellies

Before remaking jellied products, it is best to wait 3 days while the product rests in a cool place; jellifying sometimes takes time. Remake a trial batch using 1 cup of jam or jelly first. Do not remake more than 8 cups at a time.

Remaking Soft Cooked Jams or Jellies

To Remake Soft Jam or Jelly with Powdered Pectin

Measure jam or jelly to be recooked. Work with no more than 4 to 6 cups at a time. For each quart of jam or jelly, mix ¼ cup of sugar, ½ cup of water, 2 tablespoons of bottled lemon juice, and 4 teaspoons of powdered pectin. Bring to a boil while stirring. Add jam or jelly and bring to a rolling boil over high heat, stirring constantly. Boil hard for ½ minute. Remove from heat, quickly skim foam off jam or jelly, and fill sterile jars, leaving ¼ inch of headspace. Adjust new lids and process as recommended in Table 1.

To Remake Soft Jam or Jelly with Liquid Pectin

Measure jam or jelly to be recooked. Work with no more than 4 to 6 cups at a time. For each quart of jam or jelly, measure ¾ cup of sugar, 2 tablespoons of bottled lemon juice, and 2 tablespoons of liquid pectin. Bring jam or jelly only to a boil over high heat while stirring. Remove from heat and quickly add the 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 of headspace. Adjust new lids and process as recommended on Table 1.

Remaking Soft Uncooked Jam or Jelly

To Remake Freezer Jam or Jelly with Liquid Pectin

Mix jam or jelly in a bowl and for each 1 cup of jam or jelly add 3 tablespoons of sugar and 1½ teaspoons of lemon juice. Stir well until sugar is dissolved (about 3 minutes). Add 1½ teaspoons of liquid pectin per cup of jam or jelly and stir until well blended (about 3 minutes). Pour into clean containers. Cover with tight lids. Let stand in refrigerator until set. Store in refrigerator or freezer.

To Remake Freezer Jam or Jelly with Powdered Pectin

Mix jam or jelly in a bowl and add 2 tablespoons of sugar for each cup of jam or jelly. Stir well until dissolved (about 3 minutes). Measure 1 tablespoon of water and 1½ teaspoons of powdered pectin for each cup of jam or jelly. Place in a small saucepan over low heat, stirring until pectin is dissolved. Add this mixture to the sugar and fruit mixture and stir until thoroughly blended (about 2 to 3 minutes). Pour into clean containers. Cover with tight lids. Let stand in refrigerator until set. Store in refrigerator or freezer.

Stiff Jams or Jellies

Stiff jams or jellies may result from:

- overcooking
- adding too much pectin
- using too little fruit and/or juice
- using too little sugar or too much underripe fruit

Stiff jams or jellies can be thinned with water or fruit juice and reprocessed. However, they may or may not form a gel again once they are reheated since overcooking pectin can reduce or destroy its ability to form a gel structure. An alternative use for hard-gelled preserves is to carefully melt them on the stove or in the microwave before using them as a meat glaze, a spread for pancakes, or a topping for ice cream.

Table 1. Recommended processing times in a boiling water canner for jellies, jams, and spreads.

Product	Style of pack	Jar size	Process time (in minutes) at altitudes of		
			0–1,000 ft	1,001–6,000 ft	Above 6,000 ft
All jellies and jams with or without added pectin	Hot	Half-pints and pints	5*	10	15
Peach-pineapple spread	Hot	Half-pints	15	20	25
	Hot	Pints	20	30	35

*Use sterilized jars.

Table 2. Measurements for preparing juice for jelly.

Product	Cups of water per pound of fruit	Minutes to simmer before extracting juice
Apples	1	20 to 25
Blackberries	0 to ¼	5 to 10
Crab apples	1	20 to 25
Grapes	0 to ¼	5 to 10
Plums	½	15 to 20



For additional information about food preservation, contact the Purdue Extension office in your county, or call 888-EXT-INFO (888-398-4636; toll free).

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