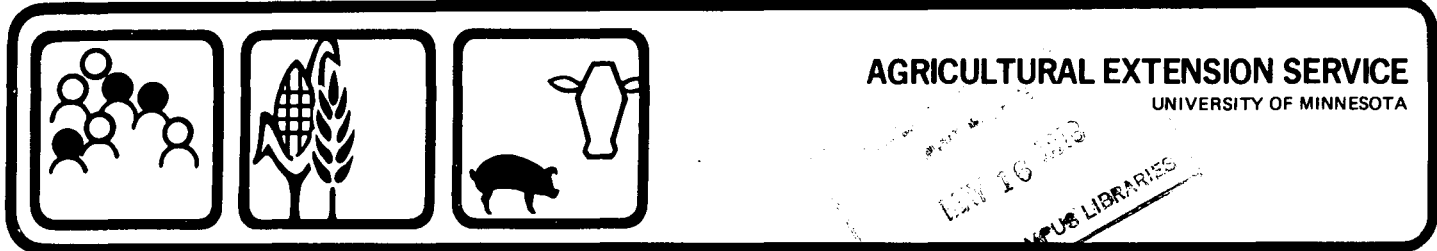


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# Making Jams, Marmalades, Preserves, and Conserves

Jams, marmalades, preserves, and conserves are fruit products which are preserved by sugar. These products differ in the degree of gel attained, manner of preparation of fruit, and ingredient composition. They are easily made at home.

- Jams** are made from crushed or ground, whole fruit and usually have a thick consistency due to high pectin content.
- Marmalade** is a jelly with pieces of fruit suspended in it. Citrus peel and juice are frequently the basis of marmalade.
- Preserves** are made by cooking whole or large pieces of fruit in a thick sugar syrup. Preserves are sometimes slightly jellied.
- Conserves** are jams made from a mixture of fruits. They usually contain citrus fruit, nuts, and raisins.

## INGREDIENTS

*Fruit* gives the product its special flavor and often provides pectin for thickening.

*Pectin* is needed to provide thickening or gel formation. Pectin is formed from a parent compound, protopectin, during the ripening of fruit and during the cooking of underripe fruit. All fruits contain some pectin. Apples, crabapples, gooseberries, some plums, highbush cranberries, and citrus peel contain large amounts of pectin. Other fruits like blueberries, strawberries, cherries, or huckleberries contain little pectin and give thick jams, marmalades, and conserves only if:

1. combined with fruit rich in pectin, or
2. combined with powdered or liquid pectin.

*Acid.* Sufficient acid must be present for gel formation in marmalades and thickening in jams and conserves. For fruits lacking in natural acid, like strawberries, it is provided by lemon juice or other citrus fruit. Commercial pectin products contain organic acids, like fumaric acid, which increase the acid content of fruits which lack acid.

*Sugar* aids in gel formation, develops flavor by adding sweetness, and acts as a preservative in jams, marmalades, preserves, and conserves. Corn syrup or honey can replace part of the sugar in these fruit products.<sup>1</sup> Use light colored, mild-flavored honey. If you substitute too much honey, it can overpower the fruit flavor.

<sup>1</sup>Recipes with no added pectin—  
Corn syrup may replace 1/2 sugar  
Honey may replace 1/2 sugar

Recipes with added pectin—  
Corn syrup may replace 1/2 sugar  
Honey may replace 1/3 sugar

## EQUIPMENT

- The following equipment may be needed:
- Large, flat bottom kettles (6-8 quart size)
  - Wooden spoons and metal spoons
  - Jelly or candy thermometer
  - Standard canning jars with two-piece lids
  - or
  - Jelly jars and paraffin<sup>2</sup>
  - Boiling water bath canner

## FILLING JARS AND HEAT PROCESSING

Jams, marmalades, conserves, and preserves, because of their high sugar content, may be canned by the open kettle method. If you use this method, you must sterilize the jars.

A recent research study conducted at the University of Minnesota demonstrated that heat processing these products for 5 to 15 minutes had no harmful effect on the jam, marmalade, conserve, or preserve. Products tested included ones made with liquid and powdered pectin, as well as traditional no-pectin-added ones. In addition, the heat processing gives a better seal, and destroys mold that may be present on the top surface of the product.

### For Open Kettle Canning

1. Use standard jars with 2-piece lids. Sterilize jars in boiling water for 10 minutes and keep hot. Have lids and screw bands ready in boiling water. Fill to 1/8 inch of top, seal immediately. Invert jar, then turn jars upright; check for seal in 12 hours.
2. Jelly jars with paraffin. Use paraffin only for firm products. Paraffin is flammable so be sure to melt it over hot water. Sterilize jars, keep hot. Fill to 1/2 inch of top and cover with a thin layer, 1/8 inch, of paraffin.

### For Heat Processing

1. Use standard jars with 2-piece lids. Have jars clean and hot. Pack product to 1/2 inch of top and seal. Heat process for 5-15 minutes in boiling water bath canner. Count time from when water returns to boil.
2. Do not attempt to heat process paraffin sealed jars.

## NUTRITIVE VALUE

Because of high sugar content, jams, marmalades, preserves, and conserves are mainly a source of calories. One level tablespoon of these products contains 55 to 70 calories and should be used sparingly by persons on weight control diets.

<sup>2</sup>Use paraffin only for thick firm products—thick jam, conserve, or marmalade.

## METHODS OF PREPARATION

The two main methods for preparing jams, conserves, and marmalades are by cooking fruit and sugar (1) with no added pectin and (2) with added pectin.

### No Added Pectin

Jams, conserves, and marmalades made without added pectin require longer cooking and have a slightly different flavor from those with added pectin. They also yield a less finished product.

The product is done when the temperature reaches 220°-222°F.

### Added Pectin

If you are preparing a jam, conserve, or marmalade with powdered or liquid pectin, be sure to carefully follow the directions accompanying the pectin product. The order of combining ingredients depends on the type of pectin used.

Successful preparation of pectin-added jams, marmalades, and conserves depends on accurate timing. Begin counting time when the mixture reaches a full rolling boil—one that cannot be stirred down.

There is a third method for preparing jams; it does not require cooking the fruit—this product must be stored in the refrigerator or freezer.

Directions for making jams by three methods, one method for marmalades, preserves, and conserves, follow. You will find many similar recipes in cookbooks.

### STRAWBERRY JAM without added pectin

4 cups crushed strawberries (takes about 2 quart boxes strawberries)  
4 cups sugar

To prepare fruit. Sort and wash the strawberries; remove any stems and caps. Crush the berries.

To make jam. Measure crushed strawberries into a kettle. Add sugar and stir well. Boil rapidly, stirring constantly, until the mixture reaches 220°-222°F or thickens. Remove from heat; skim.

Fill and seal containers as previously directed. The finished product will be thin in comparison to pectin-added strawberry jam. Makes about four, 8-ounce jars.

### STRAWBERRY JAM with liquid pectin

3 3/4 cups crushed strawberries (2 quart boxes strawberries)  
7 cups sugar  
1/4 cup lemon juice  
1/2 bottle liquid pectin

To prepare fruit. Sort and wash ripe strawberries, remove stems and caps. Crush the berries.

To make jam. Measure crushed strawberries into large kettle. Add sugar, lemon juice, and stir well. Place on high heat; bring quickly to a boil with bubbles over entire surface. Boil hard for one minute, stirring constantly. Remove from heat and stir in pectin. Skim off foam with a metal spoon.

Fill and seal containers as previously described. Makes about eight, 8-ounce jars.

## FREEZER STRAWBERRY JAMS

2 cups prepared fruit (about 1 quart ripe strawberries)  
4 cups (1 3/4 lbs.) sugar  
3/4 cup water  
1 box powdered fruit pectin

Thoroughly crush, one layer at a time, about 1 quart fully ripe strawberries. Measure 2 cups crushed strawberries into a large bowl or pan. Add sugar to fruit, mix well, and let stand. Mix water and pectin in a small saucepan. Bring to a boil and boil 1 minute, stirring constantly. Stir into fruit mixture. Continue stirring about 3 minutes. (There will be a few remaining sugar crystals.) Ladle quickly into glasses. Cover at once with tight lids. When jam is set, store in freezer. If jam will be used within 2-3 weeks, it may be stored in the refrigerator. Makes about six, 8-ounce glasses.

## ORANGE MARMALADE

4 whole oranges, thinly sliced (2 cups cut)  
3 whole lemons, thinly sliced (1 1/2 cups cut)  
6 cups water  
sugar

Add 6 cups water to the thinly sliced fruit and simmer until tender. This takes about 30 minutes. Measure the cooked fruit and liquid. Add 1 cup sugar for each cup of fruit and liquid. Cook the boiling mixture to the gel stage of 220°-222°F. This is best determined with a jelly thermometer. The sheet test<sup>3</sup> may also be used to check for doneness. Pour hot marmalade into prepared jars and seal as previously described.

## TOMATO PRESERVES

2 lbs. small red or yellow meaty tomatoes\*  
1 1/2 cups water  
1/2 lemon—thinly sliced  
3 1/3 cups sugar

Peel tomatoes. Boil lemon in 1/2 cup water for 5 minutes. Simmer remaining water and sugar 5 minutes to make a syrup. Add tomatoes and lemon and lemon water. Boil until tomatoes are clear and syrup is slightly thickened. Skim. Pour into hot jars. Seal with two piece lids and heat process 10 minutes at simmering temperature of 180°-190°F.

\*If using cherry tomatoes, omit 1 cup water.

## PLUM CONSERVE

4 lbs. plums (8 cups cut)  
2 lemons, juice and rind  
6 cups sugar  
1 cup chopped walnuts  
1 pound seedless raisins

Wash plums; cut in half. Remove seeds and measure fruit. Combine all ingredients except nuts. Cook until thick. Add nuts during the last 5 minutes of cooking. Fill and seal containers as previously described.

<sup>3</sup>The jelly is done when 2 big drops slide together and form a sheet that hangs from the edge of the spoon.

