

Home Canning and Preserving of Fruits

COOPERATIVE EXTENSION WORK
IN
AGRICULTURE AND HOME ECONOMICS

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HOME CANNING AND PRESERVING OF FRUITS

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An adequate supply of home canned fruit will aid in **safe-guarding** the health of the family and will also add **variety** and **palatability** to the diet.

Selection and Preparation of Fruits for Canning

Select firm, fully ripe fruit for canning—not overripe nor underripe.

Sort and grade for size, color, and good canning quality.

Wash thoroughly before peeling, seeding, or hulling. **Wash** berries, cherries and similar fruits by placing in colander **and** allowing water to run through. Remove all spots and blemishes. They may cause spoilage.

Prepare fruit for the can by peeling, seeding, halving, or cutting into desired size pieces.

Pack immediately into sterilized containers before fruits have time for discoloration. Discoloration of such fruits as apples and pears may be prevented by dropping the pieces into a solution made of 1 gallon of water, 2 T. salt and 2 T. vinegar. Rinse the solution off with cold water before adding fruit to syrup.

Methods

I. *Cold Pack*. Pack the raw fruit into sterilized containers whole or cut into desired sized pieces. Shake down occasionally for a full pack. Cover with hot syrup and process. **Add 10 minutes** to the following time table for *raw* packs.

Fruit canned by this method will have good flavor, texture and shape but may float from the bottom of jar at times due to shrinkage.

II. *Hot Pack*. Preheating fruits before packing into containers will overcome floating, due to shrinkage, and will reduce the number of containers used, because more food may be packed into jars. The preheating may be done in the oven or on the surface of the stove—in syrup or by having the sweetening added directly to the fruit.

Preheating in syrup is preferable for such fruits as apples, peaches and pears. Juicy fruits such as berries, cherries and rhubarb are particularly nice when the sweetening is added directly to the fruit in layers ($\frac{1}{4}$ - $\frac{1}{2}$ c. sugar per quart of fruit). Preheating in a low oven is particularly desirable when this method is used.

Consult "How to Prepare" in the processing time table.

III. *Special Methods*—The canning of strawberries is the only special method mentioned in this bulletin.

Sweetening

Fruits may be canned with or without sugar—with sugar alternates such as corn syrup or honey, or with part sugar and part syrup or honey.

Syrups:

Thin—1 cup sugar to 3 or 4 cups water.

Medium—1 cup sugar to 2 cups of water.

Thick—1 cup sugar to 1 cup water.

As a rule it takes $\frac{3}{4}$ to 1 cup of syrup to each quart of fruit.

In using sugar alternates such as corn syrup and honey, a good proportion is $\frac{1}{3}$ part corn syrup to $\frac{2}{3}$ part sugar and $\frac{1}{2}$ honey to $\frac{1}{2}$ sugar.

Processing Time Table

KIND OF FOOD	FRUIT-TOMATOES HOW TO PREPARE	Time to Process in Boiling Water Bath at 212° Pints and Quarts
Apples	Pare, core, cut into pieces. Steam or boil in thin syrup or water 5 minutes. Pack hot; cover with hot syrup, or Make Apple Sauce, sweetened or unsweetened. Pack hot.	Minutes 15 15
Apricots	Same as peaches.	15
Berries	If berries are firm, preheat, adding just enough medium syrup or juice to prevent sticking to the pan. Pack hot. or Add sugar directly to berries ($\frac{1}{4}$ - $\frac{1}{2}$ cup sugar per quart berries). Heat gently in oven or on surface of stove until thoroughly heated. Pack hot; cover with hot juice.	10
Cherries	Can cherries with or without pits. Follow directions for berries. For sour cherries, use medium syrup; for sweet cherries, use thin syrup.	15
Cranberries	Same as berries.	10
Grapes	Wash, stem, pack. Cover with hot water or thin syrup.	20
Grapefruit	Peel, cut out sections, being sure all white membrane is removed. Pack; add juice or press down to make own liquid.	20
Peaches	Remove skins and pits. Precook juicy peaches slowly until tender, adding $\frac{1}{4}$ cup sugar to 1 quart of fruit to draw out juice. Precook less juicy peaches in thin to medium syrup for 3 to 5 minutes. Pack hot; cover with boiling juice or syrup.	20
Pears	Peel, cut in halves, core. Otherwise same as peaches. Not so satisfactory when cold packed. For less tender pears, increase processing time 10 minutes.	25
Persimmons	Same as Fruit or Tomato Purees.	25
Pimentos Ripe	Place in hot oven for 6 to 8 minutes. Dip into cold water. Remove skins, stems, and seed cores. Pack and add $\frac{1}{2}$ teaspoon salt to each pint. Do not add liquid.	40

Processing Time Table (Continued)

KIND OF FOOD	FRUIT-TOMATOES HOW TO PREPARE	Time to Process in Boiling Water 3ath at 212° Pints and Quarts
Pineapple . . .	Pare, core, remove eyes, slice or cut into desirable shape pieces. Follow directions for berries.	Minutes 20
Plums, Prunes	Put up plums whole or in halves. Prick skin of each whole plum. Preheat 3 to 5 minutes in juice, or thin to medium syrup. Pack hot; cover with boiling syrup or juice.	15
Rhubarb	Cut into ½-inch lengths. Add ½ to 1 cup sugar to each quart rhubarb. Heat until tender in oven. Pack hot; cover with hot juice.	10
Strawberries . .	Add sugar directly to berries (½-1 cup sugar per quart of berries). Combine in alternate layers. Let stand a few hours, then heat gently in a low oven (225° F.) or on surface of stove until thoroughly hot. Pack hot. Cover with hot juice. or Combine berries and sugar as described above. Bring gently to boiling point and boil 2-3 minutes. Remove from heat and let stand over night. Then bring quickly to boiling. Pack hot; cover with hot juice.	15
Tomatoes . . .	Cold pack—pack raw, whole or in pieces, making a solid pack. Use good quality tomatoes for this pack. or Scald and peel; remove core and bad spots. Quarter or leave whole, heat to boiling for a few minutes. Pack hot and add 1 teaspoon salt to each quart.	35 20
Tomato juice	Remove stems and all green and bad spots. Cut into pieces. Simmer only until softened. Put through a fine sieve immediately. Add 1 teaspoon salt to each quart. Reheat at once just to boiling. Fill into hot jars immediately. Leave ¼-inch head space.	15
Fruit juices	Berries, red cherries, currants, grapes, plums, or blends of these—remove any pits; crush the fruit. Heat gently to 170° F. (below simmering) until soft. Strain through a cheese cloth bag. Add sugar if desired—about ½ to 1 cup sugar to 1 gallon of juice. Heat to 170° F. again; fill into hot jars or bottles. Leave ¼-inch head space.	20 simmering temper- ature

Processing Time Table (Continued)

KIND OF FOOD	FRUIT-TOMATOES HOW TO PREPARE	Time to Process in Boiling Water Bath at 212° Pints and Quarts
Fruit or Tomato Puree	Put the cooked product through a fine sieve. Proceed as for fruit juices.	Minutes 20
Pickles and Relishes . . .	Pack into sterilized containers; cover with pickling solution.	15 simmering
Preserves and Butters	Fill hot into sterilized containers.	15 simmering
Sauerkraut . . .	Pack well fermented kraut into sterilized containers unless kraut was made in glass jars. Cover with kraut juice or fresh brine (2 T. salt to a quart water) to within ¼-inch of top.	15 simmering

Add 10 minutes to the above processing table for cold packs.

A time table for canning fruits in a pressure canner is not included for several reasons. The types of spoilage organisms dealt with in fruit require only a short processing time at boiling temperature to destroy them. Furthermore it is easier to preserve the texture of fruit in a hot water canner than when using the higher temperature of a pressure canner. A few minutes (even 1 or 2) of over processing in a pressure canner may greatly impair the texture of fruit. Many authorities on home canning feel that neither time nor labor is really saved by the use of a pressure canner, but they do feel that there is a great chance generally for over-processed products.

Not much work to date has been done on pressure canner time tables for canning fruits.

Special Problems

Sulphured Apples:

1½ gal. of peeled, quartered apples (cut into 8ths or sliced if large apples).

1 level teaspoon sulphur, U. S. P. grade (refined).

Barrel, box or large crock which may be tightly covered.

Method 1—Place the prepared apples in crock. Place a piece of cotton 2 or 3 inches square and about ½ inch thick on a small plate. Sprinkle the sulphur on the cotton. Set plate in crock on top of the apples and ignite the cotton. Quickly cover the crock to hold all the fumes. Be sure the sulphur is kept burning. After 3 hours remove cotton and plate. Put a

scalded plate on top of apples and a clean, close cover on top of crock, or place apples into glass jars and tighten lids. Store in dry, cool place.

Method 2—The apples may be placed in a basket or cheese cloth bags and suspended in a barrel or box. At the bottom of the barrel place a pan of live coals. Sprinkle the sulphur over coals and quickly cover the barrel to hold in fumes. After 3 hours store in clean glass jars as in Method 1.

When removing for use scoop them out with a clean dish quickly and replace cover. Rinse in cold water before cooking.

Preserves, Jams and Jellies

Preserves

When fruit is cooked with enough sugar to make a mass thick in consistency it is called a preserve. There are various classes of preserves, such as preserves, marmalades, jams, conserves and butters.

A preserve is the result of whole fruit or large pieces of fruit being cooked in a syrup until clear and transparent and the syrup thick.

A marmalade is a product very similar to a preserve except that the fruit has been divided into small pieces. The shape of the fruit should be retained and should be evenly distributed through the syrup.

A jam is a form of preserve in which either whole fruit or portions of it have been used. In the process of making, the fruit crushes or jams together into a mixture of even consistency. Jams are sometimes sieved.

A conserve is a combination of fruits. It may also contain nuts.

A butter is a form of preserve in which the fruit has passed through a sieve and then cooked down to a smooth consistency.

GENERAL PROCEDURE

Equipment

1. Sterilized containers.
2. Use large flat enamel lined or aluminum pans or kettles for cooking and cooling.

The Fruit

1. The fruit should be firm-ripe rather than a soft-ripe.
2. Weigh fruit. For each pound of fruit use $\frac{3}{4}$ to 1 pound sugar—one and one-half to two cups of sugar to 1 well filled pint of fruit by measure. Measuring is not as accurate as weighing because fruits differ in weight.
3. Firm fruits such as apples, and firm pears make better preserves when the cooking is started in a thin syrup. This allows fruit to cook tender before syrup becomes concentrated.
4. It is better to allow tender, juicy fruit such as berries to stand 8 or 10 hours or over night in sugar. This process helps to firm them.
5. The firm-skinned juicy fruits such as plums may be started in a thick syrup because the fruit juices thin down the syrup quite rapidly.
6. Cook small quantities at a time—not more than two or three quarts.
7. Cook rapidly after syrup becomes thick to retain bright color, flavor and good texture.
8. Stir frequently to prevent scorching.
9. Skim at end of cooking period.
10. Cool rapidly for better color and flavor.
11. Paddle or shake out bubbles.
12. Seal by one of these methods:
 - a. Process filled containers to insure a perfect seal and to prevent mold. See fruit processing chart.
 - b. Pour boiling hot mixture into hot sterilized containers and seal immediately, or cool and cover well with hot paraffin.

Methods

A good preserve, jam or marmalade may be made from any kind of fruit by using one of the two methods suggested for cherry preserves.

METHODS

Select sour red cherries. Discard any imperfect ones. Wash and drain. Remove stems and pits without tearing the fruit needlessly. For each pound of pitted cherries use $\frac{3}{4}$ to 1 pound of sugar. Combine the fruit and sugar in alternate layers and let them stand 8 to 10 hours or over night before cooking. Or if preferred, add the sugar and one-fourth cup of water or fruit juice for each pound of the fruit and cook it at once.

skins and pulp. Mix thoroughly and let cook until it shows a jam test.

Peach Marmalade

2 lbs. peaches	1½ lbs. sugar
½ t. of allspice	2 T. cinnamon bark
1 inch of gingerroot	1 T. cloves
1 cracked peach seed	

Add sugar to the sliced peaches. Let stand a few hours. Tie spice in cheesecloth bag; cook all materials together until the fruit is clear and the syrup somewhat thick. Remove spice bag. Pack and seal.

Tomato Preserves

Select firm, small, yellow or red pear-shaped tomatoes. Wash and drain. If a tomato preserve without skins is desired, dip the tomatoes into boiling water, then into cold water, and remove the skins before starting the preserving process. The tomatoes must then be handled with extra care to prevent their going to pieces. To each pound of tomatoes allow three-fourths cup of water, three-fourths pound of sugar, one-fourth lemon thinly sliced, and one piece of gingerroot. Boil the lemon for 5 minutes in part of the water. Boil the remainder of the water with the sugar for 5 minutes to make a syrup. Add the tomatoes, the gingerroot, the lemon, and the liquid in which the lemon was cooked. Boil until the tomatoes are clear and the syrup thick. Remove the scum; then pour the preserves at once into hot sterilized jars and seal.

Jelly

A standard jelly is obtained only when there is a correct proportion of acid and pectin in the fruit juices used and the sugar added.

The following fruits usually contain the right amount of acid and pectin for a good jelly if used at the right stage of maturity: tart apples, crab apples, blackberries, cranberries, currants, grapes, plums, quinces and raspberries.

Jelly may be made from pears, peaches and sweet apples with the addition of an acid. This acid may be supplied by adding the juice of sour apples, currants and grapes or lemon juice (1 or 2 teaspoonful to 1 cup juice). Jelly is sometimes made from such fruits as cherries, apricots, and strawberries by adding apple juice or pectin made from the white lining of oranges or grapefruit, or commercial pectin.

GENERAL PROCEDURE

Equipment—same as for preserves.

Fruit:

1. Use some slightly underripe fruit along with some ripe fruit.
2. Use as little water as possible when extracting juice unless the season has been unusually dry.
3. Cook fruit quickly. Long cooking destroys pectin.
4. Cook a small quantity at a time—4 to 6 quarts of berries or 3 to 6 pounds of other fruits. This will give better flavor and color.
5. Strain through several thicknesses of cheesecloth or a flannel bag.
6. Do not press the juice through the jelly bag if you want a clear jelly.
7. Test for pectin—a practical test. Make jelly by using 1 cup juice and $\frac{3}{4}$ cup sugar. From results determine your procedure.
8. Make a small amount of jelly at a time—not more than 4-8 cups of juice.
9. Measure sugar and juice accurately.
10. Boil rapidly.
11. Skim at end of cooking period.
12. Use the sheeting test to determine when jelly is finished. Dip a large spoon into the boiling syrup and lift spoon so that the syrup drips from the side of spoon. When the drops run together and slide off in a "sheet" remove from fire.
13. Pour into hot boiled jelly glasses.
14. When cold cover with hot paraffin; rotate glasses to get a good seal. When cold, store in a cool, dry place.

Sugar Alternates

Honey may replace half the sugar in preserves, jams and jellies. If you use more than half honey the flavor of the fruit and the consistency and color of the product will be changed.

Corn syrup may replace $\frac{1}{4}$ the weight or measure of sugar in jellies, jams and marmalades and $\frac{1}{2}$ the weight of sugar in preserves and $\frac{1}{3}$ in quick sweet pickles with good results. If either part honey or part corn syrup is used cook preserves and jams several minutes longer than when all sugar is used, and jellies slightly beyond the jelly stage.