

STORE FRUIT JUICES

How to Prepare for the Future Comfort of the Family.

ALL FRUITS CAN BE UTILIZED

Grape Juice—Sirup Made From Windfall Apples and Apple Cider—Here is a Fine Flavoring Sirup.

(From the United States Department of Agriculture.)

Various fruit juices may be prepared in the home and bottled for future use. Practically any fruit may be used in the first recipe following.

Sterilized Fruit Juices.—The fruit juice may be pressed out of fruit by means of a cider press, special fruit press, or other improvised presses; then heated in an acid-proof kettle up to 110 degrees Fahrenheit. The fruit juice may then be poured into ordinary hot jars, hot bottles, or tin cans, and handled by the same directions as those for canning of fruit itself. If poured into miscellaneous bottles, it is suggested that the fruit juice be sterilized as follows:

Make a cotton stopper and press into the neck of the bottle and leave during the sterilization period. Set bottles in boiling hot water up to the neck of the bottle, sterilizing the fruit juice for 30 minutes at a simmering temperature (165 degrees Fahrenheit). Remove the product, press cork in top over cotton stopper immediately. If the cork fits well, no paraffin need be used. If a poor cork, it may be necessary to dip the cork in melted solution of wax or paraffin. Fruit juices and apple cider when handled in this way will not "flatten in taste" and will keep fresh for future use.

Grape Juice by Two-Day Method.—For home use there are a large number of varieties of grapes which will make a pleasant and healthful drink. No matter what the kind of grape,

however, only clean, sound fruit should be used and it should be well ripened, but not overripe. The grapes should first be crushed and pressed in an ordinary cider mill or by hand if no mill is available.

Red Juice.—For red juice, the crushed grapes are heated to about 200 degrees Fahrenheit before the juice is separated from the pulp and then strained through a clean cloth or drip bag without pressure. Thereafter, the process is the same as for light-colored juice.

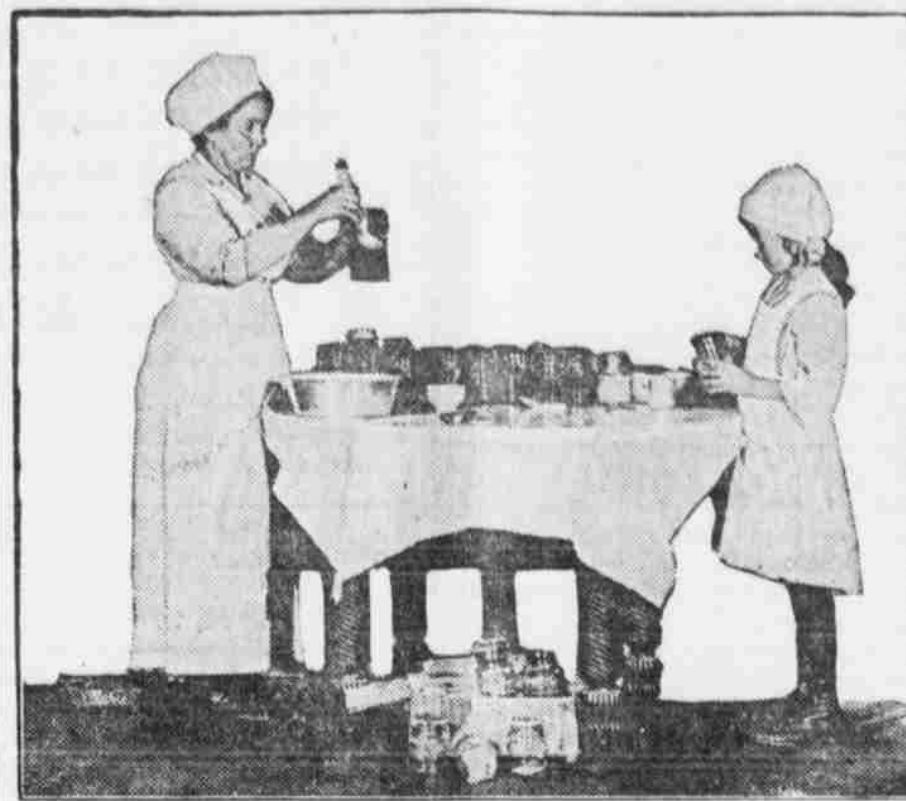
Grape juice should be stored away in bottles or jars that are not too large, for after these have been opened the juice is likely to spoil. If properly made, however, the juice should keep indefinitely as long as it is kept in sealed bottles.

Sirup Made From Windfall Apples and Apple Cider.—Add five ounces of powdered calcium carbonate (obtained at any drug store) to seven gallons of apple cider. Powdered calcium carbonate (carbonate of lime) or, to give it its common name, precipitated chalk, is low-priced and harmless. Boil the mixture in a kettle or vat vigorously for five minutes. Pour the liquid into vessels, preferably glass jars or pitchers; allow to stand six or eight hours, or until perfectly clear. Pour the clear liquid into a preserving kettle. Do not allow sediment at bottom to enter. Add to the clear liquid one level teaspoonful of lime carbonate and stir thoroughly. The process is completed by boiling down rapidly to a clear liquid. Use density gauge or candy thermometer and bring the temperature up to 220 degrees Fahrenheit. If a thermometer is not available, boil until bulk is reduced to one-seventh of the original volume. To determine whether the sirup is cooked enough test for it by pouring a little into cold water. If boiled enough it should have the consistency of maple sirup. It should not be cooked long enough to harden like candy when tested.

When the test shows that the sirup has been cooked enough, pour it into fruit jars, pitchers, etc., and allow it to cool slowly. Slow cooling is important, as otherwise the suspended matter will not settle properly and the sirup will be cloudy.

GOOD FRUITS FOR PRESERVES AND APPROVED PRESERVING METHODS

Not a Difficult Process and the Fruit Keeps Better Than When the Ordinary Canning Process Is Used.



Packing Jams in the Home.

(Prepared Specially by the United States Department of Agriculture.)

The fruits which are so plentiful in many parts of the country this season may be saved by preserving as well as by canning. Preserves and similar products differ from canned fruit in that much larger proportions of sugar are used in preparing them, in that they are cooked longer, and in that special sterilization in containers is not necessary in all cases. Because of this many of these products may be packed in large-necked bottles and glasses, and sealed with cork, paraffin, etc. Tight-sealing jars thus may be saved for canning.

Preserves, jams, marmalades, etc., differ among themselves in the proportion of sugar used, the degree of cooking employed, and the consistency of the finished product. Though less economical to prepare than canned fruit because of the relatively large amounts of sugar used, preserves and similar preparations furnish a variety in the ways of putting up fruits and make valuable additions to the winter ration of sweet foods.

Sirups in Preserving.

When preserves are properly made the fruit keeps its form, is plump, tender, clear, and of good color, the surrounding sirup being also clear and of proper density. In making preserves the object is to have the fruit permeated with the sirup and this can be accomplished only by careful procedure. In order to prevent shrinkage it is necessary to put fruit at first into thin sirup and increase its density slowly by boiling the fruit in the sirup or by alternately cooking and allowing the product to stand immersed in the sirup. If at any time the fruit shrivels or wrinkles the sirup should be made less dense by the addition of water.

To make these sirups boil sugar and water together in the proportion given below until sugar is dissolved. Strain all impurities out of the sirup before using:

Sirup No. 1.—Fourteen ounces sugar to one gallon water.

Sirup No. 2.—One pound, 14 ounces sugar to one gallon water.

Sirup No. 3.—Three pounds nine ounces sugar to one gallon water.

Sirup No. 4.—Five pounds, eight ounces sugar to one gallon water.

Sirup No. 5.—Six pounds, 13 ounces sugar to one gallon water.

If no scales are available, the amounts of sugar may be approximated by measuring, using one pint for each pound and 16 tablespoonfuls to the half-pint. For the recipes which follow all measurements are level and the standard measuring cup holding half-pint is used.

For fruits like peaches, pears, watermelon rind, etc., preserving should be begun in sirup not heavier than No. 3. Juicy fruits like berries can be put at the beginning into a heavier sirup, about No. 4, because the abundant juice of the fruit quickly reduces the density of the sirup before shrinking can take place. When the preserves are finished and ready for packing, the density of the sirup should have reached that of No. 4 or No. 5. Sirup made with very acid fruits can be made heavier than pure sugar sirups without danger of crystallization because the acid inverts some of the sugar, changing it to a form which cooking will not crystallize readily.

Cooking.—Since long cooking injures the color and flavor of fruits, it is desirable to cook delicate fruits such as berries for as short a time as possible. Cooking rapidly after cooking gives preserves a better color and flavor than can be secured when they are packed hot. Standing immersed in sirup after cooking also helps to plump them. If berry preserves are covered for a brief time before removing from fire and the vessel left covered while cooling, the product will be more plump.

For cooling, shallow enamel trays

or pans are desirable. Tin is not desirable because fruits will discolor in it. Pack preserves cold, bring the sirup in which they have stood to boiling, test by observing thickness when poured from a spoon, and if of proper density pour over the packed preserves, padding with thin wooden paddle or knife blade to remove all air bubbles. If not of the right density for packing, the sirup must be concentrated by boiling. To seal properly and to insure safety from mold it is desirable that all preserves be processed. Tight-sealing jars must be used, therefore, for these products. Since they can be sterilized below the boiling point, processing at simmering (80 degrees C.) for 30 minutes is preferable to boiling, because this temperature will give better color.

The general directions given may be applied to practically any fruit to make preserves. For additional convenience, however, the following specific recipes are given for products most likely to be abundant during the remainder of the season.

Watermelon Preserves.—Cut one pound watermelon rind into inch squares. Allow to stand overnight in clear water. Drain and cover with about No. 3 sirup (2 cupfuls sugar to 1 quart water). Boil for 25 minutes. Let stand overnight immersed in sirup. Next morning add juice of half lemon and three slices of lemon additional for each pound. Cook until transparent (about one hour). Let stand until cold. Pack, add the sirup, garnishing with slices of lemon, cap, and process.

Gingered Watermelon Rind.—To each pound of rind cut into 1-inch squares, add two quarts of water and one ounce sliced lime. Let stand in lime water overnight. Next morning drain and let stand one to two hours in fresh, cold water. Drain well and boil rapidly in strong ginger tea (one ounce ginger to one quart water) for 15 minutes. Drain, put into No. 3 sirup made by using one pint strained ginger tea with one quart water and one and a half pounds of sugar. Cook until tender and transparent (about one and a half hours). After boiling a half-hour add half a lemon sliced thin. Place in shallow pans to cool, having the rind well covered with sirup. When cool arrange pieces attractively in jars, cover to overflowing with sirup. Cap, clamp, and process.

The density of the packing sirup for preserved and gingered watermelon rind (also figs and peaches) should be between that of No. 5 and No. 6.

Peach Preserves.—Boil three pounds sugar and three quarts water together until sugar is dissolved. Strain out all impurities. Have four pounds peaches well sorted so that all are sound and firm. Peel the fruit after immersing for about one minute (or until the skin slips off easily) into boiling water—then into cold. If desired, cut the fruit into halves, or thinner crescent-shaped slices. Add the peaches to the sirup and cook until clear and transparent. Remove fruit to shallow tray, cover with sirup and let stand overnight to plump.

Pack the preserves in sterilized jars, cover to overflowing with sirup, which should be further reduced by boiling if not thick enough. Adjust lid and rubber and process.

Tomato Preserves.—Make a sirup, using two cupfuls sugar and three cupfuls water; add one lemon sliced thinly, six inches of stick cinnamon, and let boil 15 minutes; then add one pound of small "yellow plums" or "egg tomatoes," which have been pricked with a coarse needle or scalded and skinned, let simmer until tomatoes are clear. Remove tomatoes and spread out in a tray. Cook sirup until proper consistency, pour over the tomatoes and allow to stand overnight. Next morning pack into small jars, pour sirup over them, partly seal, and process pint jars 15 minutes, partly

HOME JELLY MAKING

Fruits That Are Best Suited for This Delicious Product.

PECTIN IS PRIME ELEMENT

Amount of Sugar Can Be Determined by the Alcohol Test—Mistakes to Be Avoided by the Housewife.

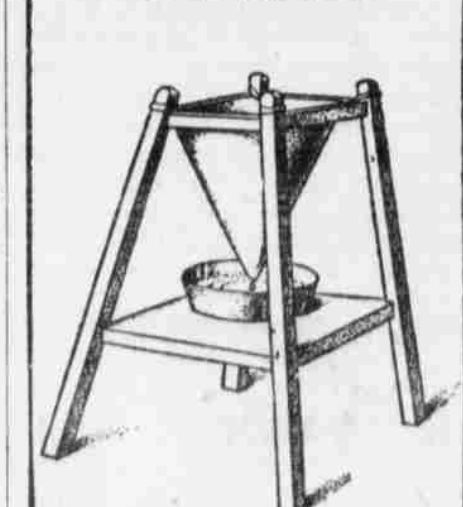
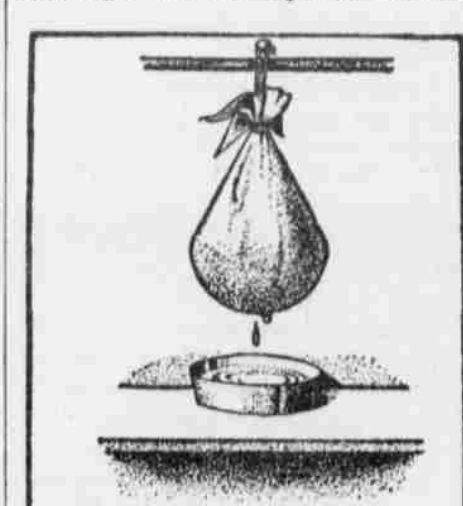
(Prepared by the United States Department of Agriculture.)

A good jelly should be bright, of good color, and clear. When removed from the glass it should retain the shape of the mold. Good jelly can be cut with a distinct cleavage, retaining the angles where cut. It should sparkle and be tender enough to quiver without breaking.

Fruit for Jelly Making.—The juice from certain fruits, such as grape, apple, crabapple, orange, kumquat and currant, is better suited for making a natural fruit jelly than juices from other fruits. The juices from these fruits contain the properties necessary for jelly making. The best fruits for jelly making contain pectin and acid. Pectin, the fundamental jelly-making substance, does not exist in some fruits in sufficient amount to make jelly without the addition of pectin from some other source. The peach, strawberry and cherry are examples of fruits which contain acid but are lacking in pectin. Pear, guava and quince contain pectin but are deficient in acid. If the missing property be added to each of these fruits, a jelly with the color and flavor of the fruit selected can be made.

Extracting the Juice.—Wash such fruit as berries, grapes and currants in running water and add one cupful of water for each pound of fruit. For apples, quinces, guavas and such hard fruits, wash, slice and add three cupfuls water to each pound of fruit. The fruit should be cooked until tender, a small quantity of water being added to help extract the juice. The fruit juice will flow more freely when heated than when cold, and the cooking develops the pectin. As soon as the fruit is tender the liquid should be squeezed through a cheesecloth and then be allowed to drip, without pressure through a flannel jelly bag (illustrated). Overcooking of the fruit is apt to result in a cloudy jelly. After cooling the juice to room temperature test it to determine the amount of pectin present. This test gives some idea of the proper proportion of sugar to juice. Add one tablespoonful 95 per cent grain alcohol to an equal volume of cooled fruit juice and shake gently. The effect of the alcohol is to bring together the pectin in a jellylike mass. If a large quantity of pectin is present it will appear in one mass or clot when poured from the glass. This indicates that equal quantities of sugar and juice may be used. If the pectin does not slip from the glass in one mass, less sugar will be required. A fair

amount of pectin is indicated by a fair amount of sugar being required. A fair amount of pectin is indicated by a fair amount of sugar being required. A fair amount of pectin is indicated by a fair amount of sugar being required.



A Drip or Drain Bag for Use in Jelly Making (Above) and a Jelly Bag With Rack (Below).

proportion is three-fourths cupful of sugar to one cupful of juice. If the pectin is thin and much separated, one-half cupful of sugar allowed for each cupful of juice will be sufficient.

Quantity of Juice to Cook.—The quantity of juice to be cooked at one time will depend upon the size of the vessel and the methods of heating available. The capacity of the vessel used should be four times as great as the volume of juice to be cooked. If the attempt is made to cook a large quantity of juice at one time over a slow flame, there will be a loss of color and a decrease in the yield, partly due to the destruction of the pectin.

When to Add Sugar.—When the proportion of sugar to juice has been determined, measure the fruit juice and place over the fire to cook. When the juice begins to boil, add the sugar immediately and stir until the sugar is dissolved. By adding the sugar when the juice begins to boil, more time is

given for the inversion of the sugar by the acids of the fruit and there is less danger of crystallization.

Cooking the Jelly.—After the sugar has dissolved, the cooking should be as rapid as possible. Finished jelly can be obtained more quickly by rapid cooking. Long cooking will tend to darken the product and destroy the pectin, which will cause the finished jelly to be less firm.

Since no definite temperature can be given for the finished jelly, the most convenient means of determining when it is finished is to test it with a spoon or paddle. Dip a spoon or wooden paddle in the boiling mass. Remove and cool by moving it back and forth for a few seconds and then allow the jelly to drop from it. As long as there is sirup present it will run or drop from the spoon. When the jelling point is reached, it will break from the spoon in flakes or sheets. When this jolly stage is reached, remove from the fire immediately and skim. Skimming at this point saves waste.

Filling Glasses.—After skimming the jelly, pour at once into hot sterilized glasses and set aside to cool.

Cooling and Sealing.—Cool as rapidly as possible, avoiding dust which will give contamination with mold. When the jelly is cold cover it with melted paraffin. By running a pointed stick around the edge of the glass while the paraffin is still hot, a better seal can be obtained.

Storing.—Jelly should be stored in a cool, dark, dry place. If jelly is stored for a long period of time, it will deteriorate in texture, color and flavor.

Mistakes to Avoid.—Soft Jelly.—Jellies sometimes are sirupy because more sugar has been used than the fruit juices require or because boiling after the addition of sugar was not continued long enough to drive off excessive water.

Tough Jelly.—Jelly is tough or stringy because too small an amount of sugar was used for the quantity of fruit juice taken or because the boiling was continued after the jelling point had been reached.

Crystals in Jelly.—Crystals appear throughout the jelly because of an excess of sugar. When sugar is boiled with an acid for a sufficient length of time, it is changed into a form which does not crystallize. Crystals are found in jelly sometimes because the juice is boiled to too great a concentration before the addition of sugar, or in boiling the sirup splatters on the side of the pan, dries, and in pouring the finished product these crystals are carried into the glasses of jelly, and in that way the jelly becomes seeded with crystals.

Cloudy Jelly.—This may be due to having cooked the fruit too long before straining off the juice or to not having used sufficient care in straining the juice. Sometimes it is noticed in apple and crabapple jelly that although it is clear when first made, the jelly becomes cloudy after a time. In these cases it usually is due to the use of partly green fruit, the starch in this fruit probably causing the cloudy appearance.

JELLIES FROM PECTIN.

Pectin, the essential jelly-making substance, may be extracted from fruits rich in it, and this concentrated product used with the juices of fruits deficient in pectin, for the making of excellent jellies.

Apple Pectin.—One pound apple pulp (or skins and cores), juice of one lemon, four pounds water. Boil for half to three-quarters hour, press the juice through a cloth bag, then allow this juice to drain without pressure through a heavy flannel or hair-cloth jelly bag. This juice when cold should be tested with alcohol to determine the proportion of sugar to add to a volume of juice. Pectin can be bottled, processed for 15 minutes in a water bath at boiling, and kept until needed for jelly making.

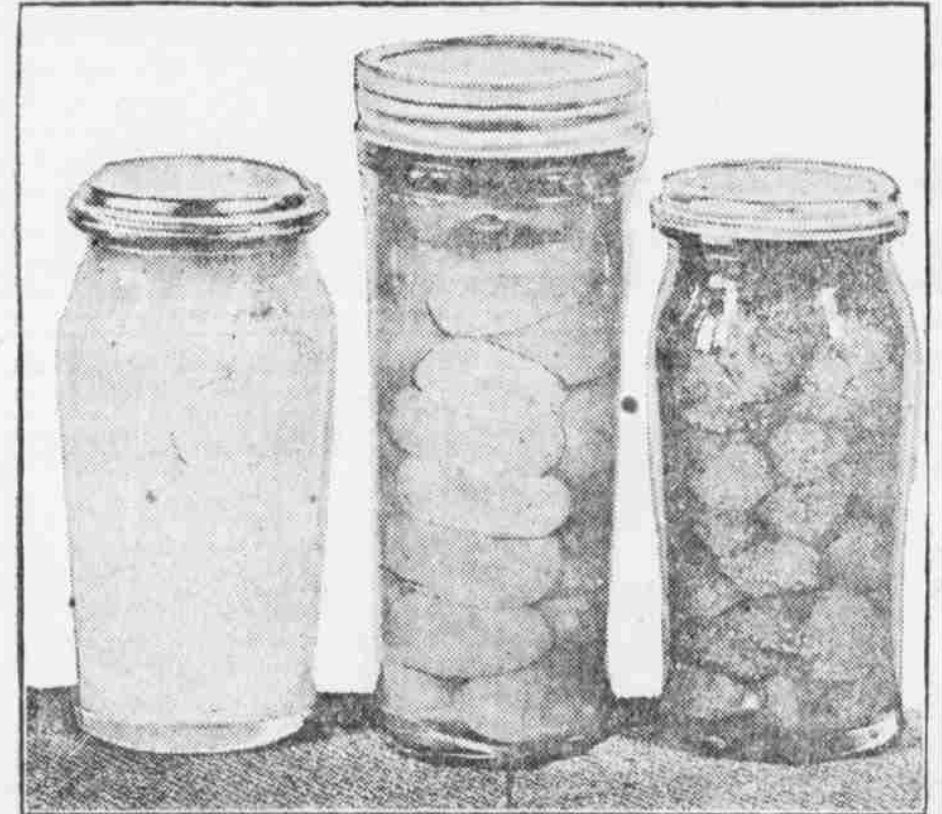
Orange Pectin.—Cut or scrape the yellow rind from the peel of the orange, the white portion remaining being passed through the food chopper and weighed. For each pound of this prepared peel add two pounds of water and four tablespoonfuls of lemon juice, mix thoroughly, and allow to stand 15 minutes. Then add two pounds water, boil ten minutes, let stand overnight. Next morning boil ten minutes, allow to cool, press to remove juice and then drain juice through a flannel bag. If not desired for immediate use, bottle and process as for apple pectin.

Mint and Orange (or Apple) Pectin Jelly.—One pint concentrated orange (or apple) pectin juice, one pound sugar, two drops oil of peppermint, two drops green vegetable coloring. Bring the orange or apple pectin juice to boiling, add sugar, and boil rapidly until the jelling point is reached. At this point two drops of green vegetable coloring matter is added, together with two drops of oil of peppermint. Stir thoroughly, and pour while hot into clean, sterilized jelly glasses.

Strawberry and Orange (or Apple) Pectin Jelly.—One-half pint concentrated orange (or apple) pectin, one-half pound sugar, one-half pint strawberry juice. Mix orange (or apple) pectin juice and the strawberry juice, bring to a boil and add sugar. Continue boiling until the jelling point is reached. Pour immediately into hot sterilized jelly glasses and skim. When cold, pour hot paraffin over the jelly.

Pineapple and Orange (or Apple) Pectin Jelly.—Add one pint orange (or apple) pectin juice to one pint pineapple juice which has been boiled for ten minutes, add one pound sugar and continue boiling until the jelling point is reached. Pour immediately into hot sterilized jelly glasses and skim. When cold, pour hot paraffin over the jelly.

JAMS, FRUIT BUTTERS, MARMALADES, ETC.



A Luscious Trio—Yellow Tomato, Kumquat and Strawberry Preserves.

(Prepared by the United States Department of Agriculture.)

Jams are made of small fruits which are not whole or firm enough to use for preserves. No attempt is made to retain the original shape of the fruit, the finished product having a uniform consistency. Marmalades have a more jellylike texture and thin slices of the fruit appear suspended throughout the mixture. In fruit butters and pastes frequently less sugar is used than in jams and the product is more concentrated. Conserves may be made of large or small fruits, cooked in the same manner as jams. Sometimes nuts are added.

In stirring jams use a wooden spoon or paddle, moving it across the center of the vessel first one way and then the opposite, and next around the pan, gently moving the mixture from the bottom of the pan, being careful not to stir rapidly or heat. Cook the jam to 105 degrees Centigrade or 221 degrees Fahrenheit, if a thermometer is used.

If a cooking or chemical thermometer is available more accurate results can be obtained by its use. The proper condition of the cooked fruit can be determined approximately, however, without the use of such instruments. For determining when they are finished most jams may be given the same test as finished jelly; that is, when a little is held a moment and cooled in a spoon, it will not pour from the side of the spoon, but will fall in a sheet or flake. This is not true of jams made of peaches, cherries, strawberries, and other fruits not containing pectin, the jelling principle. When using such fruits, cook until the jam is of the desired consistency.

Well-glazed hermetically sealed stoneware jars with capacity of eight ounces and up, are suitable and attractive containers for packing jams, marmalades, etc. Large-necked bottles, glasses, etc., also may be used and sealed with cork, paraffin, etc.

Jams and marmalades may be packed hot in sterilized jars, glasses or large-necked bottles, and sealed immediately. When packing for market,

however, it is far safer to process them both to insure sterilization and a tight seal. Process pints for 30 minutes at simmering (87 degrees Centigrade or 188 degrees Fahrenheit).

Berry Jam.—In selecting berries for jam the ripe, broken ones will give fine color and flavor, but about one-half the quantity should be slightly underripe. This is necessary to give a jellylike consistency to the product. Cooking in small quantities also helps to retain color and flavor. Weigh the berries and allow three-fourths of a pound of sugar to each pound of fruit. Rapid cooking with constant care is essential.

Peach Jam.—Two and one-quarter pounds peaches cut into small pieces, one pound sugar, six whole allspice, one cracked peach seed, one inch ginger root, one-half cupful peach juice, one-half teaspoonful whole cloves, one teaspoonful cinnamon bark, one sprig mace. (The spices in cheesecloth bag.) Cook all together until thick as marmalade and clear or until of the consistency desired (to 105 degrees Centigrade or 221 degrees Fahrenheit). Pack hot in hot jars and seal at once or process.

Quince Paste.—Three-fourths pound powdered sugar for each pound of fruit pulp. Wipe the fruit, cut into quarters, remove flower and core, and cook in water until very tender. After rubbing the pulp through a sieve, weigh it and add the required amount of sugar. It is then cooked until very thick. Scalded and chopped nut kernels may be added. The pulp remaining after the juice has been extracted for quince jelly may be used also.

Pear and Quince Preserves.—For pear and quince preserves, use the same proportion of sugar and fruit. Cut the fruit into half-circle slices. Cook the fruit until almost tender in boiling water, drain, add the sirup, and proceed as for peach preserves.

Apple Butter.—Measure the apples, wash to remove dirt, slice into small pieces, and for each bushel of apples add four gallons of water; boil until the fruit is soft, then rub through a screen or sieve.