Food Preservation

is

Self Preservation

The instinct to save surplus food prompted primitive man to hang the remnants of the kill out of reach of prowling animals. That's how he learned about drying.

Modern man uses many methods of food preservation but none has proved so simple and generally satisfactory for home use as cooking and sealing foods in glass jars made especially for that purpose.

Home canning reduced the burden on cross-country transportation, released valuable storage space, saved countless man hours but above all, it enabled the U. S. A. to be well fed at the least possible cost during the war years.

The necessity for producing and preserving did not end with the Victory home gardeners and home canners helped win.

The World's food supplies will continue short and probably costly for several years. The personal incomes of many families will be reduced. Therefore, let us not forget that food preservation is now as always, self preservation.
The trade-mark of excellence, the guarantee of quality.

**Fruit Jar:** Glass Jars used by home canners when putting up fruits, vegetables, meats, etc. Every good fruit jar has the name of the maker and of the jar moulded in its side.

**Jar Lid:** A shallow cover of glass or metal. Fastens on jar with metal band or with wire bails.

**Jar Cap:** There are three kinds of jar caps:

(a) One-piece, screw-on, zinc cover with porcelain liner.

(b) Jar cover made up of screw-on metal band and metal lid. Lid has sealing compound on it.

(c) Jar cover made up of screw-on metal band, glass lid, and separate rubber ring.

**Jar Ring or Rubber:** A flat ring of rubber used as a cushion or gasket between glass lid, or zinc cap, and jar.

**Sealing Compound:** Rubber material put on metal lids to serve as a cushion between the lid and top of the jar. Jar rings are not used with lids which have sealing compound on them.

**Metal Band:** A screw-on band of metal used to fasten lid on jar. The same band cannot be used with both glass lid and metal lid.

**Vacuum:** Vacuum in a jar plus the natural pressure of air on the outside will hold a lid down to make and keep an airtight seal. When a jar is heated, the solids, liquids, and air in it expand and some of the air is forced out. As the jar cools, everything in it shrinks, leaving an airless space at the top. The empty space with no air in it is called vacuum.

**Acid Foods:** Fruits, tomatoes, rhubarb, and pimientos are acid foods.

**Lowacid (commonly called nonacid) Foods:** All vegetables, except those mentioned above; soups, meats, poultry, game and fish are low in acid.

**Precook:** To heat food thoroughly before putting it into jars for canning.

**Pack:** Manner in which jars are filled, also refers to the food in the jars.

**Cold Pack:** To fill jars with raw food to be canned.

**Hot Pack:** To fill jars with hot food to be canned.

**Head Space:** The space left at top of the jar when filling, or packing with food to be canned.

**Processing:** Cooking jars of food in hot-water bath or in steam pressure canner or cooker.

**Partly Seal:** Leaving caps or lids loose enough for steam to get out of the jars while they are processing.

**Sealing:** Closing jars airtight.

**Water Bath Canner:** A deep, flat bottom, kettle or can in which water can be boiled; must have cover and also rack, platform, or basket to keep jars from touching canner.

**Steam Pressure Canner or Cooker:** A kettle fitted with steam-tight lid. Lid has safety valve, petcock, and pressure gauge.

**Open Kettle:** The way of canning fruits by cooking them in an uncovered kettle, then filling hot jars, one at a time, from the boiling kettle. Each jar must be filled and sealed quickly.

**Spoilage:** Canned foods are spoiled when they work, mold, become cheesy, sour or otherwise unfit to eat.

**Organisms of Spoilage:** Bacteria, yeasts, and molds are low forms of plant life, known to scientists as micro-organisms. These organisms ruin any canned food in which they are allowed to grow.

**Enzymes:** Substances which bring about natural changes in raw foods.

**Flat-sour:** The most common form of spoilage in vegetables. Flat-soured food may look good but it tastes, and usually smells, bad.

**Botulinus:** Bacteria found in the soil have been known to cause toxin to form in carelessly canned foods. No danger when clean, sound, unblemished, fresh produce is selected, prepared, and canned according to instructions. Lowacid foods should be boiled 15 minutes before tasting. The 15 minutes boiling is to destroy any toxin which may be present.

**Sterilize:** To heat food, jars, caps, and rubbers long enough to kill the organisms that would, if not killed, cause the food to spoil.
BALL JARS, CAPS, AND RUBBERS

How to Use Them

All jars, caps, and rubbers are made of the best quality material obtainable. They are tested in laboratories to check scientific performance and in kitchens to check practical results. It is because of these and other unseen values that three generations of American families have bought and used Ball Jars with confidence.

1. Examine jars and caps. Be sure the sealing surface of every jar is free of nicks, chips, and cracks and that the edge of every cap is even and smooth. The sealing surface is the ledge or shoulder about ¼ inch below the top of the jar.
2. Wash jars, caps, and rubbers in warm soapy water. Rinse. Cover with warm (not hot) water. Boil to sterilize. Keep hot until needed. Old caps should be boiled 30 minutes. Use new rubbers.
3. Use clean, fresh, sound fruits, vegetables, meats, etc. Prepare according to recipe.
4. Take a jar out of hot water and set it on a folded cloth in a pan. Put the prepared food in the jar. Leave one inch empty space at the top of the jar. Remove anything spilled on jar.
5. Fit wet rubber flat on sealing surface. Stretch rubber just enough to put on jar, and no more.
6. Put cap on jar. Screw cap tight, then loosen about ¼ inch. If caps are too tight, steam may push the rubber out of place or cause the cap to bulge out of shape.
7. Process for time given in recipe.
8. Take jars out of canner after processing, and screw caps tight. Turn the cap slowly — quick, jerky turns may cause the rubber to slip out of place. Do not retighten caps after jars are cold.
9. Let jars stand topside up, several inches apart, and out of draft to cool. Turning jars upside down may cause spoilage. Setting them in a draft or on a cold surface causes breakage.
10. Look at jars the next day after canning. If sealed, the top of cap will be drawn down slightly (concave).
11. When ready to open jar, pull the rubber out with pliers or fingers, or run point of knife under rubber, or stand jar upside down in pan of hot water until metal expands enough for cap to be unscrewed.
HOW TO USE VACU-SEAL CAPS FOR OPEN KETTLE CANNING

Fill and seal one jar at a time
Must be done quickly

1. Examine jars and lids. Be sure the top of every jar is even, smooth, and free of sharp edges.
2. Wash jars, lids, and rubber in warm soapy water. Rinse. Cover with warm (not hot) water and boil 15 minutes. Boil lids 5 or 10 minutes. Keep everything boiling hot.
3. Prepare and cook fruit according to recipe.
4. Take a jar out of boiling water and set it on folded cloth in a pan. Fill hot jar to within ¼ inch of the top with boiling fruit. Do not allow fruit to overflow jar. Remove anything spilled on jar. Screws cap down tight on rubber to seal the jar. No retighten caps after jars are cool.
5. Place wet lid, white side down, on top of jar. Fit wet rubber around projection on underside of lid. Hold lid and rubber must lie flat between lid and top of jar. (Top of lid has “Ball No. 10” on it.) The rubber must lie flat on lid. Hold lid and rubber with thumb and fingers so that rubber cannot loosen by turning back ¼ turn. The bands must be loose while jars are in canner. Any jar sealing with glass lid and rubber ring may break if the band is so tight that steam cannot escape from the jar while it is in the canner.
6. Place lid so that rubber lies flat between lid and top of jar.
7. Put metal band on jar and screw it down tight, i.e., as tight as it can be turned with ordinary hand pressure.
8. Wait about 12 hours after the canning is done, then take the bands off the jars and test the seal by pressing on the lids with a finger. There is “no give” when a lid is drawn down in vacuum seal. Do not put the bands back on the jars. If all instructions are followed, the jars will seal and stay sealed.

BALL PERFECT MASON JARS AND VACU-SEAL CAPS

WHEN USING STEAM PRESSURE COOKER OR WATER BATH CANNER

1. Examine jars and lids. Be sure the top of every jar is even, smooth, and free of sharp edges.
2. Wash jars and lids in warm soapy water. Rinse. Cover with warm (not hot) water. Boil to sterilize. Keep hot until needed. Drop lids in boiling water. They do not need boiling, however boiling will not hurt them.
3. Use clean, fresh, sound fruits, vegetables, meats, etc. Prepare according to recipe.
4. Take a jar out of hot water and set it on a folded cloth in a pan. Put the prepared food in the jar. Leave one inch empty space at top of jar. Remove anything spilled on jar.
5. Place wet lid, white side down, on top of jar.
6. Put metal band on jar and screw it down tight, i.e., as tight as it can be turned with ordinary hand pressure.
7. Process for time given in recipe.
8. Take jars out of canner after processing. Do not tighten bands again.
9. Let jars stand topside up, several inches apart, and out of draft to cool.
10. Wait about 12 hours after the canning is done, then take the bands off the jars and test the seal by pressing on the lid with a finger. There is “no give” when a lid is drawn down in vacuum seal. Do not put the bands back on the jars. If all instructions are followed, the jars will seal and stay sealed.
11. When ready to open jar, punch a hole in the lid and pry it off. Vacu- Seal bands may be used many times but the lids are used only once. The metal bands will last longer if wiped after each use with a cloth moistened with paraffin.

HOW TO USE VACU-SEAL CAPS FOR OPEN KETTLE CANNING

Fill and seal one jar at a time
Must be done quickly

1. Examine jars and caps. Be sure the sealing surface of every jar is free of nicks, chips, and cracks and that the edge of every cap is even and smooth.
3. Prepare and cook fruit according to recipe.
4. Take a jar out of boiling water and set it on folded cloth in a pan. Fill hot jar to the top with boiling fruit. Do not allow fruit to overflow jar. Remove anything spilled on jar. Screw cap down tight on rubber to seal each jar just as soon as it is filled. Do not retighten caps after jars are cool.
5. Place wet lid, white side down, on top of jar. Fit wet rubber flat on lid and pry it off. Vacu-Seal bands may be used many times but the lids are used only once. The metal bands will last longer if wiped after each use with a cloth moistened with paraffin.
6. Place lid so that rubber lies flat between lid and top of jar. (Top of lid has “Ball No. 10” on it.) The rubber must lie flat on lid. Hold lid and rubber with thumb and fingers so that rubber cannot slip as lid is put on jar.
7. Place lid so that rubber lies flat between lid and top of jar.
8. Put metal band on jar and screw it tight, then loosen by turning back ¼ turn. The bands must be loose while jars are in canner. Any jar sealing with glass lid and rubber ring may break if the band is so tight that steam cannot escape from the jar while it is in the canner.
10. Take jars out of canner after processing and screw bands tight.
down may keep them from sealing. Standing them in a draft or on a cold surface causes breakage.

11. Wait about 12 hours after the canning is done, then take metal bands (not the rubbers) off the jars, and test seal by pulling on the lid gently with the finger tips. Do not put bands back on the jars. If all instructions are followed the jars will seal and stay sealed. Bands are hard to get off if left on jars several weeks. The metal bands will last longer if wiped, after each use, with cloth moistened with paraffin.

12. When ready to open jar, run point of knife under the rubber.

**HOW TO USE NO. 10 CAPS FOR OPEN KETTLE CANNING**

**Fill and seal one jar at a time**

*Must be done quickly*

1. Examine jars and lids. Be sure the top of every jar is even, smooth, and free of sharp edges.
2. Wash jars, lids, and rubbers in warm soapy water. Rinse. Cover jars with warm (not hot) water and boil 15 minutes. (b) Fit rubbers around projection on under side of lids. (Top of lid has “Ball No. 10” on it.) Place lids in shallow pan. Cover with warm water and boil 15 minutes. **Keep everything boiling hot.**
3. Prepare and cook fruit according to recipe.
4. Take a jar out of boiling water and set it on a folded cloth in a pan. Fill hot jar to within ⅜ inch of top with boiling fruit. Remove anything spilled on jar.
5. Lift a lid out of boiling water with spoon, then take hold of lid and rubber with thumb and fingers so that rubber cannot slip as lid is put on jar. Place lid and rubber so that rubber lies flat between lid and top of jar. Screw the metal band down tight.
6. Let jars stand topside up, several inches apart, and out of draft to cool.
7. Wait about 12 hours after the canning is done, then take metal bands (not the rubbers) off the jars and test seal by pulling on the lids gently with the finger tips. Do not put bands back on the jars. If all instructions are followed the jars will seal and stay sealed.
8. Take a jar out of hot water and set it on a folded cloth in a pan, then put the prepared food in the jar. Leave one inch empty space at top of jar. Remove anything spilled on jar.
9. Fit wet rubber flat on sealing surface of jar. Put lid on jar so that it rests on rubber.
10. Pull or push long bail wire up so it lies in groove on top of the lid. Leave short bail wire up against the jar while jar is in canner.
12. Take jars out of canner, after processing, and push short bail wire down against the jar. Let jars stand topside up, several inches apart, and out of draft to cool.
13. Wait about 12 hours after canning, then test seal by turning jar upside down, gently, and looking for leaks.
14. When ready to open jar, raise lower bail wire, lower upper bail wire and pull rubber out with pliers or finger, or run point of knife under rubber.

**HOW TO USE IDEAL JARS FOR OPEN KETTLE CANNING**

**Fill and seal one jar at a time**

*Must be done quickly*

1. Examine jars and lids. Be sure there are no cracks and that the sealing surface of every jar and lid is even and smooth.
2. Wash jars, lids, and rubbers in warm soapy water. Rinse. Cover with warm (not hot) water and boil 15 minutes. **Keep everything boiling hot.**
3. Prepare and cook fruit according to recipe.
4. Take a jar out of boiling water and set it on a folded cloth in a pan. Fill hot jar to within ⅜ inch of top with boiling fruit. Do not overflow jar. Remove anything spilled on rubber.
5. Put lid on jar and pull or push long bail wire up so it lies in groove on top of lid. Push the short bail wire down against the jar.

**WIDE-MOUTH JARS**

Wide-mouth jars are preferred for canning meats and large fruits because they are easy to pack and to wash.

The Ball Eclipse is a wide mouth jar made like the Ball Ideal. The Ball Special is a wide mouth Mason jar, sealed with Ball Special zinc cap and No. 33 rubber or with Vacu-Seal cap.

**JAR RUBBERS**

Do not stretch to test. Ball Perfect Seal Rubbers should be used with zinc caps on regular Mason jars and with Ball Ideal Jars. Ball No. 10 Rubbers fit all Mason Glass Top Seal Lids made since 1942. Ball No. 55 Rubbers fit old style Ball Glass Top Seal Lids only. Ball No. 33 Rubbers are used with Ball Eclipse Jars and with wide mouth zinc caps. Ball No. 44 Rubbers fit wide mouth Glass Top Seal Caps.

**IF JARS FAIL TO SEAL**

Sealing failures are caused by failure to follow instructions. If a jar of lowacid food fails to seal, the food should be used immediately as reprocessing spoils its flavor and texture. If a jar of acid food fails to seal, correct the cause. This may mean changing jar, lid, or rubber. Reheat everything. The fruit may be recanned by Open Kettle method or processed 10 to 15 minutes in water bath.
CANNING EQUIPMENT

A good workman demands good tools. If he can’t buy what he needs, he makes the best of what he has and makes what he hasn’t. The photograph above shows a few ways to solve the equipment problem.

1. A lard can to use as a water-bath canner. A pail, sirup bucket, wash boiler, or any other container in which water can be boiled, will serve the purpose, provided it is 12 or more inches deep.

2. Funnel. This was made from a No. 10 tin can.

3. A rack or platform to fit in the bottom of the canner. Made by tacking strips of odorless wood together.

4. Coal tongs (part of fire set) make good jar lifter.

5. Strong string looped (slip hitch) around neck of jar. Use when neither jar lifter nor tongs can be found.

6. Wire basket to hold the jars while they are in the canner. Made from a scrap of wire mesh — poultry wire will do.

7. Wooden paddle for stirring apple butter, chili sauce, etc. Whittled from hard wood. Wooden spoons can be made in same manner.

WATER BATH CANNER

Any deep container in which water can be boiled may be used for a water bath canner. It should be 12 or more inches deep, have a lid, and also a rack or basket to keep the jars from touching the bottom.

How to Use Water Bath Canner:

Put water in canner to heat before preparing the food for canning. Water should be hot but not boiling when filled jars are lowered into it. Jars are likely to break if put into a canner of boiling water. Add more hot water, if needed, to cover the tops of the jars one or more inches. Bring water to a rolling boil as quickly as possible, then begin counting time. Keep water boiling steadily but not so fast as to shake the jars. Remove jars from canner as soon as processing time is up.

PASTEURIZING

Fruit juices, grapefruit, preserves, pickles, and relishes should be pasteurized — processed below the boiling point. The jars are placed in a water bath which is kept at a temperature of from 160° to 200° F. The time and temperature vary according to the nature of the material used.

STEAM PRESSURE COOKER

Temperatures higher than boiling water are obtained by using steam under pressure. Such temperatures are necessary to make certain that dangerous bacteria are destroyed.

A steam pressure cooker or canner consists of a metal kettle and cover which can be clamped together to make a steam tight cooker. The cover is equipped with a steam pressure gauge or with a set of weights serving the same purpose. A petcock or vent pipe with weight is provided for venting; i.e., forcing out air which is shut in the cooker when the cover is locked on.

A pressure gauge must be accurate. The dial type gauge should be tested each season.

Even though the gauge is accurate, a false reading will be obtained and under-processing occur unless all the air is allowed to escape after the cover has been locked on a cooker containing the required amount of hot water (see manufacturer’s instructions) and jars of food to be processed. To rid the cooker of air; leave the petcock open or vent pipe weight off until steam has escaped seven or preferably ten minutes. Then close the petcock or vent. Start counting time when the correct pressure (usually 10 pounds) is reached. Keep the pressure steady the number of minutes given in the time table. Remove cooker from heat and let pressure go to zero before removing cover.

Steam pressure cookers give satisfactory results when kept in good condition and used according to the manufacturer’s instructions. Otherwise, they give trouble.

OVEN CANNING

The high percentage of known failures proves the oven method to be unsafe, regardless of the type jar, cap, or oven used. Therefore, those who do oven canning should be prepared to accept full responsibility in the event of food spoilage or injury to property or person.

STEAM COOKERS

Steam and “waterless” cookers, of which there are several styles, should not be confused with steam pressure cookers, nor should they be used for processing low-acid vegetables and meats. The temperature within steam and “waterless” cookers seldom rises above boiling point of water — it more often fails below. If using steamers, process ¼ longer than required for hot-water bath.

OPEN KETTLE CANNING

This method, commonly used for canning fruits, requires greater skill than any other. It should never be used for canning low-acid vegetables and meats, and is not as reliable as a hot-water bath for canning fruits. If using, prepare and use jars, caps, lids, and rubbers as instructed on pages 4 to 6. Cook food thoroughly but not until mushy. Work at the stove so that everything can be kept boiling hot. The work must be done carefully, yet quickly. Fill and seal one jar at a time.

COMMERCIAL JARS

Unlike those for home canning, coffee, pickle, peanut butter, and salad dressing jars are meant to be used once only as one trip leak-proof containers for factory made food products which require no processing. The glass is commercially good but must be light weight in order to keep down the cost to the consumer. The sealing surface of commercial jars is easily damaged when the jars are opened. Therefore, those who save such jars for use in home canning run the risk of both breakage and sealing failure.
EVERY HOME CANNER SHOULD KNOW

1 — WHY CANNED FOODS SPOIL

Plant organisms, too small to be seen without a microscope, exist everywhere—in the air, water, and soil. These organisms are called molds, yeasts, and bacteria; all of them need food for growth and reproduction. Their growth causes spoilage in canned food. Molds form on any moist food; yeasts thrive in products containing sugar and acids; bacteria grow best in low-acid foods.

Molds and yeasts are the main cause of spoilage of acid foods. Molds and yeasts are easily destroyed, therefore fruits may be processed in a hot-water bath canner or steamer, or canned by the open kettle method. Bacteria are the chief cause of spoilage of beans, corn, greens, peas, meats, and all other low-acid foods which are preserved by canning. Bacteria exist in two forms; spore (seed) and vegetative (growing). The spores of some bacteria are difficult to destroy by boiling, that is why it is advisable to use a steam pressure cooker when canning meats and low-acid vegetables. Some of the foods which cook quickly require long processing in order to kill the bacteria.

Produce which is in the least stale, decayed, bruised, cracked, or over-ripe is unfit for canning because it attracts molds, yeasts, and bacteria, and even though such products may not actually spoil, they are invariably poor in color, flavor, texture, and food value.

The lack of cleanliness is a common cause of spoilage. All utensils, clothes, table tops, and general surroundings, as well as jars, caps, rubber rings, and material to be canned should be clean. Food and equipment cannot be clean when exposed to dust and flies. Packing jars too tight or with insufficient liquid helps cause spoilage. A pack which is too tight or too dry heats slowly, giving time for bacteria to grow before enough heat (to destroy bacteria) reaches every spot in the jar.

2 — HOW TO PREVENT SPOILAGE

Study and follow instructions given on pages 4 through 8 and at the beginning of the fruit and vegetable and meat sections of the BALL Blue Book: then prepare, pack, and process the food according to the recipes.

3 — TO BOIL LOWACID FOODS BEFORE TASTING

Never taste canned food which has an unnatural odor or shows sign of spoilage and never empty spoiled food where poultry and stock can get to it. Boil canned lowacid vegetables, soups, and meats for fifteen minutes before tasting. Reboil those left over from one meal to another. This rule applies to both water-bath and pressure-cooker processed food. The purpose of boiling is to destroy any toxin that might be present. Home-canned food is as safe as any other but it is necessary to boil canned lowacid foods before tasting because home canners cannot work under controlled conditions.

4 — PRESERVATIVES SHOULD NOT BE USED

The use of small amounts of vinegar or lemon juice with lowacid foods is of no value and may prove harmful by covering up the odor of spoilage in canned foods. Aspirin is good medicine, but has no place in processing food. Chemicals such as salicylic acid, benzoate of soda, and so-called canning powders should not be used. They are not wholesome and may be actually harmful to some persons.

5 — HOW TO STORE CANNED FOOD

Jars should be clean and dry. The storage space should be dry and dark. Open shelves should have dark curtains to keep out both light and dust. Food holds color and texture better when stored in a cool, well-ventilated place. Freezing spoils flavor and texture and is likely to destroy the jars to break.

An insulated pantry is the perfect storage place; the next best one is a dry, unheated basement so constructed as to keep fairly cool in the summer and not reach the freezing point during the winter. However, home-canned foods may be kept wherever one keeps groceries and commercially canned goods.

6 — HOW TO PREVENT LOSS OF LIQUID

Canned food usually has better color and flavor if kept covered with liquid, but jars should not be opened to replace that which has disappeared. To keep liquid at the proper level; use tender, fresh produce; hot pack; pack loosely; leave one inch head space; remove air bubbles if food is cold packed or if bubbles are noticeable when hot packing; use canners according to instructions. Process at an uneven rate of speed in pressure cooker and in water bath draws liquid out of the jars.

7 — WHY FRUITS AND VEGETABLES CHANGE COLOR

All fruits and vegetables contain enzymes—substances which cause various changes in color, flavor, and texture. To the home canner, the most obvious sign of enzymatic activity is that of food turning dark at the top of the jar. Enzymes that cause fruit to darken are more active in the presence of oxygen, thus foods to be canned should be protected from air. To protect from air: (a) drop apples, pears, and peaches into weak salt-vinegar water, as peeled; (b) hot pack; (c) pack with liquid to cover; (d) process immediately after packing; (e) start processing in hot canner.

Red fruits fade if cooked too rapidly at the start. Heat slowly until hot through, then finish quickly. Cooking in tin gives them a bluish color, and they may become brown if cooked in an iron or in a chipped enamel kettle.

Beets with deep red color throughout should be selected for canning. Neither skin, tap root, nor stems (close to beet) should be broken before the beets are precooked. On the other hand, beets which do not have an even distribution of color usually have better color if pared, cut, and precooked 5 minutes before canning. They usually fade and then reabsorb color when handled in this manner.

The brownish cast in corn is usually due to caramelization. Caramelization is prevented by using juicy corn, plenty of water, and correct processing. Black spots sometimes found near the top of canned corn are due to the formation of hydrogen sulfide. They are harmless. Cabbage and all its cousins discolor from the same cause—namely the effect of heat upon the sulphur compounds in the vegetables.

Olive green, varying from pale to deep, is the right color for all canned green vegetables. Brilliant green indicates the wrong method of canning or that some undesirable chemical has been added. Green things turn brown from over-processing or from being too old for canning. Murky liquid in canned vegetables is
caused by: (a) produce being too mature for canning; (b) over-processing; (c) spoilage; (d) using salt containing a starchy filler; (e) hard water.

8—WHEN TO SEAL JARS BEFORE PROCESSING
Jars on which a separate rubber ring is used should be partly sealed before processing, and completely sealed after processing. A partial seal is necessary to allow the escape of steam during processing. Otherwise, the pressure in the jar may blow out the rubber or break the jar. The seal should be completed immediately after the jar is taken out of the canner.

Vacu-Seal Caps can and should be tightened before processing because the lids are made so that steam seeps out of the jar while processing. Tightening Vacu-Seal bands after processing is both unnecessary and unwise because the lid seals automatically and retightening may prevent sealing.

TIME TABLE FOR PROCESSING FRUITS
This table is for use at altitudes of 1,000 feet or less. Table for use at higher altitudes is given on page 11. Time given in all tables is for processing quarts. Use same time for pints or reduce 5%. Results are approximately the same. Increase time one-half for half-gallons.

<table>
<thead>
<tr>
<th>PRODUCT</th>
<th>Sirup For Cold Packing</th>
<th>Pack Please follow Recipe</th>
<th>Water Bath Process at Boiling</th>
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<td>Hot Pack</td>
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<td>Apricots</td>
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<td>20 minutes</td>
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<td>Cold Pack</td>
<td>25 minutes</td>
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<td>Medium to Heavy</td>
<td>Hot Pack</td>
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<td>Cold Pack</td>
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<td>Strawberries</td>
<td>1 to 2 cups sugar to qt. berries</td>
<td>Hot Pack</td>
<td>15 minutes</td>
</tr>
<tr>
<td>Fruit Juices</td>
<td>1 to 2 cups sugar to gal.</td>
<td>Hot Pack</td>
<td>5 minutes</td>
</tr>
</tbody>
</table>

If using a steam pressure cooker for processing fruits; cold pack and process berries, grapes, and rhubarb, 8 minutes at 5 pounds pressure; pineapple, 25 minutes at 5 pounds pressure; all other fruits and tomatoes, 10 minutes at 5 pounds pressure, or hot pack and process 5 minutes at 10 pounds pressure.

*SUse longer time for large or hard ripe fruit.

SIRUP FOR FRUITS

<table>
<thead>
<tr>
<th>Sirup</th>
<th>Amount of Sugar to Liquid</th>
<th>To Make</th>
</tr>
</thead>
<tbody>
<tr>
<td>Light</td>
<td>1 part sugar to 3 parts water or fruit juice</td>
<td>Mix and boil until sugar dissolves.</td>
</tr>
<tr>
<td>Medium Light</td>
<td>1 part sugar to 2 parts water or fruit juice</td>
<td>Keep hot.</td>
</tr>
<tr>
<td>Heavy</td>
<td>1 part sugar to 1 part water or fruit juice</td>
<td></td>
</tr>
<tr>
<td>Extra Heavy</td>
<td>2 parts sugar to 1 part water or fruit juice</td>
<td></td>
</tr>
<tr>
<td>Corn Sirup</td>
<td>⅓ pt. corn sirup, 1 pt. sugar, ½ pt. water, ⅛ teaspoon salt</td>
<td></td>
</tr>
</tbody>
</table>

The type of sirup used may be varied to suit individual taste. All fruits may be canned with plain water or with unsweetened fruit juice. The method of preparing and processing is the same as when sirup is used. From ⅝ to 1 cup sirup is usually needed for each quart of fruit.

Please use Jars, Caps, and Lids as instructed on pages 4, 5, and 6.
We recommend Steam Pressure Cooker for processing low-acid vegetables.

This table is for use at altitudes of 2,000 feet or less. Table for use at higher altitudes is given on page 11. Time given is for processing quarts. Use same time for pints. Reduce time 10 minutes when using half pints. Do not use half gallon jars when canning low-acid vegetables.

<table>
<thead>
<tr>
<th>PRODUCT</th>
<th>PACK</th>
<th>STEAM PRESSURE</th>
<th>WATER BATH</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Pounds</td>
<td>Minutes</td>
</tr>
<tr>
<td>Artichokes</td>
<td>Precook 3 minutes. Hot Pack</td>
<td>10</td>
<td>25</td>
</tr>
<tr>
<td>Asparagus</td>
<td>Precook 3 minutes. Hot Pack</td>
<td>10</td>
<td>40</td>
</tr>
<tr>
<td>Beans:</td>
<td>Bake. Hot Pack</td>
<td>10</td>
<td>60</td>
</tr>
<tr>
<td>Baked Dried</td>
<td>Precook. Hot Pack</td>
<td>10</td>
<td>70</td>
</tr>
<tr>
<td>Green and Wax Lima and Butter</td>
<td>Precook 5 minutes. Hot Pack</td>
<td>10 *35 to 55</td>
<td>3</td>
</tr>
<tr>
<td>Pork and Beans Soy</td>
<td>Precook 5 minutes. Hot Pack</td>
<td>10 *55 to 65</td>
<td>3 1/2</td>
</tr>
<tr>
<td>Bects</td>
<td>Cook. Skin. Hot Pack</td>
<td>10</td>
<td>40</td>
</tr>
<tr>
<td>Broccoli and Brussels Sprouts</td>
<td>Boil 3 minutes. Hot Pack</td>
<td>10</td>
<td>35</td>
</tr>
<tr>
<td>Cauliflower and Cabbage</td>
<td>Boil 3 minutes. Hot Pack</td>
<td>10</td>
<td>35</td>
</tr>
<tr>
<td>Carrots</td>
<td>Boil 5 minutes. Hot Pack</td>
<td>10</td>
<td>40</td>
</tr>
<tr>
<td>Celery</td>
<td>Boil 3 minutes. Hot Pack</td>
<td>10</td>
<td>35</td>
</tr>
<tr>
<td>Corn: Cream Style Whole Grain On Cob</td>
<td>Boil 3 minutes. Hot Pack</td>
<td>10</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>Boil 3 minutes. Hot Pack</td>
<td>10</td>
<td>75</td>
</tr>
<tr>
<td></td>
<td>Boil 3 minutes. Hot Pack</td>
<td>10</td>
<td>75</td>
</tr>
<tr>
<td>Egg Plant</td>
<td>Boil 5 minutes. Hot Pack</td>
<td>10</td>
<td>50</td>
</tr>
<tr>
<td>Greens — All Kinds</td>
<td>Precook until wilted. Hot Pack</td>
<td>10</td>
<td>85</td>
</tr>
<tr>
<td>Lye Hominy</td>
<td>Hot Pack</td>
<td>10</td>
<td>60</td>
</tr>
<tr>
<td>Mushrooms</td>
<td>Boil 2 or 3 minutes. Hot Pack</td>
<td>10</td>
<td>35</td>
</tr>
<tr>
<td>Okra</td>
<td>Boil 2 minutes. Hot Pack</td>
<td>10</td>
<td>40</td>
</tr>
<tr>
<td>Okra and Tomatoes</td>
<td>Boil 2 minutes. Hot Pack</td>
<td>10</td>
<td>30</td>
</tr>
<tr>
<td>Parsnips and Salsify</td>
<td>Boil. Skin. Hot Pack</td>
<td>10</td>
<td>35 to 40</td>
</tr>
<tr>
<td>Peas: Green Black eyed Field Snap</td>
<td>Boil 3 minutes. Hot Pack</td>
<td>10</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td>Boil 3 minutes. Hot Pack</td>
<td>10</td>
<td>60</td>
</tr>
<tr>
<td></td>
<td>Boil 3 minutes. Hot Pack</td>
<td>10</td>
<td>60</td>
</tr>
<tr>
<td></td>
<td>Boil 3 minutes. Hot Pack</td>
<td>10</td>
<td>50</td>
</tr>
<tr>
<td>Potatoes: Sweet, New White</td>
<td>Precook. Skin. Hot Pack</td>
<td>10</td>
<td>90</td>
</tr>
<tr>
<td></td>
<td>Precook. Hot Pack</td>
<td>10</td>
<td>45</td>
</tr>
<tr>
<td>Pumpkin and Winter Squash</td>
<td>Precook. Hot Pack</td>
<td>10</td>
<td>95</td>
</tr>
<tr>
<td>Sauerkraut</td>
<td>Cold Pack</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Succotash</td>
<td>Precook 5 minutes. Hot Pack</td>
<td>10</td>
<td>70</td>
</tr>
<tr>
<td>Summer Squash, Chayote, Zucchini</td>
<td>Precook. Hot Pack</td>
<td>10</td>
<td>60</td>
</tr>
<tr>
<td>Tomatoes</td>
<td>Cold Pack. Process in water bath</td>
<td>10</td>
<td>60</td>
</tr>
<tr>
<td>Tomatoes and Corn Tomato Paste</td>
<td>Precook 20 minutes. Hot Pack</td>
<td>10</td>
<td>60</td>
</tr>
<tr>
<td></td>
<td>Cook thick. Hot Pack</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Turnips, Rutabagas, and Kohlrabi</td>
<td>Precook. Hot Pack</td>
<td>10</td>
<td>40</td>
</tr>
</tbody>
</table>

*Use longest time for large or mature produce.

Please use Jars, Caps, and Lids as instructed on pages 4, 5, and 6.
TIME TABLE FOR PROCESSING MEATS, POULTRY, FISH, GAME

We recommend Steam Pressure Cooker for processing meats and meat products.

This table is for processing quarts and pints at altitudes of 2,000 feet or less. Reduce time 10 minutes when using half pints. See table below for processing at higher altitudes. Do not use half gallon jars when canning these products.

<table>
<thead>
<tr>
<th>PRODUCT</th>
<th>PACK</th>
<th>STEAM PRESSURE</th>
<th>WATER BATH</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Pounds</td>
<td>Minutes</td>
</tr>
<tr>
<td>Beef, Lamb, Pork, Veal, etc.</td>
<td>Hot Pack</td>
<td>10</td>
<td>90</td>
</tr>
<tr>
<td></td>
<td>Cold Pack</td>
<td>10</td>
<td>100</td>
</tr>
<tr>
<td>All Poultry</td>
<td>Hot Pack</td>
<td>10</td>
<td>90</td>
</tr>
<tr>
<td></td>
<td>Cold Pack</td>
<td>10</td>
<td>100</td>
</tr>
<tr>
<td>All Game, Birds, Rabbits, Squirrel, and Venison</td>
<td>Hot Pack</td>
<td>10</td>
<td>90</td>
</tr>
<tr>
<td></td>
<td>Cold Pack</td>
<td>10</td>
<td>100</td>
</tr>
<tr>
<td>Fish (See recipe)</td>
<td>Hot Pack</td>
<td>10</td>
<td>90</td>
</tr>
<tr>
<td></td>
<td>Cold Pack</td>
<td>10</td>
<td>100</td>
</tr>
<tr>
<td>Shellfish (See recipe)</td>
<td>Hot Pack</td>
<td>10</td>
<td>70</td>
</tr>
</tbody>
</table>

TIME TABLE FOR PROCESSING SOUPS AND STEWS

<table>
<thead>
<tr>
<th>PRODUCT</th>
<th>PACK</th>
<th>STEAM PRESSURE</th>
<th>WATER BATH</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Pounds</td>
<td>Minutes</td>
</tr>
<tr>
<td>Brunswick Stew</td>
<td>Hot Pack</td>
<td>10</td>
<td>75</td>
</tr>
<tr>
<td>Chicken Gumbo</td>
<td>Hot Pack</td>
<td>10</td>
<td>75</td>
</tr>
<tr>
<td>Fish Chowder</td>
<td>Hot Pack</td>
<td>10</td>
<td>100</td>
</tr>
<tr>
<td>Purees (low acid vegetables)</td>
<td>Hot Pack</td>
<td>10</td>
<td>60</td>
</tr>
<tr>
<td>Soup Stock</td>
<td>Hot Pack</td>
<td>10</td>
<td>50</td>
</tr>
<tr>
<td>Tomato Puree</td>
<td>Hot Pack</td>
<td>10</td>
<td>35</td>
</tr>
<tr>
<td>Tomato Soup</td>
<td>Hot Pack</td>
<td>10</td>
<td>60</td>
</tr>
<tr>
<td>Vegetable Soup</td>
<td>Hot Pack</td>
<td>10</td>
<td></td>
</tr>
</tbody>
</table>

TABLE FOR PROCESSING AT HIGH ALTITUDES

STEAM PRESSURE COOKER

<table>
<thead>
<tr>
<th>ELEVATION</th>
<th>PRESSURE USED FOR VEGETABLES*</th>
<th>PRESSURE USED FOR MEATS</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,000 feet</td>
<td>10 pounds</td>
<td>10 pounds</td>
</tr>
<tr>
<td>3,000 feet</td>
<td>10 pounds</td>
<td>10 pounds</td>
</tr>
<tr>
<td>4,000 feet</td>
<td>11 pounds</td>
<td>11 pounds</td>
</tr>
<tr>
<td>5,000 feet</td>
<td>11 pounds</td>
<td>11 pounds</td>
</tr>
<tr>
<td>6,000 feet</td>
<td>12 pounds</td>
<td>12 pounds</td>
</tr>
<tr>
<td>7,000 feet</td>
<td>12 pounds</td>
<td>12 pounds</td>
</tr>
<tr>
<td>8,000 feet</td>
<td>13 pounds</td>
<td>13 pounds</td>
</tr>
</tbody>
</table>

WATER BATH CANNER

<table>
<thead>
<tr>
<th>ELEVATION</th>
<th>PROCESS</th>
<th>TIME</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,000 feet</td>
<td>20 per cent</td>
<td>longer than time given in tables and recipes</td>
</tr>
<tr>
<td>3,000 feet</td>
<td>40 per cent</td>
<td></td>
</tr>
<tr>
<td>4,000 feet</td>
<td>60 per cent</td>
<td></td>
</tr>
<tr>
<td>5,000 feet</td>
<td>80 per cent</td>
<td></td>
</tr>
<tr>
<td>6,000 feet</td>
<td>100 per cent</td>
<td></td>
</tr>
<tr>
<td>7,000 feet</td>
<td>120 per cent</td>
<td></td>
</tr>
<tr>
<td>8,000 feet</td>
<td>140 per cent</td>
<td></td>
</tr>
</tbody>
</table>

Boil all low acid vegetables, vegetable and meat soups, and all meats for 15 minutes before tasting. Never taste any canned product which has an unnatural odor. Always reboil left over canned vegetables before serving.

Please use Jars, Caps, and Lids as instructed on pages 4, 5, and 6.
CANNING PLAN OR BUDGET
To be used as a guide when planning family canning budgets. The size of servings, as well as the variety of product, the length of time out of season, and the number of times needed during the nongrowing season should determine the quantity of any product needed. No provision is made here for guests or gifts. It is always wise to can a few more quarts of each thing than actually needed for one’s family. This is particularly true of fruits, preserves, pickles, marmalades and relishes.

<table>
<thead>
<tr>
<th>PRODUCT</th>
<th>NUMBER TIMES SERVED</th>
<th>APPROXIMATE SIZE SERVING</th>
<th>AMOUNT NEEDED FOR ONE PERSON</th>
<th>AMOUNT NEEDED FOR FAMILY OF FIVE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fruits &amp; Fruit Juices</td>
<td>5 per week — 36 weeks</td>
<td>1 cup</td>
<td>45 quarts</td>
<td>225 quarts</td>
</tr>
<tr>
<td>Tomatoes &amp; Tomato Juice</td>
<td>3 per week — 36 weeks</td>
<td>½ cup</td>
<td>13½ quarts</td>
<td>67½ quarts</td>
</tr>
<tr>
<td>Beans — Green</td>
<td>2 per week — 36 weeks</td>
<td>¼ cup</td>
<td>9 quarts</td>
<td>45 quarts</td>
</tr>
<tr>
<td>Beans — Lima or Shelled</td>
<td>1 per week — 36 weeks</td>
<td>⅛ cup</td>
<td>4½ quarts</td>
<td>22½ quarts</td>
</tr>
<tr>
<td>Beets</td>
<td>2 per week — 36 weeks</td>
<td>⅛ cup</td>
<td>9 quarts</td>
<td>45 quarts</td>
</tr>
<tr>
<td>Corn</td>
<td>1 per week — 36 weeks</td>
<td>⅛ cup</td>
<td>4½ quarts</td>
<td>22½ quarts</td>
</tr>
<tr>
<td>Carrots</td>
<td>2 per week — 36 weeks</td>
<td>⅜ cup</td>
<td>2½ quarts</td>
<td>11½ quarts</td>
</tr>
<tr>
<td>Greens — All Kinds</td>
<td>1 per week — 36 weeks</td>
<td>⅜ cup</td>
<td>2½ quarts</td>
<td>11½ quarts</td>
</tr>
<tr>
<td>Soup Mixture</td>
<td>6 per week — 52 weeks</td>
<td>2 Tbs.</td>
<td>9¾ quarts</td>
<td>48¾ quarts</td>
</tr>
<tr>
<td>Preserves, Jams, etc.</td>
<td>3 per week — 52 weeks</td>
<td>1 Tbs.</td>
<td>3 quarts</td>
<td>15 quarts</td>
</tr>
<tr>
<td>Relishes</td>
<td>2 per week — 52 weeks</td>
<td>¼ cup</td>
<td>4 quarts</td>
<td>20 quarts</td>
</tr>
<tr>
<td>Pickles — Vegetables</td>
<td>2 per week — 52 weeks</td>
<td>⅛ cup</td>
<td>4 quarts</td>
<td>20 quarts</td>
</tr>
<tr>
<td>Pickles — Fruit</td>
<td>1 per week — 36 weeks</td>
<td>⅛ cup</td>
<td>2 quarts</td>
<td>10 quarts</td>
</tr>
<tr>
<td>Meats</td>
<td>5 per week — 36 weeks</td>
<td>⅛ cup</td>
<td>13½ quarts</td>
<td>67½ quarts</td>
</tr>
<tr>
<td>Mincemeat</td>
<td>1 per week — 16 weeks</td>
<td>⅛ cup</td>
<td>2 quarts</td>
<td>10 quarts</td>
</tr>
<tr>
<td>Miscellaneous—Asparagus, Okra, Snap Peas, Succotash, Sauerkraut, etc., which are not used in all sections of country.</td>
<td>5 per week — 36 weeks</td>
<td>⅛ cup</td>
<td>22½ quarts</td>
<td>112½ quarts</td>
</tr>
</tbody>
</table>

AMOUNT OF STRAINED FRUITS AND VEGETABLES NEEDED BY BABY
First year | 80 ⅛ pint jars
Second year | 150 ⅛ pint jars

ESTIMATE OF NUMBER OF JARS NEEDED FOR CANNING ONE BUSHEL RAW MATERIAL
Only approximate weights and yields can be given because fruits and vegetables vary with variety, season, condition of the product and manner of packing.

<table>
<thead>
<tr>
<th>PRODUCT</th>
<th>MEASURE</th>
<th>APPROXIMATE WEIGHT</th>
<th>APPROXIMATE YIELD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apples</td>
<td>1 bushel</td>
<td>40 to 50 pounds</td>
<td>15 to 20 (Quart Jars)</td>
</tr>
<tr>
<td>Apricots</td>
<td>1 bushel</td>
<td>40 to 50 pounds</td>
<td>16 to 22</td>
</tr>
<tr>
<td>Blackberries</td>
<td>1 bushel</td>
<td>40 to 50 pounds</td>
<td>20 to 22</td>
</tr>
<tr>
<td>Cherries</td>
<td>1 bushel</td>
<td>40 to 50 pounds</td>
<td>16 to 24</td>
</tr>
<tr>
<td>Peaches</td>
<td>1 bushel</td>
<td>40 to 50 pounds</td>
<td>16 to 22</td>
</tr>
<tr>
<td>Pears</td>
<td>1 bushel</td>
<td>50 to 55 pounds</td>
<td>16 to 22</td>
</tr>
<tr>
<td>Pineapple</td>
<td>1 crate</td>
<td>50 to 55 pounds</td>
<td>12 to 16</td>
</tr>
<tr>
<td>Plums</td>
<td>1 bushel</td>
<td>40 to 50 pounds</td>
<td>20 to 25</td>
</tr>
<tr>
<td>Asparagus</td>
<td>1 bushel</td>
<td>40 to 50 pounds</td>
<td>12 to 14</td>
</tr>
<tr>
<td>Beans — Lima (In Pod)</td>
<td>1 bushel</td>
<td>28 to 30 pounds</td>
<td>15 to 18</td>
</tr>
<tr>
<td>Beans — Green</td>
<td>1 bushel</td>
<td>28 to 30 pounds</td>
<td>18 to 20</td>
</tr>
<tr>
<td>Beets</td>
<td>1 bushel</td>
<td>50 to 60 pounds</td>
<td>18 to 20</td>
</tr>
<tr>
<td>Carrots</td>
<td>1 bushel</td>
<td>50 to 60 pounds</td>
<td>18 to 20</td>
</tr>
<tr>
<td>Corn</td>
<td>1 bushel</td>
<td>60 to 70 pounds</td>
<td>8 to 12</td>
</tr>
<tr>
<td>Greens</td>
<td>1 bushel</td>
<td>12 to 14 pounds</td>
<td>6 to 8</td>
</tr>
<tr>
<td>Peas (In Pod)</td>
<td>1 bushel</td>
<td>28 to 30 pounds</td>
<td>6 to 8</td>
</tr>
<tr>
<td>Strawberries</td>
<td>1 crate</td>
<td>28 to 30 pounds</td>
<td>14 to 18</td>
</tr>
<tr>
<td>Tomatoes</td>
<td>1 bushel</td>
<td>50 to 60 pounds</td>
<td>14 to 20</td>
</tr>
</tbody>
</table>
FRUITS — Selection and Preparation for Canning

Home canned fruits have the flavor, color, texture, and food value of good, freshly cooked ones, when proper care is given to the selection and preparation of the raw material. Canned fruit is not good unless it is fresh, ripe, sound, unbruised, and clean when canned. All fruit except pears should ripen on tree, vine, or bush. Pears should be picked when full grown and kept in a cool place until firm ripe. Sorting or grading for size, color, and condition is necessary in order to get a first-class product.

All large fruits should be sorted before washing. It is better to sort small ones as they are washed. Every piece of fruit should be washed clean before the skin is broken. Failure to do this is a common cause of spoilage.

Large fruits should be dropped into weak salt-vinegar water (1 tablespoon each to 1 gallon water) as it is peeled in order to prevent discoloring. The fruit should not stand in this water longer than 20 minutes and must be rinsed in clear water before canning.

Berries, bunches of grapes, cherries, and currants are best washed by putting a quart or two of them in a large pan of cool water and lifting them up and down in the water. This must be done gently to prevent bruising. The clean fruit should be put into a colander to drain — if one has no colander, a piece of cheese-cloth tied over the mouth of a wide pan will serve the purpose. These small fruits may also be washed under running water; a spray attached to the faucet is particularly good for the purpose, but care must be taken or the fruit will be bruised by the force of the water. Strawberries may need a quick rinsing after they are removed from the bunch.

Fruits should be prepared according to the recipe chosen and packed into the jars as closely as possible without crushing. They must be well covered with liquid in order to prevent loss of flavor, color, and food value. Flavor, color, food value, and sometimes the fruit, are lost when time is wasted between selection, preparation, packing, and canning.

Although we give instructions for other methods, we definitely recommend that fruits be hot packed and processed in hot water bath canner.

Please use jars and caps as instructed on pages 4, 5, and 6.
CANNING WITH SUGAR

Cane and beet sugar of equal degree of refinement give equal results in canning. The quantity of sugar called for in the BALL Blue Book recipes is liked by the average person, but it can and should be adjusted to suit the taste of those for whom the fruit is canned.

CANNING WITHOUT SUGAR

Fruits usually have better flavor, texture and color when canned in sirup but they keep as well without sugar as with it. To can without sugar: select and prepare fruit as instructed in the regular recipes. Add just enough water or fruit juice to prevent sticking. Cook until hot through. Pack into hot BALL Jars and process by time table on page 9.

Note: (a) Fruit must be covered with liquid to prevent darkening at top of jar. (b) Do not add saccharin before canning as it is likely to cause an unpleasant flavor.

CANNING WITH A LITTLE SUGAR

An excellent and sugar saving way to can ripe juicy fruits is to use ⅓ (or less) cup sugar to each quart of prepared fruit. Sprinkle sugar over fruit. Heat slowly to draw juice out of fruit and to dissolve sugar. Then pack into hot BALL Jars and process by time table on page 9.

CANNING WITH HONEY OR WITH CORN SIRUP

Honey tends to change flavor and color of fruits but may be substituted for part or for all of the sugar when making canning sirups. Up to ⅔ of the sugar called for in canning sirup recipes may be replaced with corn sirup. See page 9 for sirup recipes.

APPLES—BAKED

Wash and core apples. Fill cavities with sugar to which a little cinnamon, cloves, nutmeg, or ginger has been added. Add enough water to prevent sticking and bake until tender. Pack into hot BALL Jars. Cover with hot sirup made of equal parts of sugar and water or with water and honey. Process 15 minutes in hot-water bath.

APPLES—HOT PACK

Wash, pare, halve, and core apples. Drop into vinegar-salt water (1 tablespoon each to 1 gallon water). Boil equal parts sugar and water together 2 minutes. Rinse apples. Add to hot sirup. Cook gently 5 to 10 minutes. Pack in overlapping layers into hot BALL Jars. Process 20 minutes in hot-water bath.

APPLES—FOR PIES

Same as Apples-Hot Pack, or apples may be sliced and cooked in sirup made of 2 parts water to one part sugar, or they may be canned in plain water.

APPLE SAUCE


Note: Apple sauce should be cooked in an enamel granite-ware or stainless steel kettle and stirred with wooden spoon.

APRICOTS—HOT PACK

Wash, scald, cold dip, and skin firm-ripe apricots. Cut in halves and remove seed, or pack whole. Simmer 3 to 6 minutes in sirup made of equal parts sugar and water. Pack into hot BALL Jars. Process 20 minutes in hot-water bath.

Note: Apricots are likely to have an unpleasant flavor when canned with skins on. This is particularly true of fruit which is taken from the tree before ripe. If apricots are to be canned without skinning, they should be rubbed with a cloth to remove fuzz. Apricots which have been shipped and those canned with skins on should be hot packed and processed 25 minutes in hot-water bath canner.

ALL BERRIES—COLD PACK

Use any variety of edible berry, except strawberries and red raspberries. Wash firm-ripe, freshly picked berries. Drain. Pack into hot BALL Jars as tightly as possible without crushing. Cover with hot sirup made of 1 part sugar and 1 of berry juice or water. Process 20 minutes in hot-water bath.

ALL BERRIES—HOT PACK

Use any variety of edible berry, except strawberries. Wash and measure firm-ripe, freshly picked berries. Drain. Use from ⅓ to ½ cup sugar to 1 quart berries. Place layers of sugar and berries in a broad, shallow pan. Let stand 2 hours, then cook by simmering until the sugar is dissolved and berries heated through. Pack into hot BALL Jars. Process 5 minutes in hot-water bath.

ALL BERRIES—OPEN KETTLE

Use any variety of edible berries, except strawberries and red raspberries. Wash berries. Add from ⅓ to ½ cup sugar for each quart berries. Boil 10 minutes. Pour boiling hot into hot BALL Jars, seal at once.

BLUEBERRIES AND HUCKLEBERRIES

These berries may be canned by recipe given for all berries, but the method given here is more desirable if berries are to be used in muffins, etc.

Place 2 or 3 quarts clean berries in a square of cheesecloth. Hold the cloth by the corners and dip into boiling water until spots appear. Then dip quickly in and out of cold water. Pack into hot BALL Jars. (Add neither sugar nor liquid.) Process 20 minutes in hot-water bath.

ELDERBERRIES

Wash, stem, and pack into hot BALL Jars. Cover with sirup made with 1 part sugar to 3 parts water. Process 20 minutes in hot-water bath.

Elderberries lack acidity, therefore, a small amount of lemon juice or vinegar is generally added to them when making pies.

GOOSEBERRIES

Gooseberries may be canned by recipes given for all berries, but are usually canned in a heavier sirup (2 or 3 parts sugar to 1 part water). Snip heads and tails from clean berries. Pack into hot BALL Jars. Cover with boiling sirup. Process 20 minutes in hot-water bath.
RED RASPBERRIES
Red raspberries may be canned by any berry recipe, but they keep color, shape, and flavor better if instructions are followed for canning strawberries.

STRAWBERRIES
Use berries having small cells and deep red color throughout. Wash, cap, drain, and measure berries. Work with batches of 2 or 3 quarts. Use from 1 to 2 cups sugar to each quart of berries. Place sugar and berries in alternate layers in a broad bottom pan. Let stand 2 hours. Simmer 5 minutes without stirring. Cover and let stand overnight. Pack cold berries into hot BALL Jars. Process 15 minutes in hot-water bath.

CHERRIES—COLD PACK
Wash, stem, and pit cherries or leave whole. (Prick each unpitted cherry with needle.) Pack into hot BALL Jars. Cover sour cherries with boiling sirup made of 1 part sugar and 1 of water or cherry juice, and sweet cherries with sirup made of 1/2 to 1 part sugar and liquid. Process 20 minutes in hot-water bath.

CHERRIES—HOT PACK
Wash, pit, and measure cherries. Mix with 1/2 to 1 cup sugar to each quart pitted cherries. Let stand 1 to 2 hours; simmer 10 minutes. Pack into hot BALL Jars. Process 10 minutes in hot-water bath.

CHERRIES—OPEN KETTLE
Wash, drain, stem, and pit cherries or leave whole. Compute 3/4 to 1 cup sugar to each quart pitted fruit. Heat slowly to boiling, then boil rapidly 15 minutes. Pour hot into hot BALL Jars; seal at once.

CRANBERRY SAUCE
Wash and stem cranberries. Boil 4 cups sugar with 4 cups water, 5 minutes. Add 2 quarts berries; boil without stirring until skins burst. Pour into hot BALL Jars; seal at once.

Note: A stick of cinnamon or a few whole cloves may be cooked with the sauce to give a spicy flavor.

CURRANTS
Use recipe for any method of canning berries.

FIGS

COLD STORAGE LOCKERS
Cold storage rental lockers offer another method for preserving food products as you like them. To insure greatest retention of freshness a tightly sealed container is essential. The Ball jar is an air tight, leak proof container having no effect on color or flavor of the product. No breakage will occur if instructions are followed.

Select, wash, sort, and prepare fruit as for canning. Pack into clean Ball jars which should be at room temperature. Leave at least two inches headspace.

GRAPEFRUIT
Wash and dry firm, heavy, strictly fresh, tree ripened grapefruit. Cut a slice from each end; then cut the peel off in broad slices reaching from end to end. (Cut deep enough to remove the thin skin which separates the fruit from the peel.) Run a thin knife blade between the flesh and membrane of each section and lift out the section or “heart” without breaking. Discard seed. Pack into hot BALL Jars. To each quart, add 1/2 cup sirup made of 2 parts sugar and 1 of water or grapefruit juice. Process 25 minutes in hot-water bath.

GUAVAS
Wash, peel, and cut in halves. The seed may be left in or removed as preferred. Cover with boiling sirup made of 1 part sugar and 2 of water. Let stand 30 minutes. Pack into hot BALL Jars. Process 20 minutes in hot-water bath.

LOQUATS
Wash, remove stems and blossom ends. (Seed may be removed if objectionable.) Cook 3 to 5 minutes in sirup made of 1 part sugar to 2 parts water. Pack into hot BALL Jars. Process 20 minutes in hot-water bath.

MIXED FRUITS—SALADS, ETC.
Canned mixed fruits are both convenient and economical for use in cocktails, salads, and desserts. Certain firm ones, such as pineapple, may be canned when in season, opened, mixed with other fruits and recanned.
Prepare fruit as for canning. Leave whole, in large pieces, or dice. Simmer each fruit separately 5 to 10 minutes in smallest possible amount of water, then mix. Pack into hot BALL Jars. Cover with hot sirup made of 1 part sugar to 3 parts water. Process 10 minutes in hot-water bath.

Some good mixtures:
- Pineapple, peaches, pears, white cherries.
- Green gage plums, peaches, white grapes.
- Pineapple, apricots, grapefruit, white grapes.

**NECTARINES**
Wash, scald, cold dip, and peel firm-ripe fruit or can with skin on. Cut in halves, if peeled. Pack into hot BALL Jars. Cover with hot sirup made of 3 parts sugar and 2 of water. Process 20 minutes in hot-water bath.

**NECTARINES—OPEN KETTLE**
Use recipe for peaches — Open Kettle, page 17.

**PEACHES**
The rich color, firm texture and delicate flavor of clingstone peaches make them particularly desirable for canning, however many persons prefer to use freestone fruit. Both types of peaches should be fresh, sound, unbruised, and firm-ripe when canned.

Grade all peaches for size, color, and condition, then wash and peel. Skins may be removed from some varieties after scalding and cold dipping (about 1 minute in boiling water, ½ minute in cold water).

The lye method of peeling, while practical when a large quantity is to be canned, requires skill. To lye peel: Put 4 tablespoons concentrated lye in an enamel or granite kettle. Add 2 gallons water and heat to boiling. Put fruit in a basket and hold in the boiling lye from 30 to 60 seconds; then wash immediately in cold water. Rinse through several waters to remove all skins and all traces of lye. The fruit will darken if left in lye too long or if not well rinsed.

Paring with a knife is usually the best way to peel peaches. Cut peeled peaches in halves. Discard stones; scrape cavities of freestone fruit to remove the pink or red fibers. Drop peaches, as they are halved, into vinegar-salt water (1 tablespoon each to 1 gallon cold water). Rinse before canning.

To prepare clingstone peaches for canning: Remove skins by one of the methods described above. Clings may be halved (before peeling) by cutting around the peach with a sharp knife, beginning at the stem end and following the crease. After cutting, hold peach with both hands and twist in opposite directions — this pulls one side of the peach from the stone. Use a regular peach pitting spoon, a teaspoon, or a knife to remove the stone from the other half of the peach. Peel the halves by scalding, lye method, or paring with knife. If preferred, the peach may be peeled and then halved by cutting around the stone with knife. The easiest way to remove the flesh from the stone is to cut it in wedge shaped slices. Drop the cut fruit into weak salt water (1 tablespoon salt to 1 gallon water). Rinse before canning.

When canning, use the longest processing time mentioned in peach recipes. Note: Some varieties of clingstone peaches do not discolor when exposed to air after peeling.
PEACHES—COLD PACK
Pack peaches into hot BALL Jars, layers overlapping, cavity side down. Cover with boiling sirup made with 1 or 2 parts sugar to 1 of water. Process from 20 to 35 minutes in hot-water bath. Use the longer period for extra large or very firm fruit.

PEACHES—HOT PACK
Best ways to can peaches
I. Make a sirup of 1 or 2 parts sugar to 1 of water. Add peaches, a few at a time, and simmer until hot through (10 to 20 minutes). Pack into hot BALL Jars, layers overlapping, cavity side down. Cover with sirup in which peaches were cooked. Process 10 to 20 minutes in hot-water bath. Can left over sirup for pudding or ice cream sauce.

II. Add from 1 to 1 1/2 cups sugar and one cup boiling water to one gallon prepared peaches. Cook gently until peaches are hot through and sugar dissolved (10 to 20 minutes). Pack and process as instructed above. If there isn’t enough liquid to cover peaches in jar, add boiling water after peaches are packed. Use longest processing period for large, firm fruit.

PEACHES—OPEN KETTLE
Add 2 parts sugar to 1 of water. Bring to a boil. Add peaches and cook until tender, but not broken. Pour hot peaches into hot BALL Jars. Cover with boiling sirup; seal at once.

PEACHES—BAKED
Wash and rub fuzz from hard-ripe fruit. Place in pan with small amount of water. Sprinkle with sugar to sweeten (about 1/2 cup to 1 dozen peaches). Bake until tender. Pack into hot BALL Jars. Cover with sirup. Process 10 minutes in hot-water bath. Use longest period for large or hard fruit.

Note: Should there not be enough sirup to cover, finish out with plain sirup made by boiling equal parts sugar and water 5 minutes. Ginger or other spices may be added to sirup to give variety of flavor.

PEARS
Unlike other fruits, pears should be removed from the tree before ripe and stored in a cool place (60-65° F.) until ripe, but not soft. The Bartlett is the best pear for canning, but the Keifer and similar varieties are satisfactory if properly ripened and then cooked until almost tender in plain water before sugar is added to make sirup.

Wash, pare, halve, or quarter, and core pears. (The cores are not removed if the fruit is canned whole.) Drop the pared fruit into water containing salt and vinegar, (1 tablespoon of each to a gallon of water). Rinse. Boil gently from 4 to 8 minutes in sirup made of 1 part sugar to 2 or 3 parts water. Pack into hot BALL Jars; layers overlapping, cavity side down. Cover with sirup in which cooked. Process 20 to 25 minutes in hot-water bath. Use the longer period for large or hard fruit.

Pears, because of their mild flavor, are well adapted to combination with other flavors. This is important to remember when other fruits are scarce.

For orange pears: Use the juice and rind of 1/2 orange to each quart of sirup. Remove the rind before packing the pears.

For cinnamon pears: Use 2 or 3 tablespoons of “red hots” to each quart of sirup, or use stick cinnamon and a few drops red coloring.
For ginger pears: Use ginger tea (water in which ginger root is boiled) instead of plain water for making sirup.

For pineapple pears: Use pineapple juice instead of water for making sirup.

For plum pears: Use tart, red plum juice instead of water for making sirup.

**PEARS — BAKED**

Wash and remove blossom ends from firm-ripe pears. Cut in half — do not peel. Put in pan cut side up. Sprinkle lightly with sugar; add just enough water to prevent sticking. Bake until almost done enough for serving. Pack into hot BALL Jars and cover with sirup made of equal parts light-brown or white sugar, or honey, and water. Process 20 minutes in hot-water bath.

**PEAR AND MELON BALLS**

Use equal portions of balls or cubes of firm-ripe fruit. Cook pears in water until tender but not soft. Heat melon just to boiling. Drain and combine fruit. Cover with boiling sirup (1 part sugar to 3 parts water) and let stand until cold. Pack into hot BALL Jars. Add 1 tablespoon lemon juice to each quart and cover with the sirup. Process 20 minutes in hot-water bath.

**PEARS — MINT**

(Creme de Menthe)

Make sirup of 2 or 3 parts water to 1 of sugar. Add pears, halved, or whole, or sliced crosswise, and cook until tender. After cooking pears, add a few drops of mint flavoring and a small amount of edible green coloring to the sirup. Cover and let stand 30 minutes. Pack pears loosely into hot BALL Jars; cover with sirup. Process 10 minutes in hot-water bath.

**PEARS — MINT**

(Creme de Menthe)

Make sirup of 2 or 3 parts water to 1 of sugar. Add pears, halved, or whole, or sliced crosswise, and cook until tender. After cooking pears, add a few drops of mint flavoring and a small amount of edible green coloring to the sirup. Cover and let stand 30 minutes. Pack pears loosely into hot BALL Jars; cover with sirup. Process 10 minutes in hot-water bath.

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**PERSIMMONS**

Wash ripe persimmons. Steam, or cook in small amount of water, until soft. Rub through a strainer to remove seed. Sweeten to taste if to be used as a sauce; otherwise add no sugar. Reheat to boiling. Pack into hot BALL Jars. Process 20 minutes in hot-water bath.

**PERSIMMONS — WHOLE**

Scald until the skins crack. Remove skin. Pack in hot BALL Jars. Cover with sirup made of 1 cup sugar to 3 cups water. Process 20 minutes in hot-water bath.

**PINEAPPLE**

Scrub firm-ripe pineapple with brush. Dry, twist out top. Cut thin slice from bottom, then cut the pineapple into 1/2 inch slices crosswise or into 8 wedge-shape slices lengthwise. (Cut into halves, then quarters, etc.) Remove peeling and core after slicing. Use doughnut or cookie cutter for shaping round slices. Leave long slices whole or cut into pieces of uniform size.

Well ripened pineapple may be packed raw, covered with sirup made of equal parts sugar and water and processed 30 to 40 minutes in a hot-water bath, but hot packing usually gives better results.

**PINEAPPLE — HOT PACK**

Make sirup of one part sugar to 1 1/2 parts water. Add pineapple. Simmer until tender. Pack into hot BALL Jars. Cover with hot sirup. Process 15 minutes in hot-water bath.

**PINEAPPLE — OPEN KETTLE**

Mix prepared pineapple with 1/4 to 1/2 cup sugar. Let stand 1 hour; then cook until tender. Pour boiling hot into hot BALL Jars; seal at once.

**PLUMS**

Green gage and other meaty plums are better for canning than the more juicy varieties. Plums may be scalded and skinned, but the skins are usually left on. Prick with a needle. Pricking does not necessarily prevent skins from cracking, but tends to prevent bursting of the fruit.

Drop plums into boiling sirup made of 1 or 2 parts sugar to 1 of water, depending upon sourness of fruit. The plums should not be more than 2 deep in the pan. Remove pan from stove 2 minutes after adding fruit. Let stand covered from 20 to 30 minutes. Pack plums into hot BALL Jars. Cover with the sirup. Process 10 minutes in hot-water bath. The extra sirup may be canned to use in beverages, ices, etc.

Note: Plums may also be packed cold into hot BALL Jars, covered with boiling sirup and processed 20 minutes in hot-water bath.

**PLUMS — OPEN KETTLE**

Wash, prick, and measure plums. To each quart plums, add from 1/2 to 3/4 cup sugar and 1/2 cup water. Heat slowly to boiling. Boil until thoroughly cooked (10 to 20 minutes). Pour hot into hot BALL Jars; seal at once.

**PRUNES — FRESH**

Use recipe for plums. Process 15 minutes.

**PRUNES — DRIED**

Wash prunes. Cover with cold water and let stand overnight. Drain off and save water. Pack prunes into hot BALL Jars. Make sirup of the prune water and 2 tablespoons sugar for each quart of fruit. Pour hot sirup over prunes and process 30 minutes in hot-water bath.

**QUINCES**

Use firm-ripe fruit. Wash, peel, core, and cut into halves or quarters. Steam or cook in small amount of water until tender. Pack into hot BALL Jars. Cover with sirup made with equal parts sugar and water. Process 30 minutes in hot-water bath.

**RHUBARB — HOT PACK**

When possible, use strawberry rhubarb. Wash and cut unpeeled stalks into 1 inch pieces. Place in wide-bottom pan with alternate layers of sugar. Use 1/4 to 1/2 of as much sugar as rhubarb. Let stand 2 or more hours. Heat slowly to boiling. Remove pan from heat when contents begin boiling. Let stand several hours. Pack cold rhubarb into hot BALL Jars. Cover with sirup reheated to boiling. Process 5 minutes in hot-water bath.

**RHUBARB — BAKED**

Wash and cut rhubarb into 1 1/2 inch pieces. Add from 1/2 to 1 cup sugar to quart of rhubarb. Bake until tender. Pack into hot BALL Jars. Process 5 minutes in hot-water bath.
JUICES

The average person finds it somewhat difficult, except in hot weather, to drink the quantity of water needed for keeping the body in prime condition but there are few persons who do not welcome a tall glass of cool, home-canned fruit juice at noontime, bedtime, any time, because fruit juice is water with the plus values of color, flavor, vitamins, and sugar. Fruit juices are also useful for making cocktails, punches, congealed desserts, molded salads, sauces, ice-creams, sherbets, etc.

Fruits from which juices are to be extracted should be fresh, sound, ripe, and of good color and flavor; all except citrus fruits and white grapes should be heated before the juice is extracted. The cooking should be done below boiling point because intense heat tends to destroy color, flavor, and vitamins.

Juices of highest quality can be easily made at home if instructions are carefully followed and a dairy or a candy thermometer is used to determine temperatures. However, a satisfactory product can be made without the use of a thermometer.

The amount of sugar used varies from 1 to 2 cups to 1 gallon juice, depending upon preference. Some fruits do not hold color and flavor well unless a larger quantity of sugar is used and are for this reason made into sirups which may be combined with other juices or with water when served as a beverage. Juices intended to be used for making jelly must be canned without sugar. Fruit juices should be processed 30 minutes in a hot-water bath at 175–200°F. If no thermometer is available, process at simmering, that is, just below boiling — when bubbles begin to show on the surface of the hot water.

Grape and berry juices are clearer if left standing 12 or more hours and then siphoned or poured from the dregs which settle at the bottom. Filtered juices are more attractive in appearance, but less so in flavor than unfiltered ones.

Please use Jars and Caps as instructed on pages 4, 5, and 6.
APRICOT PUREE OR NECTAR
Wash and stone sound ripe apricots. Add enough water to prevent sticking. Simmer until soft. Press through a fine sieve. Add 2 cups sugar to each gallon strained pulp. Reheat until sugar dissolves. Pour into hot BALL Jars. Process 15 minutes in hot-water bath. Dilute with water and serve as other fruit juices or use in ice creams, sherbets, water to prevent sticking. Simmer until soft. Press through several layers of cheesecloth. Add from 1 to 2 cups sugar to each gallon of juice. Reheat to simmering and pour into hot BALL Jars. Process 30 minutes in hot-water bath at 175–185°F.

BERRY JUICES
Use: Blackberries, Blueberries, Boysenberries, Black Raspberries, or Loganberries, etc. Wash, crush, and simmer berries until soft. Strain through several layers of cheesecloth. Add from 1 to 2 cups sugar to each gallon of juice. Reheat to simmering and pour into hot BALL Jars. Process 30 minutes in hot-water bath at 175–185°F.

BLACKBERRY CORDIAL
Nonalcoholic
To 1 quart blackberry juice add 2 cups sugar and 1 tablespoon each cloves, allspice, cinnamon, and nutmeg. (Tie spices in cloth bag.) Simmer 30 minutes. Bring to boiling. Pour boiling into hot BALL Jars: seal at once.

CIDER
Put clean, sound, ripe apples through cider mill. Strain. Pour freshly made cider into hot BALL Jars. Process 30 minutes in hot-water bath at 170°F. Strain before serving.

CRANBERRY JUICE
Boil equal measures of cranberries and water together until the berries burst. Strain juice through cheesecloth. Sweeten to taste. Boil 1 or 2 minutes. Pour hot juice into hot BALL Jars; seal at once.

FRUIT PUNCH
Mix 2 cups lemon juice, 6 cups orange juice, 4 cups grapefruit juice, 4 cups pomegranate or red plum juice and 4 cups sugar. Simmer 20 minutes. Pour into hot BALL Jars. Process 30 minutes in hot-water bath at simmering.

GRAPE JUICE I
Wash, stem, and crush fresh, firm-ripe grapes. Add 1 cup water to each gallon crushed grapes. Heat 10 minutes at simmering. (Boiling develops a poor flavor.) Strain through several layers of cheesecloth. Let stand in a cool place, preferably in refrigerator, 24 hours. Strain again. Add 1 or 2 cups sugar to each gallon juice. Reheat to simmering. Pour into hot BALL Jars. Process 30 minutes in hot-water bath at 175–185°F.

GRAPE JUICE II
Wash and stem fresh, firm-ripe grapes. Put 1 cup grapes into a hot quart BALL Jar. Add from 3⁄4 to 1 cup sugar. Fill the jar with boiling water. Process 5 minutes in hot-water bath at boiling.

GRAPEFRUIT JUICE
Extract and strain juice. Sweeten to taste. Heat to 165°F. Pour into BALL Jars. Process 30 minutes in hot-water bath at 165–175°F.

PEACH PUREE OR NECTAR
Follow recipe for Apricot Puree.

PINEAPPLE JUICE
Scrub pineapple, slice, and remove the peel, but not "eyes." Grind through food chopper. Add 3⁄4 as much water as pineapple and simmer until the fruit is tender. Strain through several layers of cheesecloth. Add 1 cup sugar to each gallon of juice. Heat to simmering. Pour into hot BALL Jars. Process 30 minutes in hot-water bath at 175–185°F.

POMONA PUNCH
Substitute 8 cups sweet apple cider for the grapefruit and pomegranate juices called for in Fruit Punch recipe.

RED RASPBERRY SIRUP
Follow recipe for Strawberry Sirup.

SHRUBS OR VINEGARS
Wash, cap, measure, and crush firm-ripe berries of any edible variety. For each gallon crushed berries: Boil 4 cups sugar with 2 cups vinegar 5 minutes and pour over the berries. Let stand 24 hours then strain through several layers of cheesecloth. Reheat to simmering. Pour into hot BALL Jars. Process 30 minutes in hot-water bath at 175–180°F.

STRAWBERRY SIRUP
Wash, cap, crush, and measure firm, red-ripe berries. Add 1 pint boiling water to each gallon crushed berries. Strain juice through cheesecloth. Let stand 2 hours. Strain again. Add 8 cups sugar to each gallon juice. Simmer until sugar dissolves. Pour into hot BALL Jars. Process 30 minutes at simmering.

TOMATO JUICE I
No tomato juice is superior in flavor to that which is made, as needed, by pressing home-canned tomatoes through a fine sieve.

TOMATO JUICE II
Use firm, red-ripe, freshly picked tomatoes. Discard any that are bruised or specked with decay or fungus. Wash carefully. Leave whole and bake in an oven; or steam; or cut into small pieces and cook until soft. (It is said that a smaller percentage of vitamins is lost when the cooking is done by steaming or baking.) Press the hot tomatoes through a fine, preferably cone-shaped, sieve. Reheat to simmering (195–205°F.) Pour into hot BALL Jars. Process 20 minutes in hot-water bath at simmering, or 10 minutes at boiling.

Note: If the juice is to be used in infant feeding, omit salt. Otherwise add salt to season.
VEGETABLES
Selection and Preparation for Canning

We advise the use of a steam pressure cooker or canner for processing low-acid vegetables because processing above boiling temperature lessens the danger of spoilage and because the canning may be done in less time. Time tables for hot-water bath processing are given (on page 10) for the convenience of the thousands of home canners, particularly in the eastern and northern states, who prefer that method because they are accustomed to using it successfully.

Garden fresh, sound, clean vegetables are the only kind worth canning. It is a waste of time, food, and effort to can over-ripe, stale, tough produce. Vegetables are right for canning when they reach the best stage for cooking. They should be canned the day they are gathered — the nearer the hour gathered, the better. Stale or wilted vegetables have less flavor and food value than fresh crisp ones and are much more likely to spoil after canning because they attract hoards of bacteria.

Asparagus should be canned before the tips loosen. Beets and carrots are best when small, but large ones may be used if tender and of good flavor. Corn is ready when the kernels are plump, shiny, and filled with milk-like juice. Green beans are satisfactory as long as the pods are crisp and meaty. Peas of any kind, lima, and all other shell-out beans must be green on the inside.

Every vegetable should be washed clean before its skin is broken. Green beans and okra require special attention because the short thick nap or fuzz on them holds dust. The blossom end of okra may hold both dust and insects.

All lowacid vegetables should be precooked and packed hot for processing. Vegetables should be packed in jars loosely enough to permit the liquid to circulate between the pieces. Food values are higher when vegetables are canned with the water in which they are precooked, provided the water is not wasted when the food is used, but the flavor, and possibly the keeping qualities, of some foods is better when canned in fresh boiling water.

Vegetables usually have better flavor if a small amount of salt is added at the time of canning but they keep as well without it.

Canned food should never be tasted to see if it is spoiled nor should canned vegetables (except tomatoes and ripe pimientos) be tasted until after they have been boiled for 15 minutes. Reboil left-over canned vegetables before serving. This rule applies to both water bath and pressure cooker processed vegetables.

Please use BALL Jars, Caps, and Lids as instructed on pages 4, 5, and 6.

ARTICHOKES
Wash. Cut off hard tips and the outer leaves. Boil 5 minutes in salt-vinegar water (1 tablespoon salt and 1/4 cup vinegar to 1 gallon water). Pack into hot BALL Jars. Cover with fresh, hot, salt-vinegar water. Process 25 minutes at 10 pounds pressure.

ASPARAGUS
Grade freshly cut asparagus for size. Wash clean. Then cut off and discard about 3/4 inch of the stalk. Remove scales. Place upright in wire basket or in square of cheesecloth and hold 3 minutes in boiling water which reaches just below the tips. Pack upright into hot BALL Jars. Add 1 teaspoon salt to each quart. Cover with boiling water. Process 40 minutes at 10 pounds pressure.

Note: If preferred, asparagus may be cut in 2 inch pieces before precooking for packing.

BEANS — BAKED
1 quart dried beans
3/4 pound salt pork
1 onion
Soak beans overnight. Drain. Add 2 quarts fresh water and simmer until skins begin to crack. Add pork, cut in 2 inch pieces, onion, salt, mustard, and molasses. Add more boiling water if needed to cover. Bake 2 hours. Pack into hot BALL Jars. Process 60 minutes at 10 pounds pressure.

Note: Baked beans should be "soupy" when packed into the jars. Tomato sauce or puree may be used instead of molasses in the above recipe.

BEANS — DRIED
Use any variety of dried beans or dried peas. Soak beans over night in cold water to cover. Drain, cover with hot water and simmer about an hour — the beans should be "soupy." Pour into clean, hot BALL Jars. Add one teaspoon salt to each quart. Process 70 minutes at 10 pounds pressure.

Note: If wanted, small pieces of salt pork and any other seasoning liked, may be added to the beans 20 minutes before the simmering is finished.

BEANS — GREEN, WAX, AND "SNAP PEAS"
Wash, string, break, or cut young, tender, freshly gathered pods into 2 inch pieces. Boil 5 minutes. Pack into hot BALL Jars. Add 1 teaspoon salt to each quart. Cover with water in which cooked. Process small, young pods 35 minutes and large ones 55 minutes at 10 pounds pressure.

BEANS — BUTTER AND LIMA
Use only freshly gathered beans
Wash, shell, and wash again. Boil small green beans 3 minutes; large ones 10 minutes. Pack into hot BALL Jars. Add 1 teaspoon salt to each quart. Cover with water in which cooked. Process small, young beans 55 minutes; large ones 65 minutes at 10 pounds pressure.

BEANS — SOY
Use Lima Bean recipe. Process 70 minutes at 10 pounds pressure.
BEANS—PORK AND

2 quarts dried beans
1 pound salt pork (cut in cubes or slices)
1 tablespoon salt

Wash and pick over pea, navy, kidney or any other variety of dried beans. Soak over night in cool water. Cover with boiling water. Simmer one hour. Add other ingredients. Turn beans into baking pan and cook uncovered in slow oven (250-300° F.) until beans are almost tender. Add more water if beans become dry — they should be "soupy" for canning. Pack into hot BALL Jars. Process 60 minutes at 10 pounds pressure.

BEETS

Wash young, tender, deep red beets. Leave 2 inches of stems and tap root. Boil until the skins can be slipped. Slip skins, trim beets, leave whole, slice or dice, and pack into hot BALL Jars. Add 1 teaspoon salt to each quart. Cover with boiling water. Process 40 minutes at 10 pounds pressure.

BROCCOLI

Wash young, all-green broccoli. Cut in 2 inch pieces or leave in longer branches. Boil 3 minutes in salt water (1 teaspoon salt to 1 quart water). Pack into hot BALL Jars. Cover with boiling water. Process 35 minutes at 10 pounds pressure.

Note: Broccoli, Brussels sprouts, cabbage, cauliflower and turnips tend to discolor when canned and to develop a strong flavor.

BRUSSELS SPROUTS

Wash, trim, and boil Brussels sprouts 5 minutes in salt water (1 teaspoon salt to 1 quart water), and can same as cauliflower.

CABBAGE

Cut in pieces suitable for packing, and can same as cauliflower.

CARROTS

Wash, scrape, and rinse. Slice, dice, or leave whole. Boil 3 minutes. Pack into hot BALL Jars. Add 1 teaspoon salt to each quart. Cover with boiling water. Process 40 minutes at 10 pounds pressure.

CAULIFLOWER

Clean and separate cauliflower into small pieces. Soak 30 minutes in salt water (1 tablespoon salt to 1 quart water). Drain. Boil 3 minutes. Pack into hot BALL Jars. Cover with boiling water. Process 35 minutes at 10 pounds pressure.
CELE R Y
Wash and cut in 2 inch pieces. Boil 3 minutes. Pack into hot BALL Jars. Add 1 teaspoon salt to each quart. Cover with boiling water. Process 35 minutes at 10 pounds pressure.

CORN
Use tender, juicy corn which is strictly fresh. Can as quickly as possible after gathering. Do not can that which has stood overnight. Handle in small quantities.

CORN—CREAM STYLE
Cut tip ends from kernels. Scrape out pulp. Add 1 teaspoon salt and 2 cups boiling water to each quart of corn. Boil 3 minutes. Pour into hot BALL Jars. Process 70 minutes at 10 pounds pressure.

CORN—WHOLE KERNEL
Cut corn from cob. Do not scrape. Add 1 teaspoon salt and 2 cups boiling water to each quart of corn. Boil 3 minutes. Pour into hot BALL Jars. Process 70 minutes at 10 pounds pressure.

Note: Whole kernel corn usually has better color, flavor, and keeping qualities than that which is canned cream style.

CORN—ON COB
Boil corn 5 minutes. Pack into hot BALL Jars. Add 1 teaspoon salt to each quart. Cover with boiling water. Process 75 minutes at 10 pounds pressure.

EGG PLANT
Wash, peel, slice, or cube egg plant. Soak 45 minutes in brine (1 tablespoon salt to 1 quart water). Drain. Boil 5 minutes in clear water. Pack into hot BALL Jars. Cover with boiling water. Process 50 minutes at 10 pounds pressure.

GREENS—CHARD—KALE—MUSTARD—SPINACH—TURNIP—BEET TOPS—DANDELIONS—FIDDL E HEADS
Wash thoroughly, discard large stems and tough, discolored, and wilted leaves. Heat until wilted, using just enough water to prevent sticking. (Turning the greens over when steam begins to rise around the edges of the pan will hasten the wilting and prevent overcooking.) Pack firmly into hot BALL Jars; then loosen by cutting through the pack several times with a sharp knife. Add 1 teaspoon salt to each quart. Cover with boiling water. Process 85 minutes at 10 pounds pressure.

Note: Spinach is better when mixed with one of the less tender greens.

KOHLRABI, RUTABAGAS AND TURNIPS
Wash, pare, slice, or cube. Boil 5 minutes. Pack into hot BALL Jars. Add 1 teaspoon salt to each quart. Cover with boiling water. Process 40 minutes at 10 pounds pressure.

LYE HOMINY
For each quart shelled corn: Dissolve 2 tablespoons concentrated lye in 1 gallon boiling water. Add corn and boil until hulls loosen (about 30 minutes). Rinse corn through several changes of water to remove lye, then rub vigorously or churn to remove hulls and black tips. Let stand in fresh water 2 or 3 hours. Change the water 3 or 4 times. Drain. Cover with boiling salt water (1 teaspoon salt to 1 quart water). Cook until almost tender. Pour into hot BALL Jars. Process 60 minutes at 10 pounds pressure.

MIXED VEGETABLES
Carrots, green beans, celery, and lima beans, or any other mixture liked, may be canned. Prepare and precook each kind of vegetable by itself. Pack in layers in hot BALL Jars or mix before packing. Add one teaspoon salt to each quart. Cover with plain boiling water. Process time given for the vegetable in the mixture requiring longest processing (see time table page 10).

MUSHROOMS
Use fresh mushrooms known to be edible
Wash, pare if necessary, and drop into cold vinegar-water (1 tablespoon vinegar to 1 quart water). Drain. Cover with boiling vinegar-salt solution (1 teaspoon salt and 1 tablespoon vinegar to 1 quart water). Boil 2 or 3 minutes. Pack into hot BALL Jars. Add 1/2 teaspoon salt. Cover with fresh boiling water. Process 35 minutes at 10 pounds pressure.

OKRA
Use small pods. Wash; remove stem ends without cutting into pods. Cover with boiling water. Cook from 1 to 3 minutes. Pour into hot BALL Jars. Add 1 teaspoon salt to each quart. Process 40 minutes at 10 pounds pressure. Okra which is to be used for soup should be sliced before precooking.

OKRA AND TOMATOES
Measure equal parts sliced okra and chopped tomatoes. Cook tomatoes 20 minutes. Add okra. Boil 5 minutes. Add 1 teaspoon salt to each quart. Pour into hot BALL Jars. Process 35 minutes at 10 pounds pressure or 2 hours in hot-water bath.

PARSNIPS
Follow recipe for canning carrots.

PEAS—GREEN
Peas should be freshly gathered and green throughout. Wash pods. Drain. Shell. Grade for size. Rinse. Cover with boiling water. Boil small peas 3 minutes; large ones 5 minutes. Pour into hot BALL Jars. Add 1 teaspoon salt to each quart. Process small, young peas 50 minutes at 10 pounds pressure, and more mature ones 60 minutes at 10 pounds pressure.

PEAS—BLACK EYED, CROWDER, AND FIELD
Wash, shell, rinse, boil 5 to 10 minutes. Pour into hot BALL Jars. Cover with boiling water. Add 1 teaspoon salt to each quart. Process small, young peas 50 minutes at 10 pounds pressure, and more mature ones 60 minutes at 10 pounds pressure.

Note: A small amount of bacon, jowl, ham, or salt pork may be added for seasoning.

PEPPERS—GREEN
Use Bell Peppers or "mangoe." Remove stems and seed. Pack into hot BALL Jars. Cover with hot brine made by adding 1/4 cup salt and 1/2 cup vinegar to 1
quart water. Process 30 minutes in hot-water bath. Freshen in several changes of cold water before using.

**PIMIENTOS**
Fry peppers 2 or 3 minutes in hot oil or roast 6 or 8 minutes in hot oven. Remove skins, stem end, and seed. Flatten and pack, without liquid, into hot BALL Jars. Process 15 minutes at 10 pounds pressure or 45 minutes in hot-water bath.

**POTATOES—NEW**
Wash, scrape, and rinse freshly dug, new potatoes. Boil 10 minutes. Pack into hot BALL Jars. Add 1 teaspoon salt to each quart. Cover with boiling water. Process 45 minutes at 10 pounds pressure.

**POTATOES—SWEET**
Can potatoes immediately after digging. Use potatoes of uniform size and color and unbroken skins can be rubbed off. (Do not stick with fork). Slice, quarter, or leave whole. Pack into hot BALL Jars. Cover with fresh boiling water; or with boiling sirup; or can without liquid. Process 90 minutes at 10 pounds pressure.

**PUMPKIN AND WINTER SQUASH**
Use firm, fully ripe, pumpkin or squash. Wash; discard seed. Pare, cut into cubes, cook with water, or steam or bake until tender. If steamed or baked, scoop out pulp and mix with water to give consistency of pie filling. Pour into hot BALL Jars. Add 1 teaspoon salt to each quart. Process 95 minutes at 10 pounds pressure.

**SALSIFY OR ‘‘OYSTER PLANT’’**
Scrub freshly dug salsify. Cook 15 minutes in vinegar-water (1 tablespoon vinegar to 1 quart water). Scrape to remove skin. Cut in pieces or can whole. Pack into hot BALL Jars. Cover with fresh boiling water. Process 45 minutes at 10 pounds pressure.

**SAUERKRAUT**
Remove outside leaves from fresh, hard, sound cabbage. Quarter. Discard cores. Shred. Thoroughly mix 1 cup salt (approximately ½ pound) with 20 pounds cabbage. Pack firmly into stone jar or tight keg. Cover with wooden lid or dinner plate, which fits down on the inside of the container. Place a jar filled with water on the lid to hold the kraft under the brine which forms as the salt draws juice from the cabbage. Keep at a temperature of 65° F. to 75° F. Remove scum each day. Sauerkraut is cured and ready to can in from 20 to 40 days, depending upon the temperature at which it is kept. Pack into hot BALL Jars without headspace. Seal with glass lids or Vaccum Seal caps. Should there not be enough juice to cover the kraft, add brine made by dissolving 2 tablespoons salt in 1 quart water. Process 30 minutes in hot-water bath. Sauerkraut may also be made by mixing 1 scant tablespoon salt with 1 quart shredded cabbage and packing directly into BALL Jars. Do not seal jars. Remove scum as it forms. When cured, process 30 minutes in hot-water bath.

**SUCCHOTASH**
Boil fresh corn 5 minutes. Cut from cob. Do not scrape. Mix with from ½ to equal amount of green string or green lima beans which have been boiled 5 minutes. Reheat to boiling and pour into hot BALL Jars. Cover with boiling water. Add 1 teaspoon salt to each quart. Process 70 minutes at 10 pounds pressure.

**SUMMER SQUASH, ZUCCHINI, AND CHAYOTE**
Use only young, tender vegetables. Wash. Cut into small pieces and steam or boil until tender. Pour into hot BALL Jars. Add 1 teaspoon salt to each quart. Process 60 minutes at 10 pounds pressure.

**TOMATOES**
Tomatoes are one of the most useful and the easiest of vegetables (really a fruit) to can, provided one uses fresh, firm, sound, ripe fruit, washes it carefully before scalding, scalds in small quantities, prepares, packs, and processes as quickly as possible after scalding.

Tomatoes are likely to flat sour if left standing after scalding. They lose food value (vitamin C) if left exposed to the air after skinning. Always cut out hard cores and green spots. Never can tomatoes from which decayed spots and fungus growths have been removed.

**TOMATOES—REGULAR PACK**
Wash firm, fresh, sound, ripe tomatoes. Scald (a few at a time), and drain. Cut out all core and all hard or green spots. Skin. Pack solidly into hot BALL Jars. Add 1 teaspoon salt to each quart. (Add no liquid.) Process 45 minutes in hot-water bath.

**TOMATOES WITH CORN**
Mix 2 parts chopped skinned tomatoes with 1 part fresh corn. Add 1 teaspoon each salt and sugar to each quart. Boil 20 minutes. Pour into hot BALL Jars. Process 60 minutes at 10 pounds pressure or 3½ hours in hot-water bath.

**TOMATO PASTE**
Wash, core, and chop 12 pounds firm ripe tomatoes and 2 red sweet peppers. Add 6 bay leaves and 3 teaspoons salt. Cook about one hour. Rub through fine sieve. Add one clove garlic (if liked). Cook very slowly until thick enough to round up on spoon. Remove garlic, add spices if wanted. Pour into clean hot BALL Jars. Process 1 hour in hot-water bath.

**TOMATO SUCCOTASH**
Boil fresh corn 5 minutes. Cut from cob. Do not scrape. Mix with equal measure of green lima or soy beans, or any other kind of green beans which have been boiled 5 minutes. To each cup of the corn and bean mixture, add one cup of Creole Sauce (see page 50). Heat to boiling. Pour into clean hot BALL Jars. Process 60 minutes at 10 pounds pressure or 3½ hours in hot water bath.
MEAT—POULTRY—GAME—FISH

The term meat as used here refers to the edible parts of animals, game, fish, and fowl.

The flavor and texture of canned meat depends largely upon its quality before canning and that is determined by the breed, feed, and manner of handling the animal at the time of and immediately after slaughtering.

The weight, breed, and quality of the live animal also serve as a guide when estimating the probable number of jars needed for canning it. The manner of packing the meat must also be taken into consideration.

Approximately 200 jars are required for an 800 pound steer of prime quality, 30 jars for a 300 pound hog, and one jar for a three pound chicken packed with bone, and one jar for a 5 or 6 pound fowl packed without bone. The weights mentioned are live and the jars quart size. Nothing larger than quarts should be used for canning meats.

We advise hot packing meats and processing them under steam pressure. Meats may be processed 60 minutes at 15 pounds pressure but 90 minutes at 10 pounds gives better texture. Recipes for cold packing and time tables for water-bath processing are given for the benefit of those who prefer to use those more convenient but less reliable methods.

All canned meat products should be boiled for 15 minutes before tasting.

Please use Jars and Caps as instructed on pages 4, 5, and 6.
TO PREPARE MEAT FOR CANNING

Can only the flesh of healthy, correctly slaughtered animals. Confine 24 hours before killing. Give water, but no feed. Neither chase nor frighten before slaughtering. Hang, head down, immediately after killing to permit thorough bleeding. Skin or scrape immediately after bleeding. Draw, then drench the carcass with cold water to remove blood. Wipe dry with clean cloth. Chill thoroughly — pork, mutton, and veal, 24 to 36 hours; beef, 36 to 48 hours. Avoid freezing. Frozen meat is hard to handle and gives a canned product of poor quality.

Cut meat into pieces of convenient size for cooking or canning. Cut slices across grain and about 1 inch thick; jar size pieces with grain; that for stew in uniform cubes or squares.

Trim meat free of heavy connective tissues, gristle, bruised spots and surplus fat. The amount of heat necessary to preserve meat tends to cause rancidity in fat. An excess of fat also interferes with sealing of jars. Bones may be removed or left in, depending upon their size.

Wipe meat with clean, damp cloth, if necessary, but do not let stand in water. Exceptions to this rule: Fish and strong-flavored game are usually soaked in salt water before canning.

PACKING

Cold Pack: Do not use unless pressure cooker is available. Pack raw meat into hot jars. Add salt only. The meat will make its own juice.

Hot Pack: Cook meat \( \frac{1}{2} \) to \( \frac{3}{4} \) done or until the pink color has almost disappeared at the center. Pack while hot. Cooking may be done in any manner. Steaming, baking, broiling, roasting are better than frying. Canned fried meat tends to be dry and lacking in flavor. Meat should not be dipped into flour, meal, or crumbs before canning.

Usually hot packed meats have better color and flavor if covered with gravy or broth. From 1 to 2 teaspoons salt should be used to each quart of meat, the amount depending upon taste. Pack pieces of meat up and down in the jar. Leave at least one inch space at the top. Avoid crowding.

Hot pack frozen meat. Cut and start cooking just as if not frozen.

Process all meat immediately after packing.

BACKBONE

Cold Pack: Cut raw meat from bone and pack into hot BALL Jars. Add 1 or 2 teaspoons salt to each quart. Process 100 minutes at 10 pounds pressure.

Hot Pack: Boil, steam, or bake backbone until about \( \frac{1}{2} \) done. Cut meat from bone. Pack into hot BALL Jars. Add 1 or 2 teaspoons salt to each quart. Cover with hot broth, skimmed free of fat. Process 90 minutes at 10 pounds pressure.

CHILI CON CARNE

\[
\begin{align*}
\frac{3}{4} \text{ pound suet} & \quad 2 \text{ tablespoons salt} \\
2 \text{ cups chopped onion} & \quad 1 \text{ pod hot pepper} \\
1 \text{ tablespoon chopped garlic} & \quad 1 \text{ teaspoon comino seed} \\
5 \text{ pounds coarsely ground meat} & \quad 6 \text{ cups boiling water} \\
& \quad \frac{1}{2} \text{ cup chili pepper powder} \\
\text{MELT suet. Add onion and garlic and cook until deep yellow. Add Meat. Sear until gray. Add other ingredients. Boil 20 minutes. (If too thick, add more water.) Pack into hot BALL Jars. Process 90 minutes at 10 pounds pressure.}
\end{align*}
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Note: Tomato puree may be substituted for all or part of the water. Comino seed and garlic may be omitted and amount of chile reduced or increased to suit taste. One pound Pinto beans, cooked almost tender, may be mixed with the chili just before canning.

CHOPPED MEAT

Beef, Veal, Mutton, Lamb, etc.

(Use for Meat Loaf, Baked Hash, Stuffing Vegetables)

Put meat through food chopper. Turn into hot skillet with small amount of fat. Stir until seared. Add from 1 to \( \frac{1}{2} \) cups boiling water, or meat stock, or tomato puree and 1 teaspoon salt to each quart of ground meat. Pack into hot BALL Jars. Process 90 minutes at 10 pounds pressure.

CORNED BEEF

Cover corned beef with cold water. Bring to boil, then simmer 1 hour. Remove meat and cut into pieces suitable for packing. Skim broth. Season with pepper, bay leaf, and clove to suit taste. Reheat to boiling. Pack meat into hot BALL Jars. Cover with hot broth. Process 90 minutes at 10 pounds pressure.

CRACKLINGS

Sprinkle with salt to season. Pack into hot BALL Jars. Process 60 minutes at 10 pounds pressure or 3 hours in hot-water bath.

GOULASH

\[
\begin{align*}
6 \text{ pounds lean meat} & \quad 1 \text{ tablespoon paprika} \\
(\text{any kind}) & \quad \frac{1}{2} \text{ teaspoon black pepper} \\
6 \text{ tablespoons fat} & \quad 6 \text{ tablespoons fat} \\
6 \text{ onions, chopped} & \quad \frac{1}{2} \text{ teaspoon thyme} \\
2 \text{ carrots, chopped} & \quad \text{Salt to taste} \\
6 \text{ cups tomato juice} & \quad \frac{1}{2} \text{ cup celery} \\
\text{Cut meat into small pieces of uniform size. Cook in} & \quad \text{Cut meat into small pieces of uniform size. Cook in} \\
\text{the fat until brown. Add onions and cook until} & \quad \text{the fat until brown. Add onions and cook until} \\
\text{yellow. Add other ingredients and boil 10 minutes.} & \quad \text{yellow. Add other ingredients and boil 10 minutes.} \\
\text{Pour into hot BALL Jars. Process 90 minutes at 10} & \quad \text{Pour into hot BALL Jars. Process 90 minutes at 10} \\
\text{pounds pressure.} & \quad \text{pounds pressure.}
\end{align*}
\]

GRAVY

Remove meat from cooking pan. Drain off excess fat. Add one cup boiling water or broth for each one or two tablespoons fat left in pan. Boil 2 or 3 minutes. Do not thicken.

HEAD CHEESE

Use any good recipe for making head cheese. (Omit sage and garlic.) Pack hot head cheese into hot BALL Jars. Process 90 minutes at 10 pounds pressure.

LIVER

Plain: Remove skin and blood vessels from beef, calf, lamb, or pork liver. Slice or cube. (If mild flavor is wanted, soak in cold water 30 minutes.) Drop into boiling water 5 minutes. Pack hot into hot BALL Jars. Season with salt. Cover with water in which cooked. Process 90 minutes at 10 pounds pressure.

Fried: Brown liver in fat (do not flour). Season with salt. Pack into hot BALL Jars. Add 2 tablespoons of fat from pan or cover with gravy. Process 90 minutes at 10 pounds pressure.
LIVER PASTE
Use chicken, lamb, or calf liver.
3 pounds liver 3/4 teaspoon tabasco sauce
1/2 pound salt pork 3/4 teaspoon black pepper
1 tablespoon onion 2 teaspoons salt
Simmer liver 20 minutes in water to cover. Boil pork until done. Chop liver and pork, mix with seasoning, and sufficient water to make medium stiff paste. (It should spread easily, but not run.) Heat to boiling. Pack into hot BALL Jars. Process 90 minutes at 10 pounds pressure.

MEAT BALLS
Beef, Lamb, Mutton, Veal, Liver, etc.
6 pounds chopped lean meat 1 tablespoon salt
3/4 pound chopped fat meat 1 teaspoon black pepper
1 onion 1 cup cracker meal
Mix ingredients and form into balls of uniform size. Drop balls, few at a time, into boiling water. Cook 5 minutes. Pack into hot BALL Jars. Cover with water in which cooked. Process 90 minutes at 10 pounds pressure.

Note: Meat balls may also be precooked by baking or by browning in fat. Cover with gravy or tomato sauce or tomato puree.

MINCEMEAT
2 pounds lean beef 2 teaspoons nutmeg
1 pound beef suet 1 tablespoon allspice
4 pounds apples 1 tablespoon cinnamon
2 pounds currants 3/4 teaspoon ginger
1 pound Sultana raisins 1 teaspoon cloves
2 pounds raisins 1 tablespoon salt
3/4 pound citron 2 oranges
6 cups brown sugar 4 tablespoons lemon juice
4 cups cider or grape juice
Bake beef 60 minutes in moderate oven (350° F.). Cool. Chop. Mix with chopped suet, pared, cored, and chopped apples, currants, raisins, and citron. Add sugar, spices, juice of 2 oranges, finely chopped rind of 1 orange, lemon juice, and the cider or grape juice. Simmer 30 minutes. Pack into hot BALL Jars. Process 1 hour in hot water bath.

PICKLED PIGS' FEET
Scald and scrape pigs' feet. Let stand in brine (2 cups salt to 1 gallon water) 12 hours. Freshen an hour or more in clear water. Cook slowly 2 or 3 hours depending upon size and age. Split and pack into hot BALL Jars. Cover with hot spiced vinegar. Process 60 minutes at 10 pounds pressure or 3 hours in hot-water bath.

Spiced Vinegar: Add 2 tablespoons horseradish, 1 bay leaf, 1 pod red pepper, 1 teaspoon whole black pepper, 1 teaspoon whole spice to 1/2 gallon vinegar and simmer until desired flavor is obtained. Strain before using.

POURK SAUSAGE
Use for any type sausage
Form sausage into cakes or stuff into casings. Bake or fry until lightly browned. Pack into hot BALL Jars. Process 90 minutes at 10 pounds pressure.

Note: Do not add large amounts of sage and spices to sausage which is to be canned. Sausage may be canned dry or covered with gravy.

POURK TENDERLOIN
Cold Pack: Remove all visible fat. Cut in serving size pieces. Pack into hot BALL Jars.
Add 2 teaspoons salt to each quart—nothing else. Process 100 minutes at 10 pounds pressure.

Hot Pack: Steam, boil, or bake tenderloin from 1/2 to 3/4 done. Slice. Pack hot into hot BALL Jars. Add salt to taste. Cover with broth or gravy. Process 90 minutes at 10 pounds pressure.

ROAST CUTS
Beef, Veal, Mutton, Lamb, Pork, Venison
Cut meat in long, thick chunks weighing from 1 to 2 pounds. Cook 1/2 to 3/4 done by steaming, baking, or roasting. Meat may also be cooked until brown in deep fat. The partly cooked meat may be left in chunks or cut in thick slices. Season and pack hot into hot BALL Jars. Cover with hot gravy or broth or barbecue sauce (page 50). Process 90 minutes at 10 pounds pressure.

STEAKS AND CHOPS
Beef, Veal, Mutton, Lamb, Pork, Venison
Cold Pack: Cut meat in 1 inch slices. Remove large bones. Pack raw into hot BALL Jars. Add 2 teaspoons salt to each quart—nothing else. Process 100 minutes at 10 pounds pressure.

Hot Pack: Cut meat in 1 inch slices. Remove large bones. Brown in small amount of fat, preferably its own suet. Cook from 1/2 to 3/4 done. Season to taste. Pack hot meat into hot BALL Jars. Add 2 or 3 tablespoons of fat in which fried or cover with gravy. Process 90 minutes at 10 pounds pressure.

SPARERIBS
Crack ribs evenly. Steam, boil, bake, or broil until about 3/4 done. Cut in squares and remove bones. Season with salt and pepper. Pack into hot BALL Jars. Cover with gravy or broth skimmed free of fat. Process 90 minutes at 10 pounds pressure.

STEW
Beef, Veal, Mutton, Lamb, Venison, etc.

Or: Cubes of raw meat may be covered with boiling water; boiled 8 to 10 minutes before packing.

Or: Vegetables which have been boiled 3 to 5 minutes may be added to stew as it is packed into the jar. A better stew is made by combining meat and vegetables when needed for serving.

TONGUE
Boil and skin tongue. Season with salt and pepper. Pack into hot BALL Jars. Cover with water in which cooked. Spices and vinegar to suit taste may be added to this water either before or after cooking tongue. Process 90 minutes at 10 pounds pressure.

POULTRY
One or two year old fowls are better than younger ones for canning. Confin e 12 to 24 hours before killing. Give water, but no feed. Kill 6 to 12 hours before canning. Avoid bruising. Bleed thoroughly. Pluck, singe, and wash with mild soap. Rinse well.

**CHICKEN ON BONE**

Use for all poultry, pigeons, birds, and domestic rabbits.

Cold Pack: Separate raw fowl at joints. Pack into hot BALL Jars. Add 1 teaspoon salt to each quart. (Add no liquid.) Process 100 minutes at 10 pounds pressure.

Hot Pack: Boil, steam, or bake until from ⅓ to ½ done, then separate at joints. Pack hot into hot BALL Jars. Cover with boiling broth. Salt to taste. Process 90 minutes at 10 pounds pressure.

**CHICKEN—BONED**

Use for all poultry.

Steam or boil until about ⅔ done. Remove skin and bones. Keep meat in large pieces. Salt to taste. Pack pieces upright into hot BALL Jars. Cover with boiling broth. Process 90 minutes at 10 pounds pressure.

**FRIED CHICKEN**

May be used for all young fowl and game but other methods give better results.

Season with salt and pepper. (Do not dip in flour or crumbs.) Brown in fat. Pack hot into hot BALL Jars. Add 1 or 2 tablespoons fat in which fried or cover with gravy. Gravy gives better results. Process 90 minutes at 10 pounds pressure.

**ROAST FOWL**

Use for all fowl, birds, rabbits, and squirrel

Prepare and roast until about ⅔ done. Do not stuff. Cut meat from bones of large fowl; leave bones in small fowl. Season with salt and pepper. Pack into hot BALL Jars. Skim excess fat from gravy. Reheat gravy to boiling and pour over meat. Barbecue sauce (page 50) may be used instead of gravy. Process 90 minutes at 10 pounds pressure.

**RABBIT AND SQUIRREL**

Soak wild rabbit and squirrel in salt water (1 tablespoon salt to 1 quart water) 1 to 2 hours to remove strong flavor. Can the same as chicken.

**SANDWICH SPREAD**

Grind skin and small pieces of meat from cooked chicken or other fowl. To each pint ground meat, add ⅛ teaspoon mustard, 1 tablespoon vinegar, ⅛ cup broth, salt, pepper, and any other seasonings liked. Pack into hot pint BALL Jars. Process 75 minutes at 10 pounds pressure.

**FISH**

Prepare freshly-caught, thoroughly-bled fish as for cooking. The backbone may be left in small fish — remove it from larger ones.

Mackerel, mullet, trout, whitefish, and other soft-flesh fish: Cut into jar-length pieces and soak in brine (1 cup salt to 1 gallon water) 60 minutes. Drain. Pack into hot pint BALL Jars, alternating heads and tails, the skin side next to the glass. Submerge the open jar in a kettle of hot brine (⅛ cup salt to 1 gallon water). Boil 15 minutes. Remove jars and invert to drain 5 minutes. Process 100 minutes at 10 pounds pressure.

Salmon, shad, and other firm-flesh fish: Cut into jar-length pieces. Soak in brine (1 cup salt to 1 gallon water) 60 minutes. Drain 10 minutes. Pack into hot pint BALL Jars, skin side next to the glass. Process 100 minutes at 10 pounds pressure.
**TUNA FISH**

Clean, wash, and drain freshly caught tuna. Steam until cooked through. Chill cooked fish from 6 to 12 hours. Cut in pieces. Pack into hot pint BALL Jars. Add one teaspoon salt and two tablespoons salad dressing oil to each pint. Process 90 minutes at 10 pounds pressure.

**SPICED FISH**

Soak fish in brine (1 cup salt to 1 gallon water) 60 minutes. Drain 10 minutes. Pack into hot BALL Jars. Cover with spiced vinegar. Process 60 minutes at 10 pounds pressure or 3½ hours in hot-water bath.

To make Spiced Vinegar: Mix 1 quart vinegar, 1 pint water, 1 piece horseradish, 1 pod red pepper, 1 small clove garlic, 1 teaspoon each whole allspice, cloves, mustard seed, and celery seed. Simmer 30 minutes. Strain and add 4 tablespoons olive, corn, or cotton-seed oil.

**FROG LEGS**

Skin frogs immediately after killing. Wash legs in slightly salted water. Drop into boiling vinegar-water (1/2 cup white vinegar to 1 gallon water). Boil 5 minutes. Pack into hot BALL Jars. Cover with hot brine (1/2 cup salt to 1 gallon water). Process 90 minutes at 10 pounds pressure.

**CLAMS**

Scrub, steam, and open fresh clams. Save juice. Drop meat in weak salt water and wash thoroughly. Then boil 1 or 2 minutes in acid water (about 1/2 teaspoon citric acid to one gallon water). Drain and pack into hot pint BALL Jars. Cover with hot clam juice. Process 70 minutes at 10 pounds pressure.

**CRAB MEAT**

Kill crabs before cooking. Remove back shell and viscera. Wash bodies through several changes of clear water or under running water. Boil 20 minutes in acid-salt water (1/4 cup lemon juice or white vinegar and 1 cup salt to 1 gallon water). Remove meat from body and claws as quickly as possible. Rinse meat in acid-salt water (2 cups lemon juice or white vinegar and 1 cup salt to 1 gallon water). Squeeze meat to remove some of the liquid. Pack into hot 1/2 or 1 pint BALL Jars (nothing larger), and cover with boiling water. Process 100 minutes at 5 pounds pressure.

*Preferable to vinegar.

**LOBSTER**

Plunge live lobsters into boiling salt water (4 tablespoons salt to 1 gallon water). Boil rapidly 20 minutes. Remove and into cold water. Drain. Remove meat from shell. Let meat stand 1 minute in water to which lemon juice or vinegar has been added (1/2 cup lemon juice or vinegar to 1 gallon water). Pack into hot BALL Jars. Add 1 teaspoon lemon juice and salt to each jar. Fill with boiling water. Process 80 minutes at 10 pounds pressure.

*Preferable to vinegar.

**OYSTERS**

Wash strictly fresh oysters. Steam 15 minutes or cook 4 or 5 minutes at 10 pounds pressure. Open shells and drop meats into weak salt water. Wash meats through several waters to remove sand. Pack into hot pint BALL Jars. Add 1/2 to 3/4 teaspoon salt to each pint. Cover with hot water. Process 60 minutes at 10 pounds pressure.

**SHRIMP**

Wash and drain freshly caught shrimp. Drop into boiling brine (1 cup salt, 1 cup vinegar, 1 gallon water). Boil 10 minutes. Plunge into cold water. Drain and peel. Pack into hot pint BALL Jars. Add 1/2 teaspoon salt and boiling water to fill the jar to within 1/4 inch of the top. Process 45 minutes at 10 pounds pressure.
SOUPS

Fortunate, indeed, is the woman who has a variety of home canned soups ready to be heated and served on short notice. Soups should be made of strictly fresh, clean, sound vegetables and meats of good color and flavor. We advise the use of a steam pressure cooker for processing all soups except tomato. Processing time for water bath canning is given for the benefit of those who do not use pressure cookers.

Soups should be boiled at least 10 minutes before tasting.

Please use jars, caps, and lids as instructed on pages 4, 5, and 6.

BEAN SOUP

2 pounds dried beans  ½ pod red pepper
½ pound salt pork    Salt and black pepper
1 onion            to taste
Water

Wash Navy or other dried beans. Cover beans with cold water and soak overnight. Drain. Add pork, onion, red pepper, and 4 quarts cold water to beans. Simmer until beans are mushy. Remove pork and cut in small cubes. Rub beans through sieve. Add pork to sieved beans. Thin with boiling water (the soup should be a little thinner than wanted for serving); season to suit taste. Pour into hot BALL Jars. Process 1 hour at 10 pounds pressure.

Note: Ham hock or shank may be used instead of salt pork.

BRUNSWICK STEW

4 young squirrels or 4 frying size chickens 1 pod hot pepper
1 pound salt pork 1 quart green lima beans
4 onions   3 quarts corn
8 quarts boiling water 1 tablespoon Worcestershire sauce
2 quarts chopped tomatoes Salt and pepper to taste

Squirrels were used in the original Brunswick stew, nowadays it is more often made with chicken or a combination of both. Cut the squirrels (or chicken) as for frying. Dice the pork and cook until yellow. (Butter or bacon fat may be used instead of pork.) Add the squirrels (or chicken) and cook until slightly browned. Add the onions, cook until yellow, then add water, tomatoes, and pepper. Cook slowly until the meat begins to fall from bones. Remove meat. Discard bones. Cut the meat into small pieces and return it to the liquid. Add beans, corn, and seasonings. Boil 20 minutes. Pour into hot BALL Jars. Process 60 minutes at 10 pounds pressure.

Before Serving: Boil 15 minutes and add ½ cup toasted bread crumbs and 2 tablespoons butter to each quart of stew.

CHICKEN GUMBO

2 fryers or 1 five-pound hen 12 tomatoes
1 pound smoked ham 2 bay leaves
3 cups okra 2 sprigs parsley
2 onions 1 pod hot pepper
6 quarts boiling water Salt and pepper to taste

Melt a small amount of the fat from the chicken, or ham, in a heavy kettle. Add chicken, cut as for frying; ham, cut in cubes; okra and onions, sliced. Cook until lightly browned. Remove skins from tomatoes and seed from peppers, and chop. Mix all ingredients and cook slowly until the soup is fairly thick. Remove and discard chicken bones. Cut meat into small pieces and return it to the soup. Bring to boil and pour into hot BALL Jars. Process 75 minutes at 10 pounds pressure. Serve with boiled rice.

CHICKEN SOUP

Any fowl may be used

Cover the necks, wings, backs, and feet from 4 four-pound fowls with 8 quarts cold water. Add 1 teaspoon whole black pepper, a few celery leaves, a sprig of parsley, 1 or 2 bay leaves, and cook slowly until the liquid is reduced to about 4 quarts. Strain through cheesecloth. Remove fat. Remove bits of meat from the bones. Add the meat to the broth. Salt to taste. Boil 3 minutes and pour into hot BALL Jars. Process 50 minutes at 10 pounds pressure.

CHICKEN NOODLE SOUP

Cover 2 cups noodles with boiling salt water (2 tablespoons salt to 1 quart water). Cook 5 minutes. Rinse in cold water. Add to the chicken soup. Process 60 minutes at 10 pounds pressure.

CLAM BROTH

Open fresh clams. Save juice. Cover the clams with cold water. Add the juice, a few celery leaves, salt and pepper to taste. Boil 10 minutes. Strain into hot pint BALL Jars. Process 80 minutes at 10 pounds pressure.
CLAM CHOWDER

2 quarts chopped clams
Juice from clams
1/2 pound salt pork
Salt and pepper to taste

Leeks, celery, tomatoes, thyme and other seasoning may be added if liked. Clean and chop clams. Save the juice. Dice and cook pork until light brown. Add chopped onions. Cook until yellow. Combine all ingredients. Boil 10 minutes. Pour into hot pint BALL Jars. Process 100 minutes at 10 pounds pressure.

FISH CHOWDER

5 pounds fish
3/4 pound salt pork
4 onions, sliced

Salt and black pepper to taste


PURITY

Asparagus, Green Pea, Lima Bean, Spinach, etc.

Canned purees are particularly desirable for infant feeding and for making cream soups and souffles. To make puree: Select fresh vegetables and prepare as for cooking. Steam until soft or cook in the smallest possible amount of water. Press through a fine sieve. Add boiling water, if necessary, to make the puree about the consistency of thick cream. Do not salt if intended for infant feeding; otherwise use 1 teaspoon salt to each quart. Reheat to boiling and pour into hot BALL Jars. Process quart jars 60 minutes at 10 pounds pressure, 1/2 pint jars 50 minutes at 10 pounds pressure.

SCOTCH BROTH

1 cup barley
3/4 cup diced carrots
1/4 cup chopped celery
Salt and pepper to taste

Boil the barley 5 minutes and rinse in cold water. Chop the vegetables. Add barley and vegetables to soup stock. Boil 5 minutes. Pour into hot BALL Jars. Process 50 minutes at 10 pounds pressure.

SOUP STOCK

8 pounds beef, veal, or mutton
6 quarts cold water
1 teaspoon mixed whole spices
1 tablespoon salt

Use equal portions of bone and lean meat. Crack bones. Cut meat in small pieces. If brown stock is wanted: brown meat in enough fat to prevent sticking. Cover the meat with the water. Add salt and let stand 30 minutes. Add seasonings and simmer until liquid is reduced to about 4 quarts. Strain through cheesecloth. Chill. Remove fat. Boil 5 minutes and pour into hot BALL Jars. Process 50 minutes at 10 pounds pressure.

TOMATO PUREE—SEASONED

4 quarts chopped tomatoes
6 onions
1/2 cup chopped celery
Salt and pepper to taste

Wash, chop, and measure firm ripe tomatoes. Steam or simmer until soft. Press through fine sieve. Cook until thick. Chop other vegetables. Cover with boiling water and cook until soft, press through sieve, and add to the tomato pulp. Reheat and pour into hot BALL Jars. Process 60 minutes in hot-water bath.

TOMATO PUREE—UNSEASONED

Wash tomatoes and steam or bake until soft. Press through fine sieve. Cook until thick. Pour into hot BALL Jars. Process 30 minutes in hot-water bath. 1 teaspoon each salt and sugar may be added to each quart puree.

TOMATO SOUP

1 teaspoon mixed spices
2 cups chopped tomatoes
4 onions
1 tablespoon chopped celery
Salt and pepper to taste

Add spices to vegetables and water. Simmer until vegetables are soft. Drain off and save juice. Press vegetables through a fine sieve. Melt butter. Add flour, stir until blended, then add the juice. Stir until thick and smooth. Add vegetables, sugar, salt, and pepper. Cook until thick. Pour into hot BALL Jars. Process 35 minutes at 10 pounds pressure or 2 hours in hot-water bath. This soup should be quite thick. Thin with water or soup stock for serving.

VEGETABLE SOUP MIXTURE I

5 quarts chopped tomatoes
2 quarts sliced okra or 2 quarts small green Lima beans
Salt and pepper to taste

Cook tomatoes until soft, then press through sieve to remove skin and seed. Add other ingredients and cook until thick. Pour into hot BALL Jars. Process 60 minutes at 10 pounds pressure or 3 hours in hot-water bath.

VEGETABLE SOUP MIXTURE II

Use any combination of vegetables liked in soup. Mix the vegetables and boil 5 minutes with water to cover or with tomatoes which have been skinned and chopped. Season with salt and pepper. Pour boiling hot into hot BALL Jars. Process for the time given in the time-table on page 10 for the vegetable (in the soup) requiring longest processing time.
JELLIES

A GOOD JELLY is a clear, tender, sparkling, fruit-flavored substance, firm enough to hold its shape when turned from the glass, yet soft enough to be spread with a knife. Note: As much as 1/2 the sugar called for in a recipe may be replaced with honey or 1/4 of the sugar with corn sirup.

SELECTION OF FRUIT FOR JELLY MAKING

To make a natural jelly, fruit juice must contain acid and a jellifying substance called pectin. Sugar must be added. The amount and quality of pectin in any variety of fruit varies at different stages of maturity and may vary from year to year.

Fruits which normally yield juice satisfactory for jelly making are: tart apples, blackberries, barberries, currants, cranberries, grapes, acid guavas, gooseberries, loganberries, mayhaws, most plums, quinces, and sour oranges.

Juice from fruits which are low in pectin may be combined with apple juice, or a commercial pectin may be used. When using a commercial pectin, follow instructions which come with it.

If acid is lacking — tell by tasting — add from 1 teaspoon to 1 tablespoon lemon juice to each cup fruit juice.

Fruits for jelly should be barely ripe; i.e., a little more firm and acid than usually liked for eating raw. Juice from under-ripe fruit gives a jelly of poor flavor; that from over-ripe fruit may not jell.

PECTIN TESTS

Kitchen tests show neither the quality nor exact quantity of pectin in fruit juice. They merely furnish a basis for estimating the approximate amount present. Both quality and quantity of pectin govern the amount of sugar which should be cooked with the juice in order to make good jelly. If the pectin content of the juice seems high, add from 1/4 to 1 cup sugar to each cup juice; if low, use 1/2 to 3/4 cup sugar to each cup juice.

There are four fairly simple tests for pectin:
(1) Alcohol, either grain or denatured. (Denatured alcohol is poison — keep it out of children’s reach.)
(2) Epsom salts.
(3) Cooking 1/4 cup juice with 2 or 3 tablespoons sugar to see if it will jell.
(4) An instrument called jellometer. Perhaps the easiest of these is the alcohol test: Pour 1 tablespoon fruit juice and 2 tablespoons alcohol into a cup. Move cup gently to blend the liquids. The formation of a large clot indicates the presence of a large amount of pectin. Small scattered clots indicate insufficient pectin for jelly.

TO EXTRACT JUICE

Wash and drain sound, firm, barely ripe fruits. Remove hulls, stems, blossom ends. Cut decayed and bruised spots from large fruits. Cut large fruits into small pieces without paring or coring. Quinces are an exception to this rule — they should be cored.

To soft fruits, add just enough water to prevent sticking. Heat gradually. Mash while heating. Boil gently from 10 to 20 minutes. To hard fruits, add water to barely cover. Cook until soft.
Drain juice through cotton flannel bag, several layers of cheesecloth, or sugar sack. Do not squeeze bag; to do so makes jelly cloudy.

If a second extraction of juice is to be made from the fruit, return the pulp to kettle, add 1 cup water to each cup pulp, cook slowly 15 minutes, and let stand 10 minutes before dripping.

A satisfactory jelly may be made by combining the first and second extractions of juice, though it may not be as clear nor have as fine flavor as when made from the first extraction.

**TO COOK AND TEST**

Do not cook more than 2 quarts of juice at one time. Measure juice. Heat to boiling. Add sugar. See page 34 for amount. Stir until sugar dissolves, then boil rapidly without stirring or skimming until the jellying point is reached.

TO TEST: Dip a metal spoon into boiling jelly sirup. Tilt spoon until sirup runs over the side. When flowing from the spoon in a stream and divide into the liquid has reached the jellying stage it will stop.

The jellying point is reached. Skim, and pour into hot BALL Jelly Glasses to within ½ inch of the top. When set, seal with a thin layer of hot paraffin and cover with tin lids.

**APPLE JELLY**

Use tart, hard-ripe fruit. Wash, discard stems and blossom ends. Slice without removing peel or core. Add water to barely cover. Cook until soft, then drain slowly through jelly bag or several layers of cheesecloth. Measure juice. Heat to boiling. Add ¾ cup sugar for each cup juice (very sour crab apples require 1 cup sugar to 1 of juice). Stir until sugar dissolves, then boil rapidly until jellying point is reached. Skim and pour into hot BALL Jelly Glasses to within ½ inch of the top. When set, seal with a thin layer of hot paraffin and cover with tin lids.

**MINT JELLY**

And a few sprigs of mint when making apply jelly. When jelly has cooked to finish point, remove mint and add few drops of green vegetable coloring. If no fresh mint is available, flavor jelly with mint extract when coloring is added.

**SPICED APPLE JELLY**

Add a few sprigs of mint when making apply jelly. When jelly has cooked to finish point, remove mint and add few drops of green vegetable coloring. If no fresh mint is available, flavor jelly with mint extract when coloring is added.

**TO FILL AND SEAL JELLY GLASSES**

Use BALL jelly glasses which have been washed in warm water and boiled 20 minutes to sterilize. Drain dry. Skim jelly, if necessary, and fill glasses to within ¼ inch of top. Do not spill jelly on inside rim of glass.

Let jelly stand until firm. Remove any bubbles which may form on surface, then cover with a thin layer of hot paraffin. Turn the glass so the paraffin will spread evenly and touch the sides. Cover with tin lids and store in a cool, dry place.

**TO MAKE JELLY FROM STOCK**

Strain stock through cheesecloth. Heat to boiling. Add sugar (same amount as for fresh juice, see page 34). Stir until sugar dissolves, then boil rapidly without stirring until the jellying point is reached. Skim and pour into hot BALL Jelly Glasses. When set, seal with hot paraffin. Cover with tin lids.

**APPLE JELLY STOCK**

Select fresh, sound, tart, hard-ripe fruit. Wash, discard stems and blossom ends. Slice without removing peel or core. Add from 1 to 2 cups water to each quart sliced apples. Cover and cook gently until soft. Drain through jelly bag or 2 layers of cheesecloth. Pour into hot BALL Jars. Process 20 minutes in hot-water bath.
BRIEF INSTRUCTIONS FOR MAKING JELLY

Extract juice. Heat to boiling. Add sugar. Stir until sugar dissolves. Boil rapidly until the jelly stage is reached. (See To Cook and Test, Page 33.) Cook one or two quarts at a time.

<table>
<thead>
<tr>
<th>Fruit</th>
<th>Preparation of Fruit</th>
<th><strong>Approximate Amount of Water to Quart of Fruit</strong></th>
<th>Cook and Strain</th>
<th>Quantity of <strong>Sugar to Add to Each Quart Fruit Juice</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Apple, Any Tart</td>
<td>Wash. Remove blossom end. Slice thin. Do not pare</td>
<td>2 cups</td>
<td>Bring to boil. Simmer until soft</td>
<td>3 cups</td>
</tr>
<tr>
<td>Barberry*</td>
<td>Wash. Stem</td>
<td>1 cup</td>
<td>Boil gently until soft</td>
<td>3 cups</td>
</tr>
<tr>
<td>Blackberry</td>
<td>Wash. Stem</td>
<td>None to 1 cup</td>
<td>Bring to boil. Simmer 10 minutes</td>
<td>3 to 4 cups</td>
</tr>
<tr>
<td>Blueberry*</td>
<td>Wash. Stem</td>
<td>None to 1 cup</td>
<td>Bring to boil. Simmer 10 minutes</td>
<td>3 cups</td>
</tr>
<tr>
<td>Cherry*</td>
<td>Wash. Stem</td>
<td>None to 1 cup</td>
<td>Boil gently 15 minutes</td>
<td>3 cups</td>
</tr>
<tr>
<td>Crab-Apple</td>
<td>Wash. Remove blossom end. Slice thin. Do not pare</td>
<td>2 cups</td>
<td>Bring to boil. Simmer until soft</td>
<td>3 to 4 cups</td>
</tr>
<tr>
<td>Cranberry</td>
<td>Wash. Stem</td>
<td>2 1/2 cups</td>
<td>Bring to boil. Boil 5 to 10 minutes</td>
<td>3 cups</td>
</tr>
<tr>
<td>Currant, Red</td>
<td>Wash. Stem</td>
<td>None to 1/4 cup</td>
<td>Boil gently until soft</td>
<td>3 to 4 cups</td>
</tr>
<tr>
<td>Elderberry*</td>
<td>Wash. Stem</td>
<td>1/2 cup</td>
<td>Bring to boil. Simmer until soft</td>
<td>4 cups</td>
</tr>
<tr>
<td>Gooseberry, Green</td>
<td>Wash. Stem</td>
<td>To cover</td>
<td>Bring to boil. Simmer 15 minutes</td>
<td>3 to 4 cups</td>
</tr>
<tr>
<td>Grape</td>
<td>Wash. Stem</td>
<td>1/4 to 1 cup</td>
<td>Boil gently 30 minutes</td>
<td>4 cups</td>
</tr>
<tr>
<td>Guava, Sour</td>
<td>Wash. Remove blossom end. Slice</td>
<td>4 cups</td>
<td>Bring to boil. Simmer until tender</td>
<td>3 cups</td>
</tr>
<tr>
<td>Loganberry</td>
<td>Wash. Stem</td>
<td>None to 1/4 cup</td>
<td>Bring to boil. Simmer until tender</td>
<td>3 to 4 cups</td>
</tr>
<tr>
<td>Mayhaw</td>
<td>Wash. Stem</td>
<td>2 cups</td>
<td>Bring to boil. Simmer 15 minutes</td>
<td>3 cups</td>
</tr>
<tr>
<td>Mulberry*</td>
<td>Wash. Stem</td>
<td>1/2 cup</td>
<td>Bring to boil. Simmer 15 minutes</td>
<td>3 cups</td>
</tr>
<tr>
<td>Muscadine*</td>
<td>Wash. Stem</td>
<td>1 cup</td>
<td>Bring to boil. Simmer 15 minutes</td>
<td>3 cups</td>
</tr>
<tr>
<td>Peach*</td>
<td>Wash. Slice</td>
<td>1 cup</td>
<td>Bring to boil. Simmer until soft</td>
<td>3 cups</td>
</tr>
<tr>
<td>Plum</td>
<td>Wash. Stem</td>
<td>1 cup</td>
<td>Bring to boil. Simmer 20 minutes</td>
<td>3 to 4 cups</td>
</tr>
<tr>
<td>Prickly Pear*</td>
<td>Rub with heavy cloth. Wash. Slice</td>
<td>2 cups</td>
<td>Cook until soft</td>
<td>3 to 4 cups</td>
</tr>
<tr>
<td>Quince</td>
<td>Wash. Discard core. Slice</td>
<td>Sufficient to float</td>
<td>Boil gently 30 to 60 minutes</td>
<td>3 cups</td>
</tr>
<tr>
<td>Raspberry</td>
<td>Wash. Stem</td>
<td>None to 1/4 cup</td>
<td>Bring to boil. Simmer 10 minutes</td>
<td>3 to 4 cups</td>
</tr>
<tr>
<td>Scuppernong</td>
<td>Wash. Stem</td>
<td>1/4 to 1 cup</td>
<td>Simmer until tender</td>
<td>3 cups</td>
</tr>
<tr>
<td>Sour Orange</td>
<td>Wash. Seed. Cut</td>
<td>1 quart</td>
<td>Boil until pulp falls apart</td>
<td>4 cups</td>
</tr>
<tr>
<td>Strawberry*</td>
<td>Wash. Cap</td>
<td>1/4 cup</td>
<td>Bring to boil. Simmer 10 minutes</td>
<td>3 cups</td>
</tr>
</tbody>
</table>

*This juice is low in jellying properties. Use equal measure of apple juice, or combine with commercial pectin. (See page 32.)

**Use high-grade granulated cane or beet sugar.

***Prepare fruit before measuring.
HOME-MADE FRUIT BUTTERS, conserves, jams, marmalades and preserves of top quality are often imitated, seldom equalled and never surpassed.

Success in making fruit products depends upon following recipes and observing rules. Some of the more important rules are:

1. Use fresh firm ripe fruit of good flavor.
2. Weigh fruit after preparing. One pint of sugar weighs approximately one pound but the weight of a measure of fruit varies. Measurements based on weights are given in many of the Blue Book recipes because so few home kitchens are equipped with accurate scales.
3. Cook in small batches in order to obtain the best possible color, flavor, and texture.
4. In warm climates and elsewhere if storage conditions are poor, process butters and preserves 10 to 20 minutes at simmering.
5. Every jar, even those containing jellied marmalades, should be sealed airtight with metal cap or glass lid.

Corn Sirup, Cane Sirup, and Honey — Up to $\frac{1}{2}$ of the sugar called for in a recipe may be replaced with corn sirup. It is best to confine the use of dark sirups to dark fruits and to butters which are to be spiced.

Up to $\frac{1}{2}$ of the sugar called for in a recipe may be replaced with sugar cane sirup. This sirup gives a definite change of flavor, therefore it is advisable to cook a sample batch. Half cup fruit and three tablespoons sugar and one of cane sirup cooked together serve as a sample. Let cool before tasting.

Up to $\frac{1}{2}$ the sugar in a recipe may be replaced with honey. Honey also changes fruit flavors.

Butters — Butters are made by cooking the pulp of fruit with sugar until the mixture is of the consistency of creamed dairy butter. The addition of spices and the variety used is optional. Butters must be stirred frequently before and constantly after the addition of sugar. Butters require from $\frac{1}{2}$ to $\frac{3}{4}$ measure of sugar to each measure of fruit pulp.

Conserves — Conserves are jam-like products made by boiling two or more fruits with sugar until the mixture will either round up on a spoon, like jam, or else flake from it as in jelly test. A true conserve contains nuts, raisins, or both, but they may be omitted or added to any given recipe. Add nuts 3 to 5 minutes before removing conserves from heat. Conserves usually require $\frac{3}{4}$ pound sugar to each pound fruit.

Jams — Jams are made by cooking crushed fruits with sugar until the mixture shows little or no free liquid. Jams require from $\frac{3}{4}$ to 1 pound sugar to each pound fruit.

Marmalades — A true marmalade is a soft fruit jelly containing bits of fruit pulp or peel. Marmalades require from $\frac{3}{4}$ to 1 pound sugar to each pound fruit.

Preserves — In preserves of highest quality, the fruit retains its shape, is clear, more or less trans-
lucent, tender, and plump. The sirup is clear and varies from the thickness of honey to that of soft jelly. Preserves require from \( \frac{3}{4} \) to 1 pound sugar to each pound of fruit. Preserves may be canned immediately after cooking but most of them are improved by standing from 12 to 24 hours before canning. Preserves must be kept cool when left standing. This rule also applies when sugar is added to raw fruit and left standing to draw out juices before cooking.

**APPLE BUTTER**

*Old Fashioned Kind*

1 peck apples  6 cups sugar  
1 gallon sweet cider  1 teaspoon cinnamon  
\( \frac{1}{2} \) tablespoon cloves

Wash and slice apples. Add cider and cook until soft, then press through a sieve. Boil the strained pulp until it is thick enough to heap on a spoon, then add sugar mixed with spices and continue boiling until so thick that no liquid runs from the butter when tested on a cold plate. Pour while hot into hot BALL Jars. Process 10 minutes in hot-water bath.

**APRICOT BUTTER**

Use recipe given for Peach Butter, adding 1 tablespoon lemon juice for each quart fruit pulp.

**BLUEBERRY-APPLE BUTTER**

2 quarts blueberries  2 quarts sugar  
2 quarts apple pulp  1 tablespoon ground spices

Wash and slice tart apples. Add water to cover. Cook until soft, then press through a sieve. Measure. Boil apple pulp, blueberries, fresh or canned, sugar, and spices until thick. Pour while hot into hot BALL Jars. Process 10 minutes in hot-water bath.

**CRAB-APPLE BUTTER**

Wash and slice apples. Add water to cover. Cook until soft, then press through a sieve. Measure. Add \( \frac{3}{4} \) as much sugar as pulp and cook, stirring constantly until butter is thick. Spices to taste may be added before the butter is removed from the heat. Pour while hot into hot BALL Jars. Process 10 minutes in hot-water bath.

**CANTALOUPE BUTTER**

Remove rind and seed from ripe melons. Cut melon into small pieces. Add just enough water to prevent sticking. Boil until soft, then press through a sieve. Measure. Add from 1 to 1\( \frac{1}{2} \) cups sugar, 1 tablespoon lemon juice, and 1 teaspoon cinnamon or other spices to each quart pulp. Boil until thick. Pour while hot into hot BALL Jars. Process 10 minutes in hot-water bath.

**GRAPE BUTTER**

4 quarts stemmed grapes  3\( \frac{1}{2} \) cup vinegar  
8 cups sugar  1 tablespoon ground spices

Wash, stem, and squeeze grapes to separate pulp from skins. Put skins through food chopper. Boil the skins 20 minutes with just enough water to prevent sticking. Cook the pulp, without water, until soft. Rub through colander to remove seed. Combine pulp and skins. Add sugar, vinegar, cinnamon, cloves, or other spices to suit taste. Boil until thick. Pour into hot BALL Jars. Process 10 minutes in hot-water bath.

**PEACH BUTTER**

Wash peaches. Rub with cloth to remove fuzz. Discard seed. Cook peaches (until soft) in just enough water to prevent sticking. Press through sieve. Add from \( \frac{3}{4} \) to \( \frac{3}{4} \) cup sugar for each cup pulp. Boil rapidly until thick. Pour into hot BALL Jars. Process 10 minutes in hot-water bath.

**PEAR BUTTER**

Wash, pare, and core ripe pears. Add just enough water to prevent sticking. Cook until soft, then press through a sieve. Add 2 tablespoons lemon juice and \( \frac{1}{4} \) teaspoon nutmeg (or other spices) and from 1 to 1\( \frac{1}{2} \) cups sugar to each quart pulp. Boil rapidly until thick. Pour into hot BALL Jars. Process 10 minutes in hot-water bath.

**PLUM BUTTER**

Wash plums. Cook until soft with water to cover. Rub through colander to remove seed. Add from \( \frac{3}{4} \) to \( \frac{3}{2} \) cup sugar for each cup pulp. Boil rapidly until thick. Pour into hot BALL Jars. Process 10 minutes in hot-water bath.

**TOMATO BUTTER**

Wash and chop sound, firm-ripe tomatoes. Cook until soft, then press through sieve to remove skins and seed. Drain off excess juice. Measure pulp and add 1 tablespoon lemon juice and from 1 to 1\( \frac{1}{2} \) cups sugar to each pint of pulp. Boil rapidly until thick. Pour into hot BALL Jars. Process 10 minutes in hot-water bath.

**APPLE-BLUEBERRY CONSERVE**

4 cups diced apples  6 cups sugar  
4 cups blueberries  3\( \frac{1}{4} \) cup raisins  
4 tablespoons lemon juice

Simmer apples with blueberries 20 minutes. Add sugar, raisins, and lemon juice. Boil rapidly until thick. Pour, boiling hot, into hot BALL Jars; seal at once.

**APPLE-CARROT-Peach CONSERVE**

2 cups diced apples  2 cups diced peaches  
2 cups diced carrots  4 cups sugar  
1 lemon

Cook apples, carrots, peaches, juice and grated rind of lemon 20 minutes. (Add \( \frac{1}{4} \) cup water if necessary to prevent sticking.) Add sugar and boil rapidly until thick. Pour, boiling hot, into hot BALL Jars; seal at once.

**APPLE-CHERRY-PINEAPPLE CONSERVE**

3 cups diced apple  11 cups sugar  
8 cups pitted cherries  1\( \frac{1}{2} \) teaspoon salt  
2 cups chopped pineapple  1\( \frac{1}{2} \) pound nut meats

Mix the fruit and sugar and let stand overnight. Boil until thick. Add salt and nutmeats. Pour, boiling hot, into hot BALL Jars; seal at once.

**CANTALOUPE-PEACH CONSERVE**

4 cups diced cantaloupe  4 tablespoons lemon juice  
4 cups diced peaches  1\( \frac{1}{2} \) teaspoon nutmeg  
6 cups sugar  1\( \frac{1}{4} \) teaspoon salt  
3\( \frac{1}{4} \) cup blanched almonds  1 teaspoon grated orange rind

**Note:** A less rich sauce may be made by using only one or two quarts cider.
Cook the cantaloupe and peaches together 20 minutes. Add sugar and lemon juice. Boil rapidly until thick. Add other ingredients. Boil 3 minutes. Pour, boiling hot, into hot BALL Jars; seal at once.

**CHERRY-PINEAPPLE CONSERVE**
1 quart pitted cherries 4 cups sugar
1 cup chopped pineapple 1/2 cup blanched almonds
Run cherries and pineapple through food chopper. Add sugar. Boil rapidly until thick. Add nuts and pour, boiling hot, into hot BALL Jars; seal at once.

**CHERRY-RASPBERRY CONSERVE**
3 cups pitted cherries 4 to 6 cups sugar
3 cups raspberry pulp
Cook cherries slowly in own juice until tender. Add raspberry pulp (prepared by crushing berries and pressing through sieve to remove seeds) and sugar (6 cups sugar are required for very sour cherries). Heat slowly until sugar dissolves, then boil rapidly until thick. Pour, boiling hot, into hot BALL Jars; seal at once.

**CRANBERRY CONSERVE**
1 quart cranberries 1/2 cup raisins
1 orange 1/2 cup English walnut
2 cups water meats
3 cups sugar 1/4 teaspoon salt
Wash, and stem cranberries. Run orange, peel and pulp, through food chopper. Cook the orange in the water 20 minutes. Add other ingredients, except nuts, and boil rapidly to jelly stage. Add nuts and pour, boiling hot, into hot BALL Jars; seal at once.

**GOOSEBERRY CONSERVE**
6 cups gooseberries 4 cups sugar
1 orange 1 cup raisins

**GRAPE CONSERVE**
2 quarts stemmed grapes 1 cup nut meats
6 cups sugar 1/4 teaspoon salt
Concord and other eastern grapes. Press to remove pulps from skins. Run skins through food chopper, then boil 20 minutes in just enough water to prevent sticking. Cook pulps in own juice until soft. Rub through colander to remove seed. Combine skins and pulps with sugar and boil rapidly until thick. Add other ingredients. Pour, boiling hot, into hot BALL Jars; seal at once.

Tokay and other western grapes may be peeled or not, as preferred. Add enough water to prevent sticking. Cook grapes until soft. Rub through colander and follow above recipe.

**PEACH CONSERVE**
7 cups sliced peaches 1/4 cup almonds
1 orange 1/4 teaspoon giner
5 cups sugar 1/4 teaspoon salt
Combine peaches, pulp, and grated rind of orange. Cook 20 minutes. Add sugar. Cook until thick. Add nuts, ginger, and salt. Pour, boiling hot, into hot BALL Jars; seal at once.

**PINEAPPLE-COCONUT CONSERVE**
1 quart canned pineapple 3 cups water
1 quart chopped apple 1 1/2 cups grated coconut
2 oranges 6 cups sugar
Chop pineapple. Cook pineapple, pineapple juice, apple, pulp of 2 oranges, and thinly sliced peel of 1 orange with the water until apple and orange peel are tender. Add sugar, and fresh grated coconut. Boil rapidly until thick. Pour, boiling hot, into hot BALL Jars; seal at once.

**PLUM CONSERVE**
2 quarts seeded plums 1 large stick cinnamon
1 lemon 6 cups sugar
1/3 teaspoon salt 1 cup raisins
1 cup nut meats
Use firm-fleshed plums. Cook until soft with pulp and grated rind of lemon, salt, and cinnamon. Add sugar and raisins. Cook until thick. Remove cinnamon. Add nuts. Pour, boiling hot, into hot BALL Jars; seal at once.

**RHUBARB-PINEAPPLE CONSERVE**
6 cups rhubarb 7 cups sugar
2 cups pineapple
Cut unpeeled rhubarb into 1/4 inch slices, and pineapple in small pieces before measuring. If fresh pineapple is used, cook until tender in just enough water to prevent sticking. Combine rhubarb and pineapple with sugar and boil rapidly until thick. Pour, boiling hot, into hot BALL Jars; seal at once.

**STRAWBERRY-RHUBARB CONSERVE**
1 quart strawberries 7 cups sugar
1 quart rhubarb
Caf berries and cut unpeeled rhubarb into 1/2 inch slices before measuring. Add sugar. Cook slowly until sugar dissolves, then boil rapidly until thick. Pour, boiling hot, into hot BALL Jars; seal at once.

**TOMATO CONSERVE**
2 quarts chopped 8 cups sugar
8 tomatoes 2 cups seedless raisins
1 orange 1 cup English walnut meats
2 lemons 1/3 teaspoon salt
Scald, skin, core, and chop sound, ripe tomatoes. (Firm canned tomatoes may be used.) Cut orange peel in paper thin slices. Cook tomatoes, lemon juice, orange pulp and peel until tomatoes are reduced to a pulp. If convenient, let stand overnight. Add sugar and raisins, preferably Sultanas, and boil rapidly until thick. Add nuts and salt. Pour, boiling hot, into hot BALL Jars; seal at once.

**APRICOT JAM**
Wash, scald, skin, pit, crush, and measure, or weigh, ripe apricots. Boil 10 minutes, add a little water, if necessary to prevent sticking. Add 3/4 as much sugar as fruit and cook until thick. Pour into hot BALL Jars; seal at once.

**BERRY JAMS**
Blackberry, Dewberry, Loganberry, Raspberry, Boysenberry, and Youngberry Jams are made in the same way. Wash and crush berries. Add 1/4 cup water to each quart berries. Cook until soft. Press the cooked
berries through a strainer to remove seed. (If preferred, the seed may be left in.) Add from 3/4 to 1 cup sugar to each cup berries or from 3/4 to 1 pound sugar to each pound berries. Boil until thick. Pour, boiling hot, into hot BALL Jars; seal at once.

**BLUEBERRY OR HUCKLEBERRY JAM**

This jam may be made entirely with berries, but it is better when equal portions of berries and crab apples are used.

Wash, pick over, crush, and measure berries. Pare, core, chop, and measure apples. Add 1 cup water to each quart chopped apples and boil 10 minutes. Add berries. Measure. Then add 3/4 cup sugar for each cup fruit. Boil until thick. Pour, boiling hot, into hot BALL Jars; seal at once.

**DAMSON PLUM JAM**

Wash and seed plums. Put through food chopper. Add 3 1/2 cups sugar and 3/4 cup water to each quart chopped plums. Let stand 1 hour. Boil until thick. Pour into hot BALL Jars; seal at once.

**ELDERBERRY JAM**

Wash, stem, measure, and slightly crush berries. Add 2 tablespoons vinegar and 3 cups sugar to each quart of berries. Boil until thick. Pour into hot BALL Jars; seal at once.

**FIG JAM**

Stem and scald ripe figs 5 minutes in boiling water. Drain. Crush or chop figs. Measure. Boil 20 minutes with just enough water to prevent sticking. Add 3/4 cup sugar and 1 tablespoon lemon juice to each cup figs. Boil until thick. Pour into hot BALL Jars; seal at once.

Note: Dried figs may be soaked several hours in water to cover and then used in the above recipe.

**GOOSEBERRY JAM**

Wash, stem, and measure gooseberries. Add 1 1/2 cup water for each quart berries. Boil until soft. Add 1 cup sugar for each cup green gooseberries or 3/4 cup sugar for each cup ripe berries. Boil until thick. Pour into hot BALL Jars; seal at once.

**GRAPE JAM**

Wash grapes, stem, and press the pulp from skins. Chop skins, and boil 20 minutes in just enough water to prevent sticking. Cook pulp until soft, then press through a colander to remove seed. Add skins to pulp. Measure. Add 3/4 cup sugar for each cup grape. Boil to the jellying point. Pour into hot BALL Jars; seal at once.

**MAYHAW JAM**

Wash and stem mayhaws. Add just enough water to prevent sticking. Cook until soft. Press through sieve. Measure pulp. Then add 3/4 to 1 cup sugar for each cup fruit. Boil to jellying point. Pour into hot BALL Jars; seal at once.

**MULBERRY JAM**

Stem mulberries. Cover with cold salt water (1 cup salt to 1 gallon water). Let stand 5 minutes. Rinse in 3 changes cold water. Crush and measure berries. Simmer until soft. Add 3/4 cup sugar and 1 tablespoon lemon juice, or 1 teaspoon vinegar, to each cup berries. 1/2 teaspoon ground cinnamon or other spices may be added. Boil until thick. Pour into hot BALL Jars; seal at once.

**PEACH JAM**

Wash, peel, pit, crush, and measure or weigh ripe peaches. Add 3/4 cup water to each quart peaches. Boil 10 minutes. Add 3/4 as much
sugar as fruit. Boil until thick. Pour into hot BALL Jars; seal at once.

For spiced peach jam: Tie any combination of spices liked in a bag and drop into the jam while cooking.

PINEAPPLE JAM
Chop fresh pineapple. Weigh or measure. Add ¾ cup water to each quart pineapple and cook until tender. Add ¾ as much sugar as fruit. Boil until thick. Pour into hot BALL Jars; seal at once.

Rhubarb Jam
Cut unpeeled rhubarb into ¾ inch pieces. Measure. Add 3 cups sugar to each quart rhubarb. Boil until thick. Pour into hot BALL Jars; seal at once.

Variations: Use 1 part fresh pineapple, strawberries, raspberries, or currants, to 1 part rhubarb. Add 3 cups sugar to each quart fruit and cook and seal as directed above.

SCUPPERNONG JAM
Use recipe for Grape Jam.

STRAWBERRY JAM
Wash, cap, crush, and weigh or measure berries. Heat slowly to boiling. Add ¾ as much sugar as fruit. Stir until sugar is dissolved, then boil rapidly until clear. Pour into hot BALL Jars; seal at once.

CARROT HONEY
1 quart grated carrots 3 cups sugar 2 lemons
Scrub, scrape, grate, and measure carrots. Add sugar, juice of 2 lemons, grated rind of 1 lemon, and water if needed to start cooking. Boil until thick and clear. Pour into hot BALL Jars; seal at once.

PEAR HONEY
Pare, core, chop, and measure hard-ripe pears. Add a little water if needed to start cooking. Boil 10 minutes. To each quart chopped pears add 3 cups sugar, juice of 1 lemon, grated rind of ¾ lemon, and ½ teaspoon ground ginger. Boil until thick. Pour into hot BALL Jars; seal at once.

PINEAPPLE JAM
Wash, cap, crush, and weigh or measure berries. Stir until sugar is dissolved, then boil rapidly to the jellying point. Pour into hot BALL Jars; seal at once.

CHERRY MARMALADE
2 oranges 4 tablespoons lemon juice 1 quart pitted cherries 3 ½ cups sugar

CITRUS MARMALADE
1 orange 1 grapefruit
Sugar
Wash and cut unpeeled fruit in fine pieces. Measure, and add 3 cups water to each quart fruit. Boil 5 minutes. Let stand overnight. Boil until peel is tender. Let stand until cold, measure, and add as much sugar as there is fruit and juice. Boil rapidly to jellying point. Pour into hot BALL Jars; seal at once.

GOOSEBERRY MARMALADE
Add 1 cup water to each quart washed and stemmed berries. Boil until soft. Measure and add from ¾ to equal measure of sugar, depending upon whether green or partially ripe berries are used. Boil to the jellying point. Pour into hot BALL Jars; seal at once.

GREEN GRAPE MARMALADE
2 quarts green grapes 8 cups sugar 2 cups water
Wash, stem, and measure young grapes. (The seed should be formed, but not hardened.) Cook with the water until soft. Add the sugar and boil until thick. Pour into hot BALL Jars; seal at once.

GRAPEFRUIT MARMALADE
1 grapefruit Sugar 1 quart water
Remove seed from grapefruit by cutting out the center. Slice ¼ of the peel, discard the other half. Cut pulp into chunks. Cover the fruit and sliced peel with the water and let stand overnight. Boil until the peel is tender. Measure and add as much sugar as there is fruit and peel. Boil rapidly to the jellying point. Pour into hot BALL Jars; seal at once.

Note: If a less bitter product is wanted, the peel may be parboiled one or more times and drained before proceeding according to above directions.

KUMQUAT MARMALADE
Allow 1 orange to each 12 kumquats. Run orange peel and pulp through food chopper. Slice kumquats paper thin. Add 3 cups water to each cup fruit. Let stand overnight. Boil until peel is tender. Measure. Add 1 cup sugar for each cup fruit and juice. Boil rapidly to the jellying point. Pour into hot BALL Jars; seal at once.

ORANGE MARMALADE
6 oranges (medium size) 3 pints water 2 lemons Sugar
Wash and peel oranges. Cut peel in paper thin slices; pulp into chunks; slice lemons. (All may be run through food chopper.) Add water. Simmer 5 minutes. Let stand overnight. Cook until peel is tender. Measure. Add from ¾ to 1 cup sugar to each cup fruit and juice, depending upon sourness of fruit. Boil rapidly to jellying point. Pour into hot BALL Jars; seal at once.
**ORANGE-LEMON MARMALADE**

Remove peel from 2 large oranges and 2 lemons. Cut peel into paper thin slices or run through food chopper. Slice or chop pulp. Add 3 cups water to each cup of pulp and peel. Let stand overnight. Boil until peel is tender. Cool. Measure. Add 1 cup sugar for each cup fruit and juice. Boil rapidly to jellying point. Pour into hot BALL Jars; seal at once.

**PEACH-ORANGE MARMALADE**

24 large peaches  
6 oranges  
Juice of 1 lemon  
Sugar

Peel and chop fruit. Cover peel from 3 oranges with water. Cook until tender, then run through food chopper, and add to peaches, lemon juice, orange pulp and juice. Add 3/4 as much sugar as fruit by weight or measure. Cook rapidly until clear and thick. Pour into hot BALL Jars; seal at once.

**PRICKLY PEAR MARMALADE**

1/2 cup sliced lemon  
1 orange  
2 cups prickly pear pulp  
Sugar

Cut lemon into paper thin slices. Run orange peel and pulp through food chopper. Cover the lemon and orange with the water and let stand overnight. Cook until peel is tender. Let stand until cold, then add prickly pear. Measure. Add 1 cup sugar for each cup fruit and juice. Boil to the jellying point. Pour into hot BALL Jars; seal at once.

**QUINCE-APPLE MARMALADE**

Pare, core, and chop 6 quinces and 3 tart apples. Cover quince with water and cook until tender. Add apple and cook 10 minutes. Measure. Add 3/4 cup sugar for each cup fruit and juice. Boil to jellying point. Pour into hot BALL Jars; seal at once.

**RASPBERRY-CURRANT MARMALADE**

2 quarts raspberries  
1 quart currants  
9 cups sugar  
1 cup sugar

Measure berries and currants after washing and stemming. Crush the currants. Cook slowly until juice flows freely. Add raspberries. Heat slowly to boiling. Add sugar. Stir until dissolved, then boil rapidly to the jellying point. Pour into hot BALL Jars; seal at once. Use either black or red fruit.

**PEACH-ORANGE MARMALADE**

24 large peaches  
6 oranges  
Juice of 1 lemon  
Sugar

Peel and chop fruit. Cover peel from 3 oranges with water. Cook until tender, then run through food chopper, and add to peaches, lemon juice, orange pulp and juice. Add 3/4 as much sugar as fruit by weight or measure. Cook rapidly until clear and thick. Pour into hot BALL Jars; seal at once.

**APRICOT PRESERVES**

2 pounds apricots  
3 1/4 cups sugar

Wash, peel, and halve firm-ripe apricots. Combine fruit and sugar in alternate layers. Let stand several days.
hours or overnight. Heat slowly until sugar dissolves, then boil rapidly until fruit is clear. Let stand several hours. Pack cold fruit into hot BALL Jars. Reheat sirup, boiling it down if not thick enough. Pour hot sirup over fruit; seal at once.

**BAR-LE-DUC**

4 cups currants  
1 cup currant juice  
3 cups sugar

WASH and stem currants before measuring. Put in flat pan, with currant juice. Simmer 5 minutes. Add 1/2 of the sugar. Stir gently, boil slowly 5 minutes. Add remaining sugar, then boil rapidly 5 minutes. Let stand until cold. Skim out currants and pack into hot BALL Jars. Boil sirup to the jellying point. Pour, while hot, over currants; seal at once.

**BERRY PRESERVES—ALL VARIETIES**

2 pounds berries  
1 1/4 pounds sugar

WASH and weigh berries. Add sugar and let stand several hours or overnight. Heat slowly to boiling, then boil rapidly until berries are tender and the sirup almost to the jellying point. Pour into hot BALL Jars; seal at once.

*Note: All berries except strawberries are better for jams than preserves.*

**CANTELOUGE PRESERVES**

Use 3/4 pound sugar and the juice of 1 lemon to each pound of prepared cantaloupe. Cut firm-ripe melons into 1 inch slices, crosswise. Remove rind and seed. Cut the slices into uniform pieces. Mix melon with sugar. Cover and let stand 12 hours in cool place. Add lemon juice. Heat slowly to boiling, then boil rapidly until tender and clear. Pack into hot BALL Jars; seal at once.

**CHERRY PRESERVES**

Use from 3/4 to 1 pound sugar to each pound pitted cherries, depending upon sourness of fruit. Mix cherries with sugar; let stand overnight. Heat slowly to boiling. Boil rapidly 15 or 20 minutes, or until cherries are tender. Let stand until cold. Pack cherries into hot BALL Jars. Boil sirup until thick. Pour hot sirup over cherries; seal at once.

**CITRON MELON PRESERVES**

2 pounds citron melon  
2 pounds sugar  
1 lemon

Cut melon into 1/4 inch slices, crosswise. Trim off the green rind. Discard seed. Split the slices, keeping the inner and outer parts separate. These parts should be preserved separately because the outer portion requires longer cooking. Weigh. Cover with water and boil 25 to 35 minutes. Drain. Dissolve 1/2 the sugar in 4 cups water. Add citron. Boil 45 minutes. Let stand overnight. Add remaining sugar and sliced lemon, and boil until citron is clear. It may be necessary to add extra water to prevent sirup becoming too thick before citron has cooked, or it may be necessary to remove the citron and boil down the sirup — this depends upon the melon used. Pack hot citron into hot BALL Jars; seal at once.

Citron preserves may be drained free of sirup and used in cakes and puddings as a substitute for commercial citron. Commercial citron is made from a tree-grown fruit — not a melon.
FIG PRESERVES
For each pound of figs, use ¾ to 1 pound sugar, juice of ½ lemon, and 3 cups water.
Peel the figs. Make sirup of sugar, water, and lemon juice. Add figs and boil rapidly until clear. If the sirup becomes too thick before the figs are clear, add boiling water, ⅔ cup at a time. Let figs stand in sirup overnight. If the sirup is too thin, boil 5 minutes. Change water. Repeat several times, depending upon whether a mild or a strong-flavored preserve is wanted. Boil ginger until tender, then put into cold water 1 hour. Drain and cook 5 minutes in sirup made of 2 parts sugar to 1 of water. (Use 1 pound sugar to 1 pound ginger.) Let stand several hours. Drain off and boil sirup 5 minutes. Pour over ginger. Let stand 2 days. Drain off sirup. Pack ginger into hot BALL Jars. Boil sirup until thick. Pour over ginger; seal at once.

GINGER PRESERVES
Wash green ginger roots. Soak in cold water 1 hour. Boil 5 minutes. Change water. Repeat several times, depending upon whether a mild or a strong-flavored preserve is wanted. Boil ginger until tender, then put into cold water 1 hour. Drain and cook 5 minutes in sirup made of 2 parts sugar to 1 of water. (Use 1 pound sugar to 1 pound ginger.) Let stand several hours. Drain off and boil sirup 5 minutes. Pour over ginger. Let stand 2 days. Drain off sirup. Pack ginger into hot BALL Jars. Boil sirup until thick. Pour over ginger; seal at once.

GROUND CHERRY PRESERVES
2 quarts ground cherries
6 cups sugar
3 cups water
2 lemons
Wash, husk, and rinse cherries. Boil sugar, water, juice and pulp of lemons 5 minutes. Cool. Add cherries and boil until clear. Pour into hot BALL Jars; seal at once.

KUMQUAT PRESERVES
2 pounds kumquats
4 cups sugar
1 quart water
Wash kumquats with soap and water. Sprinkle with soda (1 teaspoon soda to 1 quart kumquats). Cover with boiling water and let stand 10 minutes. Rinse in cold water. Make 4 deep slits in each kumquat. Cover with water. Boil 15 minutes. Change water and boil 15 minutes. Change water and boil until fruit is tender. Boil sugar and 1 quart fresh water together 5 minutes. Cool. Add kumquats. Cook until fruit is clear. Let stand 24 hours. Reheat to simmering. Pack into hot BALL Jars; seal at once.

MARRASCHINO CHERRIES
Home Style
Wash, remove stems and pits from Royal Anne or other light cherries. Save juice and pits. Place cherries in shallow pan and cover with sirup made with 3 parts sugar to 1½ parts cherry juice or water. Add a few drops of red vegetable coloring. Boil gently 10 minutes. Remove from heat and let stand from 6 to 12 hours. Drain juice from cherries. Pack cherries into hot BALL Jars. Crush cherry pits (using ½ cup crushed pits to 1 quart sirup). Tie in cheesecloth and add to sirup. Boil 5 minutes or until the desired flavor is obtained. Remove pits. Pour hot sirup over cherries; seal at once.

MIXED FRUIT PRESERVES
1 pound apples
1 pound pears
1 pound plums
1 pound quinces
7 cups sugar
3 cups water
Pare, core, halve, quarter, or slice fruit. Cover each fruit with water and cook separately until tender. Add 3 cups of water, in which fruit is cooked, to the sugar. Boil 10 minutes. Add fruit and juice of 2 lemons, if desired, and cook until clear. Let stand several hours. Pack cold fruit into hot BALL Jars. Boil sirup until thick as honey. Pour hot sirup over fruit; seal at once.

PEACH PRESERVES
2 pounds peaches
2 cups water
3 to 4 cups sugar
Cut peeled peaches into halves. Boil sugar and water 2 minutes. Cool sirup. Add peaches and cook until clear. Let stand several hours. Pack the fruit into hot BALL Jars. Boil sirup until thick as honey. Pour hot sirup over peaches; seal at once.

Old-fashioned Peach Preserves: Mix equal amounts of sugar with fruit; let stand overnight and then cook (without water) until the fruit is tender.

2 cracked peach seeds, or 2 drops almond extract, the juice of ⅛ lemon, or ½ teaspoon ginger may be added to the above recipes for variety.

PEAR PRESERVES
2 pounds pears
3 cups water
3 cups sugar
1 lemon, sliced thin
Pears should be hard, but ripe for preserving. The Keiffer should be stored in a cool, dry place from 3 to 5 weeks before using.
Pour, core, and cut fruit as desired. Add ½ of the sugar to the water. Boil 2 minutes. Add pears and boil 15 minutes. Add remaining sugar and lemon. (Orange may be used instead of lemon.) A piece of ginger root may also be added. Cook until fruit is tender and clear. Let stand several hours. Pack cold fruit into hot BALL Jars. Boil sirup until thick as honey. Pour hot sirup over pears; seal at once.

PINEAPPLE PRESERVES
2 pounds pineapple
3 cups sugar
Twist out the top, scrub, and cut pineapple into half lengthwise. Cut halves in 5 or 6 lengthwise wedge shape slices. Remove rind and core. Divide slices into ⅛ inch pieces. Mix pineapple with sugar. Let stand overnight. Boil until tender and clear. Pour into hot BALL Jars; seal at once.

PLUM PRESERVES—ALL VARIETIES
2 pounds plums
½ cup water
3 to 4 cups sugar
Wash, drain, and prick plums. (Pricking is unnecessary if seeds are removed.) Add sugar and water. Let stand several hours. Boil until plums are tender, and sirup near jellying point. Pour into hot BALL Jars; seal at once.

PUMPKIN PRESERVES
4 pounds pumpkin
3 lemons
8 cups sugar
½ teaspoon salt
Cut pumpkin into squares ½ inch thick and 1½ inches wide. Add sugar and let stand overnight. Add thinly sliced lemons and salt. (1 tablespoon mixed spices tied in bag may also be added.) Boil until pumpkin is clear and sirup thick. Pour into hot BALL Jars; seal at once.
QUINCE PRESERVES
2 pounds quinces 2 quarts water
3 1/2 cups sugar
 Pare and core quinces, removing all gritty material around core. The fruit may be halved, quartered, or sliced. Add 1/3 of the sugar to the water. Boil 5 minutes. Add quince and boil slowly 1 hour. Let stand 24 hours. Add remaining sugar and cook slowly until the fruit is a clear, rich, red color. Let stand overnight. Pack into hot BALL Jars; seal at once.

RANCH PRESERVES
Soak firm ripe berries. Place berries in a colander or square of cheesecloth and hold them in boiling water 2 minutes. Drain. Add 4 cups sugar to berries. Boil 3 minutes. Cool 5 minutes and add 2 cups sugar, then boil from 8 to 10 minutes. Cover and let stand several hours. Pack cold preserves into hot BALL Jars. Process 15 minutes at simmering.

STRAWBERRY PRESERVES
SCALDING METHOD
2 quarts capped berries 6 cups sugar
Use firm ripe berries. Place berries in a colander and hold them in boiling water 2 minutes. Drain. Add 4 cups sugar to berries. Boil 3 minutes. Cool 5 minutes and add 2 cups sugar, then boil from 8 to 10 minutes. Cover and let stand several hours. Pack cold preserves into hot BALL Jars; seal at once.

STRAWBERRY PRESERVES
OLD FASHIONED
2 quarts capped berries 7 cups sugar
Mix berries with sugar. Let stand overnight. Bring slowly to boiling. Boil rapidly until berries are clear and sirup thick. Skim and pour into hot BALL Jars; seal at once.

STRAWBERRY PRESERVES
DE LUXE
2 pounds capped berries 4 tablespoons lemon juice
5 cups sugar
Mix berries with sugar. Let stand 3 or 4 hours. Place over very low heat until simmering point is reached. Add lemon juice. Boil rapidly from 10 to 12 minutes (or until berries are clear and sirup thick). Cover and let stand overnight. Pack cold into hot BALL Jars. Process 15 minutes at simmering.

SUN-COOKED PRESERVES
Firm-ripe cherries, currants, red raspberries, or strawberries may be used for sun-cooked preserves. Cherries should be washed and seeded; currants washed and stemmed; strawberries washed and capped. Drain and weigh fruit. Work with small batches. Use equal amounts of sugar and fruit. Place fruit and sugar in alternate layers in a broad pan. Let stand overnight. Heat slowly to boiling. Boil 6 minutes. Spread in shallow trays. Cover with glass (window pane). Allow air space on all sides. Stand in sun three days or until the sirup begins to jell and the fruit is plump. Stir gently two or three times daily. Do not leave out of doors overnight. Pack into hot BALL Jars. Process 15 minutes at simmering.

TOMATO PRESERVES
2 pounds tomatoes 1 lemon
4 cups sugar 1 stick cinnamon
1 1/2 cups water 2 pieces ginger root
Use small, firm, red, yellow, or green tomatoes. Scald 1 minute. Dip into cold water. Skin but do not core. Combine sugar, water, lemon (sliced thin), cinnamon, and ginger and simmer 20 minutes. Remove cinnamon and ginger. Add tomatoes and boil gently until they are bright and clear. Cover and let stand overnight. Pack cold tomatoes into hot BALL Jars. Boil sirup until thick as honey and pour over tomatoes. Process 15 minutes at simmering.

WATERMELON RIND PRESERVES
2 pounds watermelon rind 4 cups sugar
1 tablespoon ground ginger 2 quarts water
The texture of preserved watermelon rind is largely determined by the treatment of the rind before it is preserved. For a crisp, firm product, soak rind 2 or 3 hours in lime water to cover. Prepare lime water by adding 1 tablespoon slaked lime (calcium oxide) to each quart of cold water. For a product with texture more like that of preserved pears, soak rind overnight in salt water (2 tablespoons salt to each quart of water).

To make the preserves: Cut the white part of the rind into pieces of uniform size and shape. Soak in lime or salt water. Freshen in 2 or more changes of cold water. Sprinkle ginger over rind. Cover with water and boil 1 1/2 hours. Drain and drop into cool sirup made with the sugar, 2 quarts of water, and juice of 1 lemon. Boil gently 1 hour. Add the second lemon, sliced thin. Continue boiling until rind is tender and the sirup thick as honey. (If the sirup gets too thick before the rind is tender, add a cup or more of boiling water.) Let stand several hours. Pack into hot BALL Jars. Process 15 minutes at simmering.

WESTERN SPECIAL PRESERVES
1 cup red currants 2 cups loganberries
2 cups sweet cherries 2 cups raspberries
Sugar
Wash and cook currants until soft. Strain juice through cheesecloth. Wash and drain berries; pit cherries. Weigh berries and cherries. Add an equal amount of sugar and the currant juice. Let stand overnight. Heat slowly to boiling; then boil rapidly almost to the jelly stage (about 12 minutes). Let stand from 12 to 24 hours. Stir occasionally as it cools. Heat to scalding (do not boil). Pour into hot BALL Jars; seal at once.
THE TERM PICKLE may be applied to any food preserved in vinegar or brine, but here it refers only to those vegetable and fruit products commonly known as plain, sliced, and mixed pickles, fruit pickles, relishes, ketchups, and sauces; all of which are easy and inexpensive to make and many of them are rich in vitamins.

The strength of vinegar and spices and personal preference as to seasonings vary to a great degree, therefore the successful pickle maker tests by taste as she goes along. The flavor of pickles may be changed by varying the kind and amount of seasoning and also by adding a little more or a little less sugar or vinegar.

CHARACTERISTICS OF GOOD PICKLE

Cucumber and Gherkin Pickle of first-class quality may be either sour or sweet, spiced or unspiced. It must be crisp, firm, solid, and evenly colored. The correct color is olive, not bright green. Cucumber pickle can be made by either a long or a short process. The long process yields a product of superior quality, however an edible pickle can be made by the shorter and often more convenient method.

Sliced Pickle is usually made of cucumbers, green tomatoes, and onions cut into slices of uniform thickness. It may be either sour or sweet; it should be firm, and well seasoned with salt, pepper, and spices. Pickles should be covered with liquid when packed into jars. When there is not enough liquid for this, fill out with hot vinegar.

Mixed Pickle may contain a large assortment of vegetables, all of which should be firm. The seasonings are the same as for sliced pickle, or a mustard dressing is used.

Fruit Pickle should be whole or else cut into pieces of uniform and attractive size and shape. It should be firm, tender, and plump; the sirup almost as thick as for preserves; both fruit and sirup delicately spiced. Too much spice destroys the natural fruit flavor and also causes the pickle to have a dull, dark unattractive color. First quality peach and pear pickles are the color of amber; whereas pineapple and watermelon rind pickle are nearer that of medium light honey. Watermelon rind pickle should be firm and crisp.

Relishes are more commonly made of finely chopped vegetables, however both chopped and small fruits preserved with sugar, spices, and vinegar rightly belong to this classification as does chutney which is made of fruit or tomatoes and highly seasoned with onion, garlic, ginger, etc. A vegetable relish may be either sour or sweet, spiced or unspiced, is moist but not juicy; its
chief ingredients firm rather than mushy. A fruit relish is more nearly the consistency of jam.

Ketchups and Sauces may be made of either fruits or vegetables. They are highly seasoned with salt, pepper, and spices. The only real difference in the two is that ketchup is strained through a fine sieve; whereas sauce may be left unstrained. Both are boiled to a thick liquid stage.

GENERAL RULES FOR PICKLING

Use clean, fairly coarse salt to which no other substance has been added. Use soft water. If hard water must be used, boil it and let stand 24 hours, then remove scum and dip the water from the container without disturbing the sediment at the bottom. Add 1 tablespoon vinegar to each gallon of hard water when making brine.

Use fresh spices of best quality. These may be bought ready mixed, or blended as needed. They should be tied in a piece of thin material so they can be removed when the pickle is ready for canning.

Use high-grade cider or grain vinegar of 40 to 60 percent grain strength (4 to 6 percent acid). Cider vinegar is usually preferred for all but light pickles; white vinegar is more satisfactory for those.

Use clean, firm, freshly picked cucumbers, otherwise the pickles may be hollow. Keep cucumbers, or any other vegetable, completely covered with brine while curing. The whole batch may spoil if one piece stands above the brine.

Use brine of correct strength (see recipe below). Weak brine causes soft pickles; that which is too strong causes them to shrivel.

Remove scum as it forms on top of the brine. Scum causes spoilage.

Do not start pickles to cook in a heavy sugar sirup. It is better to add the sugar on 2 or 3 successive days than to run the risk of having the pickles become tough and shriveled.

Pack pickles in BALL Jars and seal with either Glass or Vacu-Seal Caps.

BRINING CUCUMBERS AND GHERKINS

About one gallon of brine is needed for each two gallons of material to be brined. Wipe but do not wash cucumbers and gherkins. Place in stone jar. Cover with cold brine made by dissolving 1 pint salt in 1 gallon water and then cover with a board or plate. Use a weight heavy enough to keep the cover below the surface of the brine. Next day, put 1 pint of salt on the cover where it will dissolve slowly. Let stand 1 week, then put 1/2 cup salt on the cover. Put 1/2 cup salt on the cover at the end of every week for 5 more weeks. Remove the scum as it forms. The cucumbers are cured and ready for use when they are an olive green color throughout and contain no white spots. Curing requires from 6 to 8 weeks.

Cured cucumbers are called salt pickles and must be soaked to remove some of the salt before they are used for either sour or sweet pickles. The salt may be removed by soaking the pickles in several changes of cold water to which an equal amount of vinegar has been added, or by heating them in several changes of plain water. To do this; cover with cold water and heat to 120° F. (a little hotter than lukewarm). Repeat until the desired amount of salt has been removed from the pickles.

CUCUMBER PICKLES — SOUR

Soak brined cucumbers in several changes of warm water to remove excess salt. Cover with vinegar. Let stand 4 to 6 days. Drain. Pack into hot BALL Jars. Cover with fresh hot vinegar; seal at once. Spices and a small amount of sugar may be added to the fresh vinegar. Simmer 10 minutes before pouring over the pickles.

CUCUMBER PICKLES — SWEET

Wash and dry fresh cucumbers. Cover with brine (1 cup salt dissolved in 1 gallon cold water). Let stand 24 hours. Drain cucumbers and cover with equal parts water and vinegar. Let stand 3 or 4 days. Drain cucumbers. Pack into hot BALL Jars. Cover with fresh, hot vinegar; seal at once. Spices and a small amount of sugar may be added to the vinegar.

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Wash and dry fresh cucumbers. Cover with brine (1 cup salt dissolved in 1 gallon cold water). Let stand 24 hours. Drain cucumbers and cover with equal parts water and vinegar. Let stand 3 or 4 days. Drain cucumbers. Pack into hot BALL Jars. Cover with fresh, hot vinegar; seal at once. Spices and a small amount of sugar may be added to the vinegar.

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DILL PICKLE

35 to 40 fresh cucumbers  2 cups salt
2 tablespoons mixed spices  2 gallons water
1/2 pound dill

Wash and dry cucumbers. Put a layer of dill and 1/2 of the spices in a stone jar. Add the cucumbers. Put the remaining spices and dill on the top of cucumbers. Boil salt, water, and vinegar 2 minutes. Cool to room temperature and pour over cucumbers. Cover with a plate weighted down to hold the cucumbers under the brine. Keep at an even temperature (68-72°F). Remove scum each day. The pickles are ready for canning when they are crisp, uniform in color, and well-flavored with dill. This usually requires from 2 to 4 weeks. Pack the cured pickles into hot BALL Jars, cover with hot brine; seal at once.

Note: Strain the brine in which the pickles are cured and boil 5 minutes, or make fresh brine.

If to be stored a long time, dill pickles should be processed in water bath 15 minutes at simmering.

To make so-called Kosher pickles, add 1 small clove garlic, 1 bay leaf, 1/2 teaspoon mustard seed, 2 tablespoons sugar, 1 piece red pepper, and 1/2 cup vinegar to 1 to 1 1/2 cups strained brine. Boil 2 minutes and pour (while hot) over plain dill pickles after they are packed into the jars.

BREAD AND BUTTER CHIPS

3 quarts sliced cucumbers  1/2 teaspoon ginger seed
3 onions sliced  2 tablespoons mustard seed
5 1/2 cups vinegar  1 teaspoon turmeric seed
3 cups brown sugar  1/2 tablespoon celery seed
1 pod hot red pepper  1 teaspoon cinnamon seed
1 teaspoon cumin  1 piece horseradish seed

Soak cucumbers and onions (separately) 5 to 10 hours in brine made by dissolving 1/2 cup salt in 1 1/2 gallon cool water. Drain well. Add onions, 2 1/2 cups vinegar, 2 1/2 cups water to the cucumbers. Simmer about 15 minutes. Do not cook until soft. Drain. Discard liquid in which scaled. Make sirup by boiling the sugar and spices with 3 cups vinegar and 1 cup water 5 minutes. Pack well drained cucumbers and onions in hot BALL Jars. Cover with boiling sirup; seal at once.

CUCUMBER OIL PICKLES

200 cucumbers  8 cups sugar
6 small onions  1/4 cup whole black pepper
8 cups vinegar  1/2 cup mustard seed
1 cup water  1/2 cup celery seed
2 cups olive oil

Wash and slice cucumbers and onions. Soak overnight in a brine made of 2 pints salt to 2 gallons cold water. Drain but do not rinse the vegetables. Mix vinegar, water, sugar, and spices and boil 1 minute. Add cucumbers and onion. Simmer 5 minutes. Add oil and simmer until cucumbers change color. Pack hot into hot BALL Jars; seal at once.

FRESH CUCUMBER SLICES

2 quarts sliced cucumbers  1 teaspoon whole black pepper
1 cup sugar  1 small red pepper
1 teaspoon mustard seed  1 small piece horseradish
1 teaspoon celery seed  1 small piece horseradish
3 cups vinegar  1 cup water
1 small clove garlic

Cut cucumbers into 1/4 inch slices and soak overnight in brine (1/2 cup salt to 1 1/2 gallon water). Drain. Add the sugar and seasonings to the vinegar and water. Boil 5 minutes and pour over cucumbers. Let stand overnight, then drain and pack the cucumbers into hot BALL Jars. Strain sirup and pour over cucumbers. Process 20 minutes at simmering.

RIPE CUCUMBER PICKLES

8 large ripe cucumbers  1 tablespoon celery seed
1 1/4 cups sugar  1 tablespoon mixed whole spices seed
2 tablespoons mustard  3 1/2 cups vinegar
clove garlic  1 bay leaf
1 teaspoon mustard seed  1 small piece horseradish
clove  1 small red pepper
1 tablespoon white allspice pepper
3/4 teaspoon whole black pepper
4 cups vinegar

Pare and slice cucumbers lengthwise. Remove seeds. Sprinkle with 1/2 cup salt. Let stand 12 hours. Place the salted cucumbers in a colander or on a thin cloth tied over the top of a pan. Drain 1 hour. Boil sugar, spices, and vinegar 5 minutes. Add the cucumbers. Simmer to 15 minutes. Pack into hot BALL Jars; seal at once.

RIPE CUCUMBER SLICES

12 ripe cucumbers  1 long stick cinnamon
1/4 cup salt  1 tablespoon mustard seed
1 1/2 cups sugar  1 tablespoon cloves
1 tablespoon whole pepper
1 teaspoon allspice
1/2 teaspoon whole black pepper
4 cups vinegar

Cut cucumbers into thick slices. Remove seed. Sprinkle with 1/2 cup salt and let stand overnight. Rinse. Drop into sirup made by boiling sugar, spices, and vinegar 5 minutes. Simmer until tender. Pack hot into hot BALL Jars; seal at once.

GERKINS

May be used in any recipe calling for cucumbers.

GREEN TOMATO PICKLES

1 gallon green tomatoes  1 tablespoon mustard seed
6 onions  1 tablespoon celery seed
1/4 cup salt  1 tablespoon allspice
1 1/2 cups sugar  1 tablespoon horseradish
2 pods hot red pepper  1 tablespoon whole black pepper
1 tablespoon ground mustard  4 cups vinegar


GREEN TOMATO DILL PICKLES

Select tomatoes of about 1 1/2 inches in diameter. Cure in brine as for Dill Pickles. The dilled tomatoes may be canned just as the cucumbers are, or they may be canned with a solution made of equal portions of brine and vinegar seasoned with garlic, horseradish, red pepper, and spice. 1/2 cup sugar may be added to each quart of the solution. The solution should be heated and then slightly cooled before pouring over the tomatoes. Process 15 minutes at simmering. Boiling will cause the skins to break.

EMERGENCY PICKLES

1 pint sliced carrots  1 cup tender green beans
1 green pepper  1/2 cup sugar
1 or 2 sweet red 1 cup vinegar
tomatoes  peppers
3 medium size onions 1 1/2 teaspoons salt
sliced 2 tablespoons mustard
1 teaspoon turmeric 1/2 teaspoon ground

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Chop peppers. Combine all ingredients and cook slowly until vegetables are tender but not soft. Pack into hot BALL Jars; seal at once.

**MIXED PICKLE**

1 quart small cucumbers  4 tablespoons mustard
1 pint pickling onions   3 tablespoons ground mustard
1 pint small carrots     1 tablespoon turmeric
1 pod hot red pepper    1¼ cups sugar
2 sweet red peppers     5 cups vinegar
1 pint ½ inch pieces    Spices if desired

1 pint cauliflower

Soak cucumbers and onions (separately), 24 hours in brine made by dissolving 1 cup salt in 1 gallon cold water. Rinse and drain. Scrape carrots. Chop peppers. Combine all ingredients and simmer until hot. Pack into hot BALL Jars; seal at once.

**MUSTARD PICKLE**

1 pint small cucumbers  3 tablespoons ground mustard
1 pint sliced cucumbers 1 tablespoon turmeric
1 pint pickling onions  1 teaspoon mixed spices (tied in bag)
1 cup cauliflower        1½ cups sugar
1 cup small green beans 1 cup water
3 sweet green peppers   About 3 cups each
3 sweet red peppers     vegetables
4 tablespoons oil or   About 3 cups each
butter

¼ cup flour

1 to 2 cups brown sugar

A better pickle is made from refreshed brine-cured vegetables. If this is not convenient, soak the vegetables overnight in brine made by dissolving 1 cup salt in 1 gallon cold water. Drain and rinse vegetables. Cover with equal parts vinegar and water. Simmer 30 minutes. Drain. Mix dry ingredients and stir with the oil, or butter, until smooth. Add 5 cups vinegar and 1 cup water. Cook until smooth and thick as whipping cream. Add to vegetables. Pack into hot BALL Jars. Process 20 minutes at simmering.

**BEET PICKLE**

1 gallon small beets 1 tablespoon allspice
2 cups sugar  3¼ cups vinegar
1 long stick cinnamon 1¼ cups water

Cook and skin beets. Add sugar and spices to vinegar and water. Simmer 15 minutes. Add beets. Boil 5 minutes. Pack beets into hot BALL Jars. Cover with boiling sirup. If not enough sirup to cover, add more vinegar. Process 5 minutes in hot-water bath.

**CARROT PICKLE**

Scrape carrots. Cook 10 minutes, then proceed as for Beet Pickle.

**CELERY PICKLE**

Celery 1 tablespoon mixed spices
1 cup sugar
2 cups white vinegar   Bay leaves
1 teaspoon salt        Small pods red pepper

Use deep green celery. Pull off outside stems without disturbing roots. Turn root upside down and split into eighths. Cook green and white parts separately from 2 to 5 minutes in salt water (1 tablespoon salt to 1 quart water). Drop celery into cold water. Boil sugar, vinegar, salt, and spices (tied in bag) together 5 minutes. Pack celery into hot BALL Jars; a green stalk between each white "heart." Garnish with bay leaf and pepper pod. Cover with boiling sirup; seal at once.

**JERUSALEM ARTICHOKE PICKLE**

1 gallon artichokes 3 tablespoons mixed whole spices
1½ cups sugar        1 clove garlic
1 tablespoon turmeric 1 tablespoon salt
2 quarts vinegar

Scrub then pack artichokes into hot BALL Jars. Add sugar and spices to vinegar. Simmer 15 minutes, then boil 5 minutes. Pour over artichokes. Process 15 minutes at simmering.

**ONION PICKLE**

1 gallon small white onions 1⅛ quarts white vinegar
1 cup salt
1 to 2 cups sugar        Small red peppers and bay leaves
3 tablespoons white mustard seed


**MANGOES**

Use peppers, or green tomatoes, or cucumbers, or green melons

Cut tops from red, green, or yellow peppers, or green tomatoes. Cut one end from cucumbers. Save tops and ends of vegetables. Scoop out centers. Soak 24 hours in cold brine made by dissolving 1 cup salt in 1 gallon water. Drain. Fill with either chow-chow or Dixie relish. Sew tops on with coarse thread. Pack upright into hot BALL Jars. Fill jars with hot vinegar, spiced and sweetened to suit taste; seal at once.

**CELEBRATION RELISH**

4 quarts chopped celery 7 cups vinegar
1 quart chopped onion 2½ cups sugar
8 sweet red peppers   4 tablespoons mustard
8 sweet green peppers Seed

Cook celery and onions, separately, in salt water (2 teaspoons salt to 1 quart water). Drain when tender. Chop peppers. Mix all ingredients and simmer 20 minutes. Add more salt if necessary. Pack in hot BALL Jars; seal at once.

**CHOW-CHOW**

1 gallon chopped cabbage 4 tablespoons ground mustard
12 onions               1 tablespoon turmeric
12 green peppers       1 tablespoon ground ginger
12 red peppers         4 tablespoons mustard seed
2 quarts chopped green tomatoes 2 tablespoons mixed whole spices

5 cups sugar  2 to 3 quarts vinegar

**CORN RELISH**

- 2 quarts corn
- 1 quart chopped cabbage
- 1 cup green sweet pepper
- 1 cup sweet red pepper
- 1 cup water

**Boil** corn 5 minutes. **Cold dip. Cut from cob. Measure. Chop and measure cabbage and peppers. Chop onions. Combine ingredients and simmer 20 minutes. (More salt and sugar may be added if needed.) Pack into hot BALL Jars; seal at once.

**DIXIE RELISH**

- 1 quart chopped cabbage
- 1 pint chopped onion
- 1 pint chopped green pepper
- 1 pint chopped sweet red pepper
- 3 tablespoons salt
- 2 tablespoons celery seed
- ½ cup sugar
- 1 quart vinegar


**PEPPER RELISH**

- 12 red sweet peppers
- 12 green sweet peppers
- 1 pod hot pepper
- 9 onions
- 2 cups vinegar
- 1 tablespoon mixed spices


**PICCALILLY**

- 1 gallon green tomatoes
- 1 head cabbage
- 3 sweet peppers
- 2 large onions
- ½ cup salt
- 1 tablespoon celery seed
- 1 tablespoon horseradish
- 1 quart vinegar

Chop and mix vegetables with the salt. Let stand overnight. Drain. Mix sugar, seasonings, and vinegar. **Scald** and skin tomatoes, skin onions, remove seeds from peppers, pare cucumbers (discard seed if large), pare and core apples. Run vegetables and apples through food chopper. Add sugar and cook until thick. Add spices and vinegar and continue cooking until thick as chili sauce. Pour, while boiling hot, into hot BALL Jars; seal at once.

**RUMMAGE PICKLE**

- 1 quart chopped ripe tomatoes
- 2 quarts chopped green tomatoes
- 3 large onions
- 1 large cucumber
- 1 pod hot red pepper
- 2 cups chopped celery
- 3 green peppers
- 3 red peppers
- 2 tablespoons vinegar

Chop and measure vegetables. Mix with salt. Let stand overnight. Drain. Add other ingredients. Simmer until there is no excess liquid. Pack into hot BALL Jars; seal at once.

**RED PEPPER RELISH OR JAM**

- 3½ cups sweet red pepper
- 1 tablespoon salt
- 2 cups vinegar

Remove seed and midribs from thick-walled peppers. Run peppers through food chopper (use smallest knife). Measure. Sprinkle with salt. Let stand 3 or 4 hours. Add sugar and vinegar and cook until thick. Pour into hot BALL Jars; seal at once.

**PERUVIAN SAUCE**

- 24 ripe tomatoes
- 3 large onions
- 3 sweet red peppers
- 3 cups sugar
- 2 tablespoons ginger
- 3 cups vinegar

Scald and skin tomatoes, skin onions, remove seeds from peppers, pare cucumbers (discard seed if large), pare and core apples. Run vegetables and apples through food chopper. Add sugar and cook until thick. Add spices and vinegar and continue cooking until thick as chili sauce. Pour, while boiling hot, into hot BALL Jars; seal at once.

**APPLE CHUTNEY**

- 2 quarts chopped apples
- 1 pod hot pepper
- 4 cups brown sugar
- 1 quart vinegar
- 1 cup sugar
- 1 clove garlic
- 1 tablespoon mustard seed
- 3 sweet red peppers
- 1 tablespoon salt

Cook apples, sugar, vinegar, garlic, onion, and peppers together until a sauce is formed. Add raisins and spices and simmer 30 minutes. Let stand overnight. Heat to boiling. Pour into hot BALL Jars; seal at once.
GOOSEBERRY CHUTNEY
1 quart partly ripe
2 tablespoons mustard
1 lattice
2 tablespoons ginger
11/2 cups raisins
1 cup brown sugar
3 onions
1 tablespoon salt
1 pint vinegar
Remove stems from berries. Chop raisins and onions. Combine all ingredients and cook until thick. Pour into hot BALL Jars; seal at once.

PEAR CHUTNEY
1 gallon peaches
1/4 cup white mustard seed
2 onions
2 tablespoons ground
1 clove garlic
1 tablespoon ginger
1 cup seeded raisins
1 pod hot red pepper
5 cups vinegar
1 cup brown sugar
Chop peeled peaches, onions, garlic, and raisins. Add 1/2 the vinegar. Cook until soft. Add all other ingredients. Cook until thick. Pour into hot BALL Jars; seal at once. Apples, pears, or plums may be substituted for peaches in this recipe.

PEACH CHUTNEY
1 gallon peaches
1/2 cup white mustard seed
2 onions
2 tablespoons ground
1 clove garlic
1 tablespoon ginger
1 cup seeded raisins
1 pod hot red pepper
5 cups vinegar
1 cup brown sugar
Skin tomatoes and onions, seed peppers, pare and core apples, wash raisins, then run through food chopper. Combine all ingredients and cook until thick. Pour into hot BALL Jars; seal at once.

SUGOLO FRIED EYEBEY CHUTNEY
4 quarters berries
1 tablespoon whole allspice
6 cups brown sugar
2 sticks cinnamon
2 cups vinegar
1 teaspoon whole cloves

SPICED BLUEBERRIES OR ELDERBERRIES
4 quarts berries
1 tablespoon whole allspice
6 cups brown sugar
2 sticks cinnamon
2 cups vinegar
1 teaspoon whole cloves

SPICED CRANBERRIES
Run a needle through each cranberry to prevent bursting and proceed as for Spiced Blueberries.

SPICED CURRANTS
Follow the recipe for Spiced Blueberries. One cup seeded raisins may be added if desired.

SPICED GRAPES
5 quarters stemmed
1 teaspoon grated nutmeg
grapes
2 teaspoons ground cinnamon
8 cups sugar
1 teaspoon ground cloves
2 cups vinegar
1 teaspoon ground ginger
Pry seed from grapes. Drain. Boil sugar, vinegar, and spices 5 minutes. Add grapes and cook until thick. Pour into hot BALL Jars; seal at once.

SPICED PLUMS
1 gallon plums
1 teaspoon whole cloves
7 cups sugar
1 stick cinnamon
2 cups vinegar
1 tablespoon whole allspice
Use firm-meated plums. Pierce plums with needle. Boil sugar, vinegar, and spices (tied in bag) 5 minutes. Cool. Add plums. Simmer until hot through. Let stand overnight, then simmer until plums are tender. Pack into hot BALL Jars; seal at once.

CANTALOUP CHUTNEY
1 g/allon cantaloupe
1 stick cinnamon
2 quarts water
1 tablespoon whole cloves
6 cups sugar
1 tablespoon whole allspice
2 cups vinegar
1 piece ginger root
Remove rind and seed from under-ripe cantaloupe before weighing. (3 pounds prepared cantaloupe measures approximately 3 quarts.) Cut into pieces of uniform size. Soak 3 hours in brine (1 cup salt to 1 gallon water). Drain. Boil 2 quarts water and 4 cups sugar 5 minutes. Add cantaloupe, boil 30 minutes. Let stand overnight. Add the remaining 2 cups sugar, vinegar and spices. Cook until melon is clear. Add boiling water if sirup becomes too thick. Pack into hot BALL Jars; seal at once.

CRAB-APPLE PICKLE
1 gallon crab apples
1 stick cinnamon
6 to 8 cups sugar
1 tablespoon crushed ginger
5 cups water
1 tablespoon whole allspice
4 cups vinegar
1/2 tablespoon whole cloves
Wash and pierce each apple with a needle. Heat sugar, liquids, and spices (tied in bag) until sugar dissolves. Cool. Add apples and simmer until tender. Let stand several hours or overnight. Pack cold apples into hot BALL Jars. Boil the sirup to the desired thickness and pour over apples. Process 5 minutes in hot-water bath.

Note: The amount of sugar used depends upon whether a fairly sweet or a moderately sour pickle is desired.

FIG PICKLE
5 quarts ripe figs
1 tablespoon whole cloves
8 cups sugar
1 tablespoon whole allspice
2 cups vinegar
1 stick cinnamon
1 crushed nutmeg
Wash, drain, and peel firm, ripe figs. Dissolve 4 cups sugar in 2 quarts water. Add figs and cook until tender. Add 4 cups sugar, vinegar, spices (tied in bag) and cook until figs are clear. (Add more water if sirup becomes too thick.) Let stand overnight. Pack into hot BALL Jars. Process 30 minutes at simmering.

PEAR PICKLE
1 g/allon pears
2 pieces ginger root
6 to 8 cups sugar
2 sticks cinnamon
1 tablespoon whole cloves
2 cups water
1 tablespoon whole allspice
4 cups vinegar
1 tablespoon cloves
Select firm pears. Pare and leave small ones whole; halve or quarter and core large ones. Boil 20 minutes in clear water. Boil sugar, water, vinegar, and spices (tied in bag) 10 minutes. Add pears. Let stand overnight. Cook until tender. Pack pears into hot BALL Jars. Cook syrup until thick. Pour over pears. Process 5 minutes in hot-water bath.
PICKLED CHERRIES

Barrier Cherries

Wash, seed, and drain cherries. Cover with vinegar. Let stand 12 hours. Measure both cherries and juice and add an equal amount of sugar. Let stand 10 days, stirring each day. Pack cherries into hot BALL Jars. Heat the sirup to boiling. Pour hot sirup over cherries; seal at once.

SECKEL PEAR PICKLE

Follow directions for Crab-Apple Pickle.

WALNUT PICKLE

2 quarts green walnuts 3/4 cup sugar
1 cup water 1 tablespoon mixed spices
5 cups vinegar

The walnuts must be tender enough to be pierced with a needle. Soak 5 days in brine made of 1 cup salt, 1 cup vinegar, and 2 quarts water. Freshen in several changes of clear water. Boil 1 cup water, 4 cups vinegar, sugar, and spices 10 minutes. Pour, while boiling, over the walnuts. Let stand 3 days. Pack walnuts into hot BALL JARS. Heat sirup to boiling. Pour over walnuts; seal at once.

WATERMELON RIND PICKLE

2 quarts prepared rind
2 quarts lime or salt water
4 to 6 cups sugar
1 quart water

Trim the green outer skin and the pink flesh from thick firm, watermelon rind. Cut into pieces of desired shape and size. Soak rind in lime water (1 tablespoon slaked lime to 1 quart water) 4 hours or soak overnight in salt water (4 tablespoons salt to 1 quart water). Lime water gives a crisper pickle. Drain, rinse, cover with clear water and boil 1 hour. Boil 2 cups sugar, 1 quart fresh water, 1 cup vinegar, and the spices 5 minutes. Add rind. Simmer 30 minutes. Let stand overnight. Add remaining sugar and vinegar and boil gently until the sirup is almost as thick as honey and the rind clear. Add boiling water if sirup becomes too thick before the rind is tender and translucent. Pack into hot BALL JARS; seal at once.

Note: If gingered rind is wanted, add 1 tablespoon ground ginger to the clear water in which the rind is boiled.

CUCUMBER KETCHUP

2 quarts chopped ripe cucumber
2 cups chopped onion
4 green peppers
2 cups sugar

Pare, seed, chop, and measure cucumbers. Chop and measure onions; chop peppers. Add 1 1/2 cups water to the vegetables and cook until tender. Add other ingredients and cook until thick. Pour into hot BALL JARS; seal at once.

GRAPE KETCHUP

2 quarts grapes 3/4 teaspoon salt
3 cups sugar 1 tablespoon cinnamon
1 cup vinegar 1 teaspoon allspice
1 teaspoon cloves

Crush and simmer grapes in their own juice until tender. Press pulp through sieve (discard seed and skins). Add other ingredients. Cook until thick. Pour into hot BALL JARS; seal at once.

MUSHROOM KETCHUP

1 gallon mushrooms 3/4 teaspoon ginger
1 1/2 cups vinegar 1 teaspoon cinnamon
1 1/2 cups water 3/4 teaspoon cloves
1/2 cup brown sugar 1/2 teaspoon horseradish
1 1/2 tablespoons salt 1 tablespoon mustard
1 clove garlic 1/2 teaspoon cayenne pepper

Run mushrooms through food chopper using fine knife. Add water and simmer until mushrooms are tender. Press through a sieve. Add other ingredients and cook 30 minutes. Pour boiling hot into hot BALL JARS; seal at once.

TOMATO KETCHUP

1 peck tomatoes 1 tablespoon celery seed
3 sweet red peppers 2 teaspoons mustard seed
1 pod hot red pepper 1 tablespoon whole allspice
4 tablespoons salt 2 cups sugar
2 cups water 2 sticks cinnamon
3 cups vinegar

Wash and chop tomatoes and peppers. Simmer until soft. Press through a fine sieve. Cook rapidly until reduced to about one half. Add salt, sugar, and spices (tied in bag), and boil until thick. Add vinegar about 5 minutes before removing from heat. Pour into hot BALL JARS; seal at once.

TOMATO SAUCE A LA CREOLE

Mix 3 quarts chopped, skinned tomatoes, 1 quart sliced onions, 1 pint chopped green peppers, 1 tablespoon chopped parsley, salt to taste, and a small pod of hot pepper. Cook slowly until thick. Pour while boiling into hot BALL JARS. Process 20 minutes in hot-water bath.

BARBECUE SAUCE

8 cups tomato ketchup, or strained chili sauce
8 cups gravy or meat stock Cayenne pepper to suit taste
1 cup Worcestershire sauce Salt to suit taste
1 cup vinegar

Mix ingredients. Heat to boiling. Pour into hot BALL JARS. Process 2 hours in hot-water bath or 45 minutes at 10 pounds pressure.

HOT PEPPER SAUCE

(Use for Hungarian Peppers)

Wash hot red or green peppers. Make two small slits in each pepper. Soak peppers 12 or 15 hours in cool brine (1 cup salt to 1 gallon water). Drain peppers. While peppers drain, add 1 tablespoon sugar, 1 clove garlic, 1 piece horseradish, and 1 cup water to 4 cups vinegar. Boil 2 minutes. Remove garlic. Pack peppers into hot BALL JARS. Cover with boiling pickling solution; seal at once.

SPANISH SAUCE

24 sweet red peppers 2 cloves garlic
1 pod hot red pepper 1 teaspoon marjoram
3 onions Salt to taste

Remove seed from peppers. Cook peppers, onions, and garlic until soft in just enough water to prevent sticking. Press vegetables through a sieve. Add other ingredients and water to make a smooth sauce. Pour into hot BALL JARS. Process 20 minutes in hot-water bath.
SPECIALTIES

TABASCO SAUCE
3 dozen tabasco or other long, hot red peppers
1 clove garlic
1 tablespoon sugar
1 cup hot vinegar

Add 1 cup water to the peppers and garlic. Cook until tender, then press through fine sieve. Add other ingredients. Simmer until blended. Pour into hot BALL Jars; seal at once. The sauce may be thinned, as used, with either vinegar or salad oil.

HORserADISH
Wash, scrape, and grate fresh horseradish roots. Fill pint BALL Jars ¾ full with the grated horseradish. Fill the jars to the top with white vinegar. Seal jars and store away from the light.

PEANUT BUTTER
2 quarts Spanish peanuts
4 quarts Virginia peanuts

Roast peanuts. Cool. Remove brown skins and "eyes." Run through food chopper, using finest knife. Add 2 tablespoons salt and regrind until as fine and smooth as desired. Pack tightly into hot BALL Jars. Work out air bubbles. Fill jars to ½ inch of top. Process 1 hour at simmering in hot-water bath.

NUT MEATS
Place fresh, shelled nuts in shallow pans. Set pans in warm oven until nuts are dry (avoid browning). Sterilize BALL Jars and tops, then invert on clean cloth to drain dry. Pack hot nuts into jars. Process 20 minutes in hot-water bath. Let the water in the canner stand well below the tops of the jars. Store in cool place.

PRESERVED CHESTNUTS
Marons

Boil chestnuts 30 minutes. Remove shells. For each quart shelled nuts, make a sirup of 1 cup sugar, 2 cups honey, and 1 cup water. Boil 10 minutes. Add chestnuts. Boil 10 minutes. Let stand overnight. Then cook until tender (add more water if necessary). Add 1 teaspoon vanilla extract and ¼ teaspoon salt. Pack into hot BALL Jars; seal at once.

PRESERVED COCONUT

1 cup milk from coconut
3 cups sugar
4 cups water

Boil liquids and sugar together 5 minutes. Add coconut and cook until it is transparent. Pack into hot BALL Jars; seal at once.

SPICED PINEAPPLE
Simmer slices, chunks, or sticks of canned pineapple 20 minutes in a sirup made of 1 cup pineapple juice, ½ cup vinegar, 2 cups brown sugar, and 1 tablespoon mixed whole spices (tied in bag). Pack into hot BALL Jars; seal at once.

GREEN TOMATO MINCEMEAT
1 gallon chopped tomatoes
1 tablespoon salt
1 orange
1 cup chopped suet
3 cups brown sugar
3 cups sugar
2 cups water
1 teaspoon salt
1 teaspoon nutmeg
½ teaspoon ginger


Note: The suet may be omitted from this recipe and butter added at the time the mincemeat is used for pies. Process "sweetless" mincemeat 20 minutes.

OLD-FASHIONED SALT CORN
Boil fresh, tender corn 5 minutes. Cut from cob. Do not scrape. Measure corn and mix with ¾ its measure of pure salt. Pack tightly to within ¼ inch of the top of BALL Jars. Smooth a quarter inch layer of salt over the top of the corn. Seal and store in cool, dry place.

The corn is freshened for use by parboiling 2 or 3 times. The freshened corn is usually stewed with sweet milk, butter, and pepper for serving.

SANDWICH SPREAD
1 cup chopped green tomatoes
1 cup chopped carrot
1 green sweet pepper
2 tablespoons flour
3 tablespoons milk
1 teaspoon salt
1 teaspoon turmeric
1 teaspoon cinnamon
2 egg yolks
3 tablespoons butter
1 tablespoon sugar
½ cup sugar
½ cup water
½ cup vinegar

Grind vegetables before measuring. Add 1 cup water and cook until tender. Drain and mix vegetables before measuring. To make dressing; blend flour, milk, salt, turmeric, and cinnamon. Add beaten egg yolks, sugar, water, and vinegar. Cook over hot water until thick. Pack into hot BALL Jars. Process 45 minutes in hot-water bath.

BRINED BEANS
Wash and string green beans — (do not break), boil 3 minutes. Place in a stone jar. Cover with brine made of ¾ cup salt, 1 cup vinegar, and 2 quarts boiling water. Use plate to hold beans under brine. Let stand 2 or 3 weeks or until fermentation stops. Remove scum each day. When fermentation stops, pack into hot BALL Jars. Cover with fresh brine, boiling hot; seal at once. Freshen in cold water before using.

LEMON SYRUP
12 lemons
6 quarts water
6 pounds sugar

Grate and save the yellow rind from 6 lemons. Extract and strain juice from 12 lemons. Boil sugar, water and grated lemon rind together 15 minutes. Strain. Add lemon juice. Heat to boiling. Pour into hot BALL Jars; seal at once.
is the best known, the most generally used, brand of home canning jar, because a half century of continuous attention to producing ware of superior quality has made it so. Ball Jars and Jelly Glasses are made of crystal clear flint glass, toughened by special heat treatment and individually inspected to insure top quality.

No. 1  **Ball IDEAL All-Glass JAR**

No. 2  **ECLIPSE WIDE MOUTH All-Glass JAR**
Fitted with glass lid, rubber, and heat treated high-tension spring steel wires. The wires retain tension after repeated use.

No. 3  **GLASS LIDS**
Perfect Seal No. 11 Rubbers for Ideal and No. 33 Rubbers for Eclipse Jars. Specify whether Ideal or Eclipse Lids are wanted as sizes are different.

No. 4  **PERFECT MASON**

No. 5  **SPECIAL WIDE MOUTH MASON JAR**

No. 6  **ZINC PORCELAIN LINED CAP and PERFECT SEAL RUBBER — LONG THE MOST POPULAR CLOSURE FOR REGULAR and WIDE-MOUTH MASON JARS**

No. 7  **VACU-SEAL Two-Piece METAL CAPS**
for both regular and Wide-Mouth Mason Jars. The metal cap is tin plated, lacquered on both sides, then lined with a thick coat of double-baked white enamel, which protects food from metal. The dome shaped lid makes seal testing easy — just feel the seal! No separate rubber rings needed.

No. 8  **The No. 10. GLASS TOP SEAL CAP**
consists of metal band, glass lid, and rubber ring, fits all regular Mason Jars. The glass lid permits maximum vacuum; there is no space for air pockets. The metal band centers the lid so neither lid nor rubber slips out of position.

No. 9  **JELLY GLASSES with TIN LIDS JAR RUBBERS**
Tumbler shape jelly glass (can be used for drinking glass) made in ½ and 1½ pint sizes.

No. 10  **Squat jelly mould made in ½ and 1½ pint sizes.**

No. 11  **Tall, round bottom jelly glass — made in ½ and 1½ pint sizes.**

No. 12  **Perfect Seal Rubbers packed with BALL Jars and sold in packages, are made by scientific formula and of the best materials available. No. 11 Rubbers for Mason and Ideal Jars, No. 10 for Glass Top Seals, No. 33 for Wide-Mouth Mason and Eclipse Jars, No. 55 for old style BALL Glass Top Seals, No. 44 for Wide-Mouth Glass Top Seals are all of perfect seal quality.**
JARS ARE
LIFETIME JARS

Be sure to look for the name "Ball" on every jar you buy
An Invitation

There is no such thing as a recipe which every home canner will prefer above all others but every recipe in the Ball Blue Book may be adjusted to meet the flavor preference of each family. Fruits should be sweetened as you like them. We season with a small amount of salt when canning vegetables but you should, if you like, use more salt (or none) and a bit of sugar. You may even add your favorite spice or herb if you want to.

It doesn't pay to tinker with the basic proportions of jellies, preserves, marmalades, and pickles but the flavor of any of these may be altered by adding or omitting spices. If you like garlic in all your pickles, use it; if you don't want it in anything, leave it out! Jellies may be spiced, or flavored with fruit extracts. Preserves too, may be spiced or toned up with lemon, orange or lime juice and rind.

Space in the Ball Blue Book does not permit detailed explanation of the reason for all statements, instructions and rules, but we assure you that all are based on the sciences of physics, chemistry, and bacteriology, plus practical experience.

We have tried to give clear, easy-to-follow instructions for successful home canning, but should you have a canning problem or want information in regard to your nearest source of supply of Ball Jars, Caps, and Rubbers, we invite you to consult the Director of our Home Service Department who will be glad to suggest a possible solution.

BALL BROTHERS COMPANY MUNCIE, INDIANA

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