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A Promise Kept . . .

The editor of the first Ball Blue Book promised that new recipes and information would be included in future editions to "improve and enlarge its scope of usefulness." Because of that promise, the Blue Book is known, used and treasured throughout the home-canning world.

The Blue Book has been revised many times for the purpose of including new information acquired through scientific research. This, a partially revised edition, is 26-B. Four new pages have been added. One, in color, shows six important steps in canning tomatoes. Information on raw pack method for vegetables is given on page 18. And the jelly section has been rewritten to explain the modern, quick and easy way to make and seal jellies and jams.

"I canned it and it kept," is no longer good enough for your family. To be good enough, canned food must keep a maximum amount of its minerals, vitamins, color and flavor and be free of harmful bacteria. This is why scientists work year after year searching for better ways to can, while economists figure the cost.

You, of course, know that canning saves money. But do you realize that it is possible to can tomatoes for as little as 5¢ a quart? There are similar "bargains" in canning other vegetables and many fruits.

We believe the carefully tested recipes, the known-to-be-safe canning methods and the modern way of sealing jellies and jams enlarges the scope of this book's usefulness to you, and hope the information, new and old, will add much pleasure to your profitable practice of home canning.
Home Canners' Vocabulary

FRUIT JAR—Glass jar for home canning. Regular fruit jars have the name of jar and manufacturer lettered on the side. There are two standard styles:
(1) Screw-thread neck called Mason, regardless of who makes it. Seals on top or on sealing shoulder, depending upon type cap used.
(2) Lightning style (Ball Ideal) jar with glass lid held in place with wires.

FREEZER JAR—Glass jar for home freezing (page 56). Seals on top with either Ball Dome or a one piece metal cap.

JAR CAP—Cover for sealing jars. There are two popular styles for Mason Jars:
(1) Two-piece (Ball Dome)—metal screw band and metal lid with red rubber sealing compound on it. No other rubber needed.
(2) One-piece—zinc with porcelain liner for regular Mason Jars.

JAR LID—Shallow cover of metal or glass; fastens on jar with metal screw band or with wires.

JAR RUBBER or RING—Flat rubber ring used as a cushion or gasket between zinc cap, or glass lid, and jar.

METAL BAND—Screw band used with Ball Dome Lid.

ACID FOODS—Foods which normally contain from 0.36 to 2.35 or more percent natural acid. Also those preserved in vinegar. Examples: fruits, rhubarb, tomatoes, sauerkraut, pickles and relishes.

LOW-ACID FOODS—Foods which have very little acid in them. Examples: all vegetables except those listed above, meats, game, poultry and sea foods.

SPOILAGE—Canned foods are spoiled when they “work,” mold, have unnatural odor, become “cheesy,” sour, or otherwise unfit to eat.

BACTERIA, MOLDS and YEASTS—Low forms of plant life known to scientists as micro-organisms. These organisms, in vegetative (growing) or spore (seed) forms, exist everywhere—in air, water and soil. When not destroyed (by cooking) they grow in canned food and cause it to spoil.

ENZYMES—Natural substances in all fruits, meats and vegetables. If not destroyed (by cooking) they cause changes in color, texture and flavor of canned food.

PROCESSING—Cooking jars of food in a boiling-water bath, or steam pressure canner, long enough to destroy bacteria, enzymes, molds and yeasts.

COLD or RAW PACK—To fill jars with raw food to be processed. Has nothing to do with the manner of processing.

HOT PACK—To fill jars with hot food to be processed.

HEAD SPACE—The space left at the top of a jar when filling or packing.

PARTLY SEAL—To leave caps or lids loose while jars are being processed. All jars on which regular jar rubbers are used must be partly sealed while in canner, and closed airtight as soon as removed from canner. (This does not apply to the Ball Dome two-piece Metal Cap because it is self-venting.)

VACUUM SEALING—When applied to sealing, vacuum refers to the absence of normal atmospheric (air) pressure in jars; sealing means closing air tight. When a jar is closed at room temperature, atmospheric pressure is the same inside and outside the jar. When the jar is heated everything in it expands and air is forced out, then the pressure inside the jar becomes less than that on the outside. As the jar cools everything in it shrinks, a partial vacuum forms, and atmospheric pressure of almost 15 pounds per square inch (at sea level) holds the lid down to keep the jar sealed. The red rubber sealing compound on a Ball Dome Lid, and the regular rubber ring used with Ideal Jars, keep air from going back into sealed jars.

A vacuum seal can also be obtained by filling a hot jar with such food as boiling jam and sealing at once.

VENTING or EXHAUSTING—Forcing, or permitting, air to escape from a jar, or from a steam pressure canner.
Utensils and Methods

WITH THE possible exception of a steam pressure canner, home kitchens are usually equipped with all the utensils actually needed for canning. However, there are a number of inexpensive pieces which add to the pleasure of canning. The most useful of these are: jar lifter, funnel, ladle with lip, sieve or strainer, colander, food mill, food chopper, large measuring cups, large trays, and wire basket.

THE STEAM PRESSURE METHOD should be used for processing beans, beets, corn, meats and all other low-acid foods. A steam pressure canner or cooker (they are the same thing) is the only kitchen utensil which supplies enough heat to destroy, within a reasonable time, the spores of bacteria, which cause flat-sour, botulism, and some other types of spoilage.

A steam pressure canner is a heavy kettle with a cover which can be clamped or locked down to make the kettle steam tight. The cover is fitted with a safety valve, a petcock or vent, and a pressure gage. All parts of the canner must be clean and in good working order. Pressure gages should be checked at least once a year. Usually, the county home demonstration agent can tell the owner where to have this done.

When using a steam pressure canner, follow the manufacturer's instructions for amount of water needed; also for locking the cover. Then proceed as shown on pages 22 and 23. The petcock must be left open until steam has escaped through it for a full 10 minutes. This venting (also called exhausting) removes air from the canner. If air is left in the canner while processing, "cold" spots form and some, or all, of the food may spoil from under-processing.

STEAM PRESSURE SAUCEPANS can be used for processing pint and half pint jars, provided the pressure can be held at 10 pounds. Since the pans heat and cool quickly, 20 minutes should be added to the regular steam pressure processing time.

THE BOILING-WATER BATH METHOD should be used for processing fruits, tomatoes and other acid foods, because boiling water supplies enough heat, without overcooking, to destroy the bacteria, enzymes, molds and yeasts which cause spoilage in acid foods.

A boiling-water bath canner is a boiler or kettle with cover and a rack or metal basket to keep jars from touching the bottom. The canner should be deep enough for water to cover the top of jars without boiling over. When using a steam pressure canner as a boiling-water bath, place the cover on canner but do not fasten it down. Leave petcock or vent wide open.

OPEN KETTLE CANNING. Jams, preserves, pickles, etc., may be cooked in kettle or deep pan and poured, boiling hot, into hot jars and sealed at once. Jars are filled (see page 6 for head space) and sealed, one at a time. They are not processed. When using the open kettle method, boil jars, glass lids, new zinc caps, also rubbers, 10 minutes. Boil Dome Lids 5 minutes, old zinc caps 30 minutes. Keep boiling hot until used. Fruits, juices and tomatoes canned by this method are likely to spoil because bacteria, yeasts and molds are either not destroyed in cooking, or get into the jar before it can be sealed.

OVEN CANNING IS DANGEROUS, regardless of the brand of oven, jar, cap or lid used. Food may spoil because of under-processing. Jars, even those partly sealed when placed in the oven, may explode, causing damage to both person and property.
HOME CANNING can be a pleasant and highly rewarding experience, or a burdensome chore. If you rush around on canning day looking for this, that, and the other thing, and then hurry to make up the squandered time, you will find canning tedious. So, why not do it the easy way?

To can the easy way:

1. Start planning several weeks before you have anything to can. Make a list of the kinds and amounts of canned foods needed during the months when locally grown produce is out of season. It will be more interesting for you—your family too—if you can fairly small quantities of every obtainable thing you like canned, rather than huge amounts of only one or two fruits and vegetables.

2. Decide which size jar to use. All Ball Jars are satisfactory; however, grocers usually stock the style and size preferred by the majority of their customers. This is why all styles and sizes are not available in some localities. It is usually best to use pints when canning for two or three persons, and for jams and relishes used in larger households.

3. Buy jars and, if needed, extra fittings early in the season while grocers have ample supplies. This will save the trouble and disappointment of having to shop around and perhaps not finding what you want later on. Unused caps, lids and rubbers may be saved for another year.

4. Check your steam pressure and water bath canners to be sure they are in perfect condition.

5. Examine jars, caps and lids, and store with all other canning equipment not in daily use. Keeping these things together saves time and temper throughout the canning season. You will also need a comfortable chair or stool so you can sit while preparing fruits and vegetables.

6. Remember it is better, when possible, to process a few jars every morning than to give a whole day to the job. It pays to watch garden and orchard and start canning as soon as some of the peaches, tomatoes, beans, corn, etc., reach the most perfect stage for table use. If fruits or tomatoes are bought at a market, sort them for ripeness. Spread any not ripe enough on trays or table to finish ripening.

7. Before preparing fruits or vegetables:
   (a) Read the recipe and check instructions for filling and sealing the jar.
   (b) Set out all equipment and clean cloths needed, and put everything not needed out of the way. If you are a "splasher and spiller," spread newspapers on floor.
   (c) If canning fruit or tomatoes, pour a little water in the canner and set it over heat, then add more water to fill canner about half full. (You may need to add more hot water after jars are in canner.) Put cover on canner.
   (d) Wash jars, caps, lids, etc.
   (e) If fruit is to be canned, measure sugar and water for sirup into pan, ready to heat. If vinegar-salt water is needed, this is the time to get it ready.

8. Wash, rinse, drain and prepare only enough produce for a canner load.

9. Process for the right time, and by the right method, for the food being canned. The right way is the easy way!

10. Set jars upright, far apart and out of a draft to cool.
To Use Ball Jars and Fittings

Pictures of the Jars and Fittings mentioned below are shown on inside back cover.

BALL MASON JARS may be sealed with either Ball Dome Caps, or with Ball Zinc Caps and Rubbers. Both are satisfactory for all reliable methods of canning.

BALL DOME CAPS. A lid = a screw band = a cap. The lid is used once only, the band many times. The lid goes down with a click-like sound when the jar seals. (See Vacuum Sealing, page 3.)

1. Examine top and edge of jar. Both must be smooth and even.
2. Scald lids. Keep wet until used.
3. Fill clean hot jar. Leave 1 inch head space for meats, corn, peas, shelled beans; \( \frac{1}{2} \) inch for other vegetables and fruits; \( \frac{1}{4} \) inch for juices, preserves and relishes which are to be processed; \( \frac{1}{8} \) inch for jellies and other fruit spreads which are sealed boiling hot and not processed.
5. Screw band tight but do not use force. Must screw down evenly all the way around.
7. Remove band about 12 hours after canning. If Dome is down or stays down when pressed, jar is sealed.

COLD SEALING or filling jars with preserves or pickles, which are neither boiling hot, nor to be processed, is not true canning. Therefore, the bands must be left on the jars to keep them closed airtight.

BALL ZINC CAPS.

2. When filling jar, see No. 3 above for amount of head space. Remove anything spilled on threads or sealing shoulder of jar.
3. Either before or after filling jar, stretch rubber just enough to place flat on sealing shoulder.
4. Screw cap tight, then loosen about \( \frac{1}{4} \) inch.
5. Process immediately using right time and method for product being canned. Screw zinc cap tight immediately after processing.
6. Let jars stand about 12 hours, then check the seal. The top of cap is low in center when jar is sealed.

BALL HALF-PINT JARS. The Half-Pint is a new jar particularly useful for jellies, jams, relishes, and home canning and freezing for special dieters or small families. It seals with regular Mason sized Dome cap. See page 48 for how to use when sealing jams and jellies.

BALL IDEAL JARS.

1. Wash jars, lids, rubbers in hot soapy water. Rinse. Leave in hot water until used.
2. When filling jar leave \( \frac{1}{4} \) inch head space for meats, corn, shelled beans; \( \frac{1}{2} \) inch for other vegetables; \( \frac{1}{4} \) inch for fruits. Fill almost to top with jams, juices, pickles and preserves. Do not overflow.
3. Either before or after filling jar, stretch wet rubber just enough to place flat on sealing shoulder. Lip must be opposite to wire side of jar.
4. Push long wire up to rest in groove in lid. Leave short wire up until jars have been processed. (Use right time and method for product canned.)
5. Push wire down immediately after processing. Invert jar about 12 hours after canning and examine for leaks.

BALL “ALL-PURPOSE” FREEZER JARS are used for freezing and canning. For freezing, see page 53. For canning, use wide mouth Dome Caps and follow instructions for using Mason Jars and Dome Caps. Processing time is the same as for pint and quart fruit jars.
Fruits and Acid Vegetables

Things to Remember

1. Read recipe.
2. Get ready everything needed before preparing anything for canning.
3. Use sound, fresh, firm, ripe produce; sort for size, color and ripeness.
4. Wash, rinse and drain fruits and vegetables before removing hulls (caps), cores, pits, seeds or skins.
5. Waste no time between steps in preparing, packing and processing.
6. Prepare and pack only enough jars for one canner load at a time.
7. Remove air bubbles (No. 8, page 9) before closing jar for processing.
8. When measuring use standard 8 ounce cup. 2 cups = 1 pint; 4 cups (2 pints) = 1 quart; 16 cups (4 quarts) = 1 gallon.
9. Processing times given in the recipes are for quarts and pints at sea level to 1,000 feet above. (See page 16, if canning at higher altitudes.) Reduce time five minutes when using Half-Pints.

To Keep Fruit from Darkening

While preparing for canning . . . Add 2 tablespoons each, salt and vinegar, to 1 gallon cool water. Drop apples, apricots, peaches and pears into salt-vinegar water as they are pared, cored, peeled or pitted. Do not leave fruit in this water longer than 20 minutes. Rinse fruit before using if left in salt-vinegar water longer than 15 minutes.

Ascorbic acid may be used to help prevent fruit darkening in the jar. It is expensive. It also loses its usefulness in a short time when exposed to air. If using it, sprinkle from ½ to ¼ teaspoonful over the fruit just before closing the jar for processing. Use ascorbic and citric acid mixtures according to the manufacturer's instructions.

Sirups for Canning

Use the one preferred.

Measure sugar and liquid (either water or fruit juice) into a sauce pan. Cook until sugar dissolves. Keep sirup hot until needed, but do not let it boil down. 1 to 1½ cups of sirup is needed for each quart of fruit.

<table>
<thead>
<tr>
<th>Type of sirup</th>
<th>Sugar to 1 quart water</th>
<th>Yield of sirup</th>
</tr>
</thead>
<tbody>
<tr>
<td>Light</td>
<td>2 cups</td>
<td>5 cups</td>
</tr>
<tr>
<td>Medium</td>
<td>3 cups</td>
<td>5½ cups</td>
</tr>
<tr>
<td>Heavy</td>
<td>4 cups</td>
<td>6½ cups</td>
</tr>
</tbody>
</table>

Medium with Corn Syrup: 1½ cups sugar, 1 cup light corn syrup to 3 cups liquid.

Medium with Honey: 1 cup sugar, 1 cup honey to 4 cups liquid.

To Can Without Sugar

Use fully ripe, but not soft-ripe, fruit. Prepare fruit for canning according to the regular (meaning with sugar) recipe. Add a little water and cook fruit until boiling hot through. Pack, hot, into hot Ball Jar. Process in boiling-water bath for time given in regular recipe. If there is not enough juice to cover fruit in jar, add boiling water.

Sweetening agents such as soluble Saccharin and Sucaryl should be used according to the manufacturer's instructions.
THE RIGHT WAY TO CAN PEACHES

Cold or Raw Pack is shown on these pages—for Hot Pack see page 12.

1. Check sealing shoulder of jars for nicks, chips and cracks; inspect caps for dents.

2. Wash jars, caps, rubbers in hot soapy water. Rinse. Leave in hot water until used.

3. Wash, rinse, drain and sort firm-ripe fruit. Put peaches in wire basket or cheese cloth.

4. Dip peaches in boiling water to loosen skins, then into cold water. Drain.

5. Cut peaches into halves, pit and peel. Drop fruit into salt-vinegar water (2 tablespoons each to 1 gallon water).

Ball Zinc Caps were used in these pictures. When using Ball Dome 2-piece Metal Caps and Mason Jars, prepare, pack and process as shown below. Inspect and seal jars as instructed on pages 22 and 23.

7 Cover peaches with boiling sirup. (See page 7 for making sirup.)

8 Run knife between fruit and jar to remove air bubbles. Add more sirup, if needed to cover fruit. Wipe threads and sealing shoulder of jar.

9 Stretch wet rubber slightly; then put flat on sealing shoulder. Rubber may be put on jar either before or after filling.

10 Screw cap tight, then loosen about \( \frac{1}{4} \) inch.

11 Stand filled jars on rack in canner. Water should be hot; not boiling. Add more water, if needed, to cover jars one or more inches. Put cover on canner; bring water to boiling.

12 Boil (process) pints and quarts 25 to 30 minutes. Take jars from canner. Screw caps tight. Stand jars several inches apart to cool.
Apples—Baked
Make thin sugar or medium honey sirup. Wash and core apples; leave whole or cut into halves. Put apples in pan; pour sirup over them until it is about ¼ inch deep in bottom of pan. For each apple, mix 1 teaspoon sugar and a little cinnamon or ginger. Sprinkle over apples. Bake until about half done. Pack hot fruit into hot Ball Jars. Cover with hot sirup. Process 20 minutes in boiling-water bath.

Apples—Hot Pack
Make light or medium sirup. Add 2 tablespoons salt and 2 tablespoons vinegar to 1 gallon water. Wash, drain, core, pare and slice apples, or cut into halves or quarters. Drop apples into salt-vinegar water. Rinse apples, then boil them in sirup 5 minutes. Pack hot fruit into hot Ball Jars. Cover with hot sirup. Process 20 minutes in boiling-water bath.

Apples—for Pies
Follow recipe for Apples—Hot Pack. Use 1 cup sugar to 4 or 5 cups water for making sirup.

Applesauce
Wash and drain fresh, sound apples. Remove stem and blossom ends. Slice apples. Cook until soft. (May need a little water to prevent sticking.) Press apples through sieve or food mill to remove skin and seed. Sweeten sauce to taste. Reheat to boiling. Pour, boiling hot, into hot Ball Jars. Cover with hot sirup. Process 20 minutes in boiling-water bath.

NOTE: Duchess and other apples which "sauce" without straining should be pared and cored before cooking.

Apricots
Tree ripened apricots may be canned whole. Pits should be removed from fruit harvested before fully ripe. Some varieties of apricots should be packed raw because they do not hold shape when heated before packing.


HOT PACK . . . Prepare and pack same as peaches (page 12). Process 20 minutes in boiling-water bath.

Berries
COLD OR RAW PACK . . . Use for red raspberries and others (except strawberries) which do not hold shape well. Make light or medium sirup.

Wash and drain berries. Pour about ½ cup hot sirup into hot Ball Jar. Fill jar with berries. Shake jar to pack berries closely without crushing. Add more hot sirup, if needed, to cover berries. Process 20 minutes in boiling-water bath.

HWHT PACK . . . Use for blackberries and others that hold shape well. Wash, drain and measure firm-ripe berries. Put into kettle and add ¼ to ½ cup sugar for each quart berries. Let stand 2 hours. Cook until sugar dissolves and berries are boiling hot. Pour, hot, into hot Ball Jars. Add boiling water if there is not enough sirup to cover berries. Process 15 minutes in boiling-water bath.

WTHOUT SUGAR—USE IN PIES . . . Wash and drain fresh, firm-ripe berries. Add hot water to barely cover bottom of pan. Put berries in pan. Simmer until hot through. Pack, hot, into hot Ball Jars. Add boiling water if there is not enough juice to cover berries. Process 15 minutes in boiling-water bath.

Blueberries and Huckleberries
These berries may be canned in sirup or water, but the method given here is better if berries are to be used in muffins, etc. Put 2 or 3 quarts clean berries in square of cheesecloth. Hold cloth by the corners and dip into boiling water until spots appear on cloth. Then dip into cold water. Pack into hot Ball Jars. (Add neither sugar nor liquid.) Process 20 minutes in boiling-water bath.

Elderberries
Follow any of the recipes for berries. 1 tablespoon vinegar may be added to each quart berries to improve flavor.

Gooseberries
Make medium or heavy sirup. Wash and drain green berries. Use scissors to snip off "heads and tails." Pour about ½ cup hot sirup into hot Ball Jar. Fill jar with berries. Shake jar to pack berries closely. Add more hot sirup, if needed, to cover berries. Process 20 minutes in boiling-water bath.

Strawberries
Strawberries tend to fade and lose flavor when canned. Use firm, red-ripe berries, which have neither white nor hollow centers. Hull (cap), rinse, drain and measure berries. Use ½ to ¾ cup sugar to each 4 cups berries. Gently mix sugar with berries. Let stand 5 to 6 hours in a cool place. Heat slowly until sugar dissolves and berries are hot. Pack, hot, into hot Ball Jars. Process 20 minutes in boiling-water bath.
Cherries

COLD OR RAW PACK . . . If cherries are sweet, make a light or medium sirup; if sour, use medium or heavy sirup. Cherries for pies may be canned in water, but hold color better when some sugar is used. Wash, drain and stem cherries. Pits may be left in or taken out, depending upon how fruit is to be used. If no regular cherry pitter or stoner is available, use a wire hair pin to remove pits. Boil pin to sterilize. Stick loop end of pin through stem end of cherry and lift out pit.

Pour about \( \frac{1}{2} \) cup hot sirup into hot Ball Jar. Fill jar with cherries. Shake jar to pack cherries closely. Cover with hot sirup or boiling water. Process 20 minutes in boiling-water bath.

HOT PACK . . . Prepare cherries as for Cold or Raw Pack. Measure after pitting. Use \( \frac{1}{2} \) to \( \frac{3}{4} \) cup sugar to each 4 cups cherries. Mix sugar with cherries. Heat slowly until sugar dissolves and cherries are hot through. Pack, hot, into hot Ball Jars. If there is not enough sirup to cover cherries, add boiling water or light sirup. Process 15 minutes in boiling-water bath.

Cranberry Sauce

UNSTRAINED . . . Wash and stem berries. Add 4 cups sugar to 4 cups water. Boil 5 minutes. Add 8 cups berries. Boil, without stirring, until skins burst. Pour, boiling hot, into hot Ball Jar; seal at once.

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

STRAINED . . . Add 1 \( \frac{3}{4} \) cups water to 4 \( \frac{1}{2} \) cups berries. Boil until skins burst. Press through sieve to remove skins. Add 2 cups sugar to the pulp and juice. Boil almost to jellying point (page 49). Pour, boiling hot, into hot Ball Jar; seal at once.

NOTE: \( \frac{1}{3} \) \( \frac{3}{2} \) cups chopped suet may be added to the above recipe. If suet is used, cook mincemeat only until boiling hot. Pack, and process pints and quarts 25 minutes at 10 pounds steam pressure.

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Figs


Frosted Fruits for Canning

Defrost in the unopened package. Drain off sirup. Heat to boiling. Add fruit. Boil gently 2 or 3 minutes. Pack, hot, into hot Ball Jars. Add boiling water if there is not enough sirup to cover fruit. Process for the time given on page 16 for hot packed fruit.

Grapes—Ripe

Make light or medium sirup. Wash and drain grapes before removing from stems. Pour about \( \frac{1}{2} \) cup hot sirup into hot Ball Jar. Fill jar with grapes. Shake jar to pack cherries closely without crushing. Add more hot sirup, if needed, to cover grapes. Process 20 minutes in boiling-water bath.

Grapes—Unripe

Green grapes, canned before the seeds harden, are used in pies. Make medium or heavy sirup. Wash, drain and stem grapes. Pack into hot Ball Jars. Cover with hot sirup. Process 25 minutes in boiling-water bath.

Grapefruit

Make light sirup. Wash and dry firm, heavy, fresh, tree ripened fruit. Cut a slice from each end; then cut 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 between pulp and skin of each section and lift out the pulp or “heart” without breaking. Discard seed. Pack fruit into hot Ball Jars. Cover with hot sirup. Process 30 minutes at 190°F. in hot-water bath, or 10 minutes at boiling.

Green Tomato Mincemeat

2 quarts chopped tomatoes 3\( \frac{1}{2} \) cups brown sugar
1 tablespoon salt 2 teaspoons cinnamon
1 orange 1 teaspoon cloves
2\( \frac{3}{4} \) quarts chopped apples 1/2 teaspoon ginger
1 pound seeded raisins 1 teaspoon nutmeg
\( \frac{1}{2} \) cup vinegar

Wash and drain tomatoes, orange and apples. Core, chop, measure and sprinkle tomatoes with salt. Let stand 1 hour. Drain tomatoes, then cover with boiling water and let stand 5 minutes. Drain well. Grate rind and chop pulp of orange. Core, pare, chop and measure apples. Mix all ingredients and boil slowly until tomatoes and apples are tender. Pour, boiling hot, into hot Ball Jar; seal at once.

NOTE: Be sure the frozen fruit is of excellent quality and that it has not been thawed and refrozen.
Guavas
Make light sirup. Wash, peel and cut guavas into halves. The seed may be left in or removed. Heat sirup to boiling. Pour over fruit. Let stand 30 minutes. Pack fruit into hot Ball Jars. Cover with sirup. Process 20 minutes in boiling-water bath.

Loquats

Mixed Fruits
Use three or more such fruits as apricots, grapefruit, peaches, pears, green gage plums, pineapple, white cherries, white grapes. Make light sirup. Prepare each fruit as given in the recipe for canning it. If to be used for salads or dessert, leave in large pieces; cut into small pieces for cocktails. Simmer fruit in sirup until hot through. Pack, hot, into hot Ball Jars. Cover with hot sirup. Process 20 minutes in boiling-water bath.

Nectarines
Follow recipe for canning Apricots.

Peaches
See pages 8 and 9 for the best way to handle evenly ripened peaches. Unevenly ripened fruit must be peeled with a knife, or by the lye method.

Scrape cavities to remove pink or red fibers. The fibers are likely to become an ugly brownish color; there is no other reason for removing them. Cling peaches are easier to cut into halves if a pitting spoon is pushed all the way through from the stem end to the end of the stone. If no spoon is available, cut both sides through to stone; begin at stem end and follow crease. After cutting, hold peach with both hands and twist in opposite directions.

The lye method of peeling, while practical when a large quantity is to be canned, requires skill. To lye peel . . . Put 2 tablespoons lye in an enameled ware or iron kettle. Do not use aluminum, copper, tin or zinc. Add 1 gallon water and heat to boiling. Put fruit, cut into halves, in a basket and hold in the boiling lye from 30 to 60 seconds. Wash immediately in cold water. Rinse through several waters to remove skins and lye. Fruit will darken if left in lye too long, or if not well rinsed.

COLD OR RAW PACK . . . See pages 8 and 9.


FOR JUICY PEACHES . . . Measure after pitting and peeling. Add 1 to 2 cups sugar to each 5 quarts fruit. Heat slowly until sugar dissolves, and fruit is boiling hot through. Pack and process as instructed above. Add boiling water if there is not enough sirup to cover peaches.

Peaches—Baked
Wash hard-ripe fruit; rub to remove fuzz. Rinse. Cut out stem ends. Put peaches into pan with a little water to prevent sticking. Sprinkle with ½ to 1 cup sugar to 1 dozen peaches. Add nutmeg, ginger or cinnamon to taste. Bake until peaches are almost tender. Pack, hot, into hot Ball Jars. Add medium sirup or boiling water if there is not enough sirup in pan to cover peaches. Process 15 minutes in boiling-water bath.

Pears
Pears should be removed from the tree when full-grown and stored in a cool place (60-65°F.) until ripe, but not soft. Bartlett pears are considered best for canning, but Kieffers and similar varieties are satisfactory, if properly ripened, and then cooked until almost tender in plain water before sugar is added.


CINNAMON PEARS . . . Add 2 sticks cinnamon and a few drops red food color to each quart of sirup.

ORANGE PEARS . . . Cook peel of ¼ orange with each quart of sirup.

MINT PEARS . . . Add oil of peppermint and green food color, a drop at a time, until sirup is flavored and colored as wanted. Cook pears in sirup 10 minutes before packing for processing.

PINEAPPLE PEARS . . . Use pineapple juice instead of water for making sirup.
Pears—Baked

Make sirup of equal measures of brown, white or maple sugar, or honey, and water. Wash, core, remove blossom ends, and cut firm-ripe pears into halves. Do not pare. Put fruit into pan, cut side up. Sprinkle lightly with sugar. Add just enough water to prevent sticking. Bake until almost tender. Pack, hot, into hot Ball Jars. Cover with sirup. Process 20 minutes in boiling-water bath.

Pear and Melon Balls


Persimmons

Wash ripe wild persimmons. Steam until soft, or cook in just enough water to prevent sticking. Press through sieve or food mill. Sweeten pulp to taste, if to be used as a sauce; otherwise add no sugar. Reheat to boiling. Pack, hot, into hot Ball Jars. Process 15 minutes in boiling-water bath.

Persimmons—Dried

Place ripe wild persimmons in sun until dried (like dates). Pack into hot Ball Jars. Process 15 minutes in boiling-water bath. Canned dried persimmons may be used in any recipe calling for dates.

Pimientos

Scald ripe pimientos in boiling water, or roast in oven until skins can be rubbed off. Remove skins, stem and blossom ends, and seed. Flatten pimientos. Pack into hot Ball Jars. (No liquid needed.) Process 15 minutes at 5 pounds pressure, or 45 minutes in boiling-water bath.

Pineapple

Make light sirup. Scrub firm-ripe pineapple. Cut thin slice from bottom, then cut fruit into ⅛ inch slices, crosswise. Pare and core after slicing. This may be done with heavy doughnut cutter. Pineapple may also be cut into 8 wedge-shape slices, lengthwise; cut into halves, then quarters, etc. Simmer pineapple in sirup until tender. Pack, hot, into hot Ball Jars. Cover with sirup. Process 20 minutes in boiling-water bath.

Plums and Fresh Prunes

Green gage and other meaty plums are better for canning than the more juicy varieties. Plums may be scalded and peeled, but are usually canned unpeeled. Prick plums with needle. Pricking does not prevent skins cracking, but helps prevent the fruit bursting. Make medium or heavy sirup. Wash and drain plums. Heat sirup to boiling. Add plums (not more than 2 layers in pan). Remove pan from heat 2 minutes after adding fruit. Cover. Let stand 20 to 30 minutes. Pack plums into hot Ball Jars. Reheat sirup to boiling. Pour over plums. Process 20 minutes in boiling-water bath.

Prunes and Other Dried Fruits

Wash fruit. Cover with cold water. Let stand 12 to 18 hours in cool place. Drain off and save water. Pack fruit into hot Ball Jars. Make sirup of the water and 2 tablespoons sugar for each quart fruit. Pour hot sirup over fruit. Process 20 minutes in boiling-water bath.

Rhubarb

Wash and cut unpeeled stalks into 1 inch pieces. Measure. Add ½ to 1 cup sugar for each quart rhubarb. Mix well. Let stand 3 to 4 hours. Heat slowly to boiling. Boil ¾ minute. Pack, hot, into hot Ball Jars. Process 10 minutes in boiling-water bath.

Rhubarb—Baked

Cut rhubarb into 1½-inch pieces. Add 1 cup sugar and ½ teaspoon spice to each quart of rhubarb. Bake until tender. Pack into hot Ball Jars. Process 5 minutes in boiling-water bath.

Sauerkraut

Wash, quarter, core and shred sound, hard cabbage. Weigh. Thoroughly mix ½ pound dairy or pickling salt with 20 pounds cabbage. Firmly pack into stone jar or tight keg. Cover with white cloth and dinner plate, or glass pie plate. Fill Ball Jar with water and use to hold plate under the brine, which forms as salt draws juice from cabbage. Remove scum each day. Sauerkraut is cured and ready to can in 2 to 4 weeks, depending upon the temperature at which it is kept. When properly cured, sauerkraut is yellow-white and free of white spots. Pack into hot Ball Jars. If there is not enough juice to cover, add brine made by dissolving 2 tablespoons salt in 1 quart water. Process 30 minutes in boiling-water bath.
THE RIGHT WAY TO CAN TOMATOES

1 Use fresh, firm, red-ripe tomatoes. Those with decayed spots and cracks are unfit for canning. Wash, rinse and drain tomatoes.

2 Put tomatoes in blanching basket, collander or cloth bag, hold in boiling water about 1/2 minute, then dip into cold water. Drain.

3 Cut out all core, remove skins, trim off any green spots. Cut tomatoes in quarters or leave whole, and drop into hot jar.

4 Cover with hot juice or press tomatoes until spaces fill with juice. Leave 1/2 inch head space. Add 1 teaspoon salt.

5 Run knife between tomatoes and jar to remove air. Wipe top and threads of jar. Put Dome Lid on jar. Screw band tight. Put jars in canner of hot—not boiling—water to cover.

6 Process pints 35; quarts 45 minutes at boiling. Take jars from canner. Let stand about 12 hours, then take off bands. If Dome is down or stays down when pressed, jar is sealed.
Tomatoes

Use fresh, firm, red-ripe tomatoes which are free of decayed spots, weather cracks and fungus growths. Wash tomatoes clean before scalding. Scald a few at a time to loosen skins, then dip in cool water. Cut out all core and green spots. Skin, pack and process immediately. Loss of time between scalding, packing and processing is a common cause of spoilage.

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Processing Times for Fruits and Acid Vegetables

BOILING-WATER BATH PROCESSING . . . Pint and quart jars are processed the same length of time. Time may be reduced 5 minutes when Half-Pints are used. If using half gallon jars increase time 15 minutes for fruits, 25 minutes for tomatoes. Start counting time when water in canner reaches a fast boil.

STEAM PRESSURE PROCESSING . . . Vent canner 10 minutes. Process fruits 10 minutes, tomatoes 15 minutes, at 5 pounds pressure.

STEAM COOKERS . . . are not steam pressure cookers. If using a steamer, add 10 minutes to the boiling-water bath processing time.

ALTITUDE MAKES A DIFFERENCE IN TIMING . . . The time table below is for processing at sea level to 1,000 feet above. When time given is 20 minutes or less, add 1 minute for each 1,000 feet above sea level. If time is more than 20 minutes, add 2 minutes for each extra 1,000 feet. If using steam pressure, see page 24 for change in altitude.

<table>
<thead>
<tr>
<th>Process at Boiling</th>
<th>Pints and Quarts</th>
<th>Process at Boiling</th>
<th>Pints and Quarts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apples . . . . . .</td>
<td>20 Min.</td>
<td>Peaches—Hot Pack .</td>
<td>20 Min.</td>
</tr>
<tr>
<td>Applesauce . .</td>
<td>20 Min.</td>
<td>Peaches—Cold Pack .</td>
<td>25 to 30 Min.</td>
</tr>
<tr>
<td>Apricots . . . . .</td>
<td>20 Min.</td>
<td>Pears . . . . . . .</td>
<td>20 to 25 Min.</td>
</tr>
<tr>
<td>Berries—Hot Pack .</td>
<td>15 Min.</td>
<td>Pineapple . . . . .</td>
<td>20 Min.</td>
</tr>
<tr>
<td>Berries—Cold Pack.</td>
<td>20 Min.</td>
<td>Plums—Hot Pack .</td>
<td>20 Min.</td>
</tr>
<tr>
<td>Cherries—Hot Pack .</td>
<td>15 Min.</td>
<td>Rhubarb . . . . .</td>
<td>10 Min.</td>
</tr>
<tr>
<td>Cherries—Cold Pack.</td>
<td>20 Min.</td>
<td>Sauerkraut . . . .</td>
<td>30 Min.</td>
</tr>
<tr>
<td>Figs . . . . . . .</td>
<td>90 Min.</td>
<td>Tomatoes . . . . .</td>
<td>45 Min.</td>
</tr>
<tr>
<td>Grapes . . . . . .</td>
<td>20 Min.</td>
<td>Tomato Juice . . .</td>
<td>15 Min.</td>
</tr>
</tbody>
</table>

Estimate of Number of Jars Needed for Canning Fruit

The actual number of jars needed depends upon the size and condition of the fruit, and the manner of preparing and packing it into jars. The standard weight of a bushel, lug or box is not the same in all states.

<table>
<thead>
<tr>
<th>Raw Fruit</th>
<th>Measure and Weight</th>
<th>Approx. Number Quart Jars Needed</th>
<th>Approx. Amount for 1 Quart Jar</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apples . .</td>
<td>1 bu. (48 lb.)</td>
<td>15–20</td>
<td>2½ to 3 lb.</td>
</tr>
<tr>
<td>Applesauce</td>
<td>1 bu. (48 lb.)</td>
<td>15–18</td>
<td>2½ to 3½ lb.</td>
</tr>
<tr>
<td>Apricots .</td>
<td>1 lug or 1 box (22 lb.)</td>
<td>7–11</td>
<td>2 to 2½ lb.</td>
</tr>
<tr>
<td>Berries .</td>
<td>24 quarts</td>
<td>12–18</td>
<td>1½ to 2 lb.</td>
</tr>
<tr>
<td>Cherries .</td>
<td>1 bu. (50 lb.)</td>
<td>22–32 (for whole cherries)</td>
<td>1½ to 3 lb.</td>
</tr>
<tr>
<td>Peaches .</td>
<td>1 bu. (22 lb.)</td>
<td>11</td>
<td>2 to 2½ lb.</td>
</tr>
<tr>
<td>Pears .</td>
<td>1 bu. (48 lb.)</td>
<td>18–24</td>
<td>2 to 2½ lb.</td>
</tr>
<tr>
<td>Plums .</td>
<td>1 bu. (22 lb.)</td>
<td>8–12</td>
<td>2 to 2½ lb.</td>
</tr>
<tr>
<td>Tomatoes .</td>
<td>1 box (35 lb.)</td>
<td>20–25</td>
<td>2 to 2½ lb.</td>
</tr>
<tr>
<td>Tomatoes (Juice) .</td>
<td>1 bu. (53 lb.)</td>
<td>14–17</td>
<td>2 to 2½ lb.</td>
</tr>
</tbody>
</table>
Fruit Juices

Apricot Juice, Nectar or Purée
Although it may be thinned with a light or medium sirup before canning, the pulp of apricots is usually canned as a purée and thinned with ice cold water when used as a drink.

TO MAKE . . . Wash, drain, pit and measure ripe apricots. Add 1 cup boiling water to each quart fruit. Cook until fruit is soft. Press through sieve or food mill. Add sugar to taste, also 1 tablespoon lemon juice to each quart if wanted. Reheat until sugar dissolves. Pour, hot, into hot Ball Jars. Process 15 minutes in boiling-water bath.

Berry Juices
Use boysenberries, loganberries, raspberries, etc. Wash, crush and simmer berries until soft. Strain through 4 layers of cheesecloth. Add 1 to 2 cups sugar to each gallon juice. Reheat to simmering. Pour, hot, into hot Ball Jars. Process 30 minutes at simmering in hot-water bath, or 10 minutes at boiling.

Berry Sirups
Wash, hull (cap), crush and measure firm-ripe berries. Add 1 pint boiling water to each gallon crushed berries. Strain juice through 4 layers of cheesecloth. Let stand 2 hours. Strain again. Add 8 cups sugar and ¼ cup lemon juice to each gallon strawberry or red raspberry juice (other berries do not need it). Simmer until sugar dissolves. Pour, hot, into hot Ball Jars. Process 10 minutes in boiling-water bath.

Blackberry Cordial
To 2 quarts blackberry juice, add 3 cups sugar; and 1 tablespoon each cloves, allspice, cinnamon and nutmeg (tied in bag). Simmer 30 minutes. Bring to boiling. Discard spice bag. Pour, boiling hot, into hot Ball Jar; seal at once.

Cider
Put clean, sound, ripe apples through cider mill. Strain. Pour cider into hot Ball Jars. Process 30 minutes in hot-water bath at 185°F. Strain before serving.

Cranberry Juice
Wash cranberries. Boil equal measure of berries and water together until berries burst. Strain juice through 4 layers of cheesecloth. Add sugar to taste. Boil 1 minute. Pour, boiling hot, into hot Ball Jar; 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, hot, into hot Ball Jars. Process 30 minutes at simmering in hot-water bath, or 10 minutes at boiling.

FOR POMONA PUNCH . . . Replace the grapefruit and pomegranate juices in Fruit Punch with 8 cups apple cider.

Grape Juice I
Wash, stem, crush and measure 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 4 layers of cheesecloth. Let stand 24 hours in a cool place, preferably in refrigerator. Strain again. Add 1 or 2 cups sugar to each gallon juice. Reheat to simmering. Pour, hot, into hot Ball Jars. Process 30 minutes at simmering in hot-water bath.

Grape Juice II
Wash and stem fresh, firm-ripe grapes. Put 1 cup grapes into a hot quart Ball Jar. Add ¼ to 1 cup sugar. Fill jar with boiling water. Process 10 minutes in boiling-water bath.

Grapefruit Juice
Wash fresh, ripe grapefruit. Extract and strain juice. Add sugar to taste. Heat to 165°F. Pour, hot, into hot Ball Jars. Process 30 minutes in hot-water bath at 165-175°F., or 10 minutes at boiling.

Lemon Sirup
1 quart lemon juice  6 pounds sugar

Peach Purée or Nectar
Follow recipe for Apricot Purée.
Low-Acid Vegetables

Things to Remember

1. Read recipe; also pages 4, 5 and 6.
2. Get ready everything needed before preparing anything for canning.
3. Can vegetables when they are garden-fresh and at the best stage for cooking. At that stage: (a) Tips of ASPARAGUS are tight. (b) BEETS are young and tender. They should also be deep red throughout. (c) CORN is plump, shiny and filled with milk. (d) Pods of GREEN BEANS are crisp and meaty; the bean is tiny. (e) PEAS, LIMA BEANS, and all other BEANS and PEAS, which are shelled, are green on the inside.
4. Wash, rinse and drain vegetables before cutting or breaking skin.
5. Work with small batches—only enough for one canner load at a time.
6. Pack vegetables loosely enough for water to circulate between the pieces; but tightly enough to prevent waste of jar space.
7. After packing vegetables in jars, cover with fresh boiling water, or with the water in which they were heated for packing.
8. Process for the full time and by the method given in the recipe.
9. When jars are removed from canner, stand them several inches apart, and out of a draft, to cool. Do not cover them.
10. Never put a jar away until the seal has been tested.

Salt
1 level teaspoon of granulated, or 1 rounded teaspoon of flake salt is usually added to each quart of vegetables. The amount used is too small to help prevent spoilage. Therefore, it can, and should, be left out if not wanted.

Raw or Cold Pack
The Human Nutrition Research Branch, Agricultural Research Service, United States Department of Agriculture, and other competent investigators have determined that asparagus, carrots, blackeye and green peas, green and lima beans and corn may be safely packed raw for canning. The vegetables are washed, rinsed and drained; prepared as for cooking, packed into jars, covered with boiling water and processed immediately at 10 pounds steam pressure. This is 240°F, when canner is used right (see page 4). Processing time is the same as for the hot pack given in Blue Book recipes. Whether raw or hot packing gives better flavor and texture is debatable. It might be well to try both methods, then use the one you like.

Asparagus
Wash and drain asparagus. Remove tough ends and scales. Rinse. Leave asparagus whole or cut into short pieces. Boil 3 minutes. Pack, hot, into hot Ball Jars. Add 1 teaspoon salt to each quart. Cover with boiling water. Process pints 25 minutes, quarts 40 minutes, at 10 pounds pressure.

Beans—Boston Baked
1 quart dried beans 1 tablespoon salt
½ pound salt pork 1 teaspoon mustard
¾ cup molasses
Cover beans with cold water. Let stand 12 to 18 hours in a cool place. Drain. Cover with fresh water and simmer until skins begin to crack. Pour beans and liquid into bean pot or baking dish. Add pork, cut into 2-inch pieces, salt, mustard and molasses. Add boiling water, if needed, to cover beans. Bake 2 hours. Baked beans should be “soupy.” Pack into hot Ball Jars. Process pints 80 minutes, quarts 95 minutes, at 10 pounds pressure.
Beans—Dried Kidney, etc.
Use kidney or any other variety of dried beans or dried peas. Cover beans or peas with cold water. Let stand 12 to 18 hours in a cool place. Boil 30 minutes. Pack, hot, into hot Ball Jars. Add 1 teaspoon salt to each quart. Cover with boiling water. Process pints 75 minutes, quarts 90 minutes, at 10 pounds pressure.

Beans—Beets
Wash deep red beets. Leave 2 inches of stems and the tap roots. Boil until skins can be slipped. Remove skins, trim beets; leave whole, slice or dice. Pack into hot Ball Jars. Add 1 teaspoon salt to each quart. Cover with boiling water. Process pints 30 minutes, quarts 35 minutes, at 10 pounds pressure.

Beans—Green, Snap and Wax
Wash, drain, string, break or cut freshly gathered beans into 2-inch pieces. Boil 3 minutes. Pack, hot, into hot Ball Jars. Add 1 teaspoon salt to each quart. Cover with boiling water. Process pints 20 minutes, quarts 25 minutes, at 10 pounds pressure.

NOTE: The processing time given applies only to young, tender pods. Beans that have almost reached the "shell-out" stage require 15 to 20 minutes longer. Beans can be packed raw but hot packing usually gives more satisfactory results.

Beans—Lima and Butter
Wash, drain and shell beans. Rinse. Boil 3 minutes. Pack, hot, into hot Ball Jars. Add 1 teaspoon salt to each quart. Cover with boiling water. Process pints 40 minutes, quarts 50 minutes, at 10 pounds pressure. If beans are large process 10 minutes longer.

Beans—Soy
Use green soy beans. Follow recipe for Lima Beans. Process pints 55 minutes, quarts 65 minutes, at 10 pounds pressure.

Beans—With Pork and Tomato Sauce
To make sauce: Mix and heat to boiling, 1 quart canned or fresh tomato juice, 3 or 4 tablespoons sugar, 2 teaspoons salt, 1 medium sized onion (chopped), ground cloves, allspice, etc., to taste.
Wash dry kidney, navy or yelloweye beans. Cover with cold water. Let stand 12 to 18 hours in a cool place. Drain beans. Cover with boiling water. Boil 3 minutes. Remove from heat. Let stand 10 minutes. Drain. Put about 1 cup beans in hot Ball Jar. Add small piece of salt pork, bacon or ham. Fill jar about 3/4 full with beans. Add tomato sauce to within 1 inch of top of jar. Process pints 65 minutes, quarts 75 minutes, at 10 pounds pressure.

Broccoli
NOTE: Broccoli, brussels sprouts, cabbage, cauliflower, kohlrabi, onions, rutabagas and turnips usually discolor when canned, and also develop a strong flavor.
Wash all-green broccoli. Cut into 2-inch pieces, or as wanted. Boil 3 minutes. Pack into hot Ball Jars. Add 1 teaspoon salt to each quart. Cover with boiling water. Process pints 30 minutes, quarts 35 minutes, at 10 pounds pressure.

Brussels Sprouts—Rutabagas—Turnips
See note under Broccoli. Wash and prepare vegetables as for cooking. Follow recipe for canning Cauliflower.

Carrots
Wash, scrape and rinse carrots. 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 pints 25 minutes, quarts 30 minutes, at 10 pounds pressure.

Cauliflower
See note under Broccoli. Clean and separate cauliflower into small pieces. Soak 10 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 pints 30 minutes, quarts 35 minutes, at 10 pounds pressure.

Celery
Wash and cut celery into 2-inch pieces. Boil 3 minutes. Pack into hot Ball Jars. Add 1 teaspoon salt to each quart. Cover with boiling water. Process pints 30 minutes, quarts 35 minutes, at 10 pounds pressure.

Celery and Tomatoes
Use equal parts celery and chopped, peeled tomatoes. Mix and boil 5 minutes (no water needed). Process the same as celery.
Corn
Use strictly fresh corn. Can as quickly as possible after gathering. Handle in small quantities. Lose no time between preparing, packing and processing.

CREAM STYLE ... Cut tip ends from kernels. Scrape out pulp. Measure. Add 1 teaspoon salt and 2 1/4 cups boiling water to each quart of corn. Boil 3 minutes. Pour, boiling hot, into hot Ball Jars. Process pints 95 minutes at 10 pounds pressure. Do not use quart jars for cream style corn.

WHOLE KERNEL ... Cut corn from cob. Do not scrape. Measure. Add 1 teaspoon salt and 2 cups boiling water to each quart of corn. Boil 3 minutes. Pour, boiling hot, into hot Ball Jars. Process pints 55 minutes, quarts 85 minutes, at 10 pounds pressure.

Eggplant

Greens
Chard, Kale, Mustard, Spinach, Turnip, Beet Tops, Poke and Other Wild Greens
Wash and rinse greens. Discard large, tough stems. Heat greens until wilted. Use just enough water to prevent sticking. To hasten wilting and prevent over-cooking, turn greens over when steam begins to rise around the edges of pan. Pack, hot, into hot Ball Jars. Cover with boiling water. Process pints 70 minutes, quarts 90 minutes, at 10 pounds pressure.

Lye Hominy
For each quart shelled white or yellow field corn: Dissolve 2 tablespoons lye in 1 gallon boiling water. (Use enameled ware or iron kettle. Do not use aluminum, copper, tin or zinc.) Add corn. Boil about 30 minutes, or until hulls loosen. Rinse corn through several changes of hot water to remove lye, then cover with cool water. Rub to remove hulls and black tips. Let stand in fresh water 2 to 3 hours. Change water 3 or 4 times. Drain. Cover with boiling salted water (1 teaspoon salt to each quart water). Boil until almost tender. Pour, hot, into hot Ball Jars. Process pints 60 minutes, quarts 70 minutes, at 10 pounds pressure.

Mixed Vegetables
Carrots, green beans, celery and lima beans, or any other mixture liked, may be canned. Prepare each vegetable according to recipe. Boil 3 minutes. Drain. Pack, hot, into hot Ball Jars. Add 1 teaspoon salt to each quart. Cover with boiling water. Process for the time needed for the vegetable in the mixture requiring the longest processing. (See time table, page 24.)

Mushrooms
Use only fresh mushrooms known to be edible.
Wash and trim mushrooms. Cover with cold water. Let stand 10 minutes. Drain. Heat, do not boil, 15 minutes in just enough water to prevent sticking. Pack, hot, into hot Ball Jars. Add 1/2 teaspoon salt and 1/2 teaspoon ascorbic acid to each pint. Add boiling water, if needed, to cover mushrooms. Process pints and half pints 30 minutes at 10 pounds pressure. Do not use quarts.

Nuts
Place fresh shelled nuts in shallow pan. Set pan in warm, not hot, oven until nuts are dry. Do not brown. Boil pint Ball Jars 5 minutes. Invert jars on clean cloth to drain dry. Pack hot nuts into jars. Process 10 minutes at 5 pounds pressure. Nuts may also be processed 20 minutes in boiling-water bath. Let the water in canner stand well below the tops of the jars. Store in a cool place.

Okra
Use young tender okra. If to be added to soup, it should be sliced; otherwise can pods whole. Wash and drain okra. Remove stem and blossom ends without cutting into pod. Boil 2 minutes. Pack, hot, into hot Ball Jars. Add 1 teaspoon salt to each quart. Cover with boiling water. Process pints 30 minutes, quarts 35 minutes, at 10 pounds pressure.

Parsnips
Scrub, rinse, scrape and rinse again. Slice or leave whole. Boil 3 minutes. Pack, hot, into hot Ball Jars. Add 1 teaspoon salt to each quart. Cover with boiling water. Process pints 30 minutes, quarts 35 minutes, at 10 pounds pressure.

Peas—Blackeye, Crowder and Field
Shell and rinse green peas. Boil 3 minutes. Pour, hot, into hot Ball Jars. Add 1 teaspoon salt to each quart. Cover boiling water, if needed, to cover. Process pints 35 minutes, quarts 40 minutes, at 10 pounds pressure.
Peas—Blackeye Snap
Follow recipe for canning Green Beans.

Peas—Green or “English”
Wash, drain and shell peas. Rinse. Boil small peas 3 minutes; larger ones 5 minutes. Pour, hot, into hot Ball Jars. Add 1 teaspoon salt to each quart. Add boiling water, if needed, to cover. Process pints 40 minutes, quarts 40 minutes, at 10 pounds pressure. If peas are extra large process 10 minutes longer.

Peppers—Green
Wash and drain sweet bell peppers, or “mangoes,” which do not taste bitter when cooked. Remove stem and seed. Boil 3 minutes. Pack, hot, into hot Ball Jars. Add 1 tablespoon vinegar and 1½ teaspoon salt to each pint. Cover with boiling water. Process pints 35 minutes, half pints 30 minutes, at 10 pounds pressure.

Potatoes—White or Irish
Wash, scrape, and rinse freshly dug potatoes. Boil 10 minutes. Pack, hot, into hot Ball Jars. Add 1 teaspoon salt to each quart. Cover with boiling water. Process pints 30 minutes, quarts 40 minutes, at 10 pounds pressure.

Potatoes—Sweet
Use freshly dug potatoes of uniform size and color. Wash. Boil or steam slowly until skins can be rubbed off. (Do not stick with fork.) Pack, hot, into hot Ball Jars. Cover with boiling water, or sirup, or can dry. If liquid is used, process pints 55 minutes, quarts 90 minutes, at 10 pounds pressure. If packed dry, process 10 minutes longer.

Pumpkin and Winter Squash
Wash firm, fully ripe pumpkin or squash. Cut into large pieces. Discard seed. Steam or bake until tender. Scoop out pulp. Add boiling water to make pulp a little thinner than needed for pies. Pour, hot, into hot Ball Jars. Add 1 teaspoon salt to each quart. Process pints 60 minutes, quarts 80 minutes, at 10 pounds pressure.

Salsify or Oyster Plant
Wash, scrub and rinse freshly dug salsify. Add 1 tablespoon vinegar to each quart water. Boil salsify 15 minutes in vinegar water. Rinse in cool water. Scrape to remove skin. Slice or leave whole. Pack into hot Ball Jars. Cover with boiling water. Process pints 25 minutes, quarts 35 minutes, at 10 pounds pressure.

Sauce
CREOLE, SPANISH, MEXICAN

| 3 quarts chopped tomatoes | 1 tablespoon chopped parsley |
| 2 cups chopped onion | 1 clove garlic |
| 1 cup chopped sweet peppers | ½ teaspoon marjoram |
| 1 small pod hot red pepper | Salt to taste |

Wash, scald, core and skin tomatoes. Peel onions, remove seed from peppers. Chop and measure vegetables. Peppers may be green or red, or both. Chili powder or chili pepper, to taste, also 1 cup chopped celery may be added to sauce. Mix all ingredients and cook until almost as thick as wanted for serving over rice, spaghetti, meat balls, etc. Pour, hot, into hot Ball Jars. Process pints 25 minutes, quarts 30 minutes, at 10 pounds pressure.

Succotash
Boil fresh corn 5 minutes. Cut from cob. Do not scrape. Mix with ½ to equal measure of green string, or green lima beans, which have been boiled 3 minutes. Pour, hot, into hot Ball Jars. Add 1 teaspoon salt to each quart. Cover with boiling water. Process pints 60 minutes, quarts 85 minutes, at 10 pounds pressure.

Succotash—Tomato
Follow recipe for Succotash. Add one cup Creole Sauce to each 2 cups corn and bean mixture. Process pints 50 minutes, quarts 65 minutes, at 10 pounds pressure.

Summer Squash, Zucchini, and Chayote
Wash vegetables. Cut into small pieces. Steam or boil 2 or 3 minutes. Pour, hot, into hot Ball Jars. Add 1 teaspoon salt to each quart. Cover with boiling water. Process pints 30 minutes, quarts 40 minutes, at 10 pounds pressure.

Tomatoes
See page 14.

Tomatoes with Okra
Use equal measure of sliced okra and chopped cored and peeled tomatoes. Cook tomatoes 20 minutes. Add okra. Boil 5 minutes. Pour, hot, into hot Ball Jars. Add 1 teaspoon salt to each quart. Process pints 30 minutes, quarts 35 minutes, at 10 pounds pressure.

NOTE: 1 small onion may be chopped and added to each quart of tomatoes before cooking.
THE RIGHT WAY TO CAN GREEN BEANS

1. Check jars for nicks, cracks, and sharp edges; wash in hot soapy water. Rinse. Leave in hot water until used.

2. Use new lids and good bands. Wash and rinse. Cover lids with boiling water; leave in water while filling jars.

3. Thoroughly wash freshly gathered beans. Lift them out of water; rinse and drain, then trim ends, remove any strings, and cut or break beans. Cover beans with boiling water. Boil 3 minutes, or pack raw.

4. Do not stand hot jar on cold surface. Leave ½ inch head space when filling jar. Add 1 teaspoon salt, and boiling water to cover beans.

5. Wipe top and neck of jar. Put lid on jar. Screw band tight; it must screw down evenly to hold red rubber sealing compound against top of jar.
Ball Dome Caps were used in these pictures. When using Ball Zinc Caps and Mason Jars, or Ball Ideal Jars, prepare, pack and process as shown below. Seal jars as instructed on page 6.

7 Put jars into steam pressure canner containing 2 or 3 inches of hot water, or the amount recommended by the manufacturer.

8 Place canner over heat. Lock cover according to the manufacturer's instructions. Leave petcock (or vent) open until steam escapes 10 minutes. Close petcock. Bring pressure to 10 pounds; keep it steady 25 minutes, then remove canner from heat.

9 Let pressure fall to zero. Wait 2 minutes, then slowly open petcock. Open canner. Remove jars. Do not tighten bands.

10 Test seal by pressing center of lid. If Dome is down the jar is sealed. Store jars in a dry, dark, reasonably cool place.

11 Stand jars several inches apart and out of draft to cool about 12 hours; then remove bands.

12
Processing Times for Low-Acid Vegetables

Some persons prefer to process jars of vegetables by boiling 3 to 3 1/2 hours in a water-bath canner. We cannot recommend this practice because boiling water does not supply enough heat to destroy, within a reasonable time, some of the bacteria which cause spoilage in low-acid foods.

Steam pressure processing times given below apply only when vegetables are selected, prepared, packed and processed according to the recipes and instructions in this book.

STEAM PRESSURE SAUCE PANS . . . see page 4.

ALTITUDE MAKES A DIFFERENCE IN TIMING . . . The times given below are for processing at 240°F. at sea level to 2,000 feet above. If the altitude is 2,000 to 3,000 feet, use 11 1/2 pounds steam pressure; 3,000 to 4,000 feet, use 12 pounds; 4,000 to 5,000 feet, use 12 1/2 pounds; 5,000 to 6,000 feet, use 13 pounds; 6,000 to 7,000 feet, use 13 1/2 pounds.

<table>
<thead>
<tr>
<th>Process at 240°F. (10 Pounds Steam Pressure)</th>
<th>Pints and Half Pints</th>
<th>Quarts</th>
<th>Process at 240°F. (10 Pounds Steam Pressure)</th>
<th>Pints and Half Pints</th>
<th>Quarts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asparagus . . . . . . . . . . . . . . . . . . .</td>
<td>25 Min.</td>
<td>30 Min.</td>
<td>Peas, Blackeye and Field . . . . . . . . .</td>
<td>35 Min.</td>
<td>40 Min.</td>
</tr>
<tr>
<td>Beans, Butter and Lima . . . . . . . . . . .</td>
<td>40 Min.</td>
<td>50 Min.</td>
<td>Green &quot;English&quot; . . . . . . . . . . . . .</td>
<td>40 Min.</td>
<td>40 Min.</td>
</tr>
<tr>
<td>Green, Snap, Wax . . . . . . . . . . . . . . .</td>
<td>20 Min.</td>
<td>25 Min.</td>
<td>Potatoes . . . . . . . . . . . . . . . . .</td>
<td>35 Min.</td>
<td>40 Min.</td>
</tr>
<tr>
<td>Beets . . . . . . . . . . . . . . . . . . . . . .</td>
<td>30 Min.</td>
<td>35 Min.</td>
<td>Sweet, Wet Pack . . . . . . . . . . . . .</td>
<td>55 Min.</td>
<td>90 Min.</td>
</tr>
<tr>
<td>Carrots . . . . . . . . . . . . . . . . . . . .</td>
<td>25 Min.</td>
<td>30 Min.</td>
<td>New White or Irish . . . . . . . . . . . .</td>
<td>30 Min.</td>
<td>40 Min.</td>
</tr>
<tr>
<td>Corn, whole kernel . . . . . . . . . . . . . .</td>
<td>55 Min.</td>
<td>85 Min.</td>
<td>Pumpkin and Winter . . . . . . . . . . . .</td>
<td>60 Min.</td>
<td>80 Min.</td>
</tr>
<tr>
<td>Greens, all kinds . . . . . . . . . . . . . .</td>
<td>70 Min.</td>
<td>90 Min.</td>
<td>Squash . . . . . . . . . . . . . . . . . . .</td>
<td>30 Min.</td>
<td>40 Min.</td>
</tr>
<tr>
<td>Okra . . . . . . . . . . . . . . . . . . . . . .</td>
<td>30 Min.</td>
<td>40 Min.</td>
<td>Squash, Summer . . . . . . . . . . . . . .</td>
<td>30 Min.</td>
<td>40 Min.</td>
</tr>
</tbody>
</table>

Estimate of Number of Jars Needed for Canning Vegetables

The actual number of jars needed depends upon the condition of the produce, and the manner of preparing and packing it into jars. The standard weight of a bushel is not the same in all states.

<table>
<thead>
<tr>
<th>Raw Vegetables</th>
<th>Measure and Weight</th>
<th>Number Quarts Jars Needed</th>
<th>Amount for 1 Quart Jar</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beans, Lima in Pods</td>
<td>1 bu. (32 lb.)</td>
<td>6-8</td>
<td>4 to 5 lb.</td>
</tr>
<tr>
<td>Beans, Green or Wax</td>
<td>1 bu. (30 lb.)</td>
<td>15-20</td>
<td>1 1/2 to 2 lb.</td>
</tr>
<tr>
<td>Beets</td>
<td>1 bu. (26 lb.)</td>
<td>17-20 *</td>
<td>2 1/2 to 3 lb.</td>
</tr>
<tr>
<td>Corn, Sweet</td>
<td>1 bu. (35 lb.)</td>
<td>8-9</td>
<td>6 to 16 ears</td>
</tr>
<tr>
<td>Okra</td>
<td>1 bu. (30 lb.)</td>
<td>16-18</td>
<td>1 1/2 lb.</td>
</tr>
<tr>
<td>Pea, Green</td>
<td>1 bu. (30 lb.)</td>
<td>6-7</td>
<td>2 to 2 1/2 lb.</td>
</tr>
<tr>
<td>Spinach</td>
<td>1 bu. (55 lb.)</td>
<td>6-9</td>
<td>2 to 3 lb.</td>
</tr>
<tr>
<td>Squash, Summer</td>
<td>1 bu. (40 lb.)</td>
<td>16-20</td>
<td>2 to 2 1/2 lb.</td>
</tr>
<tr>
<td>Sweet Potatoes</td>
<td>1 bu. (55 lb.)</td>
<td>18-22</td>
<td>2 1/2 to 3 lb.</td>
</tr>
<tr>
<td>Tomatoes</td>
<td>See page 16</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Meats—Poultry—Sea Foods

The flavor and texture of canned meats depend upon the quality of the meat canned. The quality depends upon the breed, feed, and manner of handling the animal at the time of, and immediately after, slaughtering.

From 175 to 200 quart jars are needed for an 800 pound steer of prime quality; 30 for a 300 pound hog; and 1 for a 3 or 4 pound chicken packed with bone. Pint and quart jars should be used for canning meats because larger containers are difficult to process. If meat is not properly processed, it may spoil. A steam pressure canner when in good condition and correctly used, destroys bacteria which cannot be destroyed by boiling for a reasonable length of time.

To Prepare Meats for Canning

Confine animal 24 hours before killing. Give water, but no feed. Hang carcass, head down, immediately after killing to permit thorough bleeding. Skin, scrape or pluck. Draw, rinse and dry. Chill thoroughly—pork, mutton and veal, 24 to 36 hours; beef, 36 to 48 hours; poultry, 6 to 12 hours. Avoid freezing. Frozen meat is hard to handle and gives a canned product of poor quality.

Cut meat into pieces suitable 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 gristle, bruised spots and fat. Too much fat is likely to cause the meat to have a strong flavor, and may also ruin the jar rubber.

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

Chili

\[
\begin{align*}
\frac{3}{4} \text{ pound suet} & \quad 1 \text{ pod hot pepper} \\
2 \text{ cups chopped onions} & \quad 1 \text{ teaspoon comino seed} \\
1 \text{ clove garlic} & \quad \frac{1}{2} \text{ cup chili pepper or powder} \\
5 \text{ pounds ground meat} & \quad 2 \text{ tablespoons salt}
\end{align*}
\]

Melt suet in heavy kettle. Add onion and garlic and cook slowly until yellow. Add meat and stir until it is seared. Add seasonings and 6 cups boiling water. Boil 20 minutes. If thicker than wanted, add more water. Pour, hot, into hot Ball Jars. Process pints 75 minutes, quarts 90 minutes, at 10 pounds pressure.

Note: Tomato juice may be used instead of water. The comino seed and garlic may be left out; chili reduced, or increased, to taste. 1 pound pinto beans, cooked almost tender, may be added just before canning.

Chopped Meat

Beef, Veal, Mutton, Lamb, etc.

Chop and measure meat. Cook it in hot skillet until seared. Add 1 to 1 1/2 cups boiling water, meat stock or tomato juice, and 1 teaspoon salt for each quart ground meat. Pack, hot, into hot Ball Jars. Process pints 75 minutes, quarts 90 minutes, at 10 pounds pressure.

To Corn Beef

Use Brisket, Chuck, Plate or Rump

25 pounds beef 1 pound sugar
2 pounds salt 1/2 tablespoon baking soda
1 ounce saltpeter

Cut meat into pieces 3 to 6 inches thick. Put thin layer of salt in bottom of stone jar or tight keg. Add layer of meat. Sprinkle with salt. Add other layers of meat and salt. The top layer must be salt. Let stand 12 to 18 hours in a cool place. Dissolve sugar, soda and saltpeter in a quart of luke-warm water; mix with 3 quarts cool water, and pour over meat. Cover with dinner plate, or glass pie plate. Fill Ball Jar with water and use to hold plate below brine. Meat must be kept under brine at all times. Remove scum each day. The meat should be ready to can in 3 or 4 weeks.


Cracklings

Sprinkle with salt to season. Pack into hot Ball Jars. Process pints 50 minutes, quarts 60 minutes, at 10 pounds pressure, or 3 1/2 hours in boiling-water bath.
Goulash
Follow recipe No. 3 under Stew. Add 1 teaspoon paprika to each quart.

Gravy to Use in Hot Packing
Remove meat from cooking pan. Add one cup boiling water, or broth, for each 1 to 2 tablespoons fat in pan. Boil 2 or 3 minutes. Do not thicken.

Ham and Other Cured Meats
Unless storage conditions are poor, old fashioned wood smoked "country" hams will keep two or more years without canning. This is not true of quickly cured or smoked ham.
Slice ham, Canadian bacon and other cured meats. Trim free of fat. Pack into hot Ball Jars. Process pints 50 minutes, quarts 60 minutes, at 10 pounds pressure.

Head Cheese
Use any good recipe for making head cheese. (Omit sage and garlic.) Pack hot head cheese into hot Ball Jars. Process pints 75 minutes, quarts 90 minutes, at 10 pounds pressure.

Meat Sauce
For Rice, Spaghetti, etc.
5 pounds ground beef 2 tablespoons brown sugar
⅛ cup butter, bacon fat 2 tablespoons minced parsley
or salad oil
2 cups chopped onions ½ teaspoon each ginger and allspice
1 chopped green pepper Salt and pepper to taste
9 cups cooked tomatoes
2 tablespoons vinegar
Brown beef in butter or other fat. Add onion and pepper. Cook slowly until yellow. Add tomatoes (canned or fresh) and all other ingredients, except salt and pepper. Cook until almost as thick as wanted for serving. Season with salt and pepper. Pour, hot, into hot Ball Jars. Process pints 60 minutes, quarts 75 minutes, at 10 pounds pressure.

Pork Sausage
Use freshly made sausage. Season with salt, black and cayenne pepper. A very small amount of spice may be added. It is better not to use sage. Make sausage into cakes or patties. Cook until lightly browned. Pack, hot, into hot Ball Jars. Gravy may be added; however, enough fat for making gravy will cook out of the sausage during processing. Process pints 75 minutes, quarts 90 minutes, at 10 pounds pressure.

Pork Tenderloin
HOT PACK... Cook ½ to ⅔ done. Slice. Salt to taste. Pack, hot, into hot Ball Jars. Cover with hot broth or gravy. Process pints 75 minutes, quarts 90 minutes, at 10 pounds pressure.
COLD OR RAW PACK... Slice, or leave in jar length pieces. Pack into hot Ball Jars. Add 1 teaspoon salt to each quart. Process pints 75 minutes, quarts 90 minutes, at 10 pounds pressure.

Roast
Beef, Veal, Lamb, Mutton, Pork, Chevron, Venison
Cut meat into 1 or 2 pound chunks. Bake or roast meat until well browned, but not done; or brown in small amount of fat. Salt to taste. Pack, hot, into hot Ball Jars. Cover with hot gravy or broth. Process pints 75 minutes, quarts 90 minutes, at 10 pounds pressure.

Steaks and Chops
Beef, Veal, Lamb, Mutton, Pork, Chevron, Venison
HOT PACK... Cut meat into 1 inch slices. Remove large bones. Quickly brown in small amount of fat. Salt to taste. Pack, hot, into hot Ball Jars. Cover with hot gravy. Process pints 75 minutes, quarts 90 minutes, at 10 pounds pressure.
COLD OR RAW PACK... Cut meat into 1 inch slices. Remove large bones. Pack meat into hot Ball Jars. Add 1 teaspoon salt to each quart. Process pints 75 minutes, quarts 90 minutes, at 10 pounds pressure.

Spareribs
Stews

Use beef or any other meat suitable for stewing. Cut meat into 1 1/2 to 2 inch squares. Trim free of fat and gristle. Process pints 60 minutes, quarts 75 minutes, at 10 pounds pressure.

RECIPE 1 . . . Simmer meat until hot through in water to cover. Salt to taste. Pack, hot, into hot Ball Jars. Cover with water in which cooked.


RECIPE 3 . . . To Recipe 1 or 2, add such vegetables as raw carrots, celery, onions, potatoes, and any other vegetable wanted. Season with salt and pepper; also herbs or spices, if liked. Cover with boiling water. Pack, hot, into hot Ball Jars.

RECIPE 4 . . . To 2 quarts raw cubed meat add 2 quarts each, pared and cubed, raw potatoes and carrots; 3 cups each chopped celery and onions. Mix. Pack into hot Ball Jars. Add 1 teaspoon salt to each quart.

Chicken Barbecue

BARBECUE SAUCE FOR CHICKEN . . . Mix, heat to boiling and keep hot: 1 quart tomato ketchup, 2 cups vinegar, 1/2 cup chopped onion, 1 small clove garlic, 1 1/2 cups butter or salad oil, 2 cups steak sauce, 1 short, or 1 1/2 long, hot red pepper, 2 tablespoons brown sugar, 1/2 teaspoon Tabasco sauce, 1/2 teaspoon black pepper, 1/4 teaspoon mustard, 1 1/2 teaspoons salt. This is a hot sauce. If a milder one is wanted, leave out pepper and Tabasco. Remove garlic after heating chicken in sauce.


Chicken—Boné

Use for All Poultry

Steam or boil chicken until about 3/4 done. Remove skin and bones. Pack meat into hot Ball Jars. Add 1 teaspoon salt to each quart. Cover with hot broth. Process pints 75 minutes, quarts 90 minutes, at 10 pounds pressure.

Chicken on Bone

Use for All Poultry and Domestic Rabbits

HOT PACK . . . Boil, steam or bake chicken until about 3/4 done. Separate at joints as for frying. Pack into hot Ball Jars. Add 1 teaspoon salt to each quart. Cover with hot broth. Process pints 65 minutes, quarts 75 minutes, at 10 pounds pressure.

COLD OR RAW PACK . . . Separate chicken at joints. Pack into hot Ball Jars. Add 1 teaspoon salt to each quart. Process pints 65 minutes, quarts 75 minutes, at 10 pounds pressure.

Fried Chicken

Frying is not recommended. If used, salt chicken to taste. (Do not dip meat in flour or crumbs.) Brown in fat. Pack, hot, into hot Ball Jars. Add 1 or 2 tablespoons fat in which fried. Process pints 65 minutes, quarts 75 minutes, at 10 pounds pressure.

Roast Poultry

Roast or bake fowl until about 3/4 done. (Do not stuff.) Cut meat from bones of large fowl; leave bones in small fowl. Pack into hot Ball Jars. Add 1 teaspoon salt to each quart. Cover with hot broth or gravy. Process pints 65 minutes, quarts 75 minutes, at 10 pounds pressure.
Sea Foods

Prepare freshly caught, thoroughly bled, fish as for cooking. Leave backbone in small fish; remove it from large ones. Use pint or half pint jars.

NOTE: The majority of these recipes are based upon information supplied by the Division of Fishery Industries, U.S. Department of the Interior.

Clams

Scrub, steam and open fresh clams. Save juice. Drop clams into weak salt-water. Wash thoroughly, then drop into 1 gallon boiling water containing $\frac{1}{2}$ teaspoon citric acid. Boil 2 minutes. Drain. Pack clams into hot pint Ball Jars. Pour juice over clams. Add boiling water, if needed, to cover. Process 70 minutes at 10 pounds pressure.

Crab Meat

Add $\frac{1}{4}$ cup lemon juice, or white vinegar, and 1 cup salt to 1 gallon boiling water. Keep hot. Remove back shell and thoroughly cleanse crabs. Wash bodies through several changes of cool water. Boil 20 minutes in the acid-brine. While crabs are boiling, add 1 cup salt, 2 cups lemon juice, or white vinegar, to 1 gallon cool water. Drain cooked crabs. Remove meat from body and claws. Rinse in cool acid-brine. Squeeze meat to remove some of the liquid. Pack into hot half pint or pint Ball Jars. Cover with boiling water. Process half pints and pints 100 minutes at 5 pounds pressure.

Mackerel, Mullet, Trout, Whitefish, etc.

Dissolve 1 cup salt in 1 gallon cool water to make brine. Cut fish into jar-length pieces. Let stand 1 hour in brine. Drain. Pack into hot pint Ball Jars, skin side next to glass. Put open jars into kettle. Cover with hot brine ($\frac{1}{2}$ 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 and Shad

Dissolve 1 cup salt in 1 gallon water to make brine. Cut fish into jar-length pieces. Let stand 1 hour in brine. Drain 10 minutes. Pack into hot pint Ball Jars, skin side next to glass. Process 100 minutes at 10 pounds pressure.

Shrimp

Add 1 cup salt and 1 cup vinegar to each gallon boiling water needed for cooking shrimp. Wash and drain freshly caught shrimp. Drop into boiling brine. Boil 10 minutes. Drop into cold water. Drain and peel. Remove sand vein. Rinse in cool water. Pack into hot pint Ball Jars. Cover with boiling water. Process 45 minutes at 10 pounds pressure.

Smelt in Tomato Sauce

8 pounds fresh smelt
$\frac{3}{4}$ cup vinegar
$\frac{3}{8}$ cup salad oil
2 cups strained tomatoes
2 chili peppers
$\frac{1}{2}$ cup whole allspice
2 bay leaves
2 tablespoons whole cloves
Salt to taste

Mix, but do not cook, vinegar, salad oil, tomatoes, peppers, allspice, bay leaves, cloves and salt. Clean freshly caught smelt. Pack into hot Ball Jars. Pour sauce over fish. Add boiling water, if needed, to cover. Process pints 50 minutes, quarts 60 minutes, at 10 pounds pressure.

Spiced Fish

SPICED VINEGAR . . . Mix 1 quart vinegar, 1 pint water, 1 piece horseradish, 1 pod red pepper, 1 teaspoon each, whole allspice, cloves, mustard seed and celery seed. Simmer 30 minutes. Strain. Add 4 tablespoons olive, corn or cotton seed oil.

Dissolve 1 cup salt in 1 gallon water to make brine. Cut fish into jar-length pieces. Let stand 1 hour in brine. Drain 10 minutes. Pack into hot Ball Jars. Heat spiced vinegar to boiling. Pour over fish. Process pints 50 minutes, quarts 60 minutes, at 10 pounds pressure.

Tuna

Steam tuna until cooked. Chill 6 to 12 hours. Cut into jar-length 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.

Wild Rabbit and Squirrel

Soak the meat 1 hour in brine made by dissolving 1 tablespoon salt in 1 quart water. Rinse. Follow any recipe for canning chicken, omit salt.

NOTICE: In most states the length of time for storage of game is controlled by law. Conservation officials can supply information on this subject.
Sandwich Spreads—Old Favorites

Chicken
Chop or grind meat of freshly cooked chicken, or other fowl. To each cup ground meat add 1/4 teaspoon mustard, 1 tablespoon vinegar, 1/4 cup broth, salt, pepper, and any other seasonings liked. Pack into hot Ball Jars. Process pints 75 minutes, half pints 60 minutes, at 10 pounds pressure.

Dried Fruit
Wash and drain one pound each prunes, raisins, figs, apricots. Add 1 cup chopped nuts (any kind). Chop fruit and nuts. Add 1/4 cup lemon juice, 1/2 teaspoon salt and grape juice, or juice left from pickled fruits, to make a paste that can be easily spread. Pack into hot Ball Jars. Process pints and half pints 35 minutes in boiling-water bath.

Ham
Trim off fat and chop freshly cooked ham, shoulder, dried beef, or any other cured meat. Season to taste with chopped pickle, chili sauce, mustard, horseradish, pepper and vinegar. The mixture should be a little thinner than needed for spreading. Pack into hot Ball Jars. Process pints and half pints 50 minutes at 10 pounds pressure.

Liver Paste
3 pounds liver 1/4 teaspoon Tabasco sauce
1/4 pound salt pork 1/4 teaspoon black pepper
1 small onion 2 teaspoons salt

Use calf, lamb or pork liver. Simmer in small amount of water until tender. Boil pork until tender. Finely chop liver, pork and onion. Mix with seasoning. Add water or meat stock to make a paste that can be easily spread. Heat to boiling. Pack, hot, into hot Ball Jars. Process pints 90 minutes, half pints 85 minutes, at 10 pounds pressure.

Peanut Butter
2 quarts shelled Spanish peanuts
4 quarts shelled Virginia peanuts


Fruit Pudding
3 eggs 1 cup raisins
1 cup suet 1/4 cup citron
3/4 cup flour 1 cup dates
1 1/2 cups bread crumbs 1 cup water
1 cup chopped apples 1 teaspoon cinnamon
1 cup pecans 1/2 teaspoon allspice
1 cup brown sugar 1/4 teaspoon cloves
1 cup currants 1 teaspoon salt

Although any Ball Jar can be used, Freezer Jars are best for canning puddings because they have no shoulder. Grease jar. Beat eggs, chop suet and mix with all ingredients. If mixture seems too dry add a little more water. Fill jars to within 2 or 3 inches of top. Process 2 hours at 5 pounds pressure.

Mincemeat
2 pounds lean beef 2 teaspoons nutmeg
1 pound suet 1 tablespoon allspice
4 pounds apples 1 tablespoon cinnamon
2 oranges 1/4 teaspoon ginger
2 pounds currants 1 teaspoon cloves
1 pound light raisins 1 tablespoon salt
2 pounds dark raisins 4 tablespoons lemon juice
1/2 pound citron 6 cups brown sugar


Old-Fashioned Salt Corn
Boil fresh, tender corn 5 minutes. Cut from cob. Do not scrape. Measure corn and mix with 1/4 its measure of pure salt. Pack tightly to within 1/4 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.

Horseradish
Wash, scrape, and grate fresh horseradish roots. Fill pint Ball Jars 2/3 full with the grated horseradish. Fill the jars to the top with white vinegar. Seal jars and store away from the light.

Preserved Coconut
1 cup milk from coconut 3 cups sugar
3 cups water 4 cups grated coconut

Boil liquids and sugar together 5 minutes. Add coconut and cook until it is transparent. Pour into hot Ball Jar; seal at once.
Soups

Bean Soup

- 2 cups dried beans
- 1 small ham hock or
- ¹/₂ pound salt pork
- 1 onion
- ¹/₂ pod red pepper
- Salt to taste

Wash and drain beans. Cover with cold water. Let stand 12 to 18 hours in a cool place. Add meat, onion and pepper. Cook slowly until beans are mushy. Press beans through sieve. Cut meat into small pieces. Add to beans. Add boiling water, if needed, to make soup a little thinner than wanted for serving. Add salt if wanted. Pour, hot, into hot Ball Jars. Process pints 50 minutes, quarts 60 minutes, at 10 pounds pressure.

Chicken Soup

Prepare chicken as for canning. Add necks, wings, backs, legs and feet of 3 chickens, ¹/₂ teaspoon whole black pepper, a few celery leaves, and any other seasoning wanted, to 1 ¹/₂ gallons cold water. Cook slowly until liquid is reduced about one half. Strain broth. Remove meat from bones, cut into tiny pieces. Skim fat from broth. Add chicken. Salt to taste. Boil 3 minutes. Pour, hot, into hot Ball Jars. Process pints 30 minutes, quarts 45 minutes, at 10 pounds pressure.

Chicken Noodle Soup

Dissolve 2 tablespoons salt in 1 ¹/₂ quarts boiling water. Add 2 cups noodles. Boil 3 minutes. Rinse in cold water. Drain. Add to chicken soup. Process pints 50 minutes, quarts 60 minutes, at 10 pounds pressure.

Clam Chowder

- 3 to 4 quarts clams
- Juice from clams
- 1 cup chopped onions
- ¹/₂ pound salt pork

Clean and chop clams. Save juice. Wash, peel, and chop onions and potatoes. Dice and cook pork until light brown. Add onions. Cook until yellow. Add clams, juice, potatoes, salt, pepper to 2 quarts boiling water. Boil 10 minutes. Pour, hot, into hot pint Ball Jars. Process 100 minutes at 10 pounds pressure.

For “New England” chowder, add 2 tablespoons butter and 2 cups milk before heating chowder for serving.

For “Manhattan” chowder, add ¹/₂ small bay leaf, ¹/₂ teaspoon thyme, ¹/₂ cup chopped celery, and 2 cups cooked tomatoes to Clam Chowder recipe before canning.

Fish Chowder

- 5 pounds cleaned fish
- ¹/₄ pound salt pork
- 1 cup diced onions
- Fish broth
- 2 quarts diced potatoes
- ¹/₂ pod red pepper
- Salt and black pepper to taste

Clean and weigh fish (save head). Cut fish into 1 inch pieces. Keep in cold place until needed. Add head, bones and tail to 3 quarts cold water. Cook slowly until flesh falls from bones. Strain broth. Wash, peel and dice onions and potatoes. Dice and cook pork until light brown. Add onions. Cook until yellow, then add all other ingredients and boil 10 minutes. Pour, hot, into hot Ball Jars. Process 100 minutes at 10 pounds pressure.

Split Pea Soup

Follow recipe for making Bean Soup.

Tomato Soup

- 4 quarts chopped tomatoes
- 3 carrots
- 2 cups chopped celery
- 3 sweet red peppers
- 6 onions
- Salt to taste


Vegetable Soup Mixture—Dixie

- 5 quarts chopped tomatoes
- 2 quarts sliced okra or
- 2 quarts green lima beans
- 2 quarts corn
- 2 tablespoons sugar
- 2 tablespoons salt


Vegetable Soup Mixture

Use any mixture of vegetables liked in soup. Prepare as for cooking. Mix. Add water or meat broth to cover. Boil 5 minutes. Pour, hot, into hot Ball Jars. Process for the time needed for vegetable in soup requiring the longest processing (see Time Table, page 49).
Pickles and Relishes

The terms, pickles and relishes, as used in the Ball Blue Book refer to whole or chopped fruits and vegetables canned in brine or vinegar. They may be sour or sweet, and highly or mildly seasoned with pepper and other spices.

Cucumbers, gherkins and other vegetables may be cured in brine for 6 or 8 weeks, or for only a few hours before being made into pickles. The success of a long cure is largely a matter of luck, unless both temperature and strength of brine can be controlled. A salometer or hydrometer is needed to determine the exact amount of salt which must be added from time to time to keep the brine at proper strength. Instructions for the long brining cure (fermented pickles) may be obtained from the U. S. Department of Agriculture, Washington 25, D. C.

Things to Remember

1. Chicago Pickling Cucumbers, or one of the other varieties of the black spine type, should be used for pickles. The cucumbers should be firm, small to medium sized and used within 24 hours after picking.

2. Use enameled ware, glass, aluminum, stainless steel, or stoneware utensils. Brass, copper, iron and galvanized kettles should not be used when making pickles as these metals are likely to cause undesirable color changes or react with the acid or salt to produce unwholesome substances.

3. When possible, use pure dairy or pickling salt. Pound for pound granulated and flake salts have the same strength, but do not measure the same. When using flake salt, increase the measure by a scant one-half.

4. Use high grade cider or white distilled vinegar of 40 to 60 percent grain strength (4 to 6 percent acid). This information should be printed on the label. It doesn’t pay to use homemade vinegar or any other kind of unknown strength.

5. Spices should be fresh and of best quality. Use whole spices unless the recipe calls for ground spices. The amount and variety of spice called for in a recipe may be changed to suit taste.

6. Tie spices in a cloth so that they can be removed before pickles are canned. If left in too long, spices cause pickles to be dark and strong flavored.

7. Garlic may be added to, or left out of, any vegetable pickle or relish recipe.

8. Jars of pickles and relishes must be sealed airtight while boiling hot or else processed in a waterbath canner long enough to destroy bacteria, molds and yeasts. (See Cold Sealing, page 6.)
To Prepare Cucumbers

For Sour or Sweet Pickles

48 small cucumbers  1 cup salt
3 cups vinegar
Wash and dry fresh 2½ to 3 inch cucumbers. Put in stone jar or enameled ware kettle. Dissolve salt in 1 gallon water. Pour over cucumbers. Cover with dinner plate or glass pie plate. Fill Ball Jar with water and use to hold plate below brine. Let stand about 24 hours. Drain. Rinse container; put cucumbers back into it. Add vinegar to enough water to cover cucumbers. Pour over cucumbers. Let stand about 24 hours. Drain cucumbers.

FOR SOUR PICKLES
5 cups vinegar  1 cup sugar
1¾ tablespoons mixed spices
Add vinegar, sugar, spices (tied in bag), to 1 cup water. Simmer 15 minutes. Pack prepared cucumbers into hot Ball Jars. Cover with hot pickling sirup. Process pints and quarts 15 minutes in boiling-water bath.

FOR SWEET PICKLES
3 to 4 cups sugar  5 cups vinegar
1¾ tablespoons mixed spices
Add 1¼ cups sugar to 1¼ cups water. Boil until sugar dissolves. Add vinegar and spices (tied in bag). Simmer 15 minutes. While sirup is cooking, split cucumbers into halves. Put into stone jar or enameled ware kettle. Pour hot sirup over cucumbers. Let stand about 12 hours. Drain sirup into another kettle, add remaining sugar. Boil until sugar dissolves. Pour hot sirup over cucumbers. Let stand 12 to 24 hours. Pack cucumbers into hot Ball Jars. Boil sirup 2 to 3 minutes. (If garlic is wanted, add it when sirup begins to boil.) Pour, hot, over cucumbers. Process pints and quarts 15 minutes in boiling-water bath.

NOTE: For extra crispness, add ¼ teaspoon powdered alum to each cup sirup before pouring over cucumbers in jars.

Dill Pickles

Short Method
35 to 40 cucumbers  ½ cup salt
3 tablespoons mixed spices
¼ cup sugar
Dill, green or dry

NOTE: If wanted, a small clove garlic, a piece of red pepper and ½ teaspoon white mustard seed may be added to each jar.

Dill Pickles—Kosher Type
Follow recipe for Long or Short Method Dill Pickles. Add 1 clove garlic, 1 bay leaf, ¼ teaspoon mustard seed, 1 piece red pepper to each jar.

Dill Pickles—Sweet
Follow recipe for making Sweet Cucumber Pickles. Add 1 or 2 heads green or dry dill to each jar of pickles.

Dill Pickles—Tomato
Follow recipe for Long or Short Method Dill Cucumber Pickles.

Cucumber Chips

24, 4 to 5 inch cucumbers  1 tablespoon white mustard seed
½ cup salt
1 tablespoon turmeric
1 piece ginger root
7 cups vinegar
2 sticks cinnamon
2 cups white sugar
2 cups brown sugar
¾ teaspoon cloves
1 teaspoon powdered alum
Wash, dry and cut slender cucumbers into thin (about ¼ inch) slices. Thoroughly mix cucumbers and salt. Let stand 3 hours. Drain. Add turmeric and 3 cups vinegar to 4 cups water. Bring to boiling. Pour over cucumbers. Let

Cucumber Chunks

Old-Fashioned Kind
1 gallon cut cucumbers 4 to 5 cups sugar
1½ cups salt 2 tablespoons mixed spices
9 cups vinegar 1 teaspoon powdered alum

Wash, dry and cut cucumbers into 1 inch pieces before measuring. Put in stone jar or enameled ware kettle. Dissolve salt in 1 gallon water. Pour over cucumbers. Cover with dinner plate or glass pie plate. Fill Ball Jar with water and use to hold plate below brine. Let stand 36 hours. Drain. Pour 4 cups vinegar over cucumbers; add enough water to cover. Simmer 10 minutes. Drain (discard liquid). Add 2 cups sugar, spices (tied in bag), 3 cups water to 5 cups vinegar. Simmer 10 minutes. Pour over cucumbers. Let stand 24 hours. Drain sirup into kettle. Add remaining sugar and alum. Heat to boiling. Pour over cucumbers. Let stand 24 hours. Pack pickles into hot Ball Jar. Heat sirup to boiling. Pour, boiling hot, over pickles; seal at once. If not enough sirup to cover pickles add more vinegar.

Cucumber Oil Pickles

100 cucumbers 2 tablespoons peppercorns
3 onions 4 tablespoons mustard seed
2 cups salt 4 tablespoons celery seed
4 cups sugar 1 cup vinegar

Wash, dry and thinly slice cucumbers and peeled onions. Dissolve salt in 1 gallon cold water. Add cucumbers and onions. Let stand 12 to 18 hours. Drain. (Taste cucumbers; if too salty, rinse well in cold water.) Add sugar, spices, 1 cup water, to vinegar. Boil 1 minute. Add cucumbers, onions and oil. Simmer until cucumbers change color. Then bring to boiling. Pack, boiling hot, into hot Ball Jar; seal at once.

Ripe Cucumber Pickles

12 ripe cucumbers 1½ cups sugar
½ cup salt 4 tablespoons mixed spices
4 cups vinegar

Wash and dry yellow-ripe cucumbers. Cut as

Mixed Pickles

4 cups cut cucumbers 2 cups pickling onions
2 cups cut carrots 1 cup salt
2 cups cut celery 4 tablespoons mustard seed
2 red sweet peppers 2 tablespoons celery seed
1 pod hot red pepper ½ cups sugar
1 cauliflower 5 cups vinegar

Wash, rinse, drain and cut vegetables as wanted. Dissolve salt in 1 gallon water. Pour over vegetables. Let stand about 18 hours. Drain. Add seeds (also spices if wanted) and sugar to vinegar. Boil 3 minutes. Add vegetables. Simmer until hot through, then bring to boiling. Pack, boiling hot, into hot Ball Jar; seal at once.

Mustard Pickles

36, 1½ to 2½-inch cucumbers 1 cup salt
1 cauliflower 5 tablespoons flour
6 green tomatoes ½ cup prepared mustard
2 cups pickling onions 1 tablespoon turmeric
3 green sweet peppers 1 to 2 cups sugar
3 red sweet peppers 5 cups vinegar


Artichoke (Jerusalem) Pickles

1 gallon artichokes 1 clove garlic
1 cup salt 1 tablespoon turmeric
2½ cups sugar 3 tablespoons mixed spices
8 cups vinegar

Beet Pickles

1 gallon small beets  2 sticks cinnamon
2 cups sugar  1 tablespoon allspice
1\frac{3}{4} cups salt  3\frac{1}{2} cups vinegar

Wash and drain beets. Cover with boiling water. Cook until tender. Remove skin, stem and root ends. Add sugar, salt, spices, and 1\frac{1}{2} cups water, to vinegar. Simmer 15 minutes. Pack beets into hot Ball Jars. Heat liquid to boiling. Pour, boiling hot, over beets. If not enough liquid to cover, add more vinegar. Process pints and quarts 30 minutes in boiling-water bath.

Carrot Pickles

Follow recipe for Beet Pickles.

Cauliflower Pickles

2 cauliflower  2 tablespoons white mustard seed
2 cups pickling onions  1 tablespoon celery seed
1 cup salt  1 hot red pepper
1 cup sugar  3 cups white vinegar

Wash, drain and cut cauliflower into 1 or 2 inch pieces. Scald, cool and peel onions. Mix salt and vegetables. Add cool water to cover. Let stand about 18 hours. Rinse. Drain. (Taste; if too salty, soak 1 hour in cold water to remove some of the salt.) Add sugar, seed and pepper to vinegar. Boil until sugar dissolves. Add vegetables. Boil 10 minutes, or until barely tender. Pack, hot, into hot Ball Jar. Heat liquid to boiling. Pour, boiling hot, over pickles; seal at once.

NOTE: Mixed spices may be used, but they are likely to cause the pickles to darken.

Gherkin Pickles

Gherkins may be used in any recipe calling for cucumbers.

Onion Pickles

Short Method

1 gallon pickling onions  3 tablespoons white mustard
1 cup salt  mustard seed
1 to 2 cups sugar  2 tablespoons horse-radish
6 cups white vinegar

Small red peppers, bay leaves

Scald onions 2 minutes in boiling water. Dip in cold water. Drain and peel. Sprinkle with salt. Add cool water to cover. Let stand 12 to 18 hours. Rinse. Drain. Add sugar, seed and horseradish to vinegar. Simmer 15 minutes. Pack onions into hot Ball Jar. (Add 1 each, pepper and bay leaf when jar is half filled.) Heat pickling liquid to boiling. Pour, boiling hot, over onions; seal at once.

Pickled Peppers

1 gallon peppers  1 clove garlic
1\frac{1}{2} cups salt  1 tablespoon horseradish
2 tablespoons sugar  5 cups vinegar

Wash and drain Hungarian or other long red, green or yellow peppers. Cut 2 small slits in each pepper. Dissolve salt in 1 gallon water. Pour over peppers. Let stand 12 to 18 hours. Rinse. Drain. Add sugar, garlic, horseradish and 1 cup water, to vinegar. Simmer 15 minutes. Remove garlic. Pack peppers into hot Ball Jar. Heat pickling liquid to boiling. Pour, boiling hot, over peppers; seal at once.

NOTE: For extra crisp peppers put a scant half-teaspoon alum in each jar.

"Mangoes"

Stuffed Peppers, Green Tomatoes, etc.

Wash and drain vegetables. Cut tops from peppers, tomatoes or cantaloupes; ends from gherkins. Scoop out centers. Dissolve 1 cup salt in 1 gallon cool water. Pour over vegetables, tops and ends. Let stand 24 hours. Rinse. Drain. Fill "shells" with any relish liked. Replace tops or ends and sew with coarse thread, or fasten with tooth picks. Pack into hot Ball Jar. Fill jar with boiling hot vinegar, spiced and sweetened to taste; seal at once.

Southern Crystal Pickles

1\frac{3}{4} gallons green tomatoes  1 teaspoon nutmeg
1 cup slaked lime  1 teaspoon ginger
8 cups sugar  1\frac{1}{2} tablespoons salt
6 small sticks cinnamon  8 cups vinegar

Wash, drain and cut small tomatoes (about 1\frac{3}{4} inches across) into \frac{1}{4}-inch slices. Dissolve lime in 1 gallon cool water. Pour over tomatoes. Let stand about 24 hours in a cool place. Rinse through several changes of cool water. Drain. Add sugar, spices (tied in bag), salt and 1 cup water to vinegar. (Add more salt if wanted.) Boil 3 minutes. Let stand until cold. Add tomatoes. Boil until tomatoes are clear and sirup thick. Pack, hot, into hot Ball Jars. Process pints and quarts 10 minutes in boiling-water bath.

Tomato Chunks

Wash, drain, and remove core from slightly ripe tomatoes. Cut tomatoes into 1 inch chunks. Measure. For each quart chunks, make sirup of \frac{3}{4} cup vinegar, \frac{1}{2} cup brown sugar, 1 teaspoon whole mixed spices, 1\frac{1}{2} teaspoons salt. Boil 5 minutes. Add tomato chunks. Boil 5 minutes. Pack, boiling hot, into hot Ball Jar; seal at once. A few slices of onion may be added if desired.
Tomato Cocktail Pickles

1 gallon green tomatoes  2 tablespoons mixed spices
1 cup sugar  4 cups vinegar
1½ tablespoons salt  Dill, small hot peppers, bay leaves, mustard seed
2 or 3 cloves garlic

Cherry Pickles

"Barrier Cherries"

Wash, drain and pit cherries. Cover with vinegar. Let stand 12 hours. Measure both cherries and juice and add an equal measure of sugar. Let stand 10 days in a cool place. Stir each day. Pack cherries into hot Ball Jar. Heat sirup to boiling. Pour, boiling hot, over cherries; seal at once.

Tomato and Onion Pickles

1 gallon green tomatoes  1 tablespoon celery seed
6 onions  1 tablespoon horseradish
¼ cup salt  1 tablespoon allspice
1½ cups sugar  1 tablespoon peppercorns
1 tablespoon mustard seed  4 cups vinegar

Fruit Pickles

Fruit pickles may be packed, boiling hot, into hot Ball Jar and sealed at once. Pickles will have better flavor and be more plump if left standing in sirup for several hours after cooking; then packed and processed as instructed in the recipes.

Crab Apple Pickles

1 gallon crab apples  1 tablespoon allspice
5 cups sugar  ½ tablespoon cloves
2 sticks cinnamon  4 cups vinegar

NOTE: The purpose of adding sugar in small amounts is to avoid shrivelling.

Pear Pickles

Use Seckel or other small pears; or larger ones cut into halves. Follow recipe for either Crab Apple or Peach Pickles. Kieffer and sand pears should be cored, covered with hot water, simmered for 10 or 15 minutes and then drained before they are added to the pickling sirup.
Watermelon Rind Pickles

Cut rind into 5- or 6-inch pieces and drop it into boiling water. Boil 5 minutes. Drain. Cool. Cut off pink part and green skin. (This may be done before parboiling, but is easier afterwards.) Cut rind as wanted, then measure. Dissolve either lime or salt in 8 cups cold water. Pour over rind (add more water if needed to cover). If lime is used let stand 3 hours. If salt is used let stand 6 hours. Drain, rinse and cover rind with clear water. Boil until fork tender. Drain. Add 4 cups sugar, 2 cups vinegar, spices (tied in bag) to 8 cups water. Boil 5 minutes. Add rind. Simmer 30 minutes. Let stand 12 to 24 hours in a cool place. Add remaining sugar and vinegar. Boil until rind is clear. Add boiling water if sirup becomes too thick before rind is clear. Pack, boiling hot, into hot Ball Jar; seal at once.

NOTE: Lime makes a crisper pickle than salt.

Cucumbers

Cut off pink part and green skin. (This may be done before parboiling, but is easier afterwards.) Cut rind as wanted, then measure. Dissolve either lime or salt in 8 cups cold water. Pour over rind (add more water if needed to cover). If lime is used let stand 3 hours. If salt is used let stand 6 hours. Drain, rinse and cover rind with clear water. Boil until fork tender. Drain. Add 4 cups sugar, 2 cups vinegar, spices (tied in bag) to 8 cups water. Boil 5 minutes. Add rind. Simmer 30 minutes. Let stand 12 to 24 hours in a cool place. Add remaining sugar and vinegar. Boil until rind is clear. Add boiling water if sirup becomes too thick before rind is clear. Pack, boiling hot, into hot Ball Jar; seal at once.

NOTE: Lime makes a crisper pickle than salt.
Piccalilli Relish

1 gallon green tomatoes  2 tablespoons mustard seed
2 large onions  1 tablespoon celery seed
3 sweet peppers  1 tablespoon horseradish
1 head cabbage  1½ cups salt
1 cup salt  1½ cups brown sugar
1 tablespoon celery  4 cups vinegar


Rummage Relish

4 cups chopped ripe tomatoes  3½ cups salt
8 cups chopped green tomatoes  4 cups brown sugar
3 cups chopped onions  1 tablespoon celery seed
1 cup chopped green sweet peppers  1 teaspoon ground ginger
1 cup chopped red sweet peppers  1½ teaspoon ground cloves
1 cup chopped cucumber  1 tablespoon ground cinnamon
4 cups chopped cabbage  2 cloves garlic
2 cups chopped celery  8 cups vinegar


Red Pepper Relish or Jam

7 cups chopped red sweet peppers  6 cups sugar
2 tablespoons salt  4 cups vinegar

Wash and drain thick walled peppers; remove seed and mid-ribs; chop fine and measure. Mix with salt. Let stand 3 to 4 hours. Add sugar and vinegar. Boil until thick. Pour, boiling hot, into hot Ball Jar; seal at once.

Spiced Berries

Use Blueberries, Cranberries, Currants, Elderberries


Spiced Grapes

10 cups grapes 2 teaspoons ground cinnamon
5 cups sugar  ½ teaspoon ground allspice
½ cup ground mustard seed
½ cup brown sugar
2 pounds seeded raisins
2 pods hot pepper


Apple Chutney

2 cups chopped apples  2 teaspoons salt
1 cup chopped onions  1 clove garlic
2 red sweet peppers  2 cups brown sugar
4 cups vinegar  4 cups vinegar
2 pounds seeded raisins  2 tablespoons ground mustard seed
2 puds hot pepper  2 tablespoons ground cloves


Peach or Pear Chutney

1 gallon chopped peaches  5 cups vinegar
1 cup chopped onions  ¼ cup white mustard seed
1 clove garlic  2 tablespoons ground ginger
1 pod hot red pepper  2 to 3 cups brown sugar
1 cup raisins  2 teaspoons salt

Wash, drain, peel, chop and measure peaches and onions. Chop garlic, pepper and raisins. (Remove seed from pepper unless very hot chutney is wanted.) Mix all ingredients and cook slowly until thick as wanted. Pour, boiling hot, into hot Ball Jar; seal at once.

Tomato Chutney

12 ripe tomatoes 1 clove garlic
6 tart apples 3 cups brown sugar
3 onions 1 tablespoon ground ginger
3 red sweet peppers 1 teaspoon ground cinnamon
1 pod hot pepper 1 teaspoon salt
1 cucumber 3 cups vinegar
1 cup seeded raisins

Wash and drain fruits and vegetables. Scald, core and peel tomatoes. Core and pare apples. Peel onions; remove seed from peppers. Chop fruits and vegetables. Mix all ingredients and boil until thick. Pour, boiling hot, into hot Ball Jar; seal at once.
Chili Sauce

1 gallon tomatoes
2 cups chopped onions
2 cups chopped red sweet peppers
1 pod hot pepper
1 cup sugar
3 tablespoons salt
1 tablespoon mustard seed
1 tablespoon celery seed
3 tablespoons mixed spices
3 tablespoons vinegar

Wash and drain vegetables. Scald, core, peel and chop red-ripe tomatoes. Peel onions; remove seed from peppers; chop and measure. Mix all ingredients except spices and vinegar. Boil 45 minutes. Add spices (tied in bag). Boil until very thick, then add vinegar and boil until as thick as wanted. (Taste; add more seasoning and sugar if wanted.) Pour, boiling hot, into hot Ball Jar; seal at once.

NOTE: If preferred, ½ of the sweet peppers may be green.

Chili Sauce

Kitchenette Style

2 quarts canned tomatoes
2 onions
1 red or green sweet pepper
1 cup vinegar
1 to 1 cup sugar
1 teaspoon mustard seed
1 teaspoon celery seed
1 tablespoon mixed spices
Salt to taste

Peel onions; remove seed from pepper; chop. Mix all ingredients, except spices and vinegar. Boil until thick. Add spices (tied in bag) and vinegar. Boil until as thick as wanted. Pour, boiling hot, into hot Ball Jar; seal at once.

Pepper Sauce

Follow recipe for Pickled Peppers (page 34). Use small red or green hot peppers.

Peruvian Sauce

24 tomatoes
3 large onions
3 green sweet peppers
1 pod hot pepper
6 tart apples
1 clove garlic
3 cups brown sugar
1 tablespoon salt
1 tablespoon allspice
1 tablespoon mustard seed
1 teaspoon ground cinnamon
3 cups vinegar

Wash and drain vegetables. Scald, core, and peel red-ripe tomatoes. Peel onions; remove seed from peppers. Core and pare apples. Chop apples and vegetables. Add sugar. Boil until thick. Add spices and vinegar. Boil until as thick as wanted. Pour, boiling hot, into hot Ball Jar; seal at once.

NOTE: Large green tomatoes may be substituted for ripe ones in the above recipe; however, the color is likely to be rather dull.

Red Hot Sauce

24 long hot peppers
12 tomatoes
4 cups vinegar
1 cup sugar
1 tablespoon salt
2 tablespoons mixed spices
2 sticks cinnamon
1 teaspoon allspice
1 teaspoon ground cinnamon


NOTE: Rubber gloves should be worn to prevent burning hands when seeding peppers. Use either green or red peppers.

Tomato Ketchup

2 gallons tomatoes
2 cups chopped onions
2 tablespoons salt
2 tablespoons sugar
1 tablespoon vinegar
1 teaspoon paprika

Wash and drain vegetables. Scald, core, and chop red-ripe tomatoes. Peel onions; remove seed from peppers; chop and measure. Mix all ingredients except spices and vinegar. Boil until thick. Add spices (tied in bag) and vinegar. Boil until as thick as wanted. Pour, boiling hot, into hot Ball Jar; seal at once.

NOTE: Large green tomatoes may be substituted for ripe ones in the above recipe; however, the color is likely to be rather dull.

Victoria Sauce (Rhubarb)

Excellent with Meats

8 cups chopped rhubarb
1 cup chopped onion
1 1/2 cups chopped raisins
3 1/2 cups brown sugar
1/2 cup vinegar

Wash, chop and measure rhubarb and onion. Then mix with raisins, sugar and vinegar. Boil slowly until thick. Add spices about 5 minutes before removing sauce from heat. Pour, boiling hot, into hot Ball Jar; seal at once.
ALTHOUGH many have tried, few have succeeded in imitating the distinctive flavor of choice homemade fruit conserves, jams, jellies, marmalades and preserves. This is largely because the smart home canner knows, or can easily learn, how to combine orchard-fresh fruits with sugar, add spices or extracts to please the taste of her own family, and cook the mixture in small batches.

Imagination is an important ingredient in fruit products! The natural flavor can be changed or emphasized by adding a tiny pinch of salt, a small amount of spice, extract, orange peel, lemon juice, etc. The amount and kind of spices called for in any recipe can be changed to suit taste.

**Things to Remember**

1. Use hard-ripe fruit of good flavor.
2. Weigh or measure fruit after preparing. When possible, weigh instead of measuring. The general rule is \( \frac{3}{4} \) as much sugar as prepared fruit when making conserves, jams, jellies and marmalades; whereas preserves usually require pound for pound fruit and sugar. Both fruit and sugar should be weighed when making preserves because large pieces of fruit can not be measured with any degree of accuracy.
4. In warm climates, and elsewhere if storage conditions are poor, process butters, conserves, jams and preserves 10 to 20 minutes at simmering in a water-bath canner.
5. Preserves may be canned as soon as cooked. Fruit will be more plump if left standing in the sirup 12 to 24 hours, then packed and processed 15 or 20 minutes at simmering.
6. Seal all fruit products airtight in home canning jars. (See page 48.)
7. Use cane or beet sugar. They give the same results. Up to \( \frac{1}{2} \) of the granulated sugar may be replaced with corn syrup. Special recipes may be obtained from the larger manufacturers of corn syrup. Up to \( \frac{1}{2} \) of the granulated sugar may be replaced with honey. Honey changes the fruit flavor.
8. Many home canners prefer to use prepared pectin when making jams and marmalades. When using, follow the recipes which come with the bottle or box of pectin.
9. To vacuum seal jams, when made with powdered or bottled pectin, see page 48.
Apple Butter

Old Fashioned Kind

1 peck (approx. 12 pounds) apples
1 gallon sweet cider
6 cups sugar
1 tablespoon cinnamon
1 teaspoon cloves


NOTE: A less rich, and more quickly cooked butter can be made by using only enough cider or water to prevent the apples sticking.

Apple-Blueberry Butter

8 cups apple pulp
8 cups blueberries
1 tablespoon allspice


Apricot Butter

Follow recipe for Peach Butter. Add 1 tablespoon lemon juice to each 4 cups fruit pulp.

Grape Butter

1 gallon grapes
8 cups sugar
1/2 cup vinegar
1 tablespoon allspice


Pear Butter

12 cups pear pulp
6 cups sugar
1/3 cup orange juice
1/2 teaspoon grated orange peel
1/2 teaspoon nutmeg

Wash and slice ripe pears. Cook until soft. If needed, add water to prevent sticking. Press through sieve or food mill. Measure. Add sugar, orange juice, peel, nutmeg. Boil until thick. Pour, hot, into hot Ball Jars. Process pints and quarts 10 minutes in boiling-water bath.

Tomato Butter

12 cups tomato pulp
7 cups sugar
1/2 teaspoon ginger
1/2 cup lemon juice
1/2 teaspoon cloves

Wash and core firm-ripe tomatoes. Cook until soft. Press through sieve or food mill. Measure off juice. Measure pulp and mix with other ingredients. Boil until thick. Pour, hot, into hot Ball Jars. Process pints and quarts 10 minutes in boiling-water bath.

Apple-Blueberry Conserve

4 cups chopped apples
6 cups sugar
4 cups blueberries
4 tablespoons lemon juice

Wash fruit. Core, pare, chop and measure apples. Mix all ingredients. Boil until thick. Pour, boiling hot, into hot Ball Jar; seal at once.

Apple-Cherry-Pineapple Conserve

3 cups chopped apples
8 cups pitted cherries
2 cups chopped pineapple
3/4 teaspoon salt
1 cup shelled nuts

Wash fruit. Core, pare and chop apples. Pit cherries. Scrub, pare and chop fresh pineapple (canned pineapple may be used). Measure fruit and mix with sugar. Let stand 4 to 5 hours. Boil until thick. Add salt and nuts about 5 minutes before removing from heat. Pour, boiling hot, into hot Ball Jar; seal at once.

Apple-Pineapple-Coconut Conserve

4 cups diced apples
4 cups chopped pineapple
2 oranges
1 1/2 cups grated coconut
6 cups sugar

Wash, core, pare, chop and measure apples. Scrub, pare, chop and measure fresh pineapple (canned pineapple may be used). Add pineapple, apples, pulp of oranges, thinly sliced peel of one orange to 3 cups water. Boil until peel is tender. Add coconut and sugar. Boil almost to jellying point. Pour, boiling hot, into hot Ball Jar; seal at once.
Cantaloupe-Peach Conserve

4 cups chopped cantaloupe 1/4 teaspoon nutmeg
cantaloupe 1/4 teaspoon salt
4 cups chopped peaches 1 teaspoon grated orange peel
6 cups sugar 1/2 cup blanched almonds
4 tablespoons lemon juice


Cherry-Raspberry Conserve

3 cups pitted cherries 3 cups raspberry pulp
4 to 5 cups sugar

Wash and drain fruit. Pit and measure cherries. Simmer until tender. While cherries are cooking, press raspberries through sieve or food mill. Measure. Add berry pulp and sugar to cherries. Cook slowly until sugar dissolves. Boil rapidly until thick. Pour, boiling hot, into hot Ball Jar; seal at once.

Cranberry Conserve

4 cups cranberries 1/4 cup raisins
1 orange 1/4 teaspoon salt
3 cups sugar 1/2 cup shelled nuts

Wash, drain, stem and measure cranberries. Chop orange, peel and pulp, add to 2 cups water and boil 20 minutes. Add cranberries, sugar, raisins, salt. Boil rapidly to jellying point. Add nuts about 5 minutes before removing from heat. Pour, boiling hot, into hot Ball Jar; seal at once.

Dried Fruit Conserve

Apricots, Peaches, Pears

3 pounds fruit 2 tablespoons lemon juice
1 orange 1/2 cup maraschino cherries
5 cups sugar 2 tablespoons sirup from cherries
1/4 teaspoon salt 1/2 cup shelled nuts

Cover fruit with cold water. Cook slowly until skins loosen. Remove skins. Cut fruit as wanted. Chop orange and 1/2 of peel. Boil 20 minutes in just enough water to prevent sticking. Add sugar, salt, lemon juice, cherries, and sirup. Boil until thick and glossy. Add more water or cherry sirup, if needed. Add nuts about 5 minutes before removing from heat. Pour, boiling hot, into hot Ball Jar; seal at once.

NOTE: 1/2 cup raisins may be substituted for the maraschino cherries. Spices may be added to suit taste.

Gooseberry Conserve

6 cups gooseberries 4 cups sugar
1 orange 1 cup raisins
4 cups sugar

Wash, drain, remove stems and blossom ends, and measure berries. Grate orange peel, chop pulp. Mix berries, orange, sugar, raisins. Heat slowly until sugar dissolves. Boil rapidly to jellying point. Pour, boiling hot, into hot Ball Jar; seal at once.

Grape Conserve

8 cups grapes 1/4 teaspoon salt
6 cups sugar 1 cup shelled nuts

Wash, drain, stem and measure grapes. Press to separate pulp from skins. Chop skins and boil 20 minutes in just enough water to prevent sticking. Boil pulp, without water, until soft. (If using Tokay or Malaga, cook the whole grape.) Press through sieve or food mill. Mix pulp, skins, sugar, salt. Boil rapidly almost to jellying point. Add nuts about 5 minutes before removing from heat. Pour, boiling hot, into hot Ball Jar; seal at once.

Peach Conserve

7 cups chopped peaches 1/4 teaspoon salt
1 orange 1/4 teaspoon ginger
5 cups sugar 1/2 cup blanched almonds

Wash, drain, scald, peel, chop and measure peaches. Grate orange peel; chop pulp and add to peaches. Boil 20 minutes. Add sugar, salt, ginger. Boil until thick. Add nuts about 5 minutes before removing from heat. Pour, boiling hot, into hot Ball Jar; seal at once.

Plum Conserve

8 cups pitted plums 6 cups sugar
1 lemon 1 teaspoon cinnamon
1/2 teaspoon salt 1 cup raisins
1 cup shelled nuts

Wash, drain, pit and measure plums. Mix plums, pulp and grated peel of lemon, salt. Boil until soft. Add sugar, cinnamon, raisins. Boil almost to jellying point. Add nuts about 5 minutes before removing from heat. Pour, boiling hot, into hot Ball Jar; seal at once.

Rhubarb-Strawberry Conserve

4 cups cut rhubarb 4 cups strawberries
7 cups sugar

Wash and cut unpeeled rhubarb into 1/2 inch pieces. Measure. Wash, hull (cap) and measure strawberries. Add sugar. Cook slowly until sugar dissolves. Boil rapidly until thick. Pour, boiling hot, into hot Ball Jar; seal at once.
**Tomato Conserve**

8 cups chopped tomatoes 6 cups sugar
1 orange 2 cups seedless raisins
¼ cup lemon juice ¼ teaspoon salt
1 cup shelled nuts

Wash, scald, core, peel, chop and measure ripe tomatoes. (Firm canned tomatoes may be used.) Cut orange peel into thin slices. Add orange pulp and peel to tomatoes. Boil until tomatoes cook to pieces. Add lemon juice, sugar, raisins and salt. Boil until thick. Add nuts about 5 minutes before removing from heat. Pour, boiling hot, into hot Ball Jar; seal at once.

**Damson Plum Jam**

8 cups chopped plums 6 cups sugar

Wash, drain, pit, chop and measure plums. Add sugar and 1¼ cups water. Boil to, or almost to, jellying point. Pour, boiling hot, into hot Ball Jar; seal at once.

**Elderberry Jam**

8 cups elderberries 6 cups sugar
¼ cup vinegar

Wash, drain, stem, crush and measure berries. Add sugar and vinegar. Boil until thick. Pour, boiling hot, into hot Ball Jar; seal at once.

**Fig Jam**

8 cups chopped figs 6 cups sugar
¼ cup lemon juice

Scald ripe figs 10 minutes in boiling water. Drain, stem, chop and measure. Add sugar and ¼ cup water. Boil until thick. Add lemon juice. Boil 1 minute. Pour, boiling hot, into hot Ball Jar; seal at once.

**Grape Jam**

Follow recipe for Grape Conserve. Omit nuts.

**Mayhaw Jam**

8 cups mayhaw pulp 6 cups sugar

Wash, drain and stem mayhaws. Boil until soft in enough water to prevent sticking. Press through sieve or food mill. Measure pulp. Add sugar. Boil almost to jellying point. Pour, boiling hot, into hot Ball Jar; seal at once.

**Mulberry Jam**

Follow recipe for Elderberry Jam. Spices may be added to taste.

**Blackberry, Blueberry, Boysenberry, Dewberry, Gooseberry, Loganberry, Raspberry, Youngberry**

9 cups berries 6 to 7 cups sugar

Pick over, wash, drain, crush and measure berries. Add 1 cup water. Boil until berries are soft. Press through sieve or food mill. Add sugar. Boil to, or almost to, jellying point, depending upon whether a firm or soft jam is wanted. Pour, boiling hot, into hot Ball Jar; seal at once.

**Berry Jams**

NOTE: Jams may be made without pressing through sieve to remove seed.

**Raspberry Jams**

Blackberry, Blueberry, Boysenberry, Dewberry, Gooseberry, Loganberry, Raspberry, Youngberry

9 cups berries 6 to 7 cups sugar

Pick over, wash, drain, crush and measure berries. Add 1 cup water. Boil until berries are soft. Press through sieve or food mill. Add sugar. Boil to, or almost to, jellying point, depending upon whether a firm or soft jam is wanted. Pour, boiling hot, into hot Ball Jar; seal at once.

**Berry Jams**

NOTE: Jams may be made without pressing through sieve to remove seed.
Pineapple Jam
8 cups pineapple  6 cups sugar
Scrub, pare, finely chop and measure ripe pineapple. Add \( \frac{1}{2} \) cup water and the sugar. Boil until thick. Pour, boiling hot, into hot Ball Jar; seal at once.

NOTE: For a jelly-like jam, use commercial pectin. Follow manufacturer's instructions.

Plum Jam
Follow recipe for Damson Plum Jam. If plums are not tart, add 4 tablespoons lemon juice.

Green Grape Marmalade
8 cups grapes  8 cups sugar
Wash, stem and measure young grapes. (Seed must be tender.) Add 2 cups water. Boil until soft. Add sugar. Boil to jellying point. Pour, boiling hot, into hot Ball Jar; seal at once.

Grapefruit Marmalade
1 grapefruit  Sugar
Wash fruit. Thinly slice or chop \( \frac{1}{2} \) peel (discard other half). Cut pulp into chunks. Cover pulp and peel with 4 cups water. Let stand 12 to 18 hours in a cool place. Boil until peel is tender. Measure. Add 1 cup sugar for each cup fruit and water in which cooked. Boil to jellying point. Pour, boiling hot, into hot Ball Jar; seal at once.

NOTE: If a bitter-sweet marmalade is not wanted, cover peel with water. Boil 10 minutes and drain. Repeat 2 or 3 times before adding pulp and 4 cups water.

Cherry Marmalade
2 oranges  4 tablespoons lemon juice
4 cups pitted cherries  3 \( \frac{1}{2} \) cups sugar

NOTE: If sour cherries are used, only 2 tablespoons lemon juice will be needed.

Grapefruit Sunshine
8 cups grape pulp  6 cups sugar
Wash, drain, stem and crush grapes. Add just enough water to prevent sticking. Boil until grapes are soft. Press through sieve or food mill. Measure pulp. (Skins not used.) Add sugar. Boil to, or almost to, jellying point. Pour, boiling hot, into hot Ball Jar; seal at once.

Strawberry Jam
8 cups strawberries  6 cups sugar
Wash, drain, hull (cap), crush and measure berries. Add sugar. Cook slowly until sugar dissolves. Boil rapidly until thick. Pour, boiling hot, into hot Ball Jar; seal at once.

Rhubarb Jam
See Rhubarb-Strawberry Conserve, page 42. Omit berries.

Rhubarb Marmalade
6 oranges  2 lemons  Sugar
Wash fruit. Thinly slice or chop peel. Cut pulp into chunks. Cover pulp and lemon with 6 cups water. Simmer 5 minutes. Let stand 12 to 18 hours in a cool place. Boil until peel is tender. Measure fruit and water. Add lemon juice and 1 cup sugar for each cup fruit and water. Boil to jellying point. Pour, boiling hot, into hot Ball Jar; seal at once.

Amber Jam or Marmalade
1 orange  1 grapefruit  Sugar
Wash and chop fruit. (If preferred peel may be cut into thin slices.) Measure. Add 3 cups water for each cup pulp and peel. Boil 5 minutes. Drain. Add to the fruit the same amount of water used in first cooking. Boil 5 minutes. Let stand 12 to 18 hours in a cool place. Boil until peel is tender. Let stand until cold. Measure. Add as much sugar as there is fruit and water in which cooked. Boil rapidly to jellying point. Pour, boiling hot, into hot Ball Jar; seal at once.
Orange-Lemon Marmalade
Follow recipe for Orange Marmalade. Use 4 oranges and 4 lemons.

Peach-Orange Marmalade
24 large peaches  3 tablespoons lemon juice  6 oranges  Sugar
Wash, peel, and chop peaches. Chop peel of 3 oranges, cover with water and boil until tender. Drain. Add cooked orange peel, also pulp, lemon juice, to peaches. Measure. Add ½ cup sugar for each cup fruit. Boil until thick. Pour, boiling hot, into hot Ball Jar; seal at once.

Prickly Pear Marmalade
4 cups chopped prickly pears  2 oranges  Sugar
Wash fruit. Cut lemon into paper thin slices. Measure. Chop orange peel and pulp. Add 4 cups water to lemon and orange. Let stand 12 to 18 hours in a cool place. Boil until peel is tender. Cool. Pare, chop and measure pears. Measure lemon, orange and water in which cooked. Add 1 cup sugar for each cup pear, lemon, orange and water. Boil to jellying point. Pour, boiling hot, into hot Ball Jar; seal at once.

Quince-Apple Marmalade
6 quinces  3 tart apples  Sugar
Wash, (discard core and all gritty part), pare, and chop quinces. Cover with water. Boil until tender. Core, pare, and chop apples. Add to quinces and cook 10 minutes. Measure. Add ½ cup sugar for each cup fruit and water in which cooked. Boil almost to jellying point. Pour, boiling hot, into hot Ball Jar; seal at once.

Raspberry-Currant Marmalade
8 cups raspberries  4 cups currants  9 cups sugar
Wash and drain red or black fruit before measuring. Stem and crush currants. Cook slowly until juice flows freely. Add raspberries. Heat to boiling. Add sugar. Boil to jellying point. Pour, boiling hot, into hot Ball Jar; seal at once.

Apples—Clove
Follow recipe for Apple Preserves. Add 12 cloves (tied in bag) and parings from 6 apples to the sirup after apples have been removed.

Boil sirup to jellying point. Remove cloves and parings. Add few drops red food color. Pour boiling hot sirup over apples; seal at once.

Apple Preserves
2 pounds prepared  1 tablespoon crushed ginger apples  root or mixed spices  1¾ pounds sugar

Apricot Preserves
2 pounds prepared apricots  1¾ pounds sugar  ¼ cup lemon juice
Wash, scald, pit and peel hard-ripe apricots. Weigh. Thoroughly mix fruit, sugar and lemon juice. Cover tightly. Let stand 4 to 5 hours. Heat slowly until sugar dissolves. Boil rapidly until fruit is clear. Pour, boiling hot, into hot Ball Jar; seal at once.

Bar-le-Duc
Currant Preserves
8 cups currants  7 cups sugar  1 cup currant juice, or 1 cup water
Wash, stem and measure currants. Put in flat pan with currant juice or water. Simmer 5 minutes. Add ½ the sugar. Boil 5 minutes. Let stand 12 to 18 hours in a cool place. Add remaining sugar. Boil to, or almost to, jellying point. Pour, boiling hot, into hot Ball Jar; seal at once.

Berry Preserves
Although blackberries and others, which hold shape in cooking, can be used for preserves, all, except strawberries, are more satisfactory for jam. If making preserves, use ¾ to 1 pound sugar for each pound berries.

Cantaloupe Preserves
2 pounds prepared cantaloupe  1¾ pounds sugar  2 tablespoons lemon juice
Wash and cut firm-ripe melon into 1 inch slices, crosswise. Remove rind and seed. Cut slices into even pieces. Weigh. Mix melon and sugar. Let stand 12 to 18 hours in a cool place. Add lemon juice. Boil until cantaloupe is clear. Pour boiling hot, into hot Ball Jar; seal at once.
Cherry Preserves

2 pounds pitted sour cherries  2 pounds sugar

Wash and pit cherries. Weigh. Drain juice into kettle. Add sugar. If not enough juice to dissolve sugar, add a little water. Boil until sugar dissolves. Cool. Add cherries. Heat slowly to boiling. Boil rapidly until cherries are clear. Let stand 12 to 18 hours in a cool place. Boil 1 minute. Pour, boiling hot, into hot Ball Jar; seal at once.

Ground Cherry Preserves

“Strawberry Tomato”

8 cups ground cherries  6 cups sugar


“Maraschino” Cherries

10 cups light cherries  7 cups sugar
2 teaspoons alum  2 ounces food color
4 tablespoons salt  1 teaspoon almond extract

Wash and pit Royal Anne, or other firm light cherries. Drain cherries before measuring. Save juice. Dissolve alum and salt in 8 cups cold water. Add cherries. Let stand 5 to 6 hours. (If cherries float, cover with plate weighted down with a jar filled with water.) Drain and rinse cherries. Measure juice, and add to it water to make 2 cups. Add sugar. Cook until sugar dissolves. Add cherries. Boil 2 minutes. Remove from heat. Add food color and extract. Let stand 18 to 24 hours in a cool place. Boil 2 minutes. Pour, boiling hot, into hot Ball Jar; seal at once.

Citron Melon Preserves

2 pounds prepared citron melon  2 pounds sugar
1 lemon

Cut citron into 1/2 inch slices, crosswise. Trim off green rind. Split slices, keeping the inner and outer parts separate. These parts should be preserved in separate batches. Cut into 1 inch pieces. Weigh. Cover with water. Boil 25 to 35 minutes. Drain. Add the sugar to 4 cups water. Cook until sugar dissolves. Add citron. Boil 45 minutes. Let stand 12 to 18 hours in a cool place. Add remaining sugar and sliced lemon. Boil until citron is clear. If sirup becomes too thick, add boiling water. If sirup is too thin when citron is done, remove citron and boil sirup until thick. The amount of water needed depends upon the melon used. Pour, boiling hot, into hot Ball Jar; seal at once.

NOTE: Citron preserves may be drained and used as a substitute for regular citron. Commercial citron is made from a tree grown fruit—not a melon.

Fig Preserves

4 pounds prepared figs  1/4 cup lemon juice
3 1/2 pounds sugar  2 lemons, sliced

Wash and peel firm-ripe figs. Add sugar and lemon juice to 8 cups boiling water. Stir until sugar dissolves. Add figs. Boil until clear. Add lemons when figs are about 2/3 done. If sirup becomes too thick before figs are clear, add boiling water, 1/2 cup at a time. Let stand 12 to 24 hours in a cool place. Pack preserves into hot Ball Jars. Process pints and quarts 30 minutes at simmering (180-185°F.) in a water-bath canner.

NOTE: Although the product will not be as high in quality, figs may be preserved without peeling. If unpeeled, figs should be covered with water and boiled 15 to 20 minutes, and drained, before adding to sirup. A few whole allspice, a bit of cinnamon or ginger may be tied in a cloth bag and cooked with the figs.

Orchard Preserves

1 pound prepared apples  1 pound prepared pears
1 pound prepared peaches  1 pound prepared quinces
3 1/4 pounds sugar

Wash, core, pare and cut fruit as wanted. Weigh. Cook quinces in water until almost tender. Remove quince and measure water. Add more water, if needed, to make 3 cups. Add sugar to quince water. Bring to boiling. Add all fruit. Boil until clear. Pour, boiling hot, into hot Ball Jar; seal at once.

Peach Preserves

2 pounds prepared peaches  1 1/4 to 2 pounds sugar

Wash, scald, pit, peel and cut hard-ripe fruit as wanted. Weigh. Add sugar to 2 cups water. Boil 2 minutes. Add peaches and boil until clear. Let stand 12 to 24 hours in a cool place. Pack fruit into hot Ball Jars. Boil sirup 2 minutes, or longer if too thin. Pour, boiling hot, over peaches. Process pints and quarts 20 minutes at simmering (180-185°F.) in hot-water bath.

NOTE: 2 cracked peach pits, or 2 drops almond extract, or 1/2 teaspoon ginger, nutmeg, cloves, allspice, or 1/2 cup sliced maraschino cherries may be added to the above recipe just before preserves are removed from heat.
Old-Fashioned Peach Preserves

4 pounds prepared peaches  4 pounds sugar

Wash, pit, peel and cut hard-ripe fruit. Weigh. Mix fruit with sugar. Let stand 12 to 18 hours in a cool place. Boil until peaches are clear and sirup thick. Pour, boiling hot, into hot Ball Jar; seal at once.

Pear Preserves

2 pounds prepared pears  1 1/2 pounds sugar  1 lemon

Wash, core, pare and cut hard-ripe fruit as wanted. Weigh. (Seckels are not cored when preserved whole. Kieffers should be stored in a cool, dry place from 3 to 5 weeks before using.) Add 1/2 the sugar to 3 cups water. Boil 2 minutes. Add pears. Boil 15 minutes. Add remaining sugar and sliced lemon. Boil until pears are clear. Let stand 12 to 24 hours in a cool place. Pack fruit into hot Ball Jars. Boil sirup 2 minutes, or longer if too thin. Pour, boiling hot, over pears. Process pints and quarts 20 minutes at simmering (180-185°F.) in hot-water bath.

Plum Preserves

Damson or Any Other Tart Plum

2 pounds pitted plums  1 1/4 to 2 pounds sugar

Wash and pit plums. Weigh. Mix fruit with sugar. Let stand 3 to 4 hours. Add 1 1/2 cups water. Boil almost to jellying point. Pour, boiling hot, into hot Ball Jar; seal at once.

Pumpkin Preserves

4 pounds prepared pumpkin  3 lemons  4 pounds sugar  1/2 teaspoon salt  1 tablespoon mixed spices

Wash pumpkin. Remove peel and seed. Cut pumpkin as wanted. Weigh and mix with sugar. Let stand 12 to 18 hours in a cool place. Add thinly sliced lemons, salt and mixed spices (tied in bag). Boil until pumpkin is clear and sirup thick. Pour, boiling hot, into hot Ball Jar; seal at once.

Quince Preserves

2 pounds prepared quinces  1 1/2 pounds sugar

Wash (discard core and all gritty part), pare and cut fruit as wanted. Add the sugar to 2 cups water. Boil 5 minutes. Add quinces. Cook until quinces are a clear, red color, and sirup has almost reached jellying point. Pour, boiling hot, into hot Ball Jar; seal at once.

Strawberry Preserves

Scalding Method

8 cups prepared berries  6 cups sugar

Wash, hull (cap) and measure firm-ripe berries. Put berries in 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. Add remaining sugar. Boil 8 to 10 minutes. Let stand 18 to 24 hours in a cool place. Pack cold preserves into hot Ball Jars. Process pints and quarts 20 minutes at simmering (180-185°F.) in hot-water bath.

Strawberry Preserves de Luxe

2 pounds prepared berries  2 1/2 pounds sugar  6 tablespoons lemon juice

Wash and hull (cap), firm, red-ripe berries, which have no hollow cores. Weigh. Mix berries and sugar. Let stand 3 to 4 hours. Heat slowly to simmering. Add lemon juice. Boil rapidly 10 to 12 minutes, or until berries are clear and sirup thick. Pour into shallow pan. Let stand 12 to 24 hours in a cool place. Shake pan occasionally to distribute berries in sirup. Pack cold preserves into hot Ball Jars. Process pints and quarts 20 minutes at simmering (180-185°F.) in hot-water bath.

Strawberry Preserves

Old Fashioned

8 cups berries  5 to 6 cups sugar

Wash, hull (cap) and measure berries. Mix berries with sugar. Let stand 5 or 6 hours in a cool place. Heat slowly to boiling. Boil rapidly until berries are clear and sirup thick. Pour, boiling hot, into hot Ball Jar; seal at once.

Tomato Preserves

2 pounds tomatoes  2 lemons  2 pounds sugar  1 tablespoon spices  2 pieces ginger root

Wash, scald and skin small, firm, red, yellow or green tomatoes. Do not core. Weigh. Add sugar, thinly sliced lemon, spices (tied in bag) to 1 cup water. Simmer 15 minutes. Add tomatoes. Boil gently until tomatoes are clear. Let stand 12 to 18 hours in a cool place. Pack tomatoes into hot Ball Jars. Boil sirup 2 minutes or longer if too thin. Pour, boiling hot, over tomatoes. Process pints and quarts 20 minutes at simmering in hot-water bath.
Watermelon Rind Preserves

2 pounds prepared rind
4 tablespoons salt, or
2 tablespoons slaked lime
2 lemons
1 tablespoon ground ginger

Watermelon rind is soaked in either salt or lime water before preserving. Lime makes a crisper product. Trim green skin and red flesh from thick rind, either before or after cutting into pieces of shape and size wanted. Dissolve salt or lime in 8 cups cold water and pour over rind. If salt is used, soak rind 5 to 6 hours; if lime is used, soak rind 2 to 3 hours. Rinse rind. Let stand 30 minutes in fresh water. Drain. Sprinkle ginger over rind. Cover with water. Boil until fork-tender. Drain. Add sugar and juice of 1 lemon to 7 cups water. Boil 5 minutes. Cool. Add rind to sirup. Boil 30 minutes. Add the other lemon, thinly sliced. Continue cooking until rind is clear. Pack into hot Ball Jars. Process pints and quarts 20 minutes at simmering (180-185°F.) in hot-water bath.

NOTE: If a spicy preserve is wanted, cinnamon and other whole spices (tied in bag) may be cooked with preserves.

Western Special Preserves

1 cup red currants
2 cups loganberries
2 cups raspberries
2 cups sweet cherries
5 cups sugar


Juices used for making jelly must contain acid and a jellifying substance called pectin. Some fruits have enough acid and pectin for jelly, others do not. Lemon juice may be added to fruits which lack acid.

Tart, hard-ripe, or a mixture of ripe and slightly under-ripe apples, most berries, Concord and similar grapes, currants and plums, usually contain enough acid and pectin for making jelly. Pectin must be added to the juice of cherries, peaches and strawberries. Many persons prefer to use the powdered or liquid pectin (sold in grocery stores) with all fruit juices. When pectin is used, the yield is larger and the cooking time shorter; it is also unnecessary to test for the jellying point.

Half-Pint Jars Best for Jelly

The shoulderless, slightly tapered Half-Pint jar, shown on page 50, is the most satisfactory container for jellies, jams and other fruit spreads. These jars are quickly and easily sealed airtight with two-piece Ball Dome home canning caps. When properly made and sealed in this manner there is no danger of the product oozing out or spoiling. Jelly can be turned (unmolded) from the jar just as from a jelly glass.

To Vacuum Seal Jellies, Jams and Other Spreads

This is the Modern Method

NOTE: If using powdered or bottled pectin, follow the recipe and cooking time which comes with the pectin. They are not the same for all brands.
1. Assemble everything needed.
2. Examine, wash and rinse jars and lids; cover with hot—not boiling—water and bring to boil—no further boiling is necessary.
3. Just before putting jelly or other spread on to cook, remove jars and lids from the hot water. Invert them on rubber tray or towel to drain.
4. Cook as directed in the recipe.
5. Quickly skim to remove foam, then fill jars almost to top (leave about \( \frac{1}{2} \) inch head space) with the BOILING HOT jelly, jam, etc. Put Dome Lid on each jar as it is filled. This helps keep heat in and air out until bands can be screwed tight. When all jars are filled, screw bands tight.
6. Let jars stand until cold. (If Dome is down, or stays down when pressed the jar is sealed and can be stored without the band. If the product is NOT HOT enough to produce a vacuum seal, the band must be left on to keep the jar tightly closed.

To Prevent Fruit (in Jam) Floating

Some fruits tend to rise to the top when jams made with powdered or bottled pectin are canned boiling hot. This is why many recipes call for stirring jam a few minutes before pouring. This stirring is undesirable when jam is to be vacuum sealed. It is better to quickly pour it, boiling hot, into jars and seal at once with Dome Caps. Let Half-Pint jars stand about 25 minutes, pints about 30 minutes, then if fruit has risen to the top, gently shake the jars to distribute fruit through the sirup.

To Make Jelly—Regular Method

1. Wash, drain, hull, stem and cut or crush fruit before measuring. Do not remove skins, cores and seed unless the recipe states that they must be discarded. See jelly table, page 51, for amount of water needed, and time for cooking.
2. Separate juice from cooked fruit by letting it drip through cotton flannel jelly bag, or sugar sack, or use 4 layers of cheesecloth stretched and tied over the top of a deep bowl or pan.
3. Assemble everything needed for cooking and canning.
4. Examine, wash and rinse Half-Pint jars or jelly glasses and lids; cover with hot—not boiling—water and bring to boil—no further boiling is necessary.
5. Measure juice and sugar (cook only 6 to 8 cups at a time). Put juice into sauce pan, bring to boiling.
6. While waiting for juice to boil, remove jars (or glasses) and lids from the hot water. Invert them on rubber tray or towel to drain.
7. Add sugar to boiling juice. Boil juice and sugar rapidly until it reaches the jellying point.
8. Remove jelly from heat. Skim if necessary. Pour hot jelly into jars and vacuum seal (see page 48).
9. If jelly glasses are used, leave about \( \frac{1}{2} \) inch head space. Do not spill jelly on glass.
10. When to be covered with paraffin (necessary when glasses are used), let jelly stand until almost cold, then pour on a layer of hot paraffin. Turn glass so paraffin touches the sides all the way around. (The weight of a very thick layer causes paraffin to pull away from the side of glass.) Paraffin should not be reused; it may cause a musty flavor. Put lids on glasses and store jelly in a cool, dry place.

Test for Pectin

Mix 1 tablespoon cooked unsweetened juice with 1 tablespoon alcohol, preferably grain. Wood or denatured alcohol may be used, but should not be tasted as they are poisonous. If a large clot forms, the juice contains enough pectin for jelly. A longer test is to cook \( \frac{1}{2} \) cup juice with 3 tablespoons sugar and wait to see if it forms a jelly.

Test for Jellying Point

Dip a spoon into the boiling sirup. Tilt spoon until sirup runs out (No. 1 above). When the jellying point is reached (No. 2 above), the last 2 drops will run together and flake, or sheet from the spoon. Thermometers are helpful when cooking jelly, but the sheet test should also be used because the jellying point is not always the same. The range of temperature at the finish, or jellying point, is usually from seven to ten degrees above the boiling point. Boiling point is 212°F. at sea level.
Jelly from Canned Juice

It is practical to can unsweetened fruit juice and make jelly as needed. Such juice is called jelly stock and is usually made of apples or grapes.

Apple Jelly Stock

Select fresh, sound, tart, hard-ripe fruit. Wash, cut and discard blossom ends. Slice or chop rest of apple. Add 2 cups water to each quart sliced apples. Cover and cook gently until soft. Drain through jelly bag or 4 layers of cheesecloth. Reheat just to boiling. Pour, hot into hot Ball Jars. Process 10 minutes in boiling-water bath.

Grape Jelly Stock

Wash, stem, crush and measure fresh, firm-ripe Concord type grapes. Add $\frac{1}{4}$ cup water to each gallon crushed grapes. Heat 10 minutes at simmering. (Do not boil.) Strain through cotton flannel or 4 layers of cheesecloth. Reheat to simmering. Pour, hot, into hot Ball Jars. Process 10 minutes in boiling-water bath.

Apple Jelly

Use either fresh or unsweetened canned juice. Measure juice. Heat to boiling. Add $\frac{3}{4}$ cup sugar for each cup juice. Stir until sugar dissolves, then boil rapidly to jellying point. Skim and pour, boiling hot, into Half-Pint jars or jelly glasses. See page 48 for vacuum sealing.

Berry Jellies

Blackberries, dewberries, loganberries, and many others may be used for jelly. Jelly has better flavor when berries are fully ripe, but is easier (unless powdered or bottled pectin is used) to make when from ½ to ¾ of them are slightly under-ripe.

Wash, stem and drain berries, then crush and measure. If the berries seem very juicy, add no water; otherwise add $\frac{1}{2}$ to 1 cup water for each quart of berries. Boil gently from 10 to 15 minutes, then drain juice through jelly bag or through several layers of cheesecloth.

Measure juice. Heat to boiling. Add $\frac{3}{4}$ cup sugar to each cup juice. Stir until sugar dissolves, then boil rapidly to jellying point. Skim and pour, boiling hot, into Half-Pint jars or jelly glasses. See page 48 for vacuum sealing in jars; page 49 for covering with paraffin.

Grape Jelly

Use either fresh or unsweetened canned juice and follow recipe given for Apple Jelly.

Mint Jelly

Either cook a few sprigs of mint with apple jelly or add a few drops of mint extract after cooking. Color with green food coloring.

Spiced Jelly

Tie a few whole spices in a piece of muslin. Drop into the juice at the beginning of the cooking and let stay until jelly (any kind) is poured into the glasses.

SHORT RECIPES FOR MAKING JELLY

From Juices Which Usually Have Enough Acid and Pectin for Jelly.

When using powdered or bottled pectin, add the amount of sugar and cook for exactly the number of minutes called for in the manufacturer’s recipe.

<table>
<thead>
<tr>
<th>Fruit</th>
<th>To Prepare</th>
<th>Water Needed for Each 4 Cups Fruit</th>
<th>To Cook Fruit</th>
<th>Sugar Needed for Each 4 Cups Juice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apples, Tart</td>
<td>Remove blossom and stem ends. Do not pare or core. Slice</td>
<td>About 2 cups</td>
<td>Boil slowly until soft</td>
<td>3 cups</td>
</tr>
<tr>
<td>Blackberries</td>
<td>Wash. Stem. Crush</td>
<td>None to 1 cup</td>
<td>Boil slowly 10 minutes</td>
<td>3 cups</td>
</tr>
<tr>
<td>Crab Apples</td>
<td>Same as Apples</td>
<td>2 cups</td>
<td>Boil slowly until soft</td>
<td>3 cups</td>
</tr>
<tr>
<td>Cranberries</td>
<td>Wash. Stem</td>
<td>$\frac{3}{4}$ cups</td>
<td>Boil 5 to 10 minutes</td>
<td>3 cups</td>
</tr>
<tr>
<td>Currants, Red</td>
<td>Wash. Stem. Crush</td>
<td>None to $\frac{1}{4}$ cup</td>
<td>Boil slowly until soft</td>
<td>3 cups</td>
</tr>
<tr>
<td>Gooseberries</td>
<td>Wash. Stem</td>
<td>To cover</td>
<td>Boil slowly until soft</td>
<td>3 cups</td>
</tr>
<tr>
<td>Grapes</td>
<td>Wash. Stem. Crush</td>
<td>$\frac{1}{4}$ to 1 cup</td>
<td>Boil slowly 15 minutes</td>
<td>3 cups</td>
</tr>
<tr>
<td>Guavas, Sour</td>
<td>Same as Apples</td>
<td>4 cups</td>
<td>Boil slowly 30 minutes</td>
<td>4 cups</td>
</tr>
<tr>
<td>Loganberries</td>
<td>Wash. Stem. Crush</td>
<td>None to $\frac{1}{4}$ cup</td>
<td>Boil slowly until soft</td>
<td>3 cups</td>
</tr>
<tr>
<td>Mayhaws</td>
<td>Wash. Stem</td>
<td>2 cups</td>
<td>Boil slowly until tender</td>
<td>3 cups</td>
</tr>
<tr>
<td>Plums, Tart</td>
<td>Wash. Stem</td>
<td>1 cup</td>
<td>Boil slowly until tender</td>
<td>3 cups</td>
</tr>
<tr>
<td>Quinces</td>
<td>Wash. Core. Slice</td>
<td>3 cups</td>
<td>Boil slowly 45 minutes</td>
<td>3 cups</td>
</tr>
<tr>
<td>Raspberries</td>
<td>Wash. Stem. Crush</td>
<td>None to $\frac{1}{4}$ cup</td>
<td>Boil slowly 10 minutes</td>
<td>3 cups</td>
</tr>
<tr>
<td>Scuppernongs</td>
<td>Wash. Stem. Crush</td>
<td>$\frac{1}{4}$ to 1 cup</td>
<td>Boil slowly until tender</td>
<td>3 cups</td>
</tr>
<tr>
<td>Sour Oranges</td>
<td>Wash. Peel. Seed. Chop</td>
<td>4 cups</td>
<td>Boil until pulp falls apart</td>
<td>4 cups</td>
</tr>
</tbody>
</table>
For Little People and Dieters

WORRY OVER special menus, also time and money, can be saved by canning foods needed by babies, small children, and others who require special diets.

Things to Remember

1. Ask a doctor for a list of the foods needed or permitted.
2. All fruits may be canned without sugar (page 7).
3. Canned meats and vegetables keep as well without salt as with it; the amount added for seasoning is too small to help prevent spoilage.
4. Half pint and pint jars are usually best to use when canning special foods for one member of a family.
5. If all food cannot be used at one meal, remove the amount needed, close the jar and store in refrigerator. The food should keep 2 or 3 days, or longer, depending upon the type of food and temperature at which stored.
6. Use extra care in selecting, preparing, packing and processing. Lose no time between these steps.

Strained (Puréed) Fruits

Apples, apricots, peaches and pears may be cooked and canned as a sauce or purée. When making sauce follow recipe for Applesauce (page 10). For strained fruits follow recipe for Apricot Purée (page 17). The sugar may be omitted.

Chopped Vegetables

Wash, rinse, drain and chop tender, fresh vegetables. Boil 3 minutes in just enough water to cover. Pack and process as instructed in the regular recipe for canning.

Strained (Puréed) Vegetables

Asparagus, Carrots, Green Beans, Lima Beans, Spinach (For tomato purée, see page 15.)

Use fresh, tender vegetables. Prepare according to the recipe for regular canning. Steam until soft, or cook in the smallest possible amount of water. Press through fine sieve or food mill. Add boiling water, if needed, to make the purée about as thick as whipping cream. Reheat to boiling. Pour into hot Ball Jars. Process: Asparagus, Carrots, Green Beans—pints 35 minutes, ½ pints 30 minutes, at 10 pounds pressure. Green Peas and Lima Beans—pints 40 minutes, ½ pints 35 minutes, at 10 pounds pressure. Spinach—pints 55 minutes, ½ pints 45 minutes, at 10 pounds pressure.

NOTE: Processing time for strained vegetables is longer than for those chopped or canned whole, because the thickness of the purée slows the rate of heat penetration.

Chopped Beef, Lamb, Liver, Veal

Trim fresh raw meat free of fat, gristle and heavy connective tissue. Chop meat. Pack into hot Ball Jars. Add boiling water to cover. Process pints 75 minutes, ½ pints 65 minutes, at 10 pounds pressure.

Stew

Use ¼ cup each chopped green beans, carrots and potatoes to ¼ cup chopped raw beef, lamb or veal. Thoroughly wash, rinse and drain young, tender vegetables. Peel carrots and potatoes before chopping, mix vegetables with the meat. Loosely pack into hot Ball Jars. Add boiling water to cover. Process pints 60 minutes, ½ pints 50 minutes, at 10 pounds pressure.
Home Freezing

ALTHOUGH primitive man enjoyed frozen food ages before Nicholas Appert discovered the "art of canning," the present generation of homemakers is the first to use freezing as a method of preserving a large variety of foods. Some foods are better frozen than when canned; others are better canned.

Freezing preserves food because it delays or stops the growth of bacteria, molds and yeasts, and retards the activity of enzymes for many months, or for only a few days. The length of time frozen foods hold fresh flavor and natural color depends upon the kind and variety of food used, its selection and preparation, and the container in which it is frozen, as well as the efficiency of the freezing unit.

Some varieties of the same kind of fruit and vegetable freeze well, others do not. County home demonstration agents and state colleges of agriculture can usually supply a list of locally grown produce suitable for freezing.

Brief Definitions

Freezer—A metal box coated with porcelain or enamel, insulated and fitted with devices which automatically cause the refrigerant, usually Freon, to change from liquid to gas, and flow through a series of coils to keep the temperature within the freezer at, or near, zero.

Frozen Food Locker—An insulated room equipped with freezing compartments or lockers. Some locker plants offer such extra services as butchering and packaging; whereas others merely provide rental space for freezing.

Blanching—Scalding vegetables (and some fruits) in boiling water or steam until hot through.

Cold Dipping—Chilling blanched foods in cold water.

Hay-Flavor—A strange hay-like flavor which develops in vegetables which have not been properly blanched to destroy enzymes, or have been frozen in containers which were not air and vapor-tight.

Vapor—Vapor in a freezer is usually the moisture which results when ice evaporates without passing through the liquid stage. Frozen foods become dry and tasteless when the container is made of a material, or closes in a manner, that permits the escape of vapor.

Freezer Burn—Discolored spots appear on meat frozen in packages which are not vapor-proof and airtight. The meat usually develops a rancid taste.

Anti-Browning Agents—Ascorbic and citric acids, lemon juice, or anything else used to keep fruit from turning brown when exposed to air.

Frozen Food Containers

For good results in freezing, the container must be airtight, leak-, moisture-, odor- and vapor-proof. It should be strong and also easy to fill, close and empty.

Freezer Jars

Ball "All-Purpose" Freezer Jars meet all the requirements of a good container for fruits, vegetables, and anything else suitable for freezing in 8, 16 and 22 ounce packages. These jars are:

1. made of clear, odorless, tasteless, glass annealed to withstand both the coldest and the hottest temperatures used in food preservation;
2. made without shoulders (shoulders cause breakage and delay removal of contents);
3. wider at the top than at the bottom to prevent breakage in freezing, permit food to slide out in one whole frozen piece (see picture of cheese and fruit salad, page 56), and make it possible to stack one jar on another without danger of toppling over;
4. easy to fill and close, air-, liquid- and vapor-tight, with Ball Dome Caps, or with a one piece cap. (The one piece cap for Freezer Jars is not available in all markets; Freezer Jars sold on the West Coast are fitted with them.)
5. used interchangeably for freezing and canning—neither heat nor cold, if properly applied, can damage them. (When using Freezer Jars for canning, follow instructions for using Mason Jars and Ball Dome Caps.)
To Use Ball Freezer Jars

1. Wash jars in hot soapy water; rinse and cool.
2. Dip Dome Lids (or 1 piece cap) into boiling water, or pour boiling water over them.
3. If food has no “free” liquid, fill jar almost to top. Liquids and wet packs require 1/2 inch head space in Half-Pints and pints; 3/4 inch in 22 ounce jars.
4. Put Dome Lid and band (or 1 piece cap) on jar and screw down to hold rubber sealing compound tightly against top of jar.
5. Keep jars upright until food is frozen, then arrange them in whatever position wanted.
6. When using Ball Dome Caps, leave screw bands on jars until time to use the food. The bands must be left on because the jars, when used in freezing, are not sealed by vacuum.

To Remove Frozen Food from Freezer Jars

1. Vegetables and other foods to be cooked or heated:
   (a) Let cool water run on cap 2 or 3 minutes—just until surface of food touching the glass thaws.
   (b) Remove cap, invert jar and let food slide out into pan in which it is to be cooked or heated.
2. Salads and desserts to be served while frozen:
   Follow instructions (a) and (b) above. Empty frozen contents of jar into a chilled dish or platter.
3. Fruits, sandwich fillings and other foods which require defrosting, but not heating:
   (a) Place jar in “warmest” part of refrigerator, or on kitchen table or counter, several hours before contents are needed.
   (b) Do not open jar until ready to use the food.

Freezing in Fruit Jars

Foods can be, and often are, frozen in Ball Mason Jars. However, no fruit jar meets the requirements of a good frozen food container. All regular fruit jars, regardless of who makes them, are wider at the bottom than at the top—they also have shoulders. Food pushes up as it freezes; the upward pressure against the narrowing shoulder can cause breakage unless a deep head space is left. Deep head space wastes both container and freezer space, and holds a large amount of air in close contact with the food; oxygen in the air causes food to discolor and change flavor. Several hours are required for defrosting. A jar sized piece of frozen food cannot pass through the mouth of a fruit jar. *Fruit jars can not be stacked.*

To Freeze Fruits

Use fully ripe, but not over-ripe, fruits of fine flavor and even color. Wash and rinse them in ice cold water, and then hull (cap), pit or peel as for canning. Fruits must be handled gently to prevent bruising and should be kept as cool as possible from the moment they are taken from vine or tree until they are placed in the freezer or locker. Freeze them in sirup, dry sugar, or without sugar.

Most fruits have better color, flavor and texture when frozen in sirup, but all of them may be mixed with dry sugar before packing. Gooseberries, currants, cranberries and rhubarb, to be cooked before serving, freeze all right without sugar. However, with the exception of red raspberries and strawberries, it is better to can than to freeze other fruits needed in low-sugar diets.

To Prevent Browning

The flesh of raw apricots, nectarines, cherries and most varieties of peaches turn brown when exposed to air. These fruits usually retain natural color when quickly prepared, placed directly into sirup and frozen immediately. However, ascorbic acid and other anti-browning agents are good color insurance for sirup packs, and should be used when freezing light colored fruits in dry sugar, or without sugar.

To use:

1. Ascorbic Acid, When Freezing.
   (a) In Sirup . . . Unless the recipe calls for a different amount, use 1/2 teaspoon ascorbic acid for each quart of sirup. Dissolve the acid in a little cold water and add to sirup just before using.
   (b) In Dry Sugar . . . For each quart of apricots, nectarines, peaches, or light cherries, dissolve 1/4 to 1/2 teaspoon ascorbic acid in 2 tablespoons cold water. Sprinkle over fruit before mixing with sugar.
   (c) Without Sugar . . . For each quart of apricots, nectarines, or peaches to be frozen, dissolve 1/4 or more teaspoon each ascorbic and citric acid in 2 tablespoons cold water. Sprinkle over fruit before putting it into Freezer Jar.
2. Ascorbic Acid Mixtures.
   Use according to the manufacturer’s instructions.
3. Steam.
Steaming or scalding in boiling water until hot through is recommended for apples, and some other fruits. The fruit must be chilled in ice water and drained before packing for freezing.

**To Pack Fruit for Freezing**

1. **In Sirup** . . . Pour about \( \frac{1}{2} \) cup ice cold sirup into Freezer Jar. Fill jar half full with fruit, then shake jar to pack fruit as closely as possible without crushing. Finish filling jar. (Leave \( \frac{1}{2} \) inch head space if using 16 ounce, and \( \frac{3}{4} \) inch if using 22 ounce jar.) Shake jar again. Add more sirup, if needed, to cover fruit. Place small piece of crumpled cellophane or parchment paper on top of fruit to hold it under sirup. Screw cap tight.

2. **In Dry Sugar** . . . Spread fruit in shallow pan. Sprinkle with ascorbic acid (if using). Cover with sugar (see page 59 for amount), then use spatula or shallow spoon to gently turn fruit over and over until each piece is coated with sugar. Fill Freezer Jar. Shake jar to pack fruit closely. Place piece of crumpled cellophane or parchment paper on top of fruit. Screw cap tight.


---

**Things to Remember**

1. Get ready Freezer Jars, caps, and anything else needed.
2. Make and chill sirup. Do not add ascorbic acid until just before using.
3. Use sound, fresh, ripe fruits.
4. Handle fruits gently and quickly.
5. Put container into freezer or take to frozen food locker as quickly as possible after packing.

**Sirups for Freezing Fruits**

Make sirup by boiling sugar with water until sugar dissolves. The sugar may be dissolved in cold water, but the sirup is somewhat clearer if cooked. It must be ice cold when used. A medium sirup is usually preferred for most fruits; however, a heavier one may be used.

- **Medium** . (40 percent) \( \frac{3}{4} \) cups sugar to 4 cups water
- **Heavy** . (60 percent) \( \frac{7}{4} \) cups sugar to 4 cups water

(Follow the manufacturer’s instructions when using corn sirup.)

**Apples**

Put 2 or 3 quarts water in large pan or kettle and place over heat to boil. Dissolve 2 tablespoons salt in 1 gallon cold water. Wash, drain, core, pare and slice apples directly into the salt-water. When enough apples to fill 2 or 3 Freezer Jars have been prepared, drain and place them in square of cheese cloth or wire basket and let stand in the boiling water 2 to 3 minutes, then cool in the ice cold water. Drain. Sprinkle lightly with sugar. (Use about \( \frac{1}{4} \) cup sugar for each pint of apples.) Pack apples into Ball Freezer Jar. Screw cap tight.

**Apricots**

Use \( \frac{3}{4} \) teaspoon ascorbic acid, or \( \frac{1}{4} \) teaspoon ascorbic and \( \frac{1}{2} \) teaspoon citric acid to each quart ice cold medium or heavy sirup. Wash, rinse, drain, halve, pit and peel fully ripe fruit. Drop halves directly into Freezer Jar containing about \( \frac{1}{2} \) cup sirup. Add more sirup, if needed, to cover fruit. Place small piece of crumpled cellophane or parchment paper on fruit. Screw cap tight.

**Berries**

1. Blackberries, Boysenberries, Dewberries, Loganberries, Youngberries . . . Pick over, rinse and drain berries. Pour about \( \frac{1}{2} \) cup medium sirup (no acid needed) into Freezer Jar. Add berries and if needed, more sirup to cover them. Place piece of crumpled cellophane or parchment paper on berries. Screw cap tight.
2. Blueberries . . . The skins of blueberries and huckleberries tend to toughen in freezing. Toughening may be prevented by scalding berries. To scald: Place from 1 to 1 1/2 quarts clean berries in square of cheesecloth, hold in boiling water 1 minute. Chill berries in cold water, drain, pack and freeze as explained in No. 1 above.

3. Raspberries, Red . . . Rinse a few berries at a time in ice cold water. Drain and freeze in medium sirup as explained in No. 1 above.

4. Raspberries, Black . . . Prepare, pack and freeze as explained in No. 1 above.

5. Strawberries . . . Use medium or heavy sirup. Rinse a few berries at a time in ice cold water. Drain, hull (cap), leave whole or slice. Pack and freeze as explained in No. 1 above.

If preferred, berries may be measured and mixed with from 1/2 to 1 cup dry sugar to each quart berries before packing into Ball Freezer Jars. Strawberries should be sliced before mixing with sugar.

Fruit Salad
A mixture of fruits, such as peaches, green gage plums, pears and orange sections may be frozen in sirup for use in salads. However, mayonnaise, cooked salad dressing and whipped cream tend to separate or curdle if stored several weeks. The salad shown in the picture opposite was made by mixing and freezing fresh peaches, pears, cherries, canned apricots, pineapple and cream cheese.

To Freeze Vegetables
Use garden-fresh vegetables when they first reach their most perfect stage for cooking. At this stage: tips of ASPARAGUS are tight; BROCCOLI is dark green, stalks tender, “buds” tight; CORN is tender, glossy and plump; pods of GREEN BEANS are meaty and the beans tiny; BUTTER, KIDNEY, LIMA and SOY BEANS—and all PEAS are green on the inside.

BEFORE PREPARING VEGETABLES
1. Get ready Freezer Jars and Caps, and all utensils needed.

2. Fill large kettle with water and place over heat to boil. (The kettle should be large enough to hold one gallon of water for each quart of vegetables to be scalded.)

3. Have plenty of ice cold water, also large container, available for chilling vegetables.

4. Sort vegetables for size, color and maturity. Discard all tough, wilted or over-mature pieces.

TO PREPARE AND PACK VEGETABLES
Sort, wash, rinse, drain, then prepare vegetables as for canning or cooking. Place 2 or 3 pints of prepared vegetables in wire basket or cheesecloth bag, then put basket or bag into large kettle containing about 1 gallon rapidly boiling water. Cover kettle and scald vegetables for the number of minutes given on page 59. Start counting scalding time when water begins boiling again. The purpose of scalding is to destroy enzymes and prevent undesirable changes in flavor, color and texture. After scalding, plunge vegetables in ice cold water to cool them quickly, and to stop the cooking. Do not let stand in the water longer than necessary to chill. Drain thoroughly, then pack into Freezer Jars. Screw cap tight. Freeze as quickly as possible.

Butter
Make butter from pasteurized cream. Thoroughly work to remove liquid. Tightly pack into Freezer Jar. Screw cap tight. Butter usually keeps longer (6 to 8 months) if not salted.

Meats, Poultry, Game
Any fresh raw, or freshly cooked, meat or fowl suitable for freezing in 16 and 22 ounce containers may be frozen, to an advantage, in Ball Freezer Jars. These jars are especially satisfactory for use in freezing stews and meats with gravy or sauce.

RAW MEATS . . . are prepared and packed for freezing just as they are for canning (pages 26-27), except no salt is used when meat is to be frozen.

COOKED MEATS . . . should be chilled, packed and frozen as quickly as possible after cooking. Cut meat into jar-size or serving-size pieces, slices, or cubes before packing into Freezer Jars. If to be kept several weeks or longer, remove all fat from gravy or broth.

Beef, Lamb or Veal Stew
Use a favorite recipe or one given on page 27 for making the stew. Cool stew as quickly as possible, skim off fat. Pour into Freezer Jar. Wipe off any gravy spilled on jar. Screw cap tight.

Hamburgers
Use freshly ground beef. Season lightly with salt and pepper. If to be kept several months it is best to leave out the salt. Make into patties and brown lightly, or pack raw. Place two layers of heavy waxed paper between each hamburger, and over the one at the top of Freezer Jar. Screw cap tight.
Chicken and Other Fowl

Select and Prepare Poultry and Game as for Canning

1. FOR FRYING . . . Pack the meaty pieces as they fit best into Freezer Jar. Screw cap tight.

2. FOR STEWS OR PIE . . . Cut the meat into serving-size pieces before packing into Freezer Jar. Screw cap tight.

3. FOR SANDWICHES, SALADS, ETC. . . . Steam or bake chicken, turkey, duck, etc., until tender. Chill, then cut into slices or cubes. Pack into Freezer Jar. Screw cap tight.

4. CHICKEN A LA KING . . . Use a favorite recipe or the one on page 27. Chill as quickly as possible, pour into Freezer Jar. Wipe top of jar. Screw cap tight.

5. LEFTOVER ROAST OR BAKED FOWL . . . may be cut into serving-size pieces and frozen in Freezer Jars. Unless to be used in a few days, stuffings should not be frozen with the meat.

Fresh Pork Sausage

Sausage should be made from freshly slaughtered, thoroughly chilled hog meat. Grind meat as liked and season lightly, especially with salt and sage. Salt causes rancidity. The flavor of sage tends to become stronger during freezing; however, spices, other than cloves, seem to help preserve freshness of flavor. “Work” the ground meat well with hands, then form into patties or balls. Follow instructions under Hamburger for packing into Freezer Jars.

NOTE: Fresh unseasoned sausage may be tightly packed into Freezer Jars. When packed and frozen in this manner the sausage should be thawed in the jar and seasoned before using.

Smoked Ham

Cut ham as wanted and trim free of fat. Pack ham into Freezer Jar. Screw cap tight.

Smoked Sausage

Season, “work,” and pack fresh sausage into casing, jar-size cloth bags or corn shucks. Hang over hickory or other favorite wood smoke until thoroughly cured. Place in Freezer Jar. Screw cap tight. Sausage usually keeps longer if smoked before freezing.

Tenderloin

Cut thoroughly chilled tenderloin into jar-length pieces or slice it crosswise. Pack into Freezer Jar. Screw cap tight.

Scrapple, Headcheese and Souse

Use any favorite recipe. When product is ready for molding, pour into Freezer Jar (leave about ½ inch head space). Let stand until cold, then put cap on jar and screw tight.

Venison

Follow instructions for freezing other meats. Also remember to check with your game warden or county sheriff if you do not know the length of time game may be legally stored.

SEAFOODS

Fish

Clean and cut freshly caught fish as for cooking. Drain well and pack into Freezer Jar. Screw cap tight.

Salmon, Herring and Trout . . . keep a fresh flavor longer if dipped into ice cold water containing ascorbic acid (use 1 teaspoon acid to 1 quart water), packed into Freezer Jars, sealed, and frozen immediately.

Crabs and Lobsters

Prepare as for cooking. Drain well and pack into Freezer Jar. (Do not add salt or liquid.) Screw cap tight.

Shrimp

Wash freshly caught shrimp, then cook by boiling 10 minutes. Chill in cold water, remove shells and sand veins. Rinse in cold water. Drain. Pack into Freezer Jar. Screw cap tight. Shrimp keeps somewhat longer if frozen raw. To freeze raw shrimp: Wash, then remove heads. Rinse and drain shrimp before packing into Freezer Jar.

Cooked Foods

Baked beans, candied sweet potatoes, chili, hash, pie fillings, meat balls in tomato sauce, Spanish rice, soups and anything else suitable for freezing in 16 and 22 ounce containers may be frozen in Ball Freezer Jars.

CAUTION! Soups and dishes containing meats, meat products, milk, eggs or seafood must be cooled and frozen as quickly as possible after cooking.
### TO FREEZE FRUITS AND VEGETABLES IN BALL FREEZER JARS

#### FRUITS

<table>
<thead>
<tr>
<th>Fruit</th>
<th>Prepare</th>
<th>Scald*</th>
<th>Sweeten as Preferred</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apples</td>
<td>Wash, core, pare, slice. Drop into cold salt-water (2 tablespoons salt to gallon water). Drain</td>
<td>2 to 3 min.</td>
<td>40 percent sirup; or 4 to 5 parts fruit to 1 of dry sugar; or without sugar</td>
</tr>
<tr>
<td>Applesauce</td>
<td>Make in usual way. Chill</td>
<td></td>
<td>To suit taste</td>
</tr>
<tr>
<td>Apricots</td>
<td>Wash, halve, pit</td>
<td>1 min. (if to be peeled)</td>
<td>40 to 50 percent sirup</td>
</tr>
<tr>
<td>Blackberries</td>
<td>Wash, sort, drain</td>
<td>No</td>
<td>40 to 50 percent sirup; or 4 to 6 parts berries to 1 of dry sugar</td>
</tr>
<tr>
<td>Black Raspberries</td>
<td>Wash, drain</td>
<td>1 min. to tenderize skins</td>
<td>40 percent sirup; or without sugar</td>
</tr>
<tr>
<td>Boysenberries</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Loganberries</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blueberries</td>
<td>Wash, drain</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cherries</td>
<td>Wash, drain, pit, or leave whole</td>
<td>No</td>
<td>40 to 60 percent sirup; or 4 to 6 parts fruit to 1 of dry sugar</td>
</tr>
<tr>
<td>Cranberries</td>
<td>Wash, stem, drain</td>
<td>No</td>
<td>50 percent sirup; or without sugar</td>
</tr>
<tr>
<td>Figs</td>
<td>Wash, sort, remove stems</td>
<td>No</td>
<td>40 percent sirup</td>
</tr>
<tr>
<td>Peaches and</td>
<td>Wash, scald ½ to 1 minute.</td>
<td>Nectarines may be frozen unpicked</td>
<td>40 to 50 percent sirup; or 4 to 5 parts fruit to 1 of dry sugar</td>
</tr>
<tr>
<td>Nectarines</td>
<td>Chill in cold water. Drain, halve, pit, skin and drop into jar</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plums and Prunes</td>
<td>Wash, pit, halve</td>
<td>No</td>
<td>40 to 50 percent sirup</td>
</tr>
<tr>
<td>Raspberries, Red, Purple or Yellow</td>
<td>Rinse in iced water. Drain</td>
<td>No</td>
<td>40 to 50 percent sirup</td>
</tr>
<tr>
<td>Rhubarb</td>
<td>Wash and cut into one-inch pieces</td>
<td>No</td>
<td>40 to 50 percent sirup</td>
</tr>
<tr>
<td>Strawberries</td>
<td>Rinse in cold water, hull, slice or leave whole</td>
<td>No</td>
<td>40 to 50 percent sirup; or 3 or 4 parts fruit to 1 of dry sugar</td>
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#### VEGETABLES

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<th>Prepare</th>
<th>Scald*</th>
<th>Pack</th>
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<td>Asparagus</td>
<td>Wash, trim. Use tender parts only</td>
<td>3 min.</td>
<td>Pack without liquid</td>
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<tr>
<td>Beans—Lima or</td>
<td>Shell, wash</td>
<td>3 min.</td>
<td>Pack without liquid</td>
</tr>
<tr>
<td>Butter</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Beans—Green,</td>
<td>Wash. Cut as wanted</td>
<td>3 min.</td>
<td>Pack without liquid</td>
</tr>
<tr>
<td>Snap, Wax</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Beans—Soy</td>
<td>Scald pods. Shell</td>
<td>5 min.</td>
<td>Pack without liquid</td>
</tr>
<tr>
<td>Broccoli and</td>
<td>Discard tough stems, divide head in small sections, wash</td>
<td>3 to 4 min.</td>
<td>Pack without liquid</td>
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<tr>
<td>Cauliflower</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brussels Sprouts</td>
<td>Discard tough stems and leaves</td>
<td>3 to 4 min.</td>
<td>Pack without liquid</td>
</tr>
<tr>
<td>Peas—Green,</td>
<td>Shell, wash</td>
<td>2 to 3 min.</td>
<td>Pack without liquid</td>
</tr>
<tr>
<td>Blackeye, etc.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spinach and</td>
<td>Wash, cut and discard thick stems</td>
<td>2 to 3 min.</td>
<td>Pack without liquid</td>
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<tr>
<td>other Greens</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sweet Corn</td>
<td>Boil 3 to 4 min. Dip in cold water. Cut from cob. Rinse in cold water. Drain</td>
<td>See column 2</td>
<td>Pack without liquid</td>
</tr>
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*Thoroughly chill in cold water after scalding. In high altitudes, increase scalding time ½ to 1 minute.*
Answers to Canning Questions

FOODS DARKEN IN THE TOP OF THE JAR WHEN—
(a) not covered with liquid, (b) not processed enough to destroy enzymes, (c) the manner of packing and processing does not produce a high vacuum, (d) air is sealed in jars, as often happens in open kettle canning.

FRUITS DARKEN AFTER REMOVING FROM JAR BECAUSE—they haven’t been processed long enough to destroy the enzymes.

PINK, RED, BLUE, OR PURPLE COLOR—in canned apples, pears, peaches and quinces, is caused by natural chemical changes which occur in cooking. If the liquid is clear and the odor natural, the fruits may be used. Cloudy liquid suggests spoilage.

CORN BECOMES BROWN WHEN—(a) too mature for canning, (b) packed without enough liquid, (c) processed at too high temperature.

GREEN VEGETABLES LOSE THEIR BRIGHTNESS BECAUSE—heat breaks down chlorophyll, the green coloring matter in plants.

GREEN VEGETABLES TURN BROWN FROM—overcooking, or from being too mature for canning.

SOME FOODS BECOME BLACK, BROWN OR GRAY BECAUSE—natural chemical substances, such as tannins, sulphur compounds and acids in the food react with minerals in water, or with the metal utensils used in preparing the food. Avoid using copper, iron or chipped enamelled ware, also utensils from which tinplate has worn.

CRYS TALS IN GRAPE PRODUCTS—are usually caused by the tartaric acid in grapes.

YELLOW CRYSTALS—on canned green vegetables are usually glucosides, a natural and harmless substance in the vegetable.

WHITE CRYSTALS—on canned spinach, are usually caused by the calcium and oxalic acid in the spinach combining to form harmless calcium oxalate.

WHITE SEDIMENT—in the bottom of jars of vegetables may be starch from the food or minerals from the water. It may also be caused by bacterial spoilage. Usually, if caused by spoilage, the liquid is murky and the food soft.

CLOUDY LIQUIDS MAY BE DUE TO—(a) spoilage, (b) minerals in water, (c) starch in vegetable, (d) “fillers” in table salt.

FRUIT FLOATS IN JARS BECAUSE—it is lighter than the sirup. Floating may be prevented or reduced by (a) using firm, ripe fruit, (b) heating before packing, (c) using light to medium sirup, (d) packing as closely as possible without crushing, (e) using the right time and method for processing. Sometimes, not always, apricots, peaches and pears will absorb enough sirup to prevent floating, if after cooling, the jar is laid on the side for a few days and turned each day.

LOSS OF LIQUID DURING PROCESSING IS CAUSED BY—(a) food not heated before packing, (b) food packed so tightly that liquid does not fill the spaces between the pieces of food, (c) air bubbles not removed at time of packing (this is done by running a knife between food and jar), (d) pressure canner not operated correctly, (e) jars not covered with water in boiling-water bath canner, (f) starchy foods may absorb some of the liquid. Loss of liquid may cause the food to darken, but does not cause spoilage. Do not open jar to replace liquid.

SOME QUICK COOKING VEGETABLES NEED LONG PROCESSING BECAUSE—bacteria cannot be destroyed in the time required for cooking.

AVOID ALL “TRICK” METHODS—such as “blanket,” “aspirin,” “cold water,” “vinegar-sugar-salt,” “canning powders,” etc. There are no safe short cuts in canning!

HOLLOW PICKLES—are thought to be caused by faulty growth or staleness of cucumbers.

SOFT PICKLES ARE CAUSED BY—(a) using brine or vinegar which is too weak, (b) not keeping pickles covered with liquid, (c) not keeping scum removed from top of brine, (d) not heating enough to destroy organisms of spoilage, (e) not sealing jars airtight while boiling hot.

SHRIVELLED PICKLES ARE CAUSED BY—adding too much salt, sugar or vinegar at one time.

WHITE SEDIMENT—in bottom of jars of firm pickles is usually harmless yeasts which have grown on the surface, and then settled.

GARLIC—in pickles may become green unless it is fully mature, and thoroughly dry when used. Garlic and onion may also cause spoilage if not thoroughly heated before (or after) adding to pickles.
CIDER VINEGAR—is not necessary for making pickles and relishes. In fact, some expert home canners prefer to use white distilled vinegar. The important thing is to use a high grade product.

PICKLES—are likely to spoil unless heated until almost boiling hot at the center, packed into jars, covered with boiling hot liquid and sealed at once or packed cold, covered with boiling hot liquid and processed 15 minutes in a boiling-water bath. The short cooking will not soften pickle. The processing time is for pints and quarts. Half gallons require 25 minutes.

IF PICKLES FERMENT—in a jar and some of the liquid runs out, the pickles should be covered with fresh hot liquid and the jars processed 15 minutes to prevent further fermentation.

IF NEITHER FRESH NOR DRIED DILL—is available, dill seed may be used in making pickles. 2 or 3 tablespoons dill seed are needed for each quart pickle.

THE AMOUNT OF PICKLING SOLUTION—called for in a recipe may not be “just right” every time because the condition of the fruit or vegetable and the manner of packing into the jar influence the amount needed. If not enough to cover the pickle add more vinegar, if too much and it is a rich sirup put it in refrigerator for later use.

WHEN USING MONOSODIUM GLUTAMATE—to improve flavor of vegetables, add it before canning. Follow manufacturer's instructions for the amount to use.

FLAVOR OF VEGETABLES—canned for persons on restricted diet can be improved. If there is no medical reason to prevent, try adding a tablespoon or two of lemon or orange juice, and a small piece of peel to each quart of carrots, beets or asparagus. A bit of clove or nutmeg or curry powder, or mixed herbs give green beans and peas a lift. A spoonful of chopped celery and a sliver of pimento add a pleasant flavor to a jar of green vegetables.

SOME 20,000,000—homemakers can food every year and millions more put up jellies and jams.

IODIZED SALT—will not change the color of canned vegetables.

IF JELLY IS CLOUDY—(a) fruit was probably too green, (b) fruit may have been cooked too long, (c) juice may have been squeezed from fruit. For clearest jelly, let juice drip through cotton flannel bag.

IF JELLY CONTAINS GLASSLIKE PARTICLES—it may be due to: (a) using too much sugar (when measuring use regular measuring cup and level off the sugar with straight edge of knife. When pectin is not added, $\frac{3}{4}$ cup sugar to one of juice is right for most fruits); (b) long, slow cooking; (c) undissolved sugar sticking to pan and washing into jar as jelly is poured.

Note: If jelly is grape, the crystals may be tartaric acid, the natural substance in grapes from which cream of tartar is made. They are unlikely to appear in jelly made from canned juice or from fresh juice which is carefully strained after standing in a refrigerator several days.

WHEN JELLY IS LOW IN FRUIT FLAVOR—the trouble is due to using: (a) fruit with little flavor, (b) long storage (a year is enough), (c) warm storage. The cooler, the darker, the drier the storage space, the better.

BUBBLES IN JELLY—(a) if they are standing still, pan from which poured was not held close to top of jar or else jelly was poured slowly and air was trapped in the hot jelly, (b) if they are moving, jelly is spoiling. Try vacuum sealing next time!

IF JELLY WEEPS—syneresis or “weeping” more often occurs in quick-setting jellies. It is thought to be caused by: (a) the quantity of acid and quality of pectin in the fruit—nothing you can do about it, (b) poor storage conditions. Jelly should be kept in a cool, dry place.

IF JELLY FERMENTS—when jelly weeps and breaks through the paraffin or when paraffin is not properly applied to make an airtight seal, yeasts grow on jelly and cause it to ferment.

IF JELLY MOLDS—container was not properly sealed. Pour jelly, boiling hot, and quickly seal with regular home canning cap.

COOK ALL JELLY IN SMALL BATCHES—never increase the recipe supplied by the manufacturer of pectin. If making jelly without added pectin, use no more than 8 cups juice to the batch; 5 or 6 are better.
FOOD VALUE—When properly prepared, quickly packed, and processed by the right method, home canned foods have as much food value as when cooked in the ordinary manner, or canned by usual commercial methods.

HOME CANNED FOODS “KEEP” FOR MANY YEARS—Some hold color, flavor, texture and food value longer than others, but, whether the food is canned at home or in a factory, natural chemical changes are usually noticeable within a year. It is therefore recommended that, in most instances, only enough be canned to last one year. The cooler the storage space, the longer canned food will retain its freshly cooked color and flavor.

BOIL LOW-ACID FOODS FOR 15 MINUTES BEFORE TASTING—This is an extra precaution taken for the purpose of destroying any toxin which could be present if some error was made in processing. Thick masses, such as greens, should be stirred while boiling. Never taste food of any kind to learn whether it is spoiled!

FLAT-SOUR—is the most common type of spoilage in canned vegetables. It is caused by bacteria which give food an unpleasant, sourish flavor. Flat-sour is avoided by the use of right methods of selecting, handling, preparing, packing, processing, and cooling.

MOLD—A few flecks on top of canned fruit, jelly or preserves, may change flavor, but is not considered harmful. A heavy growth of mold is a warning not to use the food.

PERSONS WHO USE UNRELIABLE CANNING METHODS—may have “good luck” for years, then comes a season when everything spoils. This is because heat-resistant bacteria are not always present. When these organisms are absent under-processed foods may keep. If they are present the food spoils.

THERE IS ONLY ONE GENUINE DOME LID—It is made by Ball Brothers Company, Muncie, Indiana, and Ball Brothers Company of California, El Monte, California.

BALL DOME LIDS—not used one season may be stored in a dry, reasonably cool (ordinary room temperature) place and used the next year.

BALL JARS ARE PROPERLY ANNEALED (TEMPERED)—when made, therefore boiling them for any purpose other than sterilization is a waste of time.

MOLD—Home canners who use the right methods of selecting, preparing, packing and processing foods have no reason to worry about botulism.

Spores of clostridium botulinum are carried from one place to another by dust, wind, and the soil clinging to raw foods. These spores can grow in a tightly sealed jar of any low-acid food because they belong to a species of bacterium which cannot grow in the presence of air, and does not normally thrive in acid food.

Spores of clostridium botulinum are harmless unless they start growing in sealed jars, then they produce a toxin which causes serious illness. The spores are destroyed when low-acid foods are correctly processed in a steam pressure cooker which is in good working order.

IF A JAR OF FOOD FAILS TO SEAL—correct the cause, and reprocess full time, or use the food immediately. The sealing failure may be due to failure to follow instructions for using jar and cap, or to a bit of food being forced up between the jar and lid during processing.

SPURIOUS BULGES—Old jars were made for shoulder seal, and processing foods have no reason to worry about botulism.

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JARS SHOULD BE CLEAN AND HOT WHEN FILLED—but they do not need to be sterilized if they are to be processed in boiling-water bath or steam pressure canner.

A SUDDEN CHANGE OF TEMPERATURE—is likely to cause any jar to break. Never put a hot jar on a cold surface or in a draft, and never pour boiling hot liquid into a cool jar.

BALL JARS WILL WITHSTAND ANY TEMPERATURE—used in food preservation. Extreme cold cannot make them brittle.

DO NOT USE WIRE BRUSHES—or steel wool, or washing soda for cleaning jars. Such things are likely to damage the glass.

DO NOT USE OLD JARS WITH TWO PIECE METAL CAPS—Old jars were made for shoulder sealing; consequently, the top finish is usually unsuitable for top sealing.

ALWAYS FOLLOW THE MANUFACTURER’S INSTRUCTIONS—for filling, sealing, processing and testing the seal. Taking for granted that all home canning caps are alike and are used exactly the same way is a common cause of sealing failure.
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Ball Dome two-piece metal cap, made in three sizes—regular Mason, wide, and narrow (63mm) mouth.

Wide mouth Mason jar, made in three sizes—pint, quart and half gallon; seals with Ball Dome Cap.

Half pint jar—for jelly, jam, canning and freezing; seals with Ball Dome Cap.

Jelly Glass—half-pint only.

Freezer jar, two sizes—made in 16 and 22 ounce; seals with either wide mouth Ball Dome Cap or one-piece Freezer Jar Cap. (One-piece cap not available in all localities.)

Mason jar, made in three sizes—pint, quart and half gallon; seals with either Ball Dome Cap or Zinc Cap and No. 11 Rubber.

Ideal Jar, made in two sizes—pint and quart. ( Widely distributed in eastern states, few sold elsewhere.)
better wraps for FROZEN FOODS

by Louise J. Peet and Mildred Nelson

Mrs. Harold Hansen, Nevada, inspects meat from her freezer. Packages are dated and labeled as to type of cut.

"FREEZER BURN" is robbing many Iowa families of the best flavor in their frozen foods. Many foods, especially meat, dry out on the surface when stored in freezer lockers without proper packing. That's what we mean by "freezer burn."

Often meat that goes into the home locker in prime condition comes out lacking its full flavor and freshness. It comes out with a dry surface, hard and dull in appearance. To a lesser degree the same is true of fruits and vegetables. These foods, too, are sometimes stored in containers that were not meant for freezing—ice cream cartons and the like.

We were permitted a look into quite a number of family food lockers recently. In general we found Iowa families doing a fine job of freezing their own foods. But some of them aren't getting the full freezer freshness from their meat, fruits and vegetables just because they aren't doing a good wrapping job at the start.

With all due respect to Lil' Abner, Gasoline Alley, et al.—we don't think meat wrapped in old funny papers is getting the protection it deserves. Fresh peas put away in a brown paper bag

Good packaging is important to the lasting flavor and quality of frozen foods. These sealed cellophane bags are a good guarantee that the vegetables placed in them will stay moisture-proof and fresh.
can’t be expected to hold their best flavor for long. Yet such treatment is prevalent if we can judge by some of the lockers we saw.

**Keep Air Out, Moisture In**

When air gets inside your food wrappers, it dries out the food, causes freezer burn. It dulls the appearance of your food. But more than that, this drying process tends to take away some of the flavor. Chicken in particular seems to lose its characteristic flavor when freezer-burned. The problem is to keep the air out of the package and the natural moisture of the food inside. This is fairly easy to do with the good wrappings that are on the market today.

Ordinary locker paper is not heavy enough to give food all the protection it needs. If locker paper is used alone, you will need several layers, or use 40-pound paper with a heavy wax coating. Locker paper can also be teamed up with a moisture-proof, vapor-resistant material such as cellophane or aluminum-foil. These materials can be used as separate wrappings. Or they may be laminated with locker paper (alternate layers of each) and used as a single wrap.

The way you wrap things for the freezer is important no matter what kind of paper you use. Both the “drug store” wrap and the “butcher shop” wrap are good. The butcher shop wrapping is good if you are using locker paper since several thicknesses are needed. The drug store method is good with laminated paper.

**Wrap Close and...**

The closer the wrapping material adheres to the food, the less room there is for air. Cellophane, aluminum-foil and new plastics which crush closely inside a stockinette are especially good. The new, sprayed wax process, now coming into popular use, also gives promise as a simple, effective packaging method.

When you’re working with ice cream cartons such as these—not the thin, folding kind—are satisfactory for many vegetables. Mrs. Alice Kellogg, Ames, sets hers in the refrigerator until she can get them to her locker. This keeps them fresh, and they won’t warm up the locker so much either.

fruits and vegetables, or even with chicken, glass is an excellent container. It seals tightly and there is no chance for air to get in or for moisture to escape. This prevents the messiness that often develops with leaky cartons. Be careful not to fill glass containers too full.

We found that most folks are doing a good job of keeping their locker temperatures down around zero. And they are also putting their fresh foods into the locker without delay. It’s the wrapper problem and overloading the the freezer with unfrozen foods that have been causing trouble.

**Don’t Overload**

Some folks we talked with followed directions carefully as to the amount of food they could freeze at one time. Others said they froze a whole beef at once. Chances are that the first families had the better food when they took it from the freezer.

Obviously putting a large quantity of fresh food into the locker alongside already frozen packages is going to raise the temperature. The same situation occurs when the power goes off for several hours or days. When these wide temperature changes take place, the moisture is drawn from the food and deposited as frost inside the packages—if it is a tight package—or inside the freezer if the package isn’t so tight. Over a long storage period this action does cause some change in flavor.

Most families keep some fruits and vegetables and even meat in storage for as long as 8 months to a year or more. There is a good chance that such foods will come out lacking the freshness in flavor you’ve been accustomed to.

Better package preparation and storage care will help make your freezer locker a better flavorsaver and a greater help in planning meals.