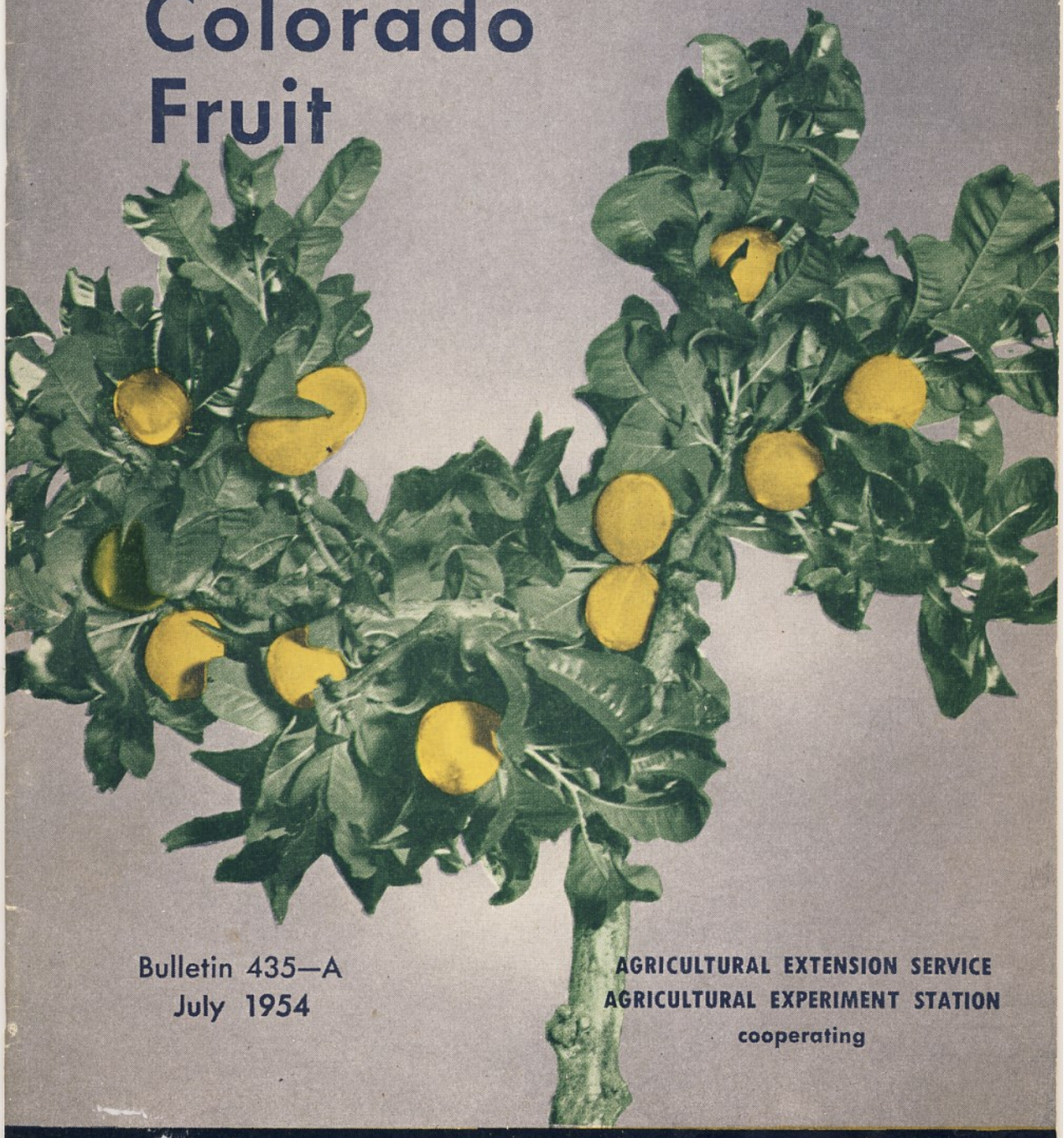
Canning Colorado Fruit



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For Reference . . .

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Canning Colorado Fruit

MAY STANEK, Extension Service Nutritionist*

Introduction

The information given in this bulletin deals with the canning of Colorado fruit and tomatoes and with fruit shipped into Colorado. While the freezing of fruit is replacing the canning of fruit, there are still many homemakers who prefer to do both for variety and flavor. Then there are Colorado homemakers whose only method of preserving fruit is by canning. Regardless of whether you can all or a part of your fruit supply, your aim will be to have a high-quality food and to have food keep. Food spoilage can be reduced markedly by following instructions carefully.

Fruits and tomatoes are acid foods; therefore, they may be safely canned in a boiling-water bath. If the proper canning processes are followed, boiling water is hot enough to kill bacteria which may cause spoilage of these foods. If other organisms are present, the acid in the food will keep them from growing. The water, however, must be kept actively boiling for the full time given for each product; otherwise, the temperature drops and the product may spoil.

If you are a newcomer to Colorado, do not rely on timetables for lower altitudes for processing fruit. The time for processing fruit increases as the altitude increases. Turn to page 11. Figure the amount of time to process fruits and tomatoes at your altitude and fill in the timetables on pages 20 to 24.

Before You Start to Can

THE EQUIPMENT

Choose Jars with Care

For best results, use standard-sized jars made for canning. Use only the sizes for which processing time is given. For canning fruits and other acid foods, these sizes are pint and quart jars. When possible, use wide-mouth jars as they are easier to fill. Self-sealing jars simplify the operation.

Do not use odd-sized jars, such as mayonnaise or coffee jars. The processing times may not be right for them.

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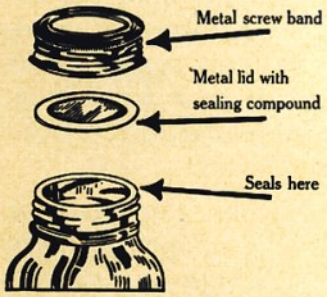
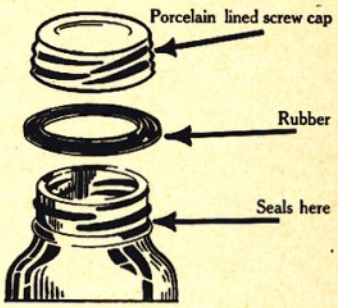
When you start to can, have enough jars ready to complete the day's job. The number of jars needed to can a bushel or crate of produce is given in the canning directions. This will help you figure how many jars you should have on hand.

Kinds of Jars and Lids to Use

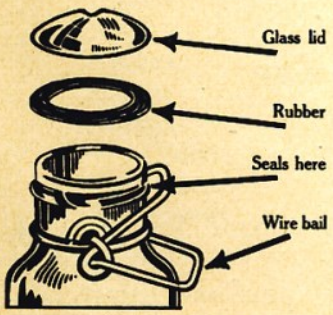
The standard jar types commonly used are the self-seal, screw top, lightning-seal, and the glass-top.



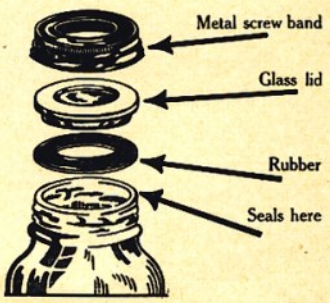
The **self-seal jar** has a metal disc and a metal screw band. To use this type of jar, place metal lid, with rubber side down, on top of the jar. Screw the band on firmly but **do not tighten** it again after the jar of food is taken from the pressure cooker. The next day, when the jar has cooled, take off the screw band without forcing it.



The **screw-top jar** has a porcelain-lined cap with a shoulder rubber ring. To use this jar, fit wet rubber ring down on the jar shoulder. Fill the jar, screw cap down firmly, and then turn it back 1/4 inch. As soon as the jar has been taken from the cooker, screw the lid down tight to complete the seal.



The **lightning-seal jar** has a glass top with a wire bail. To use, fit the rubber ring in place on the ledge of the jar. Put on glass lid, then push the long, wire clamp tight over the top of the lid. Leave the short wire loose. After the jar of food has been processed and taken out of the cooker, quickly push the short wire down to complete the seal.



The **glass-top jar** has a glass lid with a rubber ring held in place by a metal screw band. To use, first fit rubber to underside of lid. Place lid, with rubber side down, on top of the jar. Screw the band on firmly — then turn it back almost a quarter turn. After the filled jar has been processed, screw the band on tight.

Get Jars and Lids Ready

Whatever kind of jars and lids you use, be sure they are perfect and clean. Discard any jars with cracks, chips or dents. Defects prevent airtight seals.

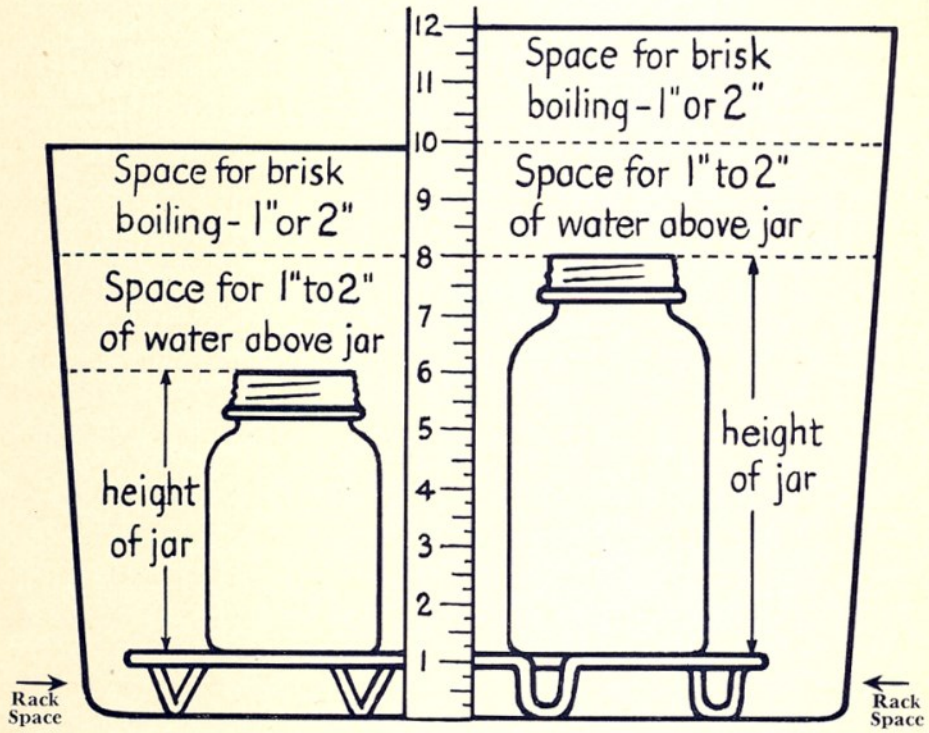
Wash glass jars in hot, soapy water and rinse well. Old jars may need an extra washing to get them clean. Jars to be filled with hot food, should be hot, too. Dip them into hot water just before filling.

Wash and rinse all lids except those with sealing compound. Heat the lids in clean water just before using. Some metal lids that have sealing compound need boiling; others need only a dip in hot water. Follow the manufacturer's directions. If metal lids with sealing compound are used, get new ones for each canning. The screw bands for this type of lid, however, may be used several times unless they have become rusty. Screw bands for glass lids and for metal lids should not be mixed. The wrong type of screw band will prevent a good seal.

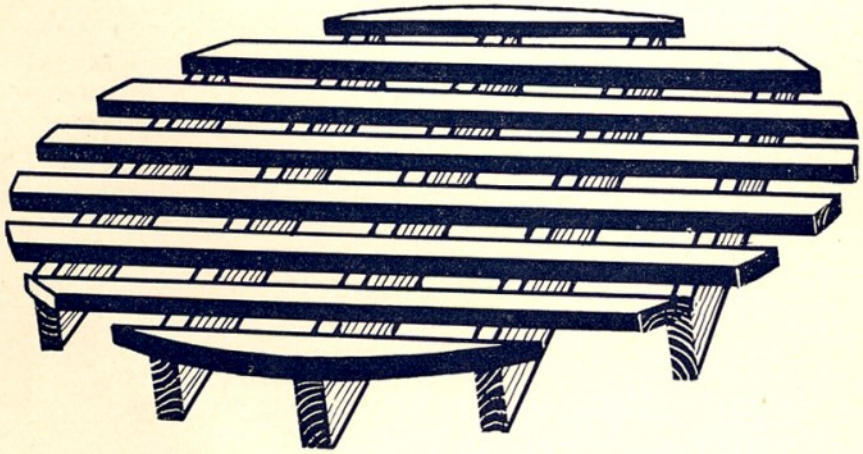
If you use rubber rings, have clean, new rings of the right size for the jars. Be careful not to stretch them. Scrub rings with a brush in hot, soapy water. For each dozen, use 1 tablespoon baking soda to 1 quart of cold water and put the rings in this solution. Bring to a boil and boil uncovered for 10 minutes. Rinse well.

The Water-Bath Canner

Any boiler, lard can or deep kettle will do for a boiling-water-bath canner if it is deep enough to have an inch or 2 of water over the tops of the jars and a little extra space for boiling. Your water-bath canner will need to be fitted with a rack to keep the jars from touching the bottom of the canner. The rack may be made of wire or wood. Your pressure canner may be used for a water-bath canner if it is deep enough. Be careful, however, not to let pressure build up in the canner. Keep the petcock wide open to allow the steam to escape. Do not fasten the cover when you set it in place.



A profile of a boiling-water-bath canner.



A rack, made of either wood or wire, will keep the jars from touching the bottom of the water-bath canner and allow water to circulate.

THE FRUIT

Quality of Fruit for Canning

Fruit for canning should be in good condition. Fruits and tomatoes should be firm, yet ripe enough to have a good flavor. Do not use produce that has green spots or that is overripe. Such produce may cause spoilage. If slightly bruised fruit or fruit with hard spots or cracks is used, trim it carefully. Cut well around the defective part and smell the fruit to make sure that it is not sour. These defects, if not removed, may also cause spoilage. Sort the fruit for size and ripeness so it will cook evenly.

The Amount of Fruit to Prepare at One Time

Get ready at one time only enough food to fill the jars your canner will hold. For example, if you are canning apples and your canner holds 16 quart jars, you will need to get 1 bushel of apples ready at a time. If the canner holds 8 quart jars, you will need to prepare only a half bushel. The yield of canned fruit from fresh, on page 9, will tell you how many jars are needed for each bushel or crate of produce. While one batch is being processed, get the next batch ready. Work fast. Get the food ready quickly and process it at once.

How to Peel Fruit and Tomatoes

It will take from 30 seconds to 1½ minutes to peel a fruit or tomato, if they are ripe and the water is boiling. Use plenty of water so it will continue to boil when the product is added. *Water below the boiling point will cook the product before it will loosen the skins.*

A wire basket is helpful. Hold the fruit or tomatoes so they can be dipped up and down in the water while being scalded. When the skin slips, remove the product at once and plunge it in cold water. This will shrink the skins and make them easy to remove. Rub skins off under cold water with hands, or pull them off with a peeling knife. Core the tomatoes while they are being peeled.

How to Prevent Browning

Fruits, such as peaches, pears and apples turn brown very quickly after peeling. To prevent this browning, can them, if possible, as soon as they are peeled. If this cannot be done, put

the fruit in water containing 2 tablespoons each of salt and vinegar to 1 gallon of water. *Make a fresh brine as needed. It weakens with use.* If the fruit is kept in the brine longer than 1 hour, rinse it off with clear water before filling the jars; otherwise the fruit will have a salty flavor.

The Syrup for Your Fruit

To make a syrup for sweetening fruit, boil sugar and water for 5 minutes. Skim off any scum that forms on top. Be sure that the syrup is boiling when it is added to the fruit. Do not keep it boiling when it is not in use or it will thicken.

The amount of sugar to use in each gallon of water will depend upon how sweet you want the syrup. The amounts given in the following table will serve as a guide:

SYRUP	SUGAR (cups)	WATER OR JUICE (cups)
Thin	1	3
Medium	1	2
Heavy	1	1

The "How to" Section

How to Figure Your Fruit Canning Budget

This budget is based on nutritional requirements recommended for an individual of two servings of fruit (including tomatoes) daily. This table suggests a supply of fruit for one person for the 30 non-productive weeks of the year. To determine the amount needed for your family, multiply the amount suggested for one person by the number of persons in your family. The word "serving" for fruits means at least ½ cup.

This budget includes all preserved fruit. If part of the fruit is frozen, the amount to be canned would be less.

HOW TO FIGURE YOUR FRUIT CANNING BUDGET

PRODUCT	NUMBER OF SERVINGS WEEKLY	AMOUNT FOR ONE PERSON	OUR BUDGET
Applesauce or Apples		6 quarts	
Apricots		3 quarts	
Berries		6 quarts	
Cherries		3 quarts	
Fruit Juices		6 quarts	
Grapes		2 quarts	
Peaches		6 quarts	
Pears		3 quarts	
Pineapple		2 quarts	
Plums		3 quarts	
Rhubarb		2 quarts	
Tomatoes		25 to 30 quarts	

HOW TO FIGURE YIELD OF CANNED FRUIT FROM FRESH

FOOD	FRESH	CANNED
Apples	1 bu. (48 lbs.) 2½ to 3 lbs.	16 to 20 quarts 1 quart
Berries (except strawberries)	24-quart crate 5 to 8 cups	12 to 18 quarts 1 quart
Cherries, as picked	1 bu. (56 lbs.) 6 to 8 cups	22 to 32 quarts 1 quart
Peaches	1 bu. (48 lbs.) 2 to 2½ lbs.	18 to 24 quarts 1 quart
Pears	1 bu. (50 lbs.) 2 to 2½ lbs.	20 to 25 quarts 1 quart
Plums	1 bu. (56 lbs.) 2 to 2½ lbs.	24 to 30 quarts 1 quart
Strawberries	24-quart crate 6 to 8 cups	12 to 16 quarts 1 quart
Tomatoes	1 bu. (53 lbs.) 2½ to 3 lbs.	15 to 20 quarts 1 quart

How to Use the Water Bath

Regardless of the type of water-bath canner used, the general directions given here should be followed:

1. Put rack into bottom of canner.

2. Fill canner about two-thirds full of water.

3. Heat water in canner. Have the water boiling if the food to be processed was packed into jars hot. If the food was packed into the jars cold, have the water hot, but not boiling. This will help to prevent breakage.

4. Put filled jars in canner. Place them in an upright position so that the bottom of each jar rests on the canner rack. Do not crowd the jars. Use tongs to put jars in canner or to take them out.

5. When all jars have been placed in canner, add boiling water, if necessary, to bring water up over tops of jars by 1 or 2 inches. Do not pour boiling water directly on glass jars, as this may break them.

6. As soon as the water returns to a rolling boil, start counting the processing time. Write the time down on a piece of paper. Also put down the time when the jars should be taken from the canner. Keep the water at a full boil for the required length of time. Add boiling water during processing, if needed, to keep the jars well covered.

7. When the processing time is up, take the jars from the canner, one at a time. Place them on a dry, wooden surface or heavy wire rack. Complete seals at once if lids are not the self-sealing type. If some of the liquid has boiled out in canning, seal the jar just as it is. Do not open it to put more liquid in the jar.

How to Cool the Jars

Set the jars right side up and give each jar room, so that air can get to all sides. Never set a hot jar in a draft or on a cold or wet surface. Sudden cooling may break a jar. Do not cover jars while they are cooling. Let the jars cool overnight before storing them.

How to Figure Processing Time for High-Altitude Canning

If you are canning at an altitude higher than sea level, you will need to process the foods longer. This is true because boiling water is not as hot at altitudes above sea level. For example, the temperature of boiling water at sea level is 212° F. At 2,000 feet above sea level, the temperature of boiling water is only 208° F. Foods must, therefore, be cooked longer at high altitudes to heat them enough to prevent spoilage.

You will need to add 1 minute to the processing time for each 1,000 feet above sea level, if the processing time given in the canning directions is 20 minutes or less. If the processing time is more than 20 minutes, you will need to add 2 minutes for each 1,000 feet. For example, if you are canning apples and your altitude is 6,000 feet, the apples are processed for 15 minutes at sea level. Since the time is less than 20 minutes, you will add 6 minutes to 15, giving you a total of 21 minutes. Following is the altitude correction table:

ALTITUDE CORRECTION TABLE
BOILING-WATER BATH METHOD

ELEVATION	BOILING POINT OF WATER	Time Less Than 20 Minutes	Time Greater Than 20 Minutes
Sea Level	212.0° F.	Add 0 Minutes	Add 0 Minutes
1,000	210.2	1	2
2,000	208.4	2	4
3,000	206.6	3	6
4,000	205.2	4	8
5,000	203.4	5	10
6,000	201.6	6	12
7,000	199.9	7	14
8,000	198.3	8	16
9,000	196.5	9	18
10,000	194.7	10	20

How to Test for a Proper Seal

When the jars are cold, test them to see if they are sealed. Turn each jar partly over in your hands to see if it leaks. Another test for jars with flat metal lids is to tap the center of the lid with a spoon. A clear, ringing sound means a good seal. A dull note, however, does not mean a poor seal all of the time. If there is no leakage, store the jar and watch for signs of spoilage.

Food in leaky jars should be used right away or be recanned. Empty the jar, heat the food, pack and process it as if it were fresh. Before using the jar or lid again, check for defects. Do not reuse self-sealing metal lids or rubber rings.

How to Store Canned Fruit

Store canned fruit in glass jars in a cool, dark, dry room. Dampness will cause metal lids to rust. Heat and light will cause foods to lose color, flavor and vitamins. Some fruit may also lose its color. Keep canned foods away from hot pipes, radiators and furnaces. As long as foods do not freeze, the cooler the storeroom, the better. Freezing may crack a jar or break a seal, thus admitting bacteria which will cause spoilage. *If freezing does not damage the jar or seal, the food will be safe to eat.* It will not, however, taste as good. Provide shelves for canned foods not kept in cases. Put cased foods on racks to keep them off the floor.

How to Judge Your Canned Fruit

Appearance

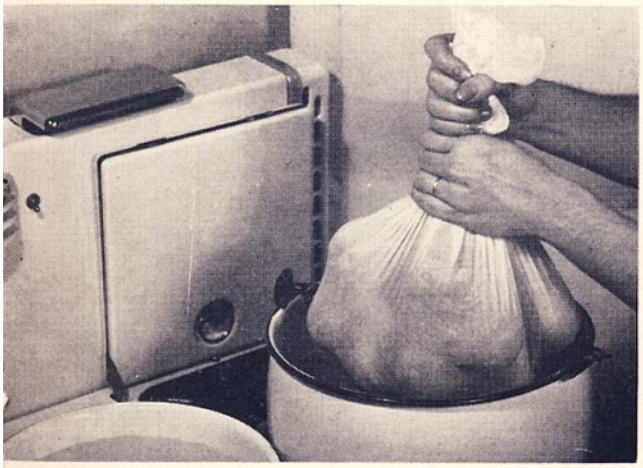
Natural color retained
Clean-cut edges
Good-quality product
Natural shape retained
Clear liquid

Pack

Attractively packed with space well used
Uniform pieces of fruit
Good proportion of syrup to fruit

Container

Perfect seal
Jar sparkling
Complete label



The Picture Section

HOW TO HOT-PACK FRUIT —PEACHES

The pictures and directions for a hot pack on the following pages are for peaches. Any fruit may be canned in much the same way.

1. Choose peaches that are sound, ripe and firm.

2. Wash fruit well. Work with only enough for one canner load at a time. Lift out of water. Do not bruise.

3. Dip peaches in boiling water just long enough to loosen skins. Then dip quickly into cold water. Use a wire basket or cheesecloth to hold the fruit.

4. Remove skins; halve and pit fruit. To keep peaches from turning dark, drop into water containing 2 tablespoons each of salt and vinegar to the gallon. Drain just before heating.

5. Put peaches in boiling sugar syrup. (See directions for syrup on page 8). Heat fruit through but do not cook until soft.

6. Meantime, heat clean jars and other closures in water. Remove from water and put hot, wet rubber ring on jar. Pack peaches loosely. Leave ½-inch space at top of jar.

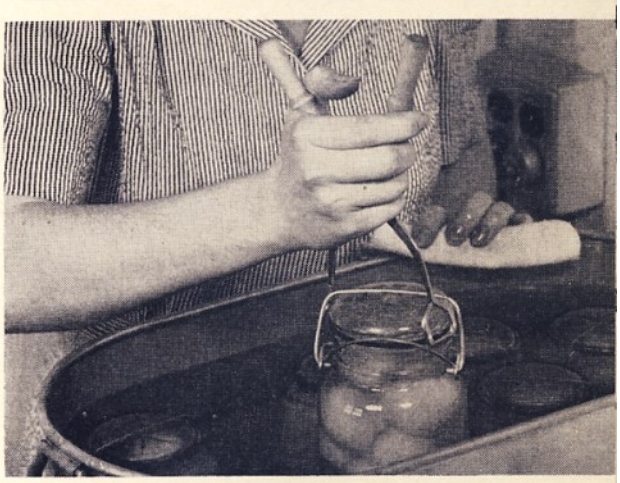
7. Cover peaches with boiling liquid, still leaving the ½-inch space at top of jar. It usually takes about ¾ to 1 cup of liquid to each quart jar.

8. Remove air bubbles by working the blade of a table knife down sides of jar. Add more liquid if needed to cover fruit, but be sure to have a ½-inch space at top of jar.

9. Wipe jar rim and rubber ring with a clean, damp cloth to remove food that might keep the jar from sealing. Put on glass lid.

10. Push long wire bail over lid into the groove at the center. Leave the short wire up. Put jars into canner as soon as they are filled.

11. When all jars are in, see that water comes over tops. Cover canner. When water boils, count time—20 minutes for quarts and pints of peaches at sea level. See correction table for higher altitudes.

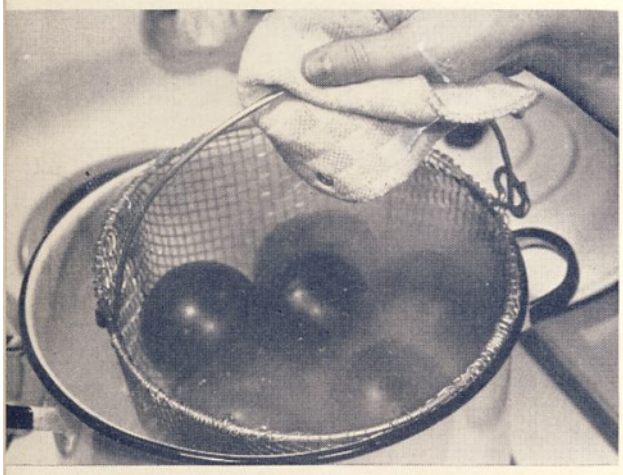


12. When the time is up, take out the jars. Quickly push the short wire down to complete seal. Cool jars top side up, on thick cloth or paper. Keep jars away from drafts, but do not cover.

HOW TO COLD-PACK TOMATOES

1. Inspect every tomato. Use only ripe, firm ones. Tomatoes with spoiled spots that need trimming may give a canned product poor in flavor and appearance.

2. Wash tomatoes thoroughly. Take care not to bruise. Prepare only enough for one canner load at a time.



3. Put tomatoes in a wire basket or thin cloth. Dip into boiling water about ½ minute, covering pan. Then dip tomatoes quickly into cold water.

4. Cut out stem ends and peel tomatoes. Cut or leave whole. In the meantime, heat clean jars and caps in water.

5. When ready to pack, take one jar at a time from hot water. Place hot, wet rubber ring on shoulder of jar, or follow directions for other closures.

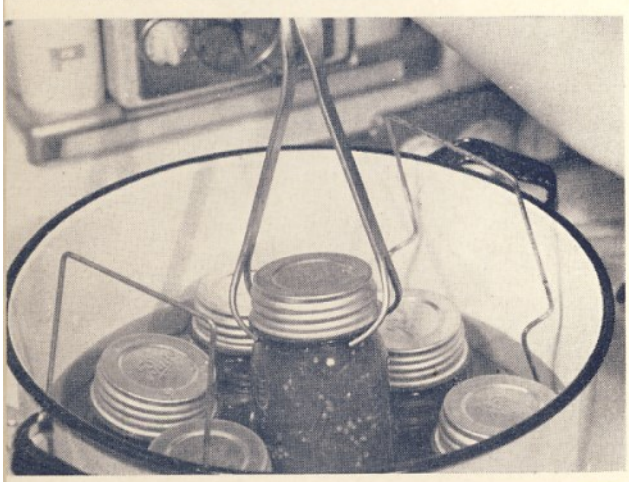
6. Pack tomatoes into jars, pressing down enough to fill spaces. Fill jars to ½ inch of top.

7. Add salt—½ teaspoon to a pint jar; 1 teaspoon to a quart.

8. Remove air bubbles by working the blade of a table knife down the sides of jar. Press tomatoes down with a spoon. Add more tomato if needed to fill jar again. Fill to ½ inch of top.

9. Wipe jar rim and rubber ring with a clean, damp cloth. Food on the sealing surface may prevent an air-tight seal. Follow directions for other closures.

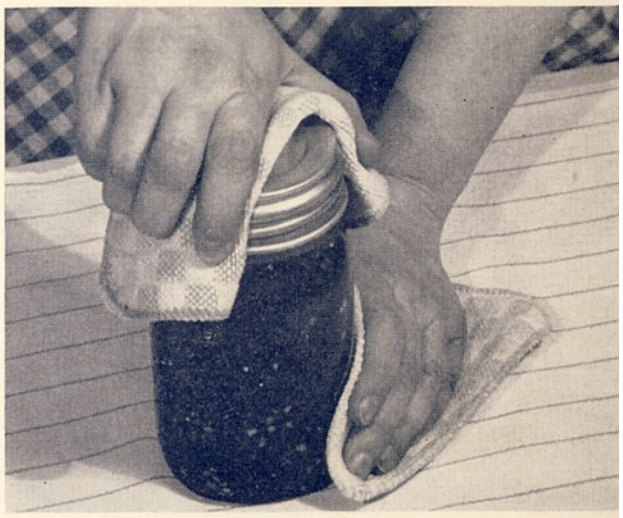
10. Screw cap down tight; then turn back ¼ inch.



11. Place filled jars in canner containing hot, but not boiling water. Add boiling water if needed to bring to 1 or 2 inches over jar tops. Be careful not to pour water directly on jars.

12. Put cover on canner. When water boils, begin to count time. At sea level, process pint jars of tomatoes 35 minutes; quart jars 45 minutes. See altitude correction chart for high altitudes.

13. When the time is up, remove jars from canner. Complete seal by screwing the cap on tight. Cool top side up on rack or on thick cloth or paper, away from drafts.



14. Next day, test for leaks. Wipe jars with a damp cloth.

15. Label jars and store in a cool, dry place.

Directions for Canning Fruit and Tomatoes

APPLES

Pare and core apples, cut in pieces. To keep fruit from darkening, drop it into water containing 2 tablespoons each of salt and vinegar per gallon. Drain, then boil 5 minutes in thin syrup or water.

In Glass Jars:

Pack hot fruit to ½ inch of top. Cover with hot syrup or water, leaving ½-inch space at top of jar. Adjust jar lids. Process in boiling-water bath

15 minutes + _____ = _____
Correction for altitude — Total minutes for my altitude

APPLESAUCE

Make applesauce, sweetened or unsweetened. Heat through, stirring to keep it from sticking to pan.

In Glass Jars:

Pack hot to ¼ inch of top. Adjust lids. Process in boiling-water bath

10 minutes + _____ = _____
Correction for altitude — Total minutes for my altitude

APRICOTS

Follow method for peaches. Peeling may be omitted. Process

20 minutes + _____ = _____
Correction for altitude — Total minutes for my altitude

BERRIES

(Except Strawberries)

Cold Pack: (For red raspberries and other soft berries.)

Wash berries and drain well.

In Glass Jars:

Fill jars to ½ inch of top. Shake while filling for a full pack. Cover with boiling syrup, leaving ½-inch space at top. Adjust lids. Process in boiling-water bath

15 minutes + _____ = _____
Correction for altitude — Total minutes for my altitude

CHERRIES

Follow method for firm berries, adding a little water when heating unpitted cherries to keep them from sticking to the pan. Process

15 minutes + _____ = _____
Correction for altitude — Total minutes for my altitude

FRUIT JUICES

Wash, remove pits, if desired, and crush fruit. Heat to simmering. Strain through cloth bag. Add sugar, if desired, ½ to 1 cup to gallon of juice.

In Glass Jars:

Fill hot to top. Adjust jar lids. Process in water bath with water at simmering temperature (below boiling). Process

20 minutes + _____ = _____
Correction for altitude — Total minutes for my altitude

FRUIT PUREES

Use sound, ripe fruit. Wash and remove pits, if desired. Cut large fruit in pieces. Simmer until soft, adding a little water if needed to keep fruit from sticking. Put through a strainer or food mill. Add sugar to taste. Heat again to simmering.

In Glass Jars:

Pack hot to ¼ inch of top. Adjust lids. Process in boiling-water bath

20 minutes + _____ = _____
Correction for altitude — Total minutes for my altitude

STRAWBERRIES

Wash and stem berries. Add ½ cup sugar to each quart of fruit. Bring slowly to a boil, shaking pan to keep fruit from sticking. Remove from stove and let stand overnight. Bring quickly to a boil.

In Glass Jars:

Pack hot to ½ inch of top. Adjust jar lids. Process in boiling-water bath

15 minutes + _____ = _____
Correction for altitude — Total minutes for my altitude

PEACHES

Wash peaches. Dip in boiling water, then quickly in cold water. Remove skins, cut peaches in halves, remove pits. Slice if desired. To prevent darkening during preparation, drop fruit into water containing 3 tablespoons each of salt and vinegar per gallon. Drain just before heating or packing cold.

Hot Pack:

Heat peaches through in hot syrup. If fruit is very juicy, you may heat it with sugar, adding no liquid.

In Glass Jars:

Pack hot fruit to ½ inch of top. Cover with boiling liquid, leaving ½-inch space at top of jar. Adjust jar lids. Process in boiling-water bath

20 minutes + _____ = _____
Correction for altitude **Total minutes for my altitude**

Cold Pack:

Prepare peaches as directed above.

In Glass Jars:

Pack raw fruit to ½ inch of top. Cover with boiling syrup. Leaving ½-inch space at top of jar. Adjust lids. Process in boiling-water bath—pint jars

25 minutes + _____ = _____
Correction for altitude **Total minutes for my altitude**

Process in boiling-water bath—quart jars

35 minutes + _____ = _____
Correction for altitude **Total minutes for my altitude**

PEARS

Wash pears. Peel, cut in halves and core. Continue as with peaches, either hot or cold pack. Process in boiling-water bath—pint jars

25 minutes + _____ = _____
Correction for altitude **Total minutes for my altitude**

PLUMS

Wash plums. To can whole, prick skins. Freestone varieties may be halved and pitted. Heat to boiling in syrup or juice. If fruit is very juicy, you may heat it with sugar, adding no liquid.

In Glass Jars:

Pack hot fruit to ½ inch of top. Cover with boiling liquid, leaving ½-inch space at top of jar. Adjust jar lids. Process in boiling-water bath

15 minutes + _____ = _____
Correction for altitude — Total minutes for my altitude

RHUBARB

Wash rhubarb and cut into ½-inch pieces. Add ½ cup sugar to each quart of rhubarb and let it stand to draw out juice. Bring to boiling.

In Glass Jars:

Pack hot to ½ inch of top. Adjust jar lids. Process in boiling-water bath

10 minutes + _____ = _____
Correction for altitude — Total minutes for my altitude

TOMATOES

Use only perfect, ripe tomatoes. To loosen skins, dip into boiling water for about ½ minute; then dip quickly into cold water. Cut out stem ends and peel tomatoes.

Hot Pack:

Quarter peeled tomatoes. Bring to boil, stirring often. Pack hot in glass jars to ½ inch of top. Add ½ teaspoon salt to pints; 1 teaspoon to quarts. Adjust lids. Process in boiling-water bath

10 minutes + _____ = _____
Correction for altitude — Total minutes for my altitude

Cold Pack:

Leave tomatoes whole or cut in halves or quarters.

In Glass Jars:

Pack tomatoes to ½ inch of top, pressing gently to fill spaces. Add no water. Add ½ teaspoon salt to pints; 1 teaspoon to quarts. Adjust lids. Process in boiling-water bath—pint jars

35 minutes + _____ = _____
Correction for altitude — Total minutes for my altitude

Process in boiling-water bath—quart jars

45 minutes + _____ = _____
Correction for altitude — Total minutes for my altitude

TOMATO JUICE

Use ripe, juicy tomatoes. Wash, remove stem ends, cut into pieces. Simmer until softened, stirring often. Put through strainer. Add 1 teaspoon salt to each quart of juice. Reheat at once just to boiling.

In Glass Jars:

Pack boiling hot juice to ¼ inch of top. Adjust lids. Process, in boiling-water bath

15 minutes + _____ = _____
Correction for altitude — Total minutes for my altitude