

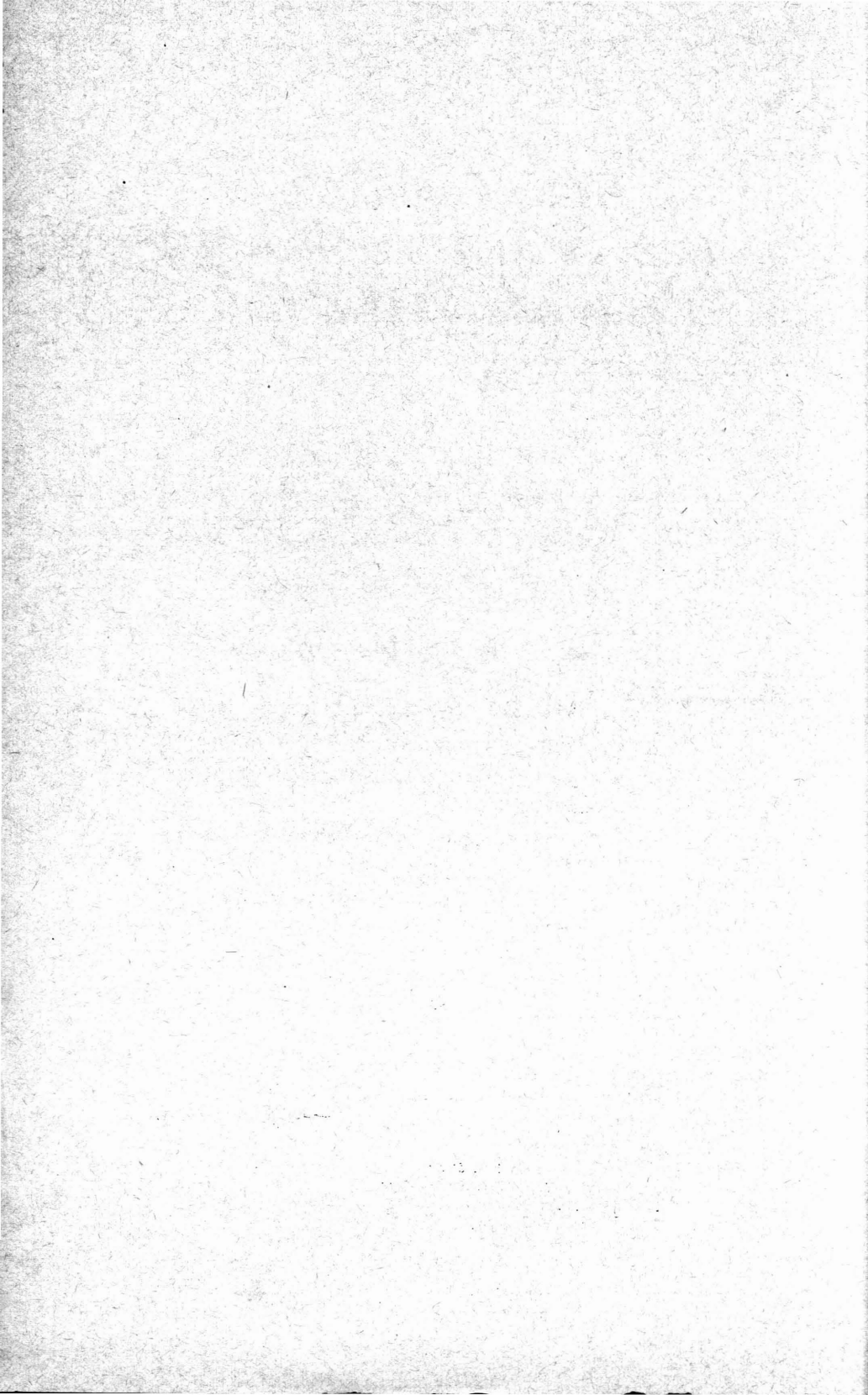
# *Home Canning of Fruits and Vegetables*

An outline map of the state of Texas, serving as a background for the central text.

## *Can for Quality in Texas*

1. Select fresh, good quality fruits and vegetables.
2. Work fast. "One hour from garden to can."
3. Use good containers and proper equipment.
4. Seal food hot, whether precooked or steamed in can.
5. Follow reliable processing times.
6. Cool properly. Store in a clean, cool, dark, dry place.

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# *Home Canning*

## **OF FRUITS AND VEGETABLES**

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Food preservation is a war-time contribution that all farm families and many who live in town can make. Adequate conservation assures the family of a year-around balanced diet and relieves transportation and labor in handling commercial products and processed foods. Canning is a practical and economical method of preservation.

### ***Methods of Canning***

There are two methods of canning that the Agricultural and Mechanical College of Texas Extension Service recommends as being most reliable to keep food from spoiling and safe for eating, and to preserve the maximum food value, flavor, color, and texture. The **pressure cooker** is used for vegetables and meats. A **water bath** is recommended for fruits and tomatoes. This bulletin is written in two parts, one on "Can Vegetables in the Pressure Cooker" and the other on "Process Fruit in a Water Bath."

### ***Containers for Canning***

#### **Glass Jars:**

Glass jars may be used for canning any food. For pickles, relishes, kraut, and rhubarb, glass is preferable to tin cans. One of the advantages in canning in glass is that the jars can be used again and again.

Be sure that jars do not have nicks on the rim. Select well-fitting lids for good seals. Use new rubber rings for all food to be processed in the pressure cooker. Wartime rubber rings should not be re-used. Pre-war rubbers which were used for fruits the year before and which are in good condition may be used again for fruits, pickles, or preserves. Test the rubber by bending it double and pressing tightly between thumb and forefinger. When the rubber is released it should spring back to its original shape and leave no crease at the fold. If the ring has lost its elasticity, it is not safe for canning.

Glass containers should be **toughened** or tempered before being used in the pressure cooker. To do this, wash the jars and place them on a rack in a large kettle of cold water. Bring the water to a boil and let it boil over and around the jars for a few minutes. This should be done just before using the jars if the food is to be precooked and packed hot. If the cold pack method is used the tempering may be done several days before.

#### ***Good Management of Jars***

Only standard jars that are made to withstand extreme temperatures should be used in pressure cookers. Other jars which previously contained commercially packed pickles, mayonnaise, peanut but-

ter, etc., should not be used in the pressure cooker. These jars may be used for fruits, preserves, and pickles.

Save all small jars for canning meat, corn, spinach, and other foods that are harder to process. Use quart jars for fruit and vegetables which contain a large percentage of water. In large families, half-gallon jars may be used for pickles, kraut, for storing dried foods, and for canning fruit. But never process these in a pressure cooker.

In canning meat use the pint jars for roast, hamburger, and sandwich loaf. Use quart jars for chili, broth and stew if enough pints cannot be obtained. If some cans are available but not enough for canning the whole animal, use the cans for roast, hamburger, and sandwich loaf.

#### **Tin Cans:**

Tin cans have several advantages. Heat penetration is more rapid; there is no loss of liquid during processing; and cans cool more rapidly. They are also easily stored. If they are to be used more than once they must be cared for properly. Be sure that they are free from rust, corrosion, or bulged seams. They should be properly reflanged. Follow directions that come with the sealer.

Wartime tin cans should not be re-used.

To prevent cans rusting on out-

side, rub with mineral oil or vaseline. Having food hot when sealed helps prevent inside rusting.

Plain tin is used for most food. The sanitary or R enamel lining is deep gold color with a bright finish. This enamel lining prevents discoloration of red and purple foods and prevents penetration of the can by acids. The C enamel is a light gold color with a dull finish. This enamel prevents dark discoloration in foods such as corn, lima beans, kidney beans, black-eyed peas, chicken, hominy, and fish. C enamel cans should not be used for acid foods or fat meats. The R enamel may be used for other foods than those specified, but it is better to follow the recommendation of the table on pages 8 and 9 for vegetables and pages 12 and 13 for fruits.

#### **Sealer Required for Cans**

The sealer for cans should be kept clean, oiled, and adjusted to give an air-tight seal. Do not allow the sealer to become rusty and dirty. Follow the manufacturer's directions. When using the sealer keep the directions and all parts with the sealer, so that whoever uses it will have the necessary information and materials.

Tin can lids with rubber compound flowed on must be sealed tighter than lids with paper gaskets. Adjust sealer each time type or size of can is changed.

### **CAN VEGETABLES IN THE PRESSURE COOKER**

Vegetables require processing in the steam pressure canner at temperatures of 240 degrees Fahrenheit and 250 degrees Fahrenheit because there are certain types of bacteria found in these foods that

cannot be destroyed unless a high temperature is maintained. If a pressure cooker is not available, drying, brining, or storing outside in mounds is recommended rather than canning.

## How to Use a Pressure Cooker

In using a pressure cooker always follow directions of the manufacturer. Certain points need special attention. General procedure is as follows:

1. Place a rack or false bottom in the cooker.
2. Have at least 1½ to 2 inches of water in cooker. When the processing is begun, water in the cooker should be boiling hot.
3. Seal jars with self-seal lids air-tight before processing. All other lids on jars should be loosened one-fourth turn. All tin can lids should be sealed air-tight.
4. Place containers of hot food in cooker—cans may be stacked, but should be arranged to permit circulation of steam. It is best not to stack jars. However, pint or half pint jars can be stacked provided a standing rack is placed between the layers to prevent the top jars from touching the lids on the bottom layer of jars.
5. Place cover on cooker and fasten securely. If cover is fastened by clamps, tighten opposite clamps moderately at first. Then go back over the whole set to tighten each pair as much as possible.
6. Leave petcock open until steam escapes 7 to 10 minutes so that no air will remain in cooker. Close the petcock.
7. Allow the pressure to rise until the gauge registers the pressure indicated in the rec-

ipe you are following. Then begin to count processing time.

8. Adjust processing temperature to altitude as follows:

Feet elevation above sea level	Extra lbs. pressure added when using these recipes
1000-3000 .....	1
3000-5000 .....	2
5000-7000 .....	3
over 7000 .....	4

9. Keep a uniform pressure by adjusting the fire or by moving the cooker carefully. If the pressure goes up and down, it causes **loss of liquid** and sometimes **breakage of glass jars or bulging of tin cans**. If liquid is drawn out of jars, do not open them to add more.
10. Cooling is important! At the end of the processing time, remove the cooker from the fire. Do not hasten cooling of the cooker by applying cold water or wet cloths or by placing the cooker on a cold surface. This treatment may warp or crack the cooker.
  - a. For No. 2 cans or smaller, open the petcock slowly until all steam is released and the dial registers zero. Open the cooker and remove the cans at once and plunge them into cold water.
  - b. When using glass or No. 3 cans allow the cooker to cool until the gauge registers zero, open the petcock gradually, and then remove cover. Cool tin cans in water immediately. Leave glass jars in cooker from 10 to 20 minutes. Then remove the jars care-

fully and cool without placing them in a draft. Self-seal lids were sealed airtight before processing and should not be tightened again because the rubber compound is easily broken while hot. Tighten all other lids.

### **Have Cooker in Good Condition**

#### **Keep Clean:**

Keep the safety valve of the cooker clean. If it is the ball and socket type, wash it after each using. Soak these parts in vinegar or kerosene to remove food deposits and corrosion. A toothpick may be used to keep the opening of the gauge clean. Never let water stand in cooker. Keep it clean and free from odors at all times. To remove odors and stains use the juice of a lemon, 2 tablespoons vinegar, or a handful of Irish potato peelings with two quarts of water and process at 5 pounds pressure for 5 minutes. Always store the cooker where there is no danger of jarring or breaking the gauge. Crumpled paper stored in the cooker helps to absorb excess moisture. When not in use, the lid should be wrapped separately and placed upside down on cooker.

#### **Care of Tinned and Enameled Cookers:**

Tin and enamel coatings scratch easily. This causes the steel base to rust, and the rust weakens the walls of the cooker. Avoid sharp blows, over-heating, boiling dry, or cleaning with harsh abrasive powders. Heating grease or fat at high temperatures in a tin plated cooker may cause the tin to melt; therefore, the cooker should not be used for rendering lard or searing meat.

#### **Keep Lids from Leaking Steam:**

The edges of the lid should be kept free from food, rust, dents, and chipped spots to prevent the lid from leaking steam. Always be sure to have enough water to prevent the cooker from boiling dry. If the lid sticks or the cooker leaks steam, rub the edges with cooking oil before replacing the lid on the cooker if the cooker lid is the type that does not have a rubber gasket.

#### **Check Gauges:**

Gauges on cookers should be checked with a maximum thermometer at least once per year, oftener is better. Follow this procedure:

1. Prepare the cooker exactly as if you were going to can (follow procedure on page 5, "How to Use a Pressure Cooker").
2. Test thermometer in boiling water. It should register 212 degrees Fahrenheit at sea level.
3. Shake the mercury down below 228 degrees Fahrenheit each time before using.
4. Suspend the thermometer in the center of cooker if possible. Use a thermometer rack or place the thermometer in an empty jar on a rack in the cooker.
5. Close cooker to exhaust air the same as for canning.
6. When dial registers 10 pounds hold this pressure for 5 minutes.
7. Remove from fire, and let gauge return to 0. Let stand 5 minutes, and then open pet-cock.

8. Open cooker and take reading.
9. The thermometer should read 240 degrees Fahrenheit at sea level.
10. Repeat this procedure at 15 pounds pressure. The thermometer then should read 250 degrees Fahrenheit.

### Why Check Gauges?

If the maximum thermometer inside the cooker registers a higher temperature than the gauge registers, there is danger of overcooking, losing liquid, breaking glass when jars are used, or bulging seams when cans are used. In extreme cases the cooker may explode. If the temperature is lower inside the cooker than the gauge registers, there is danger of underprocessing the food, which may cause spoilage.

### How to Make Adjustment:

If the actual temperature inside the cooker is higher than what the gauge registers, decrease the pressure when processing 1 pound for each 2 degrees it is high according to the maximum thermometer. On the other hand, if the temperature inside the cooker is lower than the gauge indicates, increase the pressure 1 pound for each 2 degrees.

If the gauge is off more than  $2\frac{1}{2}$  pounds or five degrees, either above or below, a new gauge should be put on the cooker, or the gauge returned to the company for repair. When a cooker gauge is quite inaccurate the test should be made several times. Sometimes mistakes may be made in checking, and it is easy to make an incorrect reading.

## Steps in Canning Vegetables

### 1. Selection and Preparation

Use only young, tender products which have been freshly gathered at the best stage for eating. Wash vegetables thoroughly before cooking them, because the most dangerous bacteria that are the hardest to kill are found in the soil.

### 2. Cook and Pack—use either method A or B.

#### A. Precook and Pack:

Precook in a small amount of water. Use aluminum, enamel, or stainless steel cooking utensils. Other metals may affect the flavor and color. Cover the kettle while vegetables are cooking to retain vitamins affected by air. Use 1 teaspoon salt per quart. The salt may be put into container first, then the vegetables packed in while hot. Cover with hot water in which the food was cooked. Leave  $\frac{1}{2}$  inch headspace in jars and  $\frac{3}{4}$  inch headspace in cans. Leave twice this headspace for starchy foods.

#### B. Pack Raw and Steam in Cans or Jars:

Place 1 teaspoon salt per quart in the container first. Pack as tight and full as possible. Pour hot water to within 1 to 2 inches of the rim of the can. Set can without the lid in the hot pressure cooker. Steam without pressure and with the petcock open. Count steaming time as soon as steam issues from the petcock. Remove the can and press the food down. If the container is not full, use

**CAN VEGETABLES**

<p><b>NAME OF FOOD</b> For selection and preparation see page 7. Suggestions for each food are given below.</p>	<p><b>COOK AND PACK*</b> Add 1 t. salt per qt. Read pages 7 and 8.</p>	
	<p><b>A. Precook and Pack</b></p>	<p><b>OR</b></p>
<p><b>Asparagus:</b> Cut in lengths to fit container. Tie in bundles.</p>	<p>Leave tips standing up in stew pan. Cover with hot water and boil 2 or 3 min.</p>	
<p><b>String beans and snap peas:</b> Use young tender pods, cut 1½ to 2 ins. long.</p>	<p>Cover with hot water and boil 5 min.</p>	
<p><b>Shelled lima beans, cream peas, black-eyed peas.</b></p>	<p>Cover with hot water and boil 10 min.</p>	
<p><b>Shelled English peas.</b></p>	<p>Cover with hot water and boil 5 min.</p>	
<p><b>Baby beets:</b> Use small dark red turnip shaped beets. Trim off top. Leave 1 inch stem and the roots on before precooking.</p>	<p>Cover with hot water. Boil until skin slips (15 min. for small beets). Dip in cold water and skin. Pack small ones whole. Slice or quarter large ones. Cover with fresh boiling water.</p>	
<p><b>Carrots:</b> Use small whole carrots or cut larger ones lengthwise. Scrape.</p>	<p>Cover with hot water. Boil 5 to 10 min., according to size.</p>	
<p><b>Whole grain style corn.</b> Use young sweet corn and work fast to get it canned. Simmer in water 4 or 5 min. to set milk.</p>	<p>Cut from cob deeply enough to remove most of kernels. Add half as much boiling water as corn. Boil 5 min., pack hot.</p>	
<p><b>Cream style corn:</b> Cut end of grain from cob before cooking. Scrape out milk from remaining part of kernel.</p>	<p>Add half amount of hot water as corn and boil 5 min.</p>	
<p><b>Hominy:</b> Special directions on page 14.</p>	<p>Pack boiling hot.</p>	
<p><b>Greens:</b> Trim stems and wash.</p>	<p>Simmer with small amount of water 5 min. Pack loosely, cover well with liquid in which greens were cooked.</p>	
<p><b>Okra:</b> Use small whole, tender pods.</p>	<p>Simmer in small amount of water 5 min.</p>	
<p><b>Okra and tomatoes:</b> Slice okra into 1-inch cubes. Skin tomatoes, remove cores, cut in quarters.</p>	<p>Heat tomatoes and okra together to boiling point. Do not add water.</p>	
<p><b>Vegetable soup mixture:</b> Special directions on page 15.</p>	<p>Boil together 5 min. Cover well with liquid.</p>	
<p><b>Pumpkin and Winter squash:</b> Peel and cut in 1 or 2-inch cubes.</p>	<p>Add small amount of hot water and simmer 3 min.</p>	
<p><b>Summer squash:</b> Do not peel. Use small ones whole, quarter large ones.</p>	<p>Cover with boiling water and boil 2 or 3 min.</p>	
<p><b>Sweet potatoes.</b></p>	<p>Boil until skins slip. Cut in sections, pack hot. Cover with fresh boiling water.</p>	
<p><b>Tomatoes, kraut, peppers—see fruits.</b></p>		

\*Before processing in pressure cooker, vegetables must be either precooked in open vessel and pack raw and steam method yields a product with better flavor, texture, and color.



# PRESSURE COOKER

Details.		PROCESS IN PRESSURE COOKER Read pages 5 and 6 for use of pressure cooker and altitude changes.				TYPE OF CAN
Raw and Steam	Lbs. Pressure	Glass Jars		Tin Cans		
		Pts. (min.)	Qts. (min.)	No. 2 (min.)	No. 3 (min.)	
(min.)	Qts.(min.)					
10	10	30	35	30	30	plain
13	10	30	35	25	30	plain
15	10	50	55	40	50	C enamel or plain
no	10	45	no	40	no	C enamel or plain
no	10	30	35	30	30	R enamel
15	10	30	35	30	30	plain
e grain and style corn: rn from cob. atainer 1/2 to of corn. filling with ter. Stir well. 20	10	60	70	50	65	C enamel
	15	75	no	70	no	C enamel
no	15	50	no	50	no	C enamel
no	15	60	65	55	no	plain
12	10	35	40	25	30	plain
10	10	25	35	25	30	plain
no	10	60	70	50	65	plain
15	15	60	75	60	70	R enamel
13	10	30	40	30	35	plain
no	10	95	no	95	no	R enamel

containers, or packed raw in containers and steamed. Either method may be used but the

### CAN VEGETABLES IN PRESSURE COOKER

<b>NAME OF FOOD</b> For selection and preparation see page 7. Suggestions for each food are given below.	<b>COOK AND PACK*</b> Add 1 t. salt per qt. Read pages 7 and 10 for details.			<b>PROCESS IN PRESSURE COOKER</b> Read pages 5 and 6 for use of pressure cooker and altitude changes.					<b>TYPE OF CAN</b>
	<b>A. Precook and Pack</b>	<b>OR</b>		<b>Lbs. Pressure</b>	<b>Glass Jars</b>		<b>Tin Cans</b>		
		<b>Pts.(min.)</b>	<b>Qts.(min.)</b>		<b>Pts. (min.)</b>	<b>Qts. (min.)</b>	<b>No. 2 (min.)</b>	<b>No. 3 (min.)</b>	
<b>Asparagus:</b> Cut in lengths to fit container. Tie in bundles.	Leave tips standing up in stew pan. Cover with hot water and boil 2 or 3 min.	5	10	10	30	35	30	30	plain
<b>String beans and snap peas:</b> Use young tender pods, cut 1½ to 2 ins. long.	Cover with hot water and boil 5 min.	8	13	10	30	35	25	30	plain
<b>Shelled lima beans, cream peas, black-eyed peas.</b>	Cover with hot water and boil 10 min.	10	15	10	50	55	40	50	C enamel or plain
<b>Shelled English peas.</b>	Cover with hot water and boil 5 min.	5	no	10	45	no	40	no	C enamel or plain
<b>Baby beets:</b> Use small dark red turnip shaped beets. Trim off top. Leave 1 inch stem and the roots on before precooking.	Cover with hot water. Boil until skin slips (15 min. for small beets). Dip in cold water and skin. Pack small ones whole. Slice or quarter large ones. Cover with fresh boiling water.	no	no	10	30	35	30	30	R enamel
<b>Carrots:</b> Use small whole carrots or cut larger ones lengthwise. Scrape.	Cover with hot water. Boil 5 to 10 min., according to size.	10	15	10	30	35	30	30	plain
<b>Whole grain style corn.</b> Use young sweet corn and work fast to get it canned. Simmer in water 4 or 5 min. to set milk.	Cut from cob deeply enough to remove most of kernels. Add half as much boiling water as corn. Boil 5 min., pack hot.	For whole grain and cream style corn: Cut corn from cob. Fill container ½ to ¾ full of corn. Finish filling with hot water. Stir well.		10	60	70	50	65	C enamel
<b>Cream style corn:</b> Cut end of grain from cob before cooking. Scrape out milk from remaining part of kernel.	Add half amount of hot water as corn and boil 5 min.			15	20	15	75	no	70
<b>Hominy:</b> Special directions on page 14.	Pack boiling hot.	no	no	15	50	no	50	no	C enamel
<b>Greens:</b> Trim stems and wash.	Simmer with small amount of water 5 min. Pack loosely, cover well with liquid in which greens were cooked.	no	no	15	60	65	55	no	plain
<b>Okra:</b> Use small whole, tender pods.	Simmer in small amount of water 5 min.	7	12	10	35	40	25	30	plain
<b>Okra and tomatoes:</b> Slice okra into 1-inch cubes. Skin tomatoes, remove cores, cut in quarters.	Heat tomatoes and okra together to boiling point. Do not add water.	7	10	10	25	35	25	30	plain
<b>Vegetable soup mixture:</b> Special directions on page 15.	Boil together 5 min. Cover well with liquid.	no	no	10	60	70	50	65	plain
<b>Pumpkin and Winter squash:</b> Peel and cut in 1 or 2-inch cubes.	Add small amount of hot water and simmer 3 min.	10	15	15	60	75	60	70	R enamel
<b>Summer squash:</b> Do not peel. Use small ones whole, quarter large ones.	Cover with boiling water and boil 2 or 3 min.	8	13	10	30	40	30	35	plain
<b>Sweet potatoes.</b>	Boil until skins slip. Cut in sections, pack hot. Cover with fresh boiling water.	15	no	10	95	no	95	no	R enamel
<b>Tomatoes, kraut, peppers—</b> see fruits.									

\*Before processing in pressure cooker, vegetables must be either precooked in open vessel and packed in containers, or packed raw in containers and steamed. Either method may be used but the **pack raw and steam method** yields a product with better flavor, texture, and color.

food from one can to refill all of the others. Have food well covered with liquid. Leave  $\frac{1}{2}$  inch headspace in glass jars and  $\frac{1}{4}$  inch headspace in tin cans. When glass jars are used for this method they must be placed in a warm cooker instead of boiling hot, and by the time the steam accumulates the jar will be heated enough to prevent breaking. Rubbers that fit on the jar instead of in the lid may be placed on the jar before steaming for ease in handling.

### 3. Seal:

Have food hot when sealed, whether it is precooked or packed raw and steamed. This is to shrink the food and drive out the air, and prevent loss of liquid, discoloration, and flat sour. Cans and jars with

self-seal lids should be sealed airtight before processing. Other lids should be loosened one-fourth turn and tightened after processing.

### 4. Process:

See directions for using pressure cooker on page 5. Process the required number of minutes, as indicated on pages 8 and 9.

### 5. Cool:

Follow suggestions under directions for using a pressure cooker, page 5.

### 6. Store:

Store in a dry, cool, dark place where food retains vitamins longer and will not spoil as quickly.

Remove steel bands from 2- and 3-piece lids about 24 to 36 hours after jars have cooled to prevent them from rusting on jars. War-time cans and jar lids rust easily if not kept dry.

## PROCESS FRUIT IN A WATER BATH

Water bath method is the best way to can fruit and tomatoes. These foods contain acid and will keep easily if sealed hot and processed in a water bath the required length of time. Fruits are overcooked when processed at the higher temperatures in a pressure canner, but vegetables and meats cannot be processed safely in a water bath.

An open kettle is sometimes used to can fruits and other acid foods. However, more food value is lost by this method, there is greater danger of spoilage, and the fruit does not have as good a flavor, texture or color as when canned in a water bath.

Oven canning also has several disadvantages when compared with

the water bath. Jars are broken more easily, liquid is often lost from the jar, and twice as much processing time is required. Sometimes there is discoloration of fruit canned in the oven. Tin cans should not be used in the oven because of the danger of spreading seams.

### *How to Use a Water Bath*

A water bath canner is easy to arrange. Any large kettle with a rack or false bottom and a tight fitting lid may be used. A wash boiler, a small tub, a bucket, or a roaster may serve the purpose. Some folks use a pressure cooker and leave the petcock open so that the temperature will not go higher than the boiling point. The kettle

should be deep enough to allow covering the cans or jars with 1 to 2 inches of water. Have water hot when containers of food are put in the water bath. The jars should have hot food in them, so that when they are placed in hot water there will be no danger of breakage. The food is either pre-cooked and packed hot or packed raw and steamed in the jar before sealing. Place the jars on the rack or false bottom to allow circulation of water. Count time as soon as the water begins to boil and the steam accumulates under the cover. Keep the water boiling for the whole period. For altitude over 1,000 feet the length of processing should be increased four minutes for each 1,000 feet above sea level.

### **Steps for Canning in Water Bath**

#### **1. Selection and Preparation of Fruit:**

Use ripe but firm fruit. Green fruit often becomes hard and shriveled when canned, while fruit that is too ripe is mushy and unattractive.

Wash fruit well before peeling or cutting. Use stainless steel knives for cutting.

Prevent darkening of fruit such as pears, apples, peaches, and apricots by dropping the fruit as it is cut or peeled into a solution of the following: the juice of a lemon in two quarts water, or 2 tablespoons vinegar plus 2 tablespoons salt mixed in a gallon of water. Let the pieces remain in this solution only long enough to prepare enough fruit to precook or pack in the jars. Never let it stand in the water longer than 30 minutes.

A sugar syrup adds to the flavor of most fruits. It also prevents discoloration of some fruits and destruction of texture of others. Fruits may be kept safely without sugar. When canning without a sugar syrup, use the juice from crushed fruit that has been heated.

Syrup may be selected according to taste and availability of sugar.

**Light syrup:**  $\frac{1}{2}$  to  $\frac{1}{3}$  cup sugar to 1 cup water or fruit juice.

**Medium syrup:**  $\frac{3}{4}$  cup sugar to 1 cup water or fruit juice.

**Heavy syrup:** 1 to  $1\frac{1}{2}$  cups sugar to 1 cup water or fruit juice.

One cup of syrup usually covers one quart of fruit when it is well packed. Honey or corn syrup may be substituted for part or all of the sugar.

**2. Cook and Pack:** Use either method A or B.

#### **A. Precook and Pack:**

Precook fruit in the syrup or fruit juice. Use aluminum or heavy enamel cooking utensils. Pack hot into jars or cans. Cover with hot syrup or juice in which the fruit was cooked. Leave  $\frac{1}{2}$  inch headspace in jars and  $\frac{1}{4}$  inch headspace in cans.

#### **B. Pack Raw and Steam in Cans:**

Pack the can with prepared fruit as tight and as full as possible. Pour hot syrup or fruit juice over the fruit to within 1 or 2 inches of the top. The riper and softer the fruit the smaller amount of syrup is required, since some juice will be drawn out of fruit in the steaming process. Place the jars in warm water and the cans in hot water in the

## CAN FRUIT, TOMATOES, KRAUT, AND PEPPERS IN WATER BATH

NAME OF FOOD For selection and preparation see page 11. Suggestions for each food are given below.	COOK AND PACK * Read pages 11 and 14 for details of each method, and how to make syrup.		PROCESS IN WATER BATH Read pages 10 and 11 for use of water bath, altitude changes.			TYPE OF CAN
	A. Precook and Pack	OR B. Pack Raw and Steam	Qts. Pts. min.	Half gal. min.	No. 2 and No. 3 cans min.	
<b>Apples:</b> Use cooking apples. Cut into halves or smaller.	Boil in syrup 5 to 8 minutes. Pack hot. Cover with syrup.	10 to 15 minutes.	15	20	10	plain
<b>Apple sauce:</b> Cut small.	Cook until tender with $\frac{1}{2}$ to 1 cup sugar per gallon apples. Pack hot, seal.	No	5	10	5	plain
<b>Berries</b> (all kinds): Use fresh clean fruit. Crush smaller and imperfect berries for juice, add sugar to juice, and heat to pour over raw berries.	No	5 minutes.	15	20	15	R enamel
<b>Cherries:</b> May be pitted or not according to way of serving.	Pitted cherries: Boil 5 minutes in syrup or with sugar. Pack hot, seal.	Unpitted cherries: Prick with needle. Steam 10 to 15 min.	5	10	5	R enamel
<b>Figs:</b> Leave $\frac{1}{8}$ inch stem. Sprinkle 1 cup soda over 6 quarts sound, firm figs and add 1 gallon boiling water. Let stand 5 minutes. Drain and rinse thoroughly.	Boil 1 gallon figs in 2 quarts syrup for 1 hour. Add $\frac{1}{2}$ cup lemon juice. Pack hot, cover with syrup, seal.	No	10	15	10	R enamel
<b>Fruit Juice</b> (any fruit): Crush and heat to simmering. Strain. Add 1 to 2 cups sugar to a gallon of juice. (If canning juice for making jelly later, use no sugar.)	Heat to simmering again and pour in hot container. (Spice may be added to any of these juices, if desired.)	No	20	25	20	plain (glass best)
<b>Orange and Grapefruit juice:</b> Extract juice by reaming, being careful not to ream too close to white peel.	Heat juice almost to boiling (200 degrees Fahrenheit). Seal while hot.	No	7	12	7	plain
<b>Grapefruit:</b> Remove outer peel as well as white peel and inner membrane covering section and seed.	No	Pack solid. Cover with boiling syrup. Seal.	7	12	7	plain

fruit in boiling water until skin slips. Plunge in cold water. Remove skins. Cut in halves. Discard pits.	small amount of syrup. Boil 5 min. Pack hot, seal.	according to firmness.				
<b>Pears:</b> Hard pears will be better if gathered when mature but still green and stored in a cool, dark, dry place for about 10 days. Peel and cut in halves or smaller. Core.	Cover with syrup. Boil 5 to 10 min. according to size and hardness of fruit. Pack hot, seal.	20 to 30 minutes according to hardness of fruit.	20	25	20	plain
<b>Plums:</b> Use firm ripe fruit. Prick each plum to prevent bursting.	No	5 to 8 minutes.	15	20	15	plain for yellow; R enamel for red
<b>Rhubarb:</b> Cut young, tender stalks in $\frac{1}{2}$ inch lengths.	Boil in syrup until tender.	5 minutes.	10	15	5	R enamel (glass best)
<b>Pineapple:</b> Select ripe orange colored fruit from which spines may be pulled out readily. Cut off stem end and twist out top. Cut $\frac{1}{2}$ inch slices. Peel each slice Remove core and eyes. Cook core and trimmings with water. Strain and make syrup with this juice.	Boil 5 to 8 minutes in syrup. Pack hot, seal.	5 to 10 minutes.	20	25	15	plain
<b>Tomatoes:</b> Select fresh, firm, red-ripe fruit. Put in thin cloth bag or wire basket and dip in boiling water 1 minute. Then plunge into cold water. Drain, core, peel. Work fast in all steps.	Add no water. Heat to boiling. Add 1 t. salt per qt. Pack hot, seal.	Add 1 t. salt per qt. Cover with hot tomato juice. Steam 10 minutes.	25	30	20	plain
<b>Tomato Juice:</b> Trim any bruised or green portions from firm fresh ripe tomatoes. Steam 10 minutes and then press through sieve or strainer.	Heat to simmering. Add 1 t. salt per qt. Seal while hot.	No	15 to 20	25	15 to 20	plain
<b>Kraut:</b> Use well-fermented cabbage or turnips.	No	10 minutes.	15	20	10	plain, (glass best)
<b>Ripe Pimentos:</b> Dip in hot cooking oil for 2 or 3 minutes or place in oven 6 to 8 minutes. Then dip in cold water. Skin. Remove seeds and stems.	No	Pack without liquid Add $\frac{1}{2}$ t. salt for each pint. Steam 5 minutes.	pts. 40	no	No. 2 30	R enamel

\*Where it is indicated that the food may be either precooked and packed or packed raw and steamed before processing in water bath, the latter method is better because it yields a product with better flavor, texture and color.

water bath. The water should be about 2 inches below the rim of the can or jar and should not be allowed to boil so rapidly as to bubble into the container of food. Cover the water bath kettle with a lid. Count steaming time as soon as the steam accumulates above the jar and the water begins to boil. Rubbers that fit on the jar instead of in the lid may be placed on the jar before steaming for ease in handling. Do not use lids on tin cans while steaming, because the gasket may be ruined. At the end of the steaming period remove containers from water bath. Press food down. If container is not full, use fruit from one can to fill each of the others. Have fruit well covered with liquid. Leave  $\frac{1}{2}$  inch headspace for jars and  $\frac{1}{4}$  inch headspace for cans.

### 3. Seal:

Have food hot when sealed, whether it is precooked or packed raw and steamed. This precooking or steaming is used to shrink the food and drive out the air which prevents loss of liquid during processing, discoloration, and even spoilage. Cans and jars with self-seal lids should be sealed air-tight before processing. Other lids should be loosened one-fourth turn and tightened after processing.

### 4. Process:

Process in water bath the required number of minutes, as indicated on pages 12 and 13.

### 5. Cool:

Cool tin cans in cold water immediately and cool jars as quickly

as possible without placing them in a draft.

### 6. Store:

The same as for vegetables, page 10.

## Here Are Directions for Special Recipes

### Hominy:

Use corn with a large flat kernel. White corn makes a whiter and more attractive hominy than yellow; however, either may be used. Select corn with uniform sized kernels, and avoid using butts or tips of the ears. Soak several hours or over-night in warm water. If corn is very dry, heat in clear water about 20 to 30 minutes after soaking but before lyeing. Use an iron, enamel, or porcelain kettle for the lyeing process. Make lye solution by dissolving 2 full tablespoons of concentrated lye in each gallon of water. Two pounds of corn may be treated with 1 or  $1\frac{1}{2}$  gallons of solution. Add corn to lye solution and boil rapidly for 25 to 40 minutes. Stir often and at the end of 25 minutes drop a few grains in cold water and see if the hull and eye slip out easily with a little pressure of the fingers. Avoid cooking so long that the grains begin to get soft or the lye begins to burn the corn, making it dark.

Drain off lye solution. Pour on cold water. Either allow cold water to run over it or let it soak in cold water for 3 or 4 hours, changing the water 6 or 7 times to remove all traces of lye.

When large quantities are being made, place it in a barrel churn or an electric washer, if one is available. A gallon glass churn will

do for small quantities, or the hulling may be done by rubbing with the hands. It takes 5 to 20 minutes of vigorous rubbing or churning to remove the hulls and eyes. If they are difficult to remove the first time, heat corn to boiling in clear water and then churn again. Repeat this until hulls are removed. If hominy is to be canned, boil for about 20 minutes.

Pack loosely in the container while hot. Corn should be about 2 inches below the rim of container. Add  $\frac{1}{2}$  teaspoon salt per pint. Fill container with boiling liquid to within  $\frac{1}{2}$  inch of top of can. Seal and process in pressure cooker as directed on pages 8 and 9.

#### **Vegetable Soup:**

It is usually better to can the different vegetables separately, but if it is more desirable to put them together the following suggestions may be used.

- 1 quart tomato pulp
- 1 pint corn
- 1 pint okra
- 1 cup onion, chopped fine
- $1\frac{1}{2}$  teaspoons salt

Cook tomatoes and onions together and put through sieve to remove seed. Then cook to consistency of catsup. Add corn and other vegetables which have been prepared for canning. Bring to a boil and pack hot. Follow the processing times on pages 8 and 9.

#### **Shelled Nuts:**

To prevent nut kernels from becoming rancid can them and store in a cool, dry, dark place. Cans are desirable for storing nuts because they help to exclude light

and air. Pecans, peanuts, walnuts, and other nuts may be preserved this way.

Select well cured nuts; sort according to size. Place in a shallow container. Put in a low oven (250 to 300 degrees Fahrenheit); heat evenly. Pack hot into hot, dry jars or cans. Leave 1 inch headspace. Partially seal jar lids which are thoroughly dry. Seal tin cans airtight. Place in a pressure cooker and process at five pounds pressure for 10 minutes. Open petcock and let steam out. Complete seal on the jar. The can may be cooled in cold water. If a pressure cooker is not available put the container in a water bath with hot water up to 1 inch below the neck of the jar or it may cover the can. Process in water bath for 15 to 20 minutes.

#### **Peanut Butter:**

Shell peanuts. Roast to a golden brown all the way through. Stir often while roasting to prevent scorching. Rub roasted nuts on a screen to rub off brown husks. Grind nuts in a grist mill which is tight enough to make a smooth butter with one grinding. While butter is still warm from grinding, weigh, and to each pound of butter add  $\frac{1}{2}$  teaspoon salt and about 1 tablespoon sugar. Mix or knead thoroughly.

Success in making peanut butter is due to even browning, fine grinding, and thorough mixing. Self-sealing lids, slightly heated, will seal jars sufficiently. No processing is necessary; however, if other types of lids are used or if desired, the containers may be processed in water bath 15 to 20 minutes.



## CONSERVATION PLAN

Conservation Needs for Each Person Per Year	Total to Be Conserved for Our Family	Record of Food Conserved
88 lbs. meat	.....	.....
100 lbs. potatoes	.....	.....
22 qts.* green and yellow vegetables	.....	.....
22 qts.* other vegetables	.....	.....
22 qts.* tomatoes or citrus	.....	.....
22 qts.* other fruits	.....	.....
7 pts. preserves, jellies	.....	.....
1 gal. syrup	.....	.....
5 qts. pickles or relishes	.....	.....

The amount of food conserved for the family depends on the part of the country where they live. The average family in Texas eats half fresh food and half processed food. There may be exceptions in South Texas, where there may be fresh vegetables and fruit three-fourths the year. In that case use only one-half this plan. There may be exceptions in West and North Texas, where they may have fresh food only one-fourth the year. In this case double this plan. This plan is based on the average Texas family, who tries to eat by the Texas Food Standard.

\*8 servings  $\left\{ \begin{array}{l} 1 \text{ qt. jar} \\ 1 \text{ No. 3 can} \\ 2 \text{ pts.} \\ 2 \text{ no. 2 cans} \end{array} \right.$  1 qt. canned is  $\left\{ \begin{array}{l} \frac{1}{4} \text{ lb. dried} \\ 4 \text{ lbs. stored or frozen} \\ 2 \text{ qts. brined} \end{array} \right.$

### Average Yield of Some Common Vegetables and Fruits

Tomatoes (1 bu. or 50 lbs.).....	14 to 18 qts.
Greens (1 bu. or 12 lbs.).....	10 to 13 pts.
Snap beans (1 bu. or 28 lbs.).....	18 to 22 qts.
Corn (5 or 6 ears).....	1 pt.
Peas (2 qts. in shell).....	1 pt.
Peaches, apricots, grapes, apples (1 bu., 48 to 50 lbs.).....	17 to 20 qts.
Berries, cherries, plums (55 to 60 lbs. per bu.).....	30 qts.
Berries (1½ qts. raw equals 1 qt. canned)	

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