

## 4-H Club Canning Project

### UNIT III

# VEGETABLES

By Ruth Latimer, Edith Lacy, and Dorothy Gentry

EVERY JAR of fresh vegetables you can at home will do double duty. It will help you and your family keep well, and it will leave commercially canned food for those who are not fortunate enough to have fresh vegetables to can. You cannot find a substitute for the delicious flavor of home-canned food. All vegetables are excellent sources of vitamins. Green leafy vegetables, yellow vegetables, and tomatoes are good sources of Vitamins A, B, and C, and of minerals.

Canned vegetables have about the same food value as those cooked for immediate serving, provided they have been selected, prepared, packed and processed correctly. In flavor, color, and texture a home-canned vegetable is about the same as fresh-cooked. Salt is added for flavor, but does not have any influence on the keeping qualities. If vegetables are canned in the water in which they are precooked, the vitamin and mineral loss is less. When a jar is opened the liquid on the vegetables should be used.

A steam pressure cooker is strongly recommended for canning all vegetables except tomatoes and rhubarb. This is because in the pressure cooker the temperature is high enough to destroy heat-resisting bacteria and practically prevent all spoilage.

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Circular 421

**UNIVERSITY OF KENTUCKY**  
**College of Agriculture and Home Economics**  
**Agricultural Extension Division**

Thomas P. Cooper, Dean and Director

## Units in the Canning Project

Seven units are available to 4-H Club girls who wish to take the canning project. It is best to take the first 3 in the order given.

Unit I.....Fruits and Fruit Juices

Unit II.....Tomatoes and Tomato Juice

Unit III.....Vegetables

Unit IV.....Meats (Use U. S. Dept. of Agriculture  
AW 1-110) In this unit, can—

5 quarts chicken

5 quarts pork

5 quarts of meat (other than pork  
or chicken if available)

30 quarts of fruits and vegetables

Keep a record using 4-H Canning  
Record Book

Unit V.....Relishes and Pickles

Unit VI.....Jellies, Jams, and Marmalades

Unit VII.....Canning Budget

Help plan and can the budget for  
the family.

Can at least a budget for one person  
(100 jars).

Use budget plan in Canning Record  
Book.

Use the above circulars for canning  
directions.

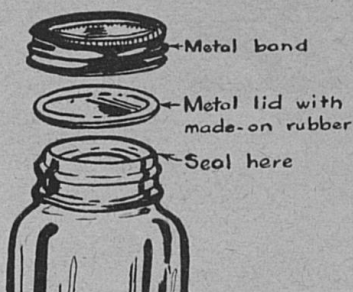
A 4-H Canning Record Book is available for keeping a  
record in any unit.

*(This circular is a revision of Circular 379.)*

## KNOW YOUR JARS . . . AND HOW TO SEAL THEM



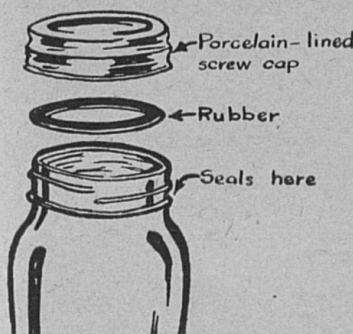
**3-piece cap**—**metal band**, glass lid, and rubber—Fit rubber to underside of the lid. Place lid, with rubber side down, on top of the jar. Screw the band on firmly . . . then **turn back almost a quarter turn**. After jar with food in it has been boiled and taken out of the water, **screw the band on tight**.



**2-piece cap**. Place metal lid, with rubber side down, on top of jar. Screw band on firmly, and **do not tighten** it again even after the jar of food is taken from the boiling water.



**"Lightning" jar**. Fit rubber in place on ledge at top of the jar. Put on glass lid, then push the long wire clamp tight over top of lid. Leave short wire loose. After the jars of food have been boiled and taken out of the boiling water . . . push this short wire down.



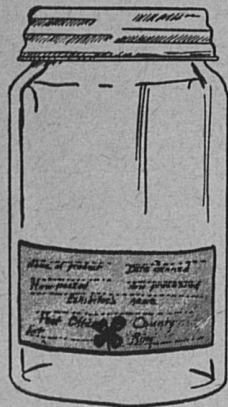
**Zinc porcelain-lined cap** with shoulder rubber ring to fit standard Mason jar. Fit wet ring down on jar shoulder, but don't stretch more than needed. Fill jar, then screw cap down firmly and turn it back  $\frac{1}{4}$  turn. As soon as jar is taken from canner, quickly screw cap down tight to complete seal.

### WHAT TO DO IN UNIT III

1. Can 40 quarts, the vegetable canning budget for one person. The vegetables to be canned and the amounts are as follows:

	Quarts
Leafy greens (mustard, kale, turnips, spinach, etc.).....	6
String beans (pole or bush).....	6
Yellow vegetables (yellow corn, carrots, summer squash, etc.).....	4
Tomatoes .....	10
Soup mixture .....	6
Starchy vegetables (corn, lima beans, black-eyed peas).....	4
Other vegetables (asparagus, peas, okra, peppers, etc.).....	4

While fruits are not mentioned in the requirements for this project, it is hoped that club girls will also can fruits.



2. Label each jar, giving complete information as shown in sample label. Use homemade labels for home storage. Get club labels from the county extension office for use in county and state exhibits.
3. Keep a complete record in the Canning Record Book.
4. Use the score card in practice judging of canned vegetables.
5. Exhibit one quart each of leafy greens, yellow vegetable, soup mixture, green beans, tomatoes, some other vegetable. Fruits may be exhibited in "Open Class."

### HOW TO USE THE STEAM PRESSURE COOKER



to be set. It has a steam-tight cover, which has a petcock and pressure gage.

When one has a new cooker it should be used for the first time under supervision. A club girl should not attempt to operate it alone. Her Club Leader, her mother, or the county Home Demonstration Agent should be called upon for assistance. Follow instructions to the letter.

Pressure cookers are usually made of aluminum and are fitted with a rack in the bottom on which the jars are

Place the rack in the bottom of the cooker and add hot water to the level of the top of the rack. Place the jars of food (with the jar cap properly adjusted) on the rack in the cooker. Allow enough space between the jars for the free circulation of steam. Adjust the cover of the cooker and fasten securely by tightening opposite clamps (a pair at a time) or adjusting the band.

Leave the petcock open until a jet of steam has been flowing steadily from it for 7 to 10 minutes. Then close the petcock and allow the pressure to rise, counting processing time from the minute the required amount of pressure is shown on the pressure gage. Keep the pressure uniform throughout the processing period. Changes in pressure may cause loss of liquid from the jars.

At the end of the processing period, remove the cooker from the fire and allow the hand on the pressure gage to return to zero. Then open the petcock gradually, take the cover off of the cooker, tilting it away from your face, and remove the jars. If jar caps are to be adjusted, do this immediately. "Self-Sealing" caps require no further tightening. Set jars upright on a surface which has been covered with a folded cloth or a wire rack. Don't set jars in a draft, and set them far enough apart to allow free circulation of air around them. If liquid has been lost from the jars during processing, do not open the jars to add more liquid.

### **CARE OF PRESSURE COOKER**

1. Handle carefully to prevent nicks, dents, and scratches.
2. Avoid knocking petcock, gage, or safety valve.
3. Do not put the lid in water—wash it with cloth.
4. Clean small ball in safety valve after each using.
5. Leave spring in safety valve released when cooker is not in use.
6. Wash, and dry thoroughly after each using.
7. Leave cover unfastened when not in use.
8. Wrap gage in cotton and pack carefully if carrying cooker in a car.

### **RECIPES FOR CANNING VEGETABLES**

#### **Asparagus**

1. Select fresh, tender stalks; wash, grade for size, and cut in about 1½-inch lengths.
2. Boil 2 to 4 minutes, according to size. Pack in sterilized jars. Cover with liquid in which boiled, and add 1 teaspoon salt per quart.
3. Seal all types of jar according to directions on page 3. Process in water bath for 120 minutes or in a pressure cooker at 10 pounds pressure 35 minutes for quarts and 30 minutes for pints.

### String beans

1. Select young, tender beans.
2. Wash thoroughly, string, and cut into convenient lengths.
3. Cover with boiling water and boil 5 minutes in an uncovered saucepan.
4. Pack boiling-hot beans in sterilized jars, fill with liquid in which beans were cooked and add 1 teaspoon salt per quart.
5. Seal according to directions on page 3. Process quarts 180 minutes in a water bath, or process quarts 35 minutes and pints 30 minutes in pressure cooker at 10 pounds pressure.

### Lima beans

1. Shell and grade.
2. Precook 5 minutes.
3. Pack loosely.
4. Fill jar with liquid in which cooked.
5. Add 1 teaspoon salt per quart.
6. Seal according to directions on page 3 and process quarts 180 minutes in a water bath, or process quarts 55 minutes and pints 50 minutes in pressure cooker at 10 pounds pressure.

### Baby beets

1. Select only small, young, tender beets.
2. Wash beets and boil about 15 minutes until skins slip easily or peel and can whole or diced.
3. If raw beets are peeled, cover with water and boil 5 to 8 minutes, according to size.
4. Pack product in hot, sterilized jars, cover with boiling liquid in which they were cooked, and add 1 teaspoon of salt to each quart.
5. Seal according to directions on page 3, and process 150 minutes in water bath, or process quarts 35 minutes and pints 30 minutes in a pressure cooker at 10 pounds pressure.

### Carrots

1. Select young, tender carrots.
2. Wash and scrub carrots with a stiff vegetable brush.
3. Slice or dice.
4. Precook 5 to 10 minutes according to size, and pack immediately in hot sterilized jars.
5. Add 1 teaspoon of salt to each quart, cover with boiling

liquid in which vegetable was precooked. Seal according to directions on page 3, and process 150 minutes in water bath, or process quarts 35 minutes and pints 30 minutes in pressure cooker at 10 pounds pressure.

### Tomatoes

1. Select firm, ripe tomatoes of medium size and uniform shape.
2. Place in wire basket or cloth bag and scald until skins loosen.
3. Dip the tomatoes in cold water, peel them, and remove the core from the stem end.
4. Pack whole or in quarters in hot, sterilized jars.
5. Cover with boiling tomato juice prepared from small, misshapen and very large tomatoes. Never add water to tomatoes to be canned.
6. Add 1 teaspoon salt per quart, seal according to directions on page 3, and process in water bath for 45 minutes, or in a pressure cooker at 5 pounds pressure for 10 minutes.

### Tomato juice

1. Select firm, ripe tomatoes, wash, remove stem end, and cut in quarters.
2. Heat to simmering point in covered kettle until juice begins to flow freely.
3. Strain quickly, add 1 teaspoon salt per quart.
4. Reheat at once to boiling point, pour into hot, sterilized jars, and seal according to directions on page 3. Process 5 minutes in water bath.
5. **Omit salt if to be used** for infants and small children.

### Vegetable soup mixture

Almost any desired combination of vegetables may be canned for soup. A good combination is:

- 1 quart thick tomato pulp
- 1 pint corn, tiny lima beans, or peas
- 1 pint okra
- ½ cup chopped sweet red pepper
- 1½ teaspoon salt

Bring to a boil, pack hot and seal according to directions on page 3. Process in water bath for 180 minutes, or quarts 70 minutes and pints 69 minutes in a pressure cooker at 10 pounds pressure.

## TIME TABLE FOR CANNING VEGETABLES

	Precook by boiling	Time of processing		
		Steam pressure canner, 10 lb.		Water-bath canner or steamer, quarts or pints
		Quart	Pint	
		<i>min.</i>	<i>min.</i>	<i>min.</i>
Asparagus.....	2-4 minutes	35	30	120
Beans				
Green or wax.....	5 minutes	35	30	180
Lima.....	2-10 minutes	55	50	180
Soybeans.....	5 minutes	90	80	180
Beets.....	Enough to loosen skin*	35	30	150
Carrots.....	5-10 minutes	35	30	150
Corn.....	To boiling	70	60	180
Greens.....	Until wilted	65	60	180
Okra.....	3-5 minutes	40	35	180
Peas, green.....	3-5 minutes	60	45	180
Peas, black-eyed.....	(See lima beans)			
Pumpkin.....	Until tender	75	60	180
Soup mixture.....	(See recipe)	70	60	180
Sauerkraut.....	.....	....	....	30
Squash.....	Until tender	75	60	180
Succotash.....	Corn, 5 minutes, Beans, 3 minutes	60	55	180
Sweetpotatoes.....	Until skin slips readily	120	95	180
Tomatoes.....	Scald before peeling	10**	10**	45

\* Enough to loosen skin on whole beet. If diced, 5 to 8 minutes.  
 \*\* At 5 pounds pressure.

## SCORE CARD FOR JUDGING CANNED VEGETABLES

	<i>Score</i>
<b>Vegetable</b> .....	60
Condition of product: uniform in size and ripeness; not defective, tough, old, stringy, or woody.....	20
Condition of finished product: Natural, clear, bright color, not unduly blanched or darkened; not overcooked; shape preserved.....	40
<b>Pack</b> .....	40
Uniformity: pieces of right size to serve; fancy pack not acceptable .....	10
Condition of liquid: clear, not cloudy, no bubbles, no sediment or foreign matter.....	10
Proportion of liquid to vegetable: jar full of product but not crowded, product well covered with liquid	10
Container: of uniform or specified size, clear, white glass, clean, plainly and neatly labeled according to directions .....	10
<b>Total</b> .....	100

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