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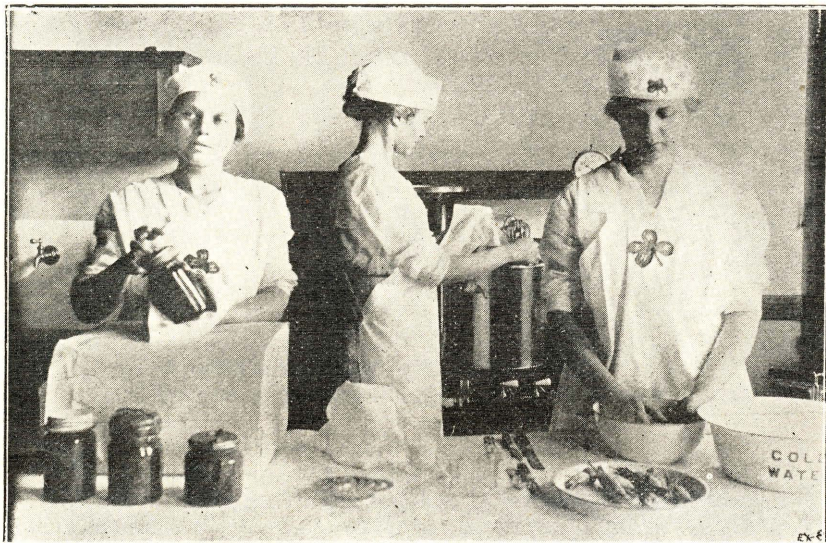
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# MICHIGAN AGRICULTURAL COLLEGE

EXTENSION DIVISION

R. J. BALDWIN, DIRECTOR

## *Boys' and Girls' Clubs Junior Extension Work in Agriculture and Home Economics*



The 4H Canning Demonstration Team spreads the message of thrift.

### CANNING WORK FOR BOYS' AND GIRLS' CLUBS

### ONE PERIOD COLD PACK METHOD

*Michigan Agricultural College and U. S. Department of Agriculture Cooperating*

Printed and distributed in furtherance of the purposes of the  
cooperative agricultural extension work provided  
for in the Act of Congress, May 8, 1914

## A HAND BOOK FOR MEMBERS OF MICHIGAN'S CANNING CLUBS

This Canning Bulletin is intended as a simple guide for the boys and girls in the Canning Clubs of Michigan. Only a few recipes are given. It is hoped that the boys and girls will make use of the favorite recipes of their mothers, in addition to those contained in this bulletin.

### CANNING CLUB REQUIREMENTS.

#### First Year Canning Club Members—

Junior Class—Age 10 to 14 years inclusive.

- a. 30 jars fruits and vegetables
- b. Exhibit
- c. Report and story

Senior Class—Age 15 to 18 years inclusive.

- a. 50 jars
- b. Exhibit
- c. Report and story

#### Second Year Canning Club Members—

Junior and Senior Class.

- a. 50 jars

This amount is to include the following:

16 glasses jelly, jam or marmalade (4 glasses equivalent to 1 quart)

4 quarts pickles

4 quarts vegetable mixture

- b. Each member must be a member of a canning demonstration team
- c. Exhibit
- d. Report and story

#### Third year Canning Club Members—

Junior and Senior Class.

- a. 50 jars

This amount is to include the following:

16 glasses jelly, jam or marmalade

4 quarts pickles

4 quarts vegetable mixture

4 quarts meat, fish or fowl

- b. Each member must be a member of a canning demonstration team and take part in at least two public demonstrations.
- c. In lieu of canning demonstration team work, a third year club member may take the leadership of a younger group of girls.
- d. Exhibit
- e. Report and story



## MOTHER-DAUGHTER CANNING CLUB.

- a. 60 jars fruits and vegetables
- b. Exhibit
- c. Report and story

The Mother-Daughter Canning Club is made up of teams of Mothers and Daughters, who work together as partners in the home kitchen. Often ladies, with no daughters, "adopt" one of the Canning Club girls for the canning season. The girls in the Mother-Daughter Canning Club are responsible for the keeping of the records.



The Mother-Daughter Canning Teams work together in the home kitchen.

## BASIS OF AWARD.

The work of the Canning Club Members will be judged on the following basis:

- |   |     |
|---|-----|
| 1. Value of products canned . . . . .                           | 35% |
| 2. Quality of products canned and neatness of exhibit . . . . . | 35% |
| 3. Character of canning report . . . . .                        | 15% |
| 4. Character of story on "How I Did My Canning" . . . . .       | 15% |

## ORGANIZATION.

For the details of organization see Club Bulletin No. 13. Every Club should fill out an enrollment blank, furnished by the Boys' and Girls' Club Department at East Lansing, and send this immediately to the County Club Leader, County Agent, or Home Demonstration Agent in the County. If there is no one in charge of club work in the county, send the enrollment direct to the State Club Leader, East Lansing.



## PROGRAM OF WORK FOR CANNING CLUBS.

Meetings should be held regularly for the purpose of discussing problems relative to the canning project and to receive instruction from Local, County, or State Club Leader. The program for these meetings should be arranged by the program committee at the beginning of the canning season. The meetings are held usually every two weeks and the program may consist of demonstrations, discussions, talks by outsiders, or by club members, games and songs. Every Club meeting should have some time given over to recreation.

The work of the Canning Club may be outlined in some such form as the following:

May and June: Organization of Club; demonstration by the County or Local Leader, showing the canning of the early fruits and vegetables. All enrollment blanks should be filed with the State Club Leader before June 15.

July: A demonstration by the County or Local Leader, showing the canning of midsummer fruits and vegetables. The training of canning demonstration teams.

August: The continuation of the training of canning demonstration teams preparatory to the elimination contests for county, state and inter-state championships; midsummer play festival or picnic.

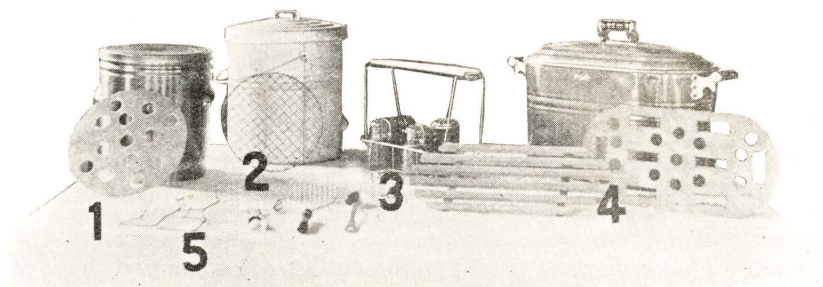
September: Canning demonstration teams demonstrate at local, county and state fairs.

October and November: Club members complete their project and file report and story with local club leader; hold local achievement day at which time exhibit is made, to be followed by county achievement day with county exhibit; make out reports and stories. These are to be in hands of State Club Leader by November 15; begin winter project.

## EQUIPMENT

## TYPES OF CANNERS.

1. *Hot Water-bath Outfit*: A home-made outfit may be made by using a wash boiler, a new garbage pail, a lard pail, a tin pail or any other receptacle with a tight-fitting cover, deep enough to permit the water to stand at least one inch over the top of the jars. A false bottom or rack should be made to fit the canner. This should be so constructed as to permit free circulation of water beneath the jars. It should keep the jars one inch from the bottom of the canner. For a wash boiler, the simplest rack is made of strips of lath with a cleat nailed across the under side at each end. For round canners a false bottom may be made by punching holes in an ordinary tin kettle cover. Nail wooden strips across the bottom. Avoid using straw or towels in the bottom, which will not permit water to circulate under jars. In using this type of canner, the water should be heated before the filled jars are put in place. The water should stand about one inch above the tops of the jars. If the cover for your canner does not fit tightly, place a cloth over the canner and press the cover over this. If the water boils away during the processing, replace with boiling water.



Simple Canning Equipment may be made in the home:

1. Lard can with false bottom.
2. Garbage pail with wire rack.
3. Improvised holder and rack for wash boiler.
4. Wash boiler with metal and wooden racks.
5. Simple utensils for removing jars from canner.

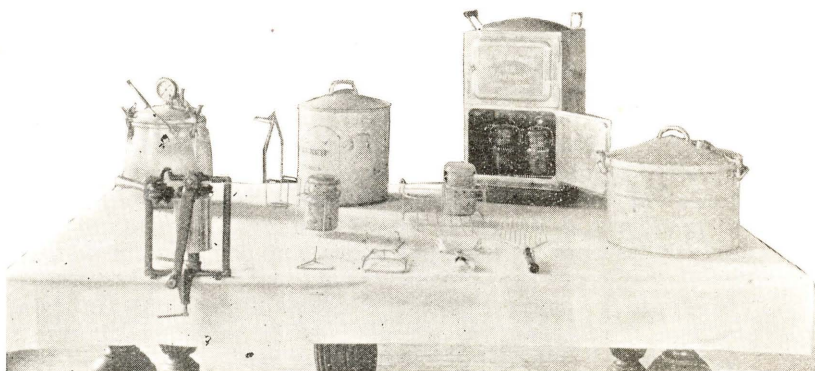
2. *Commercial Steamers*: Commercial Steamers which maintain a temperature equal to that of boiling water may successfully be used as canners. Be sure that the steamer is air tight and allows no escape of steam, otherwise too low a temperature will result.

3. *Water-seal Outfit*: This is a commercial canner and by means of a jacket of water surrounding the jars the processing is done with steam. It enables one to process in less time than is necessary with the hot water-bath outfits.

4. *Steam Pressure Outfit*: Various types of steam pressure canners are on the market. They are built solidly and permit the use of steam pressure, which makes it possible to process in shorter periods.

5. *Aluminum Pressure Cookers*: As the name implies these outfits were originally intended as steam cookers. They are admirably adapted for canning in small quantities and in a short length of time.

(For description of these various types of canners and their use, see Circular NR—21 "Home Canning Instructions"—Method and Devices, U. S. Department of Agriculture.



Commercial Canners.



## TYPES OF JARS.

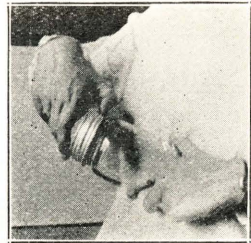
Most Canning Club Members will use glass jars for home canning. Some Clubs may wish to can in tin. Full directions for canning in tin may be found in Circular 17, U. S. Department of Agriculture.



1. Screw top jar. 2. Glass top jar. 3. Vacuum seal jar.

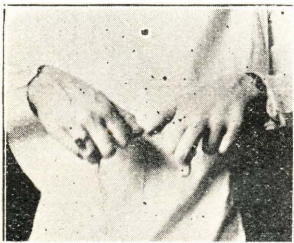
There are three types of glass jars in common use. Use the jars which you have in your home, but learn to select the best jars for your purposes. A good jar is one which is simple in construction and has a mouth wide enough to enable one to can whole products.

**1. Screw-top Jars:** This is the type of jar most commonly used and usually goes by the trade name of "Mason." The tops for these jars should be used only one year. Test tops carefully before using. Screw the top on the jar without the rubber. Run the thumb nail around between the top and the glass. If the thumb nail can be inserted it is an indication that the top does not fit; either press down edge of cover or use another.



A good top should not permit thumb nail to be inserted.

Tops for screw-top jars must not be screwed on tightly during the processing. Screw the tops as tightly as possible, using only the thumb and little finger, or until juice does not run out when jar is inverted. Screw top tightly after jars are taken from the canner.



Tighten the metal bail each year.

**2. Glass-top Jars:** This type of jar does not permit any of the fruit or vegetable juices to come in contact with metal. Test all jars before using. Run finger around top of jar to detect breaks or nicks. Also run finger around cover for the same reason. The wire bail which holds the cover in position should go in with a sharp snap. If it does not fit tightly, remove and bend down in the center and press in at the sides. This adjustment should be made each year.



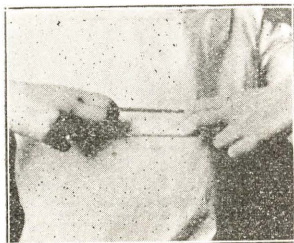
During the processing, the tops and rubbers are in position and the metal bail is adjusted over the top. The metal spring at the side is left up. Force this spring or clamp down immediately upon taking jars from the canner.

3. *Lacquered-top Jars:* This type of jar is fitted with a gold-lacquered top, which is not affected by fruit and vegetable acids. A very common type goes by the trade name, "Economy." The covers should be examined closely to see if the gold-lacquer covers all portions of the inside of the cover; be sure that the layer of composition rubber has not been removed or broken. The tops can be used only one year. The iron clamp which accompanies this type of jar should be in position during processing; it may be removed after jars have been removed from canner and are completely cooled. Do not touch tops until cool.

4. *Hermetically Sealed Jars:* This type of jar has a metal top which is put on by means of a capping machine and the jar is thus hermetically sealed ready for the canner. This jar is used especially in community canning centers, or by those Club members who are canning for the commercial trade.

#### RUBBERS.

It is economy to buy the best rubbers obtainable. Rubbers should not be used a second year. The following tests should be applied to rubbers used for the Cold Pack Method of Canning:



a. A rubber should stand a reasonable amount of stretching and pulling without breaking.

A good rubber can be stretched without breaking.

b. Rubbers should be about  $1/12$  of an inch in thickness. A pile of one dozen rings should measure one inch.

c. The inner diameter of the rubber ring should be  $2\frac{1}{4}$  inches; the flange  $5/16$  of an inch. This size does not blow out.

d. A rubber should stand pinching between the thumb and fore finger and when the pressure is removed should not show the effects.

e. The color of the rubber ring is no index to the quality. Good rings may be either red, white, or black.

#### TIN CANS.

There are two kinds of tin cans, the plain tin and the enameled. Most products may be packed in the plain tin cans. Enameled cans are used to prevent chemical action on the tin coating of the container. Enamel

cans should be used for greens, beets, strawberries, cherries, pumpkin, squash, fish, poultry and meat.

Tin cans may be had in either the sanitary, or cap-and-hole type.

a. The Sanitary or rim sealed can consists of a can and cover pressed into a definite shape. A special machine is made for the sealing of these cans. No heat or solder is required in making the seal.

b. The cap-and-hole tin can consists of a can and a cover. The cover has a rim of solder. The cap is fastened on the can by the application of heat which necessitates the use of a soldering iron.

#### LABELS.

Members of the Boys' and Girls' Canning Clubs may market their canned products in standard packs under the 4H brand label. Requirements for standard packs may be obtained from the State Club Leader, East Lansing, Michigan.



The Club members may use the 4H label.

## STEPS IN CANNING

Step Number 1. **Select and Grade Products to be Canned.** Use only sound products free from disease and injury. Can the same day products are picked and as soon after picking as possible. Pack the products of the same size and degree of ripeness in the same jar.

Step Number 2. **Clean Products Thoroughly.** For special preparation of products see recipes.



The products are blanched in boiling water.

Step Number 3. **Blanch.** This means plunge the products into a kettle of boiling water or place in steamer and allow to remain for the time specified in the recipe. When products are plunged into boiling water the water will stop boiling. Count time when the water again begins to boil. (Water boils in an open kettle when it "jumps.") The products may be placed in a wire vegetable basket or a piece of cheese-cloth (about one yard square) the corners of which are tied to form a bag. *All vegetables and greens are blanched, but some fruits are not.* FOLLOW DIRECTIONS.

Step Number 4. **Cold Dip.** After the products have been blanched, plunge them immediately into a kettle or pail of cold water, or hold products under a pump or faucet until the cold water comes in contact with all parts of the product. This takes about thirty seconds. *Do not allow products to remain in the cold water.*

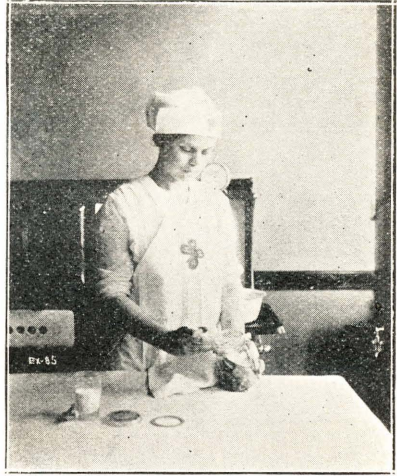


Cold dip by plunging up and down in cold water.

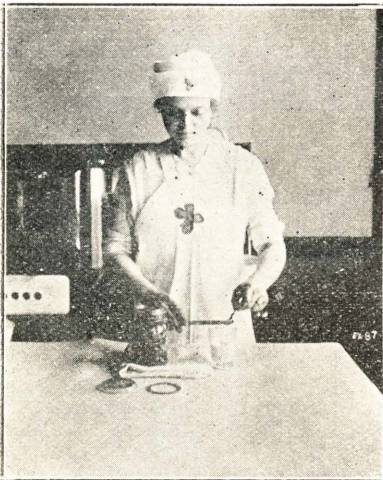


Step Number 5. **Prepare for Packing in Jars.** For special directions see recipes.

Step Number 6. **Pack in Hot Jars.** Place jars in canner when water is put on to heat. Leave jars in boiling water for a period of from ten to twenty minutes. This will temper or toughen the glass. Remove jars from canner and pack with products while jars are still hot.

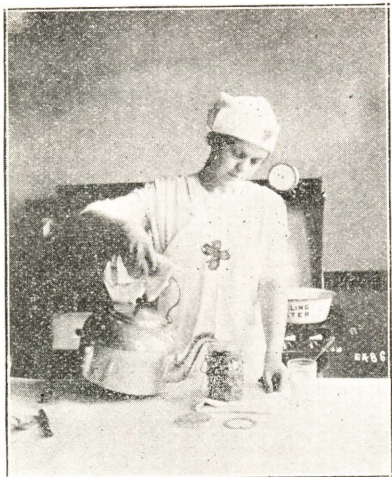


The Canning Club member packs the products with skill.



Add one teaspoon of salt to each quart.

Step Number 7. **Add the Liquid.**  
a. For all vegetables and greens, add one teaspoonful of salt to the quart and fill jar with boiling water to within three-eighths of an inch of the top.



Fill the jar with boiling liquid to within three-eighths of an inch of the top.

b. For all fruits add boiling syrup to within three-eighths of an inch of the top. (See directions for making syrup.) Boiling water may be substituted for the syrup if desired. In this case add 10% to the time for processing.

Step Number 8. **Place Rubber and Top in Position.** (See directions for adjusting tops.)

Step Number 9. **Place Jars in Canner.** Process for the length of time given in the recipe. Do not begin to count time until you are sure the water is boiling.

Step Number 10. **Remove Jars from Canner, Tighten Tops and Examine for Leaks.** If rubber or top is defective, replace and return to canner and process five minutes longer.



Always test the seal for possible leakage.

## POINTS TO REMEMBER

1. Read directions and follow them carefully.
2. Be sure your products are scrubbed or washed clean. It is dangerous to can dirty products.
3. Count time for blanching or processing from the time the water boils or jumps. This is important.
4. If the rubber or top proves defective when the jar is taken from the canner, replace with a new one and reprocess the product five minutes for fruits and ten minutes for vegetables.
5. If the taste or odor of the products indicate spoilage, do not use. It is better to discard them than to run any risk. Do not swallow the portion of spoiled product which is tasted.

## CANNING DIRECTIONS

## VEGETABLES.

General directions for canning all products are given under the heading "Steps to Take in Using the One-period Cold-pack Method of Canning." The following are special directions for the various products. *Follow directions closely.*

## Root and Tuber Vegetables.

Carrots, beets, parsnips  
salsify, sweet potatoes,  
turnips, etc.

1. Grade for size, color and degree of ripeness. 2. Scrub thoroughly with brush. 3. Blanch from two to six minutes. 4. Cold-dip. 5. Scrape or pare. 6. Pack in jars whole or cut in convenient sections. 7. Add one-teaspoonful of salt in boiling water to within three-eighths of an inch of the top. 8. Place rubber and top in position. 9. Process.

- |                         |            |                                    |            |
|-------------------------|------------|------------------------------------|------------|
| (a) Hot water-bath..... | 90 minutes | (c) Steam pressure (5 lbs.).....   | 60 minutes |
| (b) Water-seal.....     | 80 minutes | (d) Pressure cooker (15 lbs.)..... | 60 minutes |
10. Remove from canner and tighten tops.

## Pod Vegetables.

Wax beans, string beans,  
green peppers and okra.

1. Select and grade product. 2. Wash, cull and string. Cut into convenient lengths. 3. Blanch from 5 to 10 minutes. 4. Cold-dip. 5. Omit step 5. 6. Pack in jars. 7. Add one teaspoonful of salt to each quart and boiling water to within three-eighths of an inch of the top. 8. Place rubber and top in position. 9. Process:

- |                         |             |                                    |            |
|-------------------------|-------------|------------------------------------|------------|
| (a) Hot water-bath..... | 120 minutes | (c) Steam pressure (5 lbs.).....   | 60 minutes |
| (b) Water-seal.....     | 90 minutes  | (d) Pressure cooker (15 lbs.)..... | 40 minutes |
10. Remove jars from canner and tighten tops.

## Peas, Lima Beans.

1. Select and grade product. 2. Shell. 3. Blanch 5 minutes. 4. Cold dip. 5. Omit step 5. 6. Pack in jars, not tightly. 7. Add one teaspoonful of salt to each quart and boiling water to within three-eighths of an inch of the top. 8. Place rubber and top in position. 9. Process:

- |                         |             |                                    |            |
|-------------------------|-------------|------------------------------------|------------|
| (a) Hot water-bath..... | 180 minutes | (c) Steam pressure (5 lbs.).....   | 60 minutes |
| (b) Water-seal.....     | 120 minutes | (d) Pressure cooker (15 lbs.)..... | 40 minutes |
10. Remove jars from canner and tighten tops.

## Sweet Corn.

1. Select corn between milk and dough stage; grade for size, color and degree of ripeness; remove husk and silk. 2. Omit step 2. 3. Blanch not longer than 5 minutes. 4. Cold-dip. 5. Cut corn from cob with sharp knife, cutting from tip to butt. 6. Pack at once in jars, but not tightly. 7. Add teaspoonful of salt to each quart and boiling water to within three-eighths inch of the top. (The milk of the corn may be added to the boiling water). 8. Place rubber and top in position. 9. Process:

- |                         |             |                                    |            |
|-------------------------|-------------|------------------------------------|------------|
| (a) Hot water-bath..... | 180 minutes | (c) Steam pressure (5 lbs.).....   | 90 minutes |
| (b) Water-seal.....     | 120 minutes | (d) Pressure cooker (15 lbs.)..... | 60 minutes |
10. Remove jars from canner and tighten tops.

Corn may also be canned on the cob by following above recipe omitting Step Number 5.



**Vine Vegetables.****Pumpkin and squash.**

1. Clean, cut in convenient sections; core and remove skins. 2. Omit step 2. 3. Instead of blanching cook for 30 minutes or until reduced to pulp. 4. Omit step 4 and 5. 6. Pack in jars. 7. Add one cup of sugar and one teaspoonful of salt to each quart of pulp.
8. Place rubber and top in position. 9. Process:
 

(a) Hot water-bath.....	120 minutes	(c) Steam pressure (5 lbs.).....	60 minutes
(b) Water-seal.....	90 minutes	(d) Pressure cooker (15 lbs.).....	40 minutes
10. Remove jars from canner and tighten tops.

If it is desired to can these products in pieces suitable for use in creamed or fried dishes, follow the general directions; blanch ten minutes and cold-dip.

**Tomatoes.**

1. Select and grade for size, color and degree of ripeness. 2. Wash thoroughly. 3. Blanch from 1 to 2 minutes or until skin begins to crack. 4. Cold-dip. 5. Remove skins inserting point of knife at core end. 6. Pack in jars as tightly as possible. 7. Add one teaspoonful of salt to the quart; fill crevices with tomato juice. (If canning whole tomatoes for home use the jars may be filled with boiling water.) 8. Place rubber and top in position. 9. Process:
 

(a) Hot water-bath.....	22 minutes	(c) Steam pressure (5 lbs.).....	15 minutes
(b) Water-seal.....	18 minutes	(d) Pressure cooker (15 lbs.).....	10 minutes
10. Remove jars from canner and tighten tops.

**Cabbage, Brussel Sprouts.**

1. Select small and firm heads; cut into convenient sections and remove core. 2. Wash. 3. Blanch 5 minutes. 4. Cold-dip in salt-water. (Tablespoonful of salt to quart of cold water.) 5. Omit step 5. 6. Pack in jars as tightly as possible. 7. Add one teaspoonful of salt to the quart and fill with boiling water to within three-eighths inch of the top. 8. Place rubber and top in position. 9. Process:
 

(a) Hot water-bath.....	120 minutes	(c) Steam pressure (5 lbs.).....	60 minutes
(b) Water-seal.....	90 minutes	(d) Pressure cooker (15 lbs.).....	40 minutes
10. Remove jars from canner and tighten tops.

**Cauliflower.**

1. Select firm products; cut off and use flowered portion. 2. Wash thoroughly. Plunge into cold brine, (one-half lb. salt to 12 qts. water) and allow to remain in brine for one hour. 3. Blanch 3 minutes. 4. Cold-dip. 5. Omit step 5. 6. Pack in jars. 7. Add one teaspoonful of salt to the quart and fill with boiling water to within three-eighths inch of the top. 8. Place rubber and top in position. 9. Process:
 

(a) Hot water-bath.....	60 minutes	(c) Steam pressure (5 lbs.).....	30 minutes
(b) Water-seal.....	40 minutes	(d) Pressure cooker (15 lbs.).....	20 minutes
10. Remove jars from canner and tighten tops.

**Edible Greens and Pot Herbs.****Asparagus, swiss chard spinach, dandelion, beet tops, endive, etc.**

1. Select firm and fresh products. 2. Wash carefully. 3. Blanch 10 to 15 minutes in a kettle with a little water under false bottom or in a regular steamer. 4. Cold-dip. 5. Omit step 5. 6. Pack loosely in jars. 7. Add one teaspoonful of salt to the quart and boiling water to within three-eighths inch of top. 8. Place rubber and top in position. 9. Process:
 

(a) Hot water-bath.....	120 minutes	(c) Steam pressure (5 lbs.).....	60 minutes
(b) Water-seal.....	90 minutes	(d) Pressure cooker (15 lbs.).....	40 minutes
10. Remove jars from canner and tighten tops.

**Sweet Peppers.**

1. Select either red or green peppers. 2. Wash. 3. Omit steps 3 and 4. *Special:* Place peppers in oven and bake them until the skin separates from the meat. 5. Remove the skins. 6. Pack solidly in jars. 7. Add one teaspoonful of salt to the quart—add water. 8. Place rubber and top in position. 9. Process:
 

(a) Hot water-bath.....	90 minutes	(c) Steam pressure (5 lbs.).....	60 minutes
(b) Water-seal.....	75 minutes	(d) Pressure cooker (15 lbs.).....	40 minutes
10. Remove jars from canner and tighten tops.

**FRUITS.****Syrups for Fruits.**

There are various ways of obtaining the proper density for syrups. Two methods are given below.

- I. a. Thin syrup. 1 part sugar, 2 parts water. Bring to a boil. This may be used for such fruits as cherries, apples and peaches.
- b. Medium syrup. 1 part sugar, 1 part water. Bring to a boil. This syrup may be used for berry fruits, such as blackberries, dew-berries, huckleberries and raspberries.
- c. Heavy syrup. 2 parts sugar, 1 part water. Bring to a boil. This syrup may be used for more acid fruits such as gooseberries, apricots and sour apples.
- II. a. Thin syrup. 2 parts sugar, 3 parts water. Bring to a boil.
- b. Medium syrup. 2 parts sugar, 3 parts water. Boil 5 minutes.
- c. Thick syrup. 2 parts sugar, 3 parts water. Boil from 10 to 15 minutes.

To avoid the scum in the making of syrup, first measure out the boiling water and stir the sugar into the boiling water the same as in the making of breakfast food.

- Rhubarb.** 1. Select fresh stalks. 2. Wash thoroughly and cut in pieces three-fourth inches in length. *Do not remove skin.* 3. Blanch 1 minute. 4. Cold-dip. 5. Omit step 5. 6. Pack tightly in jars. 7. Add medium-thick syrup to within three-eighths inch of top. 8. Place rubber and top in position. 9. Process:
- |                         |            |                                   |            |
|-------------------------|------------|-----------------------------------|------------|
| (a) Hot water-bath..... | 16 minutes | (c) Steam pressure (5 lbs.).....  | 10 minutes |
| (b) Water-seal.....     | 12 minutes | (d) Pressure cooker (15 lbs.).... | 5 minutes  |
10. Remove jars from canner and tighten tops.

- Soft Fruits.** 1. Select and grade for color, size and degree of ripeness. 2. Rinse fruit and cull, seed or stem. 3. Omit steps 3 and 4. 5. *Special:* Peaches and apricots should be scalded for 30 seconds and cold-dipped; skins may then be removed with ease. 6. Pack in jars. 7. Add thin boiling syrup to within three-eighths inch of the top. 8. Place rubber and top in position. 9. Process:
- |                         |            |                                   |            |
|-------------------------|------------|-----------------------------------|------------|
| (a) Hot water-bath..... | 16 minutes | (c) Steam pressure (5 lbs.).....  | 10 minutes |
| (b) Water-seal.....     | 12 minutes | (d) Pressure cooker (15 lbs.).... | 5 minutes  |
10. Remove jars from canner and tighten tops.

**SPECIAL:** Strawberries and raspberries may be canned according to the following recipe. When these directions are followed the berries will not rise to the top of the jar: Use only fresh, ripe and firm berries. Prepare the berries. Add one cup of sugar and 2 tablespoonfuls of water to each quart of berries. Boil slowly for 15 minutes in an enameled or acid-proof kettle. Allow the berries to cool and remain over night in the covered kettle. Pack the cold berries in sterilized glass jars. Put the rubber and top in position, not tightly. Process:

(a) Water-bath.....	8 minutes	(c) Steam pressure (5 lbs.).....	5 minutes
(b) Water-seal 214°.....	6 minutes		

Remove the jars. Tighten the tops.

- Grapes.** 1. Use fresh and evenly-ripened fruit. 2. Pick from stems and wash. 3. Omit steps 3, 4 and 5. 6. Pack in jars. 7. Fill with thin syrup to within three-eighths inch of the top. 8. Place rubber and top in position. 9. Process:
- |                         |            |                                   |            |
|-------------------------|------------|-----------------------------------|------------|
| (a) Hot water-bath..... | 16 minutes | (c) Steam pressure (5 lbs.).....  | 10 minutes |
| (b) Water-seal.....     | 12 minutes | (d) Pressure cooker (15 lbs.).... | 5 minutes  |
10. Remove jars from canner and tighten tops.

- Huckleberries, Gooseberries.** 1. Select fresh and evenly-ripened fruit. 2. Wash and stem. 3. Plunge in boiling water for 30 seconds to shrink. 4. Cold-dip. 5. Omit step 5. 6. Pack tightly in jars. 7. Fill with thin boiling syrup to within three-eighths inch of the top. 9. Process:
- |                         |            |                                   |            |
|-------------------------|------------|-----------------------------------|------------|
| (a) Hot water-bath..... | 16 minutes | (c) Steam pressure (5 lbs.).....  | 10 minutes |
| (b) Water-seal.....     | 12 minutes | (d) Pressure cooker (15 lbs.).... | 5 minutes  |
10. Remove jars from canner and tighten tops.

- Plums.** 1. Select fruit for size, color and degree of ripeness. 2. Wash. 3. Omit steps 3, 4 and 5. 6. Pack in jars. 7. Add medium-thick boiling syrup to within three-eighths inch of the top. 8. Place rubber and top in position. 9. Process:
- |                         |            |                                   |            |
|-------------------------|------------|-----------------------------------|------------|
| (a) Hot water-bath..... | 16 minutes | (c) Steam pressure (5 lbs.).....  | 10 minutes |
| (b) Water-seal.....     | 12 minutes | (d) Pressure cooker (15 lbs.).... | 5 minutes  |
10. Remove jars from canner and tighten tops.

- Pineapples.** 1. Select sound and ripe fruit; peel, core and remove all eyes. 2. Omit steps 2, 3 and 4. 5. Cut into convenient sections, or strip with the grain. 6. Pack in jars. 7. Add thin boiling syrup to within three-eighths inch of top. 8. Place rubber and top in position. 9. Process:
- |                         |            |                                   |            |
|-------------------------|------------|-----------------------------------|------------|
| (a) Hot water-bath..... | 30 minutes | (c) Steam pressure (5 lbs.).....  | 25 minutes |
| (b) Water-seal.....     | 25 minutes | (d) Pressure cooker (15 lbs.).... | 18 minutes |
10. Remove jars from canner and tighten tops.

- Hard Fruits.** 1. Grade for size and degree of ripeness. 2. Wash. 3. Blanch 1½ minute. 4. Cold-dip. 5. Core, pit and remove skins. (If apples are to be canned whole, skins need not be removed.) 6. Pack in jars as tightly as possible. 7. Add medium-thin boiling syrup to within three-eighths inch of the top. 8. Place rubber and top in position. 9. Process:
- |                         |            |                                   |           |
|-------------------------|------------|-----------------------------------|-----------|
| (a) Hot water-bath..... | 20 minutes | (c) Steam pressure (5 lbs.).....  | 8 minutes |
| (b) Water-seal.....     | 12 minutes | (d) Pressure cooker (15 lbs.).... | 6 minutes |
10. Remove jars from canner and tighten tops.

**SPECIAL:** If fruits are to be sliced they may be saved from discoloration by slicing in cold water which contains salt. (Tablespoonful of salt to a gallon of cold water.)

- Recipe for canning apples for apple-pie filling or for fruit salads.** 1. Select second grade windfads or culls for apple-pie filling and best grade of culls of firm and tart varieties for fruit salad. 2. Wash. 3. Omit steps 3 and 4. 5. Core, pare and remove all decayed or injured spots. Slice or cut into quarters; allow slices or quarters to drop quickly into cold, salt water. 6. Pack tightly in jars. 7. Add teacupful of thin boiling syrup to each quart of fruit. 8. Place rubber and top in position. 9. Process:
- |                         |            |                                   |           |
|-------------------------|------------|-----------------------------------|-----------|
| (a) Hot water-bath..... | 12 minutes | (c) Steam pressure (5 lbs.).....  | 6 minutes |
| (b) Water-seal.....     | 10 minutes | (d) Pressure cooker (15 lbs.).... | 4 minutes |
10. Remove jars from canner and tighten tops.



## SOUP MIXTURE.

Every Canning Club member should can soup mixtures for use during the winter months. If meat stock is not available at the time when vegetables are in abundance, can the vegetable mixture and the soup stock may be added in the winter time.

*Vegetable Soup:*

$\frac{1}{4}$ pound lima beans	1 medium sized potato
1 pound rice	1 red pepper
$\frac{1}{2}$ pound pearl barley	$\frac{1}{2}$ pound flour
1 pound carrots	4 ounces salt
1 pound onions	

1. Soak the lima beans and rice for twelve hours. 2. Cook the pearl barley for two hours. 3. Blanch the carrots, onions, potato, red peppers for three minutes. 4. Cold dip. 5. Pare the vegetables and cut into small cubes. 6. Mix these ingredients thoroughly. 7. Put into hot jars, add one teaspoonful salt to the quart. 8. Fill with boiling water to within three-eighths of an inch of the top. 9. Process:

a. Hot water-bath.....	90 minutes
b. Water-seal.....	75 minutes
c. 5 pounds steam pressure.....	75 minutes
d. 10 to 15 pounds steam pressure.....	45 minutes

*Tomato Pulp for Cream of Tomato Soup:*

1. Blanch tomatoes one to three minutes. 2. Cold dip. 3. Remove the skins and core. 4. Place tomatoes in a kettle and boil for thirty minutes. 5. Press the tomato pulp through a sieve. 6. Pack in hot glass jars or tin cans. 7. Add one teaspoonful salt to the quart. 8. Process:

a. Hot water-bath.....	20 minutes
b. Water-seal.....	18 minutes
c. 5 pounds steam pressure.....	18 minutes
d. 10 to 15 pounds steam pressure.....	15 minutes

## MEATS.

In the canning of meat, every care should be taken to follow directions explicitly, and to can only meat which is fresh. It is advisable for beginners in canning to learn the technique of the canning of fruits and vegetables before taking up the canning of meats.

## CANNING OF CHICKEN.

The bird should not be fed for at least 24 hours before killing. It should be killed by the approved method and picked dry. When the feathers have been removed and the pin feathers drawn, the bird should be cooled rapidly. This rapid cooling after killing is essential to a good flavor in canned meat. As soon as the bird has been properly cooled it should be singed and washed carefully with a brush and light soap suds, if necessary.



*Cutting Up and Drawing the Bird.*

1. Remove the tips of the wings, cutting at the first joint. 2. Remove the wings. 3. Remove the foot, cutting at the knee joint. 4. Remove the leg, cutting at the hip or saddle joint. 5. Cut the removed portion of the leg into two parts at the joint. 6. Place the bird so the back of the head is toward the operator; cut through the neck bone with a sharp knife, but do not cut the wind-pipe or gullet. 7. With the index finger separate the gullet and wind-pipe from the skin of the neck. 8. Cut through the skin of the neck. 9. With a pointed knife cut through the skin from the upper part of the neck thus separated, to the wing opening made by removing the wing. 10. Leave the head attached to the gullet and wind-pipe and loosen these from the neck down as far as the crop. 11. With a sharp pointed knife cut around the shoulder blade, pull it out of position and break it. 12. Find the white spots on the ribs and cut through the ribs on these white spots. 13. Cut back to the vent; cut around it, and loosen. 14. Begin at the crop and remove the digestive tract from the bird, pulling it back toward the vent. 15. Remove the lungs and kidneys with the point of a knife. 16. Cut off the neck close to the body. 17. Cut through the back-bone at the joint or just above the diaphragm. 18. Remove the oil sack. 19. Separate the breast from the back-bone by cutting through on the white spots. 20. Cut the fillet from each side of the breast bone. 21. Cut in sharp at the point of the breast bone, turning the knife and cutting away the wishbone with the meat. Bend in the bones of the breast bone.

*Packing.*

Use a one quart jar. Caution: Do not pack the giblets with the meat.

1. Have the jar hot. 2. Pack the saddle with a thigh inside. 3. Pack the breast bone with the thigh inside. 4. Pack the back-bone and ribs with a leg inside. 5. Pack the leg large end downward, alongside the breast bone. 6. Pack the wings. 7. Pack the wishbone. 8. Pack the fillets. 9. Pack the neck-bone. 10. Pour on boiling water to within one inch of the top; add a level teaspoonful of salt; place the rubber and cap in position, partially seal, and process for the length of time given below for the particular type of outfit used.

- |  |          |
|--|----------|
| a. Hot water-bath.....                 | 3½ hours |
| b. Water seal, 214°.....               | 3 hours  |
| c. 5 pounds steam pressure.....        | 2 hours  |
| d. 10 to 15 pounds steam pressure..... | 1 hour   |

Remove jars; tighten covers; invert to cool, and test joints. Wrap jars with paper to prevent bleaching.

*Poultry:* Recipe Number 1. 1. Prepare chicken as in general directions. 2. Pack in jars. 3. Add one teaspoonful salt to each quart. 4. Pour on boiling water to within one inch of the top. 5. Place rubber and cap in position. 6. Partially seal. 7. Process.

*Poultry:* Recipe Number 2. 1. Kill fowl and draw at once. 2. Wash carefully, cool and cut into convenient pieces. 3. Place in a piece of cheese cloth or wire basket and boil until the meat may be removed from the bones. 4. Remove meat from the bones and pack closely in hot glass jars,

or enameled cans. 5. Boil the liquid until it has been concentrated one-half and then fill the jars to within three-eighths of an inch of the top. 6. Add one teaspoonful of salt to each quart. 7. Put rubber and cap in position and process.

- a. Hot water bath.....3 hours
- b. Water seal, 214°.....3 hours
- c. 5 pounds steam pressure.....2 hours
- d. 10 to 15 pounds steam pressure.....1 hour

8. Remove from canner, tighten tops, test for leaks.

*Spring Chicken, Fried.* Recipe No. 3. 1. Clean and prepare spring chicken, season and fry as in preparing for serving on table. 2. Cook meat until three-fourths done. 3. If a whole spring chicken, break the neck and both legs and fold around body. 5. Roll up tight, tie string around chicken and place immediately in hot jar. (A quart jar will hold two to four small chickens.) 5. Pour liquid from the frying pan over the chicken in the jar. 6. Place rubber and cap in position. 7. Process.

- a. Hot water-bath.....90 minutes
- b. Water seal, 214°.....60 minutes
- c. 5-pound steam pressure.....40 minutes
- d. 10 to 15 pound steam pressure.....30 minutes

*Fresh Beef or Pork.* 1. Select only fresh meat. Cut into about  $\frac{3}{4}$  pound pieces, convenient to handle. 2. Roast or boil slowly for one-half hour. 3. Cut meat into small pieces, remove gristle, bone and excessive fat. 4. Pack immediately into hot glass jars or enameled tin cans. 5. Concentrate liquid in roasting pan or kettle to one-half. 6. Fill jars or cans with liquid to within three-eighths of an inch of the top. 7. Put rubber and cap in position. 8. Process.

- a. Hot water-bath.....3 hours
- b. Water seal, 214°.....3 hours
- c. 5-pounds steam pressure.....2 hours
- d. 10 to 15 pounds steam pressure.....1 hour

9. Remove cans, tighten tops and test for leaks.

*Corned Beef.* 1. Soak beef, which as been properly corned, for two hours in clean water, changing water once or twice. 2. Place in wire basket or cheese cloth and boil slowly one-half hour. 3. Cold dip. 4. Remove gristle and excessive fat. 5. Cut meat into small pieces and pack in hot glass jars or enameled tin cans. 6. Place rubber and cap in position. 7. Process.

- a. Hot water-bath.....3 hours
- b. Water seal, 214°.....3 hours
- c. 5-pounds steam pressure.....2 hours
- d. 10 to 15 pounds steam pressure.....1 hour

8. Remove from canner, tighten tops and test for leaks.



Meats such as *beef, pork, Hamburg steak, sausage, lamb, venison, rabbit, squirrel, raccoon and all sea foods*, may be canned by boiling, roasting, or frying until three-fourths done. Pack in hot jars, cover with the liquid in which meat is cooked. Place rubber and cap in position and process.

- |                                       |            |
|---------------------------------------|------------|
| a. Hot water-bath.....                | 90 minutes |
| b. Water-seal, 214°.....              | 60 minutes |
| c. 5-pound steam pressure.....        | 40 minutes |
| d. 10 to 15 pound steam pressure..... | 30 minutes |

Remove from canner, tighten caps and test for leaks.

#### PICKLES.

It is the custom in pickling some vegetables to put them in a brine before adding the vinegar. This brine should not be too strong, as too strong a brine will soften the vegetables. Brine strong enough to float a fresh egg may be made by adding one-half to one-third cup of salt to one quart of water. The individual may depend upon the personal taste for the seasoning of the vinegar. Put cucumbers into brine as soon as gathered. If very dirty, wash and dry before putting into brine. The cucumbers should be weighted down so that the solution will completely cover them. Cover with a plate, using a glass jar filled with sand for a weight. Iron or lime discolor the cucumbers. When the jar is full and bubbles cease to rise to the top, seal the jar by pouring melted paraffin over the top. If paraffin breaks or cracks, remove, remelt and again pour over the top to exclude yeast spores and air.

To Freshen: When ready for use, remove desired number of cucumbers from brine and cover with boiling water. Set away until cold, drain and again pour on boiling water, repeating until desired freshness is obtained. To pickle, pour over boiling, spiced vinegar.

#### *Cold Vinegar Pickles:*

2 gallons cucumbers	1 gallon vinegar
2 cups brown sugar	1 cup ground mustard
1 cup salt	or mustard seed

Wash and dry cucumbers. Pour the cold vinegar mixture over the fresh cucumbers. Seal in hot glass jars.

#### *Dill Pickles:*

Cucumbers—6 to 8 inches long	Grape or horseradish leaves
Salt	Chili
Vinegar	Dill

Place cucumbers in cold water for four hours; then drain and put into a clean 5 gallon earthenware jar; first a layer of grape or horseradish leaves, then a layer of cucumbers, a few pieces of dill, a few pieces of chili, one-half cup of salt, then another layer of cucumbers until the jar is full. On top of all put a layer of grape leaves; fill the jar with water and vinegar in the proportion of 1 cup of vinegar to 1 gallon of water. The water should be boiled for 20 minutes and allowed to cool before vinegar is added. Weight cucumbers down with a plate and glass jar filled with sand. Cover with a clean cloth. Examine the pickles every few days and remove the scum that



rises. It will take two weeks for the pickles to be in good condition, if they are kept at room temperature.

*Mixed Pickles:*

4 cups sugar  
1 tablespoon white pepper  
 $\frac{1}{2}$  teaspoonful tumeric  
2 tablespoons ground mustard  
2 tablespoons whole mustard  
1 gallon vinegar

Pour this over a mixture of celery, cauliflower, white onions and cucumbers.

Mrs. F. C. Curtis, Charlotte, Mich.

*Pickles:*

1 quart sliced cucumbers  
1 large onion sliced thin  
1 small pepper chopped fine

Sprinkle with salt and let stand three hours. Drain. Add one cup brown sugar, 1 tablespoon cloves,  $\frac{1}{2}$  teaspoon white mustard seed, 1 tablespoon horseradish chopped fine, vinegar enough to cover. Heat well but do not boil.

*Oil Pickles:*

100 cucumbers 3 to 4 inches long  
25 medium onions  
 $1\frac{1}{2}$  cups oil, olive oil, Mazola or Wesson oil  
 $1\frac{1}{2}$  tablespoons white mustard seed  
4 tablespoons celery seed  
4 quarts vinegar  
1 cup salt

Slice cucumbers very thick. Do not peel. In a jar put a layer of cucumbers, a layer of salt, and a layer of onions until all are used. Weight and let stand for three hours; turn into a cheese cloth and drain for two hours or until well drained. Pack in glass jars and pour over the dressing of oil, seeds and vinegar. Seal. Do not cook.

*Sweet Cucumber Pickles:*

Ripe cucumbers	Salt
1 quart vinegar	1 pound sugar
1 ounce cinnamon	$\frac{1}{2}$ ounce cloves

Peel and remove seeds from ripe cucumbers. Cut into fourths, cutting lengthwise. Soak for 24 hours in salt solution, using 1 cup of salt to 1 gallon of water. Then soak in vinegar and water for 24 hours, using 1 cup of vinegar to 1 gallon of water. Drain, make a syrup of 1 quart of vinegar, 1 pound of sugar, 1 ounce cinnamon,  $\frac{1}{2}$  ounce cloves. Add cucumbers, cook until clear and tender. Place in hot jars and seal.

*Spanish Pickles:*

4 heads of cauliflower	1 peck tomatoes
1 dozen large green cucumbers	$\frac{1}{2}$ dozen large sweet peppers
6 bunches of celery	1 quart small pickling onions
1 gallon vinegar	5 pounds brown sugar
1 tablespoon tumeric	$\frac{1}{2}$ cup white mustard seed
$\frac{1}{2}$ pound ground mustard	$\frac{1}{2}$ cup wheat flour
1 tablespoon whole cloves	1 tablespoon ground cinnamon

Coarsely dice vegetables, leaving onions whole. Soak for 12 hours in brine made up of 1 gallon of water and  $1\frac{1}{2}$  cups salt. Drain. Boil vegetables and vinegar and sugar for one-half hour. Then make a paste of spices, mustard, flour, and a little vinegar; add to boiling vegetables, boil for five minutes, stirring carefully until all is thickened. Seal hot in clean, hot jars.

*Sweet Pickled Peaches:*

$\frac{1}{2}$ peck peaches
2 pounds brown sugar
1 ounce stick cinnamon
few cloves
1 pint vinegar

Remove skins from peaches. Stick cloves into peaches, make a syrup by boiling the sugar, vinegar and cinnamon for twenty minutes. Add only one-half of the peaches at the beginning and cook until soft. Remove and put into jars and repeat for the other half of the peaches. Fill the jars with hot vinegar and seal.

*Chili Sauce:*

12 ripe tomatoes	1 tablespoon salt
1 red pepper	1 teaspoon whole allspice
1 green pepper	1 teaspoon cinnamon
1 large onion	1 teaspoon ground nutmeg
2 cups vinegar	1 teaspoon ground ginger
1 cup brown sugar	

Remove skins from tomatoes and chop with the peppers and onions. Add the vinegar and spices and bring to a boil. Stir to prevent burning. Boil until sauce begins to thicken (about 1 hour). Pour the chili sauce into hot jars and seal at once.

*Grape Catsup:*

5 pounds grapes	1 pint vinegar
$2\frac{1}{2}$ pounds sugar	$2\frac{1}{2}$ ounces spices
salt to taste	

Use ripe grapes. Cook and remove seeds and skin. Add other ingredients and boil until mixture thickens.

*Spiced Grapes:*

7 pounds grapes	3 tablespoons cinnamon
4 pounds sugar	3 tablespoons cloves
1 pint vinegar	

Wash and remove seeds. Put in a preserving kettle with sugar, vinegar and spices tied in a piece of muslin, heat to boiling point and cook slowly 2 hours. Put in a stone jar.

*Corn Relish:*

18 ears corn	$\frac{3}{4}$ cup sugar
1 pepper, ground or chopped	4 onions, ground
3 teaspoons mustard	1 cabbage, sliced very thin
1 quart vinegar	

Cut corn from cob, mix with other ingredients and cook 30 minutes.

## JELLY MAKING

### REQUIREMENTS OF GOOD JELLY.

Jelly should be clear, sparkling, and transparent. When slipped from the glass it should retain its shape, but quiver. It should be firm, but tender.

Fruit juice, to make jelly, must contain:

- a. Pectin
- b. Acid
- c. Sugar

Pectin is the fundamental jelly making substance contained in fruit juices. This substance is essential to jelly making and is contained in varying quantities in various fruits. It is abundant in fruits which are slightly under ripe. Oftentimes juice from raw fruits will not show the presence of pectin, but upon cooking, the pectin may appear.

*Some fruits rich in pectin:* Currants, grapes, apples, gooseberries, citrus fruits.

*Some fruits lacking in acid:* Quinces, peaches, sweet apples, plums, pears, etc.

*Some fruits rich in acid:* Grapes, apples, crabapples, cherries, gooseberries, etc.

Note—The white portions of the rind of lemon, grape fruit, or orange, which are rich in pectin, may be added to the juice of the above fruits. This will supply the necessary amount of pectin.

To prepare this pectin, grind the white portion of the rind in a meat chopper, weigh, add 3 cups of cold water and 3 tablespoons of lemon juice, to each half pound of grated pulp. Stir together, let stand four or five hours, boil 10 minutes and cool. Let stand until morning, then boil five minutes. Strain through flannel bag, which has been dipped in boiling water.

Use this liquid pectin in the proportion of one to one with fruit juices lacking in this constituent. If the pectin is to be kept for future use, process in the hot water bath for thirty minutes at a simmering temperature (180° F.)



## EXTRACTION OF JUICE.

a. Soft juicy fruits such as raspberries, blackberries, currants, etc., should be washed, crushed and placed in a kettle with just water enough to prevent their burning. (One cup of water to four quarts fruit).

b. Less juicy fruits, such as apples, quinces, etc., should be washed, cut in convenient pieces (do not remove the skins, seeds, or core), placed in a kettle and covered with water.

*First Extraction:* Bring fruit to a boil. Drain the juice into a flannel bag, which has been dipped into boiling water and allow it to strain through this bag. This first extraction is rich in pectin and makes a high grade of jelly. Because of the high per cent of pectin, it requires more sugar than the second and third extractions.

*Second Extraction:* Cover the pulp left from the first extraction with water, stir and bring to a boil. Strain as for the first extraction. This juice will not require as much sugar as the first extraction, because it does not contain as much pectin.

*Third Extraction:* The pulp left from the second extraction may be covered with water, brought to a boil again and the juice allowed to drain. Mix this third extraction with the second.

## THE TEST FOR PECTIN.

1. *Alcohol Test:* (WOOD ALCOHOL IS A POISON. It should be labeled as such and great care must be taken in its use.)

Mix 1 tablespoonful of the cooked juice with 1 tablespoonful of alcohol; if pectin is present it will collect either in a solid mass (which indicates a large amount), or in small particles (which indicates a small amount). This test should be watched carefully as the wood alcohol tends to dissolve the pectin in a short time.

2. *Epsom Salts Test:* Mix together 1 teaspoon of cooked fruit juice,  $\frac{1}{2}$  teaspoon sugar and  $\frac{1}{4}$  teaspoon of Epsom salts. Stir until all are dissolved and let stand five minutes. If the mixture sets into a jelly within this time it is a good jelling juice.

## THE PROPORTION OF SUGAR.

$\frac{3}{4}$  to 1 cup sugar to 1 cup juice of blackberries.

$\frac{3}{4}$  to 1 cup sugar to 1 cup juice of raspberries.

$\frac{3}{4}$  to 1 cup sugar to 1 cup juice of currants.

$\frac{3}{4}$  to 1 cup sugar to 1 cup juice of grapes.

$\frac{1}{2}$  to  $\frac{3}{4}$  cup sugar to 1 cup juice of cranberries.

$\frac{1}{2}$  to  $\frac{3}{4}$  cup sugar to 1 cup juice of sour apples.

$\frac{1}{2}$  to  $\frac{3}{4}$  cup sugar to 1 cup juice of crab apples.

The pectin test will aid the jelly maker in deciding the proportion of sugar to be used. Jelly failures are more often due to the addition of too much sugar than to any other cause, and the result will be a tough gummy mass, which no amount of boiling will convert into good jelly.

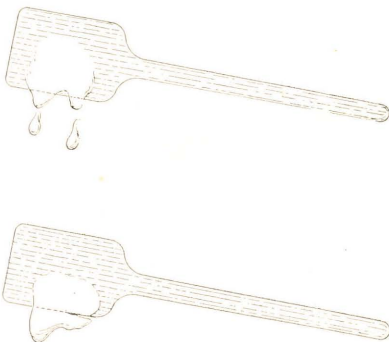
## ADDING THE SUGAR.

There are various opinions regarding the proper time to add the sugar to the boiling fruit juice. Some prefer its addition at the beginning of the boiling process, others advocate its being added at the end. The concensus of opinion seems to favor a happy medium. Boil the juice 10 minutes, skim if necessary to remove the impurities, then add the sugar. Boil rapidly. Never simmer, as simmering tends to destroy the rich, sparkling color of the jelly.

## TEST FOR JELLY.

There are various methods for testing jelly. The most widely used is the paddle test.

Take up a little of the boiling juice on a spoon or paddle. Allow it to cool slightly and then pour back into the pan. First stage, syrupy, runs from the spoon. Second stage, drops off of spoon or paddle in heavy drops. Third stage, drops run together and cleave off spoon in a sheet, leaving the spoon clean. When the third stage is reached, the jelly is done and should be quickly removed from the stove and poured into the jelly glasses. No time should be lost, or the jelly may harden in the pan.



1. In the second stage, heavy drops are formed.
2. The third stage (jelly stage) is reached when the liquid sheets off from the paddle or spoon.

## PREPARATION OF THE JELLY GLASSES.

Have the jelly glasses clean and hot. It is well to set the glasses in boiling water when the jelly is poured.

## SEALING THE JELLY GLASSES.

Allow the jelly to cool in the sun if possible. When cool pour melted paraffin over the top. Cover the glass with a tight fitting metal cover or with heavy paper tied over the top.

## POINTS TO BE REMEMBERED IN JELLY MAKING.

1. Slightly underripe fruits make the best jelly.
2. Do not use too much sugar, or the result will be a gummy jelly.
3. Boil the jelly, do not simmer.

*Mint Jelly:*

1 cup mint leaves (packed tightly)	1 cup apple juice
1 cup boiling water	$\frac{3}{4}$ cup sugar

Pour the boiling water over the clean mint leaves, allow to steep one hour. Press the juice from the leaves and add two tablespoons of the mint juice to the sugar and apple juice. Boil until the jelly test is obtained. Pour into hot glasses.

## JAMS, BUTTERS AND MARMALADES.

A marmalade is a product which has a jelly consistency and contains fruit in large pieces. Jam is usually made of berry fruits. Butters are made from fruits stewed to a smooth consistency.

*General Rule for Marmalade:*

To each pound of fruit add one-half pound sugar. Boil one to three hours, or until the jelly stage is reached. Pour into hot glasses and seal at once.

*Green Grape Jam:*

Equal parts sugar and fruit. Cut grapes in half and seed. Add to the sugar enough water to moisten, and boil until it hairs, then drop in the grapes and cook until clear.

*Rhubarb Conserve:*

3 pounds rhubarb (cut in small pieces)
3 oranges
3 pounds sugar
$\frac{1}{2}$ pound shelled pecans (if desired)
1 pound raisins

Wash raisins, scald nuts, slice the oranges and grind the rind. Mix all together and boil over a low fire about 45 minutes, or until the jelly test is obtained.

*Orange Marmalade:*

12 thin skinned oranges
3 lemons
sugar

Wash fruit, either slice or grind. To each pint of pulp add  $1\frac{1}{2}$  pints water. Let stand over night. In the morning cook from 2 to  $2\frac{1}{2}$  hours. Strain off liquid, measure pulp, add equal amount of sugar to pulp and liquid. Cook from  $\frac{1}{2}$  to 1 hour, or until the jelly test is obtained.

*Grape Fruit Marmalade:*

1 orange
1 grape fruit
1 lemon

Wash, shred or grind the fruit, measure and add 3 parts water to 1 part fruit. Let stand over night. In the morning boil for 10 minutes. Let cool, measure and add an equal amount of sugar. Boil rapidly until jelly test is obtained. Pour into hot jars or jelly glasses.



### **CANNING OUTFITS, CANS, JARS AND OTHER CANNING SUPPLIES MAY BE PURCHASED FROM THE FOLLOWING CONCERNS:**

Northwestern Steel and Iron Works, Eau Claire, Wis.  
 Steam Pressure Cannery, many sizes, from \$10 to \$150.  
 West Manufacturing Company, 58 North Second St., Philadelphia, Pa.  
 Water-Seal Outfits, Hot-water canners and supplies, \$6 to \$18.  
 The Pressure Cooker Company, Denver, Colo.  
 Aluminum Steam Pressure Outfits, three sizes, \$10.50 to \$24.  
 Hazel-Atlas Glass Company, Wheeling, W. Va.  
 E. Z. Seal Jars, bottles, tumblers, etc.  
 The American Can Company, New York.  
 Cans of all kinds.  
 The Hall Canner Co., Grand Rapids, Mich.  
 Hot Water Canner, \$4.50.  
 Smalley Fruit Jar Company, Boston, Mass.  
 Glass jars of all kinds.  
 Boston Woven Hose and Rubber Company, Boston, Mass.  
 Jar Rubbers.  
 Mechanical Rubber Company, Cleveland, Ohio.  
 Jar Rubbers.  
 Home Canner Co., Hickory, N. C.  
 Hot water canners, cans and all supplies.  
 Modern Canner Manufacturing Company, Chattanooga, Tenn.  
 Home Canners, cans, etc.  
 F. S. Stahl Canner Company, Quincy, Ill.  
 Canning outfits, cans, supplies, etc.  
 Griffith and Turner Co., 205-215 N. Paca St., Baltimore, Md.  
 Canning Machinery, large and small equipment.  
 A. K. Robbins and Co., 116 Market Place, Baltimore, Md.  
 Canning Machinery, large and small equipment.  
 Farm Canning Machine Company, Meridian, Miss.  
 Hot water canners, cans, labels, etc.  
 Raney Canner Co., Chapel Hill, N. C.  
 Hot water canners, cans, labels, etc.  
 Royal Canner Company, Chattanooga, Tenn.  
 Canning outfits, cans and supplies.  
 National Can Company, Baltimore, Md.  
 U. S. Can Company, Cincinnati, Ohio.  
 Tennessee Can Company, Chattanooga, Tenn.  
 Union Can Company, Rome, N. Y.  
 Virginia Can Co., Buchanan, Va.  
 Ball Brothers Glass Mfg. Co., Muncie, Ind.  
 Enterprise Mfg. Co. of Pa., Philadelphia, Pa. Bottle Cappers.  
 Burpee Can Sealer Co., 215 W. Huron St., Chicago, Ill.  
 Sanitary Tin Cans.  
 Mechanical Sealer for Sanitary Tin Cans.  
 American Pure Food Process Co., Holliday and Saratoga Sts., Baltimore, Md.  
 Glass Hermetically Sealed Jars. Capping Machines for Hermetically Sealed Glass Jars.  
 Camden Curtain and Embroidery Co., Front and Pearl Sts., Camden, N. J.  
 Emblems for Canning Aprons.  
 N. R. Streeter & Co., Rochester, N. Y.  
 Fruit and vegetable slicers.  
 Omega Boys' Club, Elmira, N. Y.  
 Wooden crates.  
 Christian Finance Association, 80 Maiden Lane, N. Y. C.  
 Emblems.  
 J. A. Thiermeyer & Co., 901 S. Caroline St., Baltimore, Md.  
 Wooden crates.  
 U. S. Printing and Lithograph Co., Cincinnati, Ohio.  
 Labels.  
 Dennison Mfg. Co., 1256 Fayette St., Baltimore, Md.  
 Labels.  
 Smalley, Kivlan & Onthank, Boston, Massachusetts.  
 Fruit Jars and Rubber Rings.

### **HOME EVAPORATORS AND DRYERS.**

Stutzman Manufacturing Company, Ligonier, Indiana.  
 Edw. B. Fahrney, Waynesboro, Pennsylvania.  
 Southern Evaporator Company, Chattanooga, Tennessee.  
 The Grange Sales Association, LaFayette Bldg., Philadelphia, Pennsylvania.

### **LIFTING DEVICES, CRATES, ETC.**

Handy Mfg. Company, Seattle, Wash. Individual Jar Holder.  
 Pearce Mfg. Co., Grand Rapids, Mich. Jar Racks.  
 Kerr Glass Mfg. Co., Chicago, Ill. Jar Tongs.

## PAPER BOXES FOR MAILING AND SHIPPING.

Lawrence Paper Mfg. Co., Lawrence, Mass.  
 American Paper Products Co., 2nd & Bremen Ave., St. Louis, Mo.  
 Diamond Box Mfg. Co., 219 N. 2nd St., Minneapolis, Minn.  
 Sefton Mfg. Co., 1310 W. 35th St., Chicago, Ill., and Brooklyn, N. Y.  
 H. B. Elliott & Sons, Harbor Springs, Michigan.  
 Hinds & Dauch Paper Co., Sandusky, Ohio.  
 J. M. Raffel Co., Heath, Clarkson and Race Sts., Baltimore, Md.  
 Robert Gair Co., Brooklyn, N. Y.  
 The Thomson & Morris Co., Concord & Price Sts., Brooklyn, N. Y.  
 Hartley Folding Box Co., 181 Griswold St., Detroit, Michigan.  
 Weis Mfg. Co., Monroe, Michigan.

## CANNING CIRCULARS.

The following circulars on canning have been published by the U. S. Department of Agriculture, States Relation Service, Office of Extension Work, North and West, Washington, D. C.:  
 Form S-6; Home Canning Club Aprons and Caps.  
 Form NR-21; Home Canning Instructions; Methods and Devices.  
 Form NR-22; Tinning, Capping, and Soldering Cans.  
 Form NR-24; Recipes for Canning Fruits and Vegetables.  
 Form NR-25; Home Canning Instructions; Additional Recipes.  
 Form N. R-26; Canning of Soups and Meats.  
 Form NR-29; Common Home Canning Difficulties.  
 Form NR-30; Recipes for Canned Vegetables; Their Preparation for Table Use.  
 Form NR-37; Additional Recipes.  
 Circular No. 17.

Directions for Home Canning in Tin and Mechanical Sealing.  
 Farmers' Bulletin No. 839.  
 Farmers' Bulletin No. 841.

For further information, bulletins, canning reports, club bulletins, enrollment blanks, etc., write to  
 STATE CLUB LEADER,  
 EAST LANSING, MICHIGAN.

### BLANCHING AND STERILIZING TIME TABLE FOR COMMON FRUITS AND VEGETABLES.

Products to be canned.	Blanch.	Sterilize hot water bath.	Sterilize water seal.	Sterilize steam pressure. (5 lbs.)	Sterilize pressure cooker. (15 to 20 lbs.)
	Minutes.	Minutes.	Minutes.	Minutes.	Minutes.
Apples (whole).....	1½	20	12	8	6
Apples (sliced).....		12	10	6	4
Asparagus.....	10 to 15	120	90	60	40
Beans (Lima).....	5 to 10	180	120	60	40
Beans (string).....	5 to 10	120	90	60	40
Beets.....	2 to 5	90	80	60	40
Blackberries.....		16	12	10	5
Blueberries.....		16	12	10	5
Brussels sprouts.....	5 to 10	120	90	60	40
Cabbage.....	5 to 10	120	90	60	40
Carrots.....	2 to 6	90	80	60	40
Cauliflower.....	3	60	40	30	20
Cherries (sour).....	½	16	12	10	5
Cherries (sweet).....		16	12	10	5
Corn.....	5	180	120	90	60
Cranberries.....	1	16	12	10	5
Currants.....		16	12	10	5
Egg Plant.....	3	60	45	45	30
Grapes.....		16	12	10	5
Greens.....	10 to 15	120	90	60	40
Gooseberries.....	½	16	12	10	5
Huckleberries.....	½	16	12	10	5
Mushrooms.....	5	90	80	50	30
Okra.....	5 to 10	120	90	60	40
Parsnips.....	2 to 5	90	80	60	40
Peas.....	5 to 10	180	120	60	40
Pears.....	1½ to 2	20	12	8	6
Peaches.....	½	16	12	10	5
Peppers (sweet).....		90	75	60	40
Peppers (green).....	5 to 10	120	90	60	40
Pineapple.....		30	25	25	18
Plums.....		16	12	10	5
Pumpkin.....	10 to 30	120	90	60	40
Quinces.....	1½ to 3	20	12	8	6
Raspberries.....		16	12	10	5
Rhubarb.....	1	16	12	10	5
Squash.....	10 to 30	120	90	60	40
Strawberries.....		16	12	10	5
Sweet potatoes.....	2 to 6	90	80	60	40
Tomatoes.....	1 to 2	22	18	15	10
Turnips.....	2 to 5	90	80	60	40

FOR DIRECTIONS FOR CANNING MEATS AND SOUPS—SEE FORM NR-26, States Relation Service, U. S. Department of Agriculture.

Prepared by:

ANNA BRYANT COWLES,  
Assistant State Club Leader.