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CANNING CLUB PROJECT

DIVISION I

Canning of Fruits

By

HELEN J. COWGILL



DISCARD

Oregon State System of Higher Education
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Oregon State College
Corvallis

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4-H Club Canning Project

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NOTE: KEEP THIS BULLETIN CAREFULLY FOR
USE NEXT YEAR.

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General Instructions

CANNING CLUB PROJECT

DIVISION I

Canning of Fruits

By

HELEN J. COWGILL, Assistant State Club Leader

The canning project has been reorganized to include four years of work instead of three.

A canning club member may carry only one division of the project in any one year. It is recommended that the youngest girls start with the first division. Girls of 13 and those in the sixth grade may begin with Division II instead of Division I, if they prefer. Girls in the 7th and 8th grades and in high school may begin with Division III, if they are equipped to can vegetables, or they may begin with Canning I or II. A member is to increase the size of the project rather than to carry more than one division. Older girls may begin with the fourth division, if it seems desirable, since this division includes all of the processes taught in the first three divisions together with the addition of meats and jellies.

REQUIREMENTS OF THE CANNING PROJECT

Canning Division I. (1) The canning of at least 25 quarts of fruits of not less than two varieties. (2) A record of work done.

Canning Division II. (1) The canning of at least 25 quarts of fruits, including at least one variety not canned in the first year's work. (2) The making of at least 20 containers of jam, fruit butter, marmalade, or conserve. (3) A record of the work done.

Canning Division III. (1) The canning of at least 15 quarts of fruit to include at least one variety never canned before. (2) The making of at least 15 containers of jams, fruit butters, marmalades, and conserves—including one new kind. (3) The canning of at least 25 quarts of vegetables, at least two varieties. (4) The making of at least 10 containers of pickles and relishes. (5) A record of the work done.

Canning Division IV. (1) At least 10 quarts of fruit. (2) At least 10 containers of jams, fruit butters, marmalades, and conserves.

- (3) At least 20 quarts of vegetables. (4) At least 10 containers of pickles and relishes. (5) At least 15 quarts of meats, fish, or fowl. (6) At least 20 glasses of jellies. (7) Record of work done.

THE EXHIBITS AND BASIS OF AWARDS

Canning Division I. The exhibit shall consist of 2 jars of fruit, two varieties.

Basis of awards

(a) Exhibit—fruit	75
(b) Record book and story	25
	100
Possible Score	100

Canning Division II. The exhibit shall consist of (1) two jars of fruit, two varieties, (2) one container of jam, (3) one container of fruit butter, conserve, or marmalade.

Basis of awards

(a) Exhibit	75
Fruit	35
Jam	20
Butter or conserve	20
(b) Record book and story	25
	100
Possible Score	100

Canning Division III. The exhibit shall consist of (1) one jar of fruit, (2) one container of jam, marmalade, or conserve, (3) two jars, two varieties of vegetables, (4) two containers, two varieties of pickles or relish.

Basis of awards

(a) Exhibit	75
Fruit	15
Jam, butter, or conserve.....	10
Vegetables	30
Pickles or relish	20
(b) Record book and story	25
	100
Possible Score	100

Canning Division IV. The exhibit shall consist of (1) one jar of fruit, (2) one container of jam, butter, marmalade, or conserve, (3) one jar of vegetables, (4) one container of pickles or relish, (5) two jars of meat, fish, or fowl, two varieties, (6) two containers of jelly, two varieties.

Basis of awards

(a) Exhibit	75
Fruit	10
Jam, butter, or conserve	10
Vegetable	10
Pickle or relish	10
Meat, fish, or fowl	20
Jelly	15
(b) Record book and story.....	25
	100
Possible Score	100

RECORDS

Each club member is to receive a record book and *one* progress report card. The card is to be sent to the county club agent or to the State Club Leader after the club member has canned at least 5 quarts of one or more products. Until this card is received, the club member is not rated as a club member in good standing.

Record book. Record all work done in the record book in the spaces provided for this purpose. Write neatly, preferably in ink. If more work is done than is required, record that also. If there is insufficient space for all records, extra pages may be inserted.

Important. Before turning in your record book, total the work done and record the totals in the spaces provided in the back of the book. Fill in all the spaces on both sides of the back cover and write your story.

At fair time, be sure your record book is given either to your county club agent or to the State Club Leader so it will be at the fair.

EXHIBIT

Select the products you consider your very best. Label each container neatly. If you brush the label over with white shellac

after it is pasted on the jar, it cannot come off. The label on the side of the container should have only the name of the product in the container and the date of canning. A second label pasted on the bottom of the container should have your name and address on it, and the class in which it is to be exhibited.

Be sure to consult the requirements for exhibits for the division you are carrying and see that you have everything that is called for.

PLANNING THE YEAR'S WORK

Several things must be considered before we can successfully decide on what we will can and how much of it. Among things to consider are these:

1. What fruits and vegetables are available?
2. What fruits and vegetables are unusually plentiful this year?
3. What fruits and vegetables are especially suitable for canning?
4. What fruits and vegetables do the family like best?
5. What kinds of fruit make the best jelly? jam? conserve? marmalade?
6. Is the family especially fond of pickles and relishes?
7. What meat, poultry, or fish may be plentiful?

SOME POINTS TO KEEP IN MIND

1. One pint of fruit or vegetables will serve three generously.
2. Since it is highly desirable that tomatoes be served about four times a week, it is well to include a generous supply of canned tomatoes, which are just as healthful as the fresh product.
3. Jellies, jams, conserves, marmalades, and pickles of all kinds should be eaten in moderation. Do not tempt the family to overindulge by putting up large quantities of them.
4. Meat, fish, and poultry should be canned when by so doing we can (1) save what might otherwise be wasted, (2) provide a supply of meat on the farm for such times as it may be difficult to secure the fresh product, and (3) take advantage of lower prices made possible by quantity buying.
5. When a certain fruit is unusually plentiful it is often wise to can a two-year supply; should that particular fruit be less plentiful the following year none need be canned. Usually some fruits are more plentiful than others, but seldom is the same fruit scarce two years in succession.

Goals—

1. To provide an adequate food supply for the family.
2. To save summer fruits and vegetables.
3. To acquire skill and accuracy in canning.
4. To learn how to work with and for others.
5. To teach others through demonstrations.
6. To learn to know quality products.

Requisites for successful canning—

1. A knowledge of why foods spoil.
2. Suitable equipment.
3. Fresh products of good quality.
4. A clean place to work.
5. A clean person dressed in clean clothing.
6. A willingness to follow directions.
7. Careful attention to details.

WHAT IS CANNING?

“Canning is a method of using heat and air-tight containers to preserve food as nearly as possible in the condition in which it would be served when freshly cooked. It is a desirable and economical method of preserving many foods, by means of which their use is distributed over seasons and in places where they are not available fresh. Canned foods thus add variety and make possible a better-balanced diet at all seasons, the value of which to health can not be measured in dollars and cents.

“CAUSES OF FOOD SPOILAGE

“Successful canning is based on an understanding of the two following important causes for the rapid spoilage of fresh foods and on a knowledge of the methods by which this spoilage may be prevented.

“First, there are present in all fresh fruits and vegetables substances called ‘enzymes.’ These enzymes bring about the normal ripening of fruits and vegetables and, unless checked, the final decay of the product. Since heating is an essential step in canning and these enzymes are easily destroyed by heat, it is only necessary to avoid the changes they may bring about in the food between the time it is gathered and the time it is cooked. This is one reason for

the emphasis upon canning fruits and vegetables as soon as possible after they have been gathered.

"The second and more important cause of food spoilage is the action of three groups of minute organisms which are present in the air, soil, water, and, in fact, on everything. They are bacteria, yeasts, and molds. Yeasts and molds are easier to kill than bacteria and do not cause so much difficulty in canning. Many types of bacteria go through a spore phase in their life cycle, a form in which they are very difficult to kill. For this reason bacteria are the chief dangers to be considered in canning. If all microorganisms are killed and the product is sealed steaming hot within a sterile air-tight container, the food is said to be sterilized. The application of heat to foods during canning in order to kill bacteria is called processing.

"When unheated air comes in contact with food it spoils, not because of the air, but because of the bacteria, yeasts, and molds it contains. Therefore, it is not enough just to destroy the microorganisms, but after processing, the food must be protected from the air by a hermetical seal to be successfully canned."—From Farmers' Bulletin 1471, *Canning Fruits and Vegetables at Home*, by Dr. Louise Stanley, Chief, Bureau of Home Economics.

COMMON DIFFICULTIES IN CANNING

Keeping liquid in jars. Though loss of liquid does not affect the keeping quality of food if the jar is properly sealed, loss of liquid is nevertheless undesirable. Many jars of modern glass can be completely sealed before processing when filled with boiling hot food. This procedure is the most effective way of preventing loss of liquid from jars. Loss can be partly prevented by observing the following directions accurately:

When using a pressure cooker:

- (1) Keep the pressure as steady as possible.
- (2) Prevent escape of steam from the safety valve by regulating the heat carefully during processing.
- (3) At the end of the processing period close the petcock and remove from the fire to prevent further loss of steam, allow the pressure to reach zero, and then wait 2 or 3 minutes before opening the cooker. Open the steam cock cautiously. If steam begins to escape, close the cock immediately. Leave it closed only until all steam has condensed. Then open cooker slowly, remove the jars and complete the seal immediately.

(4) Handle the cooker so that the jars remain level at all times.

Spoilage. Any one of a number of causes may be responsible for spoilage.

- (1) Use of stale or unsound products.
- (2) Jars and lids not tested for leakage before packing.
- (3) Use of old rubbers, or two rubbers on one jar.
- (4) Particles of food, grease, or other obstruction on sealing surfaces.
- (5) Opening jars to refill with liquid.
- (6) Too short a processing period.
- (7) Temperature too low, or irregular, during processing period.
- (8) Too long delay between steps in canning; canning too much at a time; food waiting too long in warm kitchen, especially if piled in deep covered containers; filled jars waiting too long at lukewarm temperature before processing.
- (9) Filling jars too full, especially in canning corn, beans, greens, and lima beans.
- (10) Packing jars too tightly, and thus causing slow heat penetration.
- (11) Cooling jars too slowly.
- (12) Not allowing extra time when canning in high altitudes.
- (13) Storing jars at hot or freezing temperatures.
- (14) Lifting jars by tops, thus breaking the seal.
- (15) Pressure of clamp against lip of rubber, or any other pressure against rubber.
- (16) Tightening jar lids after jars have cooled.
- (17) Failure to hold lid steady while adjusting screw band.
- (18) Using lids on jars not intended for that type of lid.
- (19) In the open-kettle method, using unsterilized jars, lids, rubbers, funnel, cup, or other equipment that comes in contact with food. Placing unsterilized knife in jar to release air bubbles.

Recognizing spoilage. When in doubt as to its wholesomeness burn or bury food. Do not taste it unless it has been BOILED 15 MINUTES. Many indications of spoilage are readily apparent.

(1) Cloudiness of liquid. Over-mature peas may be cloudy although not spoiled.

- (2) Discoloration of food.
- (3) Off-odor of food.
- (4) Off-flavor of food.
- (5) Presence of gas.
- (6) Change in texture of product; slippery, slimy, mushy.
- (7) Swelling or bulging of ends of tin cans.

Safety precautions. Hot water, steam, glass, knives, and tin involve dangers to workers. Accidents can be prevented if care is used.

(1) Be sure that handles of utensils in which hot water or hot food are to be carried are in sound condition.

(2) Do not lift or carry boiler filled with hot water. Transfer hot water in small quantities. Keep children away from hot foods and liquids.

(3) Let pressure return to zero before unfastening the lid of the pressure cooker.

(4) Test spring of safety valve each time before using. Clean safety valve each time cooker is washed.

(5) Avoid injury from breaking glass. Place cold jars in cold cooker and hot jars in hot cooker."

—*Home Food Preservation*, Extension Bulletin 450, Home Economics Series, Oregon State College.

PROGRAM OF WORK

A program of work is an orderly outline that indicates what is to be accomplished, the order in which it is to be accomplished and the time when the work is to be done.

One of the requirements of a standard club is a program of work covering ten meetings. A blank program form will be sent to each leader.

A study of the requirements of the division to be covered will help in determining the subject matter and will furnish topics for roll call and discussion.

Demonstrations and judging should be included in some of the meetings.

The program of work should give (1) the time and (2) place of meeting and (3) the general plan for each meeting.

We suggest that each meeting be divided into three parts as follows:

A. The business meeting, presided over by the president (approximate time, 10 minutes).

- (1) Call to order
- (2) Club pledge

- (3) Old business
- (4) New business
- (5) Club song or yell
- (6) Adjournment of business session

B. Project instruction, presided over by leader (approximate time, 40 minutes).

Timely instruction on subject matter either by the leader or by a demonstration given by one or two club members.

C. Recreation, presided over by the president or recreation committee (approximate time, 10 minutes). Songs, games, inspirational talk.

PROGRAM PLANNING SUGGESTIONS

Suggested roll-call topics—

CANNING I.

1. Something I learned last year.
2. Something I want to learn this year.
3. A combination of fruits I especially like.
4. A point in judging jam.
5. A point in judging conserve.
6. Something I can do to help others.
7. Name one way to use fruit butter, jam, or conserve.
8. A point to observe in preparing an exhibit.

CANNING II.

1. Something I learned last year.
2. Something I want to learn this year.
3. A combination of fruits I especially like.
4. Fruits we raise at home.
5. My favorite conserve.
6. Something I can do to help others.
7. Name one way to use jam, or conserve.
8. A point to observe in preparing an exhibit.

CANNING III.

1. Something I learned last year.
2. Vegetables we can.
3. Vegetables used in pickles and relishes.
4. Name a part of a pressure cooker.
5. Name a vegetable rich in vitamin A or B or C.
6. Name a vegetable rich in iron, or calcium.
7. Give a point in judging canned vegetables.
8. Give a point in judging pickles and relishes.

CANNING IV.

1. Name a fruit rich in pectin.
2. Name an acid fruit.
3. Give a point in judging jelly.
4. Give steps in canning meat.
5. Tell how much canning you and mother need to do to feed your family adequately.

Topics for discussion—

CANNING I.

1. Why fruits spoil.
2. Explain judging and scoring fruit.
3. Tell how to prepare fruit for canning.
4. Explain the need for cleanliness.
5. Tell about the various kinds of glass jars.
6. Cleanliness and how to obtain it.
7. How to pack small fruits.
8. How to pack large fruits.
9. How to figure the cost of materials.
10. The value of keeping records.
11. Some things that canning club members can do for others.
12. Planning and canning for winter use.

CANNING II.

1. The difference between fruit butter, jam, and conserve.
2. The best way to utilize the different fruits.
3. Good containers for jam, and conserve.
4. Five points in canning fruits.
5. What we learned about canning last year.
6. Causes of fruit spoilage and how to avoid them.
7. Keeping records—computing costs and values.
8. News writing—what makes a good news story.
9. How can I be mother's partner in canning?

CANNING III.

1. Why it is more difficult to can nonacid vegetables, than it is to can fruit.
2. Discussion of all causes of food spoilage.
3. The use of the pressure cooker.
4. Necessary precautions in canning vegetables.
5. Value of pickles and relishes in the diet.
6. Reason for pickled vegetables keeping.
7. What products should farm families raise for canning?

CANNING IV.

1. Preparations necessary to successful canning of meat.
2. What is a perfect jelly?
3. Steps in making perfect jelly.
4. Value of a canning budget.
5. How to raise our standard of quality.
6. How can our club help others?
7. The emergency shelf.
8. Canning for gifts.

DEMONSTRATIONS

A demonstration is one means of teaching others something one has learned to do. Demonstrations may be given by one person, but they are usually more interesting when presented by a team of two.

A demonstration should be on a subject that is very familiar to the members of the team giving it. Therefore, a subject should be chosen from the work required in the division being carried by the demonstrators. When one member of a demonstration team is in one division and the second member is in another division, the demonstration should be chosen from the lower division.

How to prepare a demonstration—

1. Select a subject (see list, or use your own ideas).
2. Make an outline of procedure and explanation.
3. Decide on equipment and supplies that will be needed. Equipment should be conveniently placed before the demonstration begins.
4. Study the reasons for every step of the process.
5. Plan to have one team member explain the work of the other as it is being done.
6. See that the demonstration has an introduction, body and conclusion.
7. In the introduction tell (1) who is demonstrating, (2) where from, (3) what is to be demonstrated.
8. In the body of the demonstration, give the demonstration step by step.
9. In the conclusion, sum up briefly what has been demonstrated.
10. Plan to have each member do part of the work and part of the talking. Sometimes it is advisable to have the one who is talking assist with the work. It will depend on the demonstration

whether more than one change from talking to work should be made.

11. Use illustrative material when it will be effective.
12. Have everything ready to begin on time.
13. Learn to speak clearly and distinctly.
14. Be neat and clean in appearance.
15. Be happy for the opportunity to help others.

AN OUTLINE FOR A DEMONSTRATION

Canning Peaches

Demonstrator No. 1	Demonstrator No. 2
<p>I Talks</p> <ol style="list-style-type: none"> 1. Introduction Who (introduce team mate before self) Where from Subject of demonstration 2. Explains work being done Selection and preparation of jars, etc. 3. Preparation of fruit 4. Making sirup (can make it for team mate). 	<p>II Works</p> <ol style="list-style-type: none"> 1. Stands quietly Acknowledges introduction 2. Prepares jars, etc. 3. Prepares fruit
<p>I Works</p> <ol style="list-style-type: none"> 1. Packs jars 2. Puts in sirup 3. Partly seals jars 4. Puts jars in hot water bath 	<p>II Talks</p> <ol style="list-style-type: none"> 1. Explains packing jars 2. Explains putting in sirup 3. Reasons for partly sealing 4. Explains processing, gives time, etc.
<p>I Talks</p> <ol style="list-style-type: none"> 1. Sums up demonstration 2. Asks for questions 3. If product is to come out later, announces time and invites audience to return to see it. 	<p>II Works</p> <p>Sees that the product is cooking and if the time has arrived to take the jars out she can do it. She should leave the demonstration table in good order.</p>

Note: The number of changes that should be made to keep the demonstration interesting and instructive will depend on the nature of the demonstration.

Subjects for demonstration—**CANNING I.**

1. Preparing jars for canning.
2. Canning a large fruit (any one fruit).
3. Canning a small fruit (any one fruit).
4. Scoring and judging canned fruit.

CANNING II.

Any demonstration listed under Canning I.

5. Making fruit butter.
6. Making jam.
7. Making conserve.
8. Making preserves.
9. Scoring and judging fruit butters, jams, or conserves.

CANNING III.

Any demonstration listed under Canning I and II.

10. The use of a pressure cooker.
11. Canning any nonacid vegetable using the pressure cooker.
12. Making pickles (any one kind).
13. Making relishes (any one kind).
14. Making catsup (any one kind).
15. Scoring and judging canned vegetables.
16. Scoring and judging pickles and relishes.

CANNING IV.

Any demonstration listed under Canning I, II, and III.

17. Canning meat.
18. Canning fish.
19. Canning fowl.
20. Jelly making.
21. Scoring and judging canned meat, fish, or poultry.
22. Scoring and judging jelly.

Little things that help to make a good demonstration—

1. Avoid chewing gum. Avoid touching the hair or face. Wash the hands.
2. Speak with confidence.
3. Avoid memorizing a part, as this makes the demonstration mechanical.
4. If a mistake is made, correct it, don't try to cover it up.

5. Repeat the question before answering it.
6. Time yourself during practice so you won't have any reason to feel hurried.
7. Check carefully your equipment and materials before leaving home and again before beginning the demonstration.

SCORING AND JUDGING CANNED PRODUCTS

When learning to do something new, it is always interesting and helpful to measure one's progress and skill either by comparing the work with that done by others, or by following a score card that tells what a perfect product should be.

How would you like to compare your finished products with the score cards given here?

After you have learned to score your own work well, why not score the work of some of your club friends and ask them to score yours?

Try judging to determine the best jar of any one product. After that you will be ready to take part in a judging contest where you have to place four containers of one kind of product. This is the method used in all judging contests and every club member should participate at some time in a judging contest.

SCORE CARD FOR CANNED FRUITS, VEGETABLES, AND MEATS

Texture	25
Color	25
Pack	25
Liquid	15
Appearance	10

The **texture** should be firm but tender. This can be obtained only by using products in first-class condition and cooking just the required length of time.

The **color** should be characteristic of the product canned. Fading or bleaching is often due to storing in a light place.

The **pack** should be attractive in appearance. Do not arrange in a pattern (called fancy pack), but take care in selecting pieces and putting them in the jar without crushing them and in such a manner as to fill the jar.

The **liquid** should be clear without any sediment in the bottom of the jar, and no bits of skin or other foreign matter should be in it. The liquid should come well up toward the top of the jar and be in good proportion to the quantity of product.

The **appearance** of the container is important also. The jar should be clean. It should be neatly labeled, giving the name of

the product and the year of canning. The lid should be in good condition, likewise the rubber ring.

It would be a good plan to score your products from time to time for practice.

SCORE CARD FOR JAMS AND BUTTERS

Texture	40
Smooth, tender, thick, but moist in jams, particularly a jelly-like base where possible.	
Flavor	40
Characteristic of the fruit used. Not too sweet. No suggestion of scorching.	
Color	10
Not too dark. Like the fruit from which it was made.	
Appearance	5
Neat container. Well labeled.	
Freedom from mold.....	5
Total.....	
	100

SCORE CARD FOR PRESERVES AND CONSERVES

1. Fruits	60
(a) Appearance: bright and clear.. 10	
(b) Texture: tender, plump, firm, whole	
	20
(c) Flavor: fruit flavor should not be destroyed by too much sugar 20	
(d) Package: free from mold, neatly packed and labeled. Well sealed	
	10
2. Sirup	40
(a) Appearance: clear, natural color	
	10
(b) Consistency: soft but not runny or sticky..... 10	
(c) Flavor: fruity flavor..... 10	
(d) Proportion: should be about one-fourth as much sirup as fruit	
	10
Total.....	
	100

JELLY SCORE CARD

1. Appearance	20
Clearness and color	10
Container and seal	10
2. Texture: consistency	45
3. Flavor	35
	100
Total.....	100

Explanation:

Clearness. Free from cloudiness—sparkling.

Color. As near natural fruit as possible.

Container and Seal. Neat, clean, container from which the jelly will unmold easily. Seal: clean and sufficient to cover the jelly.

Consistency. Should retain shape when removed from the glass. Should quiver and be tender. Should be free from graininess. Not sticky or tough or runny. Should cut easily with a spoon leaving cut edges that will retain their shape.

Flavor should be characteristic of the fruit and neither too sharp nor too sweet.

SCORE CARD FOR PICKLES AND RELISHES

Pack	10
Attractive, practical	
Liquid	10
Clean, clear (except in mustard pickles)	
Product	45
Freedom from spoilage.....	10
Color, natural, not too bright.....	15
Crisp, not soft, plump.....	15
Attractive in shape.....	5
Flavor	35
Characteristic of the product, not too sour, sweet, highly seasoned.	
	100
Total.....	100

—Home Economics Judging in Montana Clubs, Circular

DETAILED INSTRUCTIONS FOR THE CANNING OF FRUIT

I. Preliminary steps—

1. See that both the kitchen and you are clean.
2. Get out the necessary equipment.
3. Put the canner on the stove with enough water to cover the jars.
4. Test the jars and rubber rings.
5. Wash the jars and rinse.
6. Put on the rubber ring (not needed in the automatic seal jar). When the ring is put on after washing the jar, it prevents the burning of fingers later and does not allow any fruit or sirup to get under the rubber. Put the jars in the racks and put them in the canner to become thoroughly hot. Leave until required for packing.

II. Make the sirup. There are several sirups recommended for the different fruits as follows:

Thin. Use 1 cup of sugar and 3 cups of water.

($\frac{1}{2}$ lb. sugar to $1\frac{1}{2}$ lb. water)

Medium. Use 1 cup of sugar and 2 cups of water.

($\frac{1}{2}$ lb. sugar to 1 lb. water)

Thick. Use 1 cup of sugar and 1 cup of water.

($\frac{1}{2}$ lb. sugar to $\frac{1}{2}$ lb. water)

Extra thick. Use 1 cup sugar to $\frac{1}{2}$ cup water.

Fruits will keep if canned without using any sugar but the flavor will not be as good and the product will not be of as fine quality, nor will it retain its shape and texture as well as when sirup of the proper consistency for the product is used.

The best sirups to use for the various fruits are the following:

Raspberries, loganberries, and strawberries, for best quality product, the extra thick sirup. For ordinary home use, use thick sirup.

For blackberries, gooseberries, currants, and huckleberries use thick sirup for best and medium for general.

For peaches, pears, and apricots use thick or medium sirup.

For plums and prunes use thick sirup.

For apples use thin sirup.

For rhubarb use extra thick sirup.

You will find that 1 cup of sugar and 1 cup of water will make $1\frac{1}{2}$ cups of sirup. Usually, when jars are solidly packed with fruit,

about $\frac{1}{2}$ cup of sirup is required for every pint, so you can plan accordingly.

In making sirup, put the required amount of water in the pan in which the sirup is to be made, then pour the sugar in slowly. Any little specks or impurities in the sugar will stay on the top of the water and may be skimmed off.

Whatever kind of sirup you make should just boil up. It is then ready to use.

III. Prepare the product—

(a) *Raspberries, loganberries, blackberries, huckleberries, etc.* Pick over and remove all crushed berries and all foreign substances, such as leaves and bits of stem. Wash carefully, taking care not to crush.

(b) *Strawberries.* To prevent the loss of juice, wash before hulling.

(c) *Gooseberries and currants.* Stem and wash.

(d) *Cherries.* Wash, stem and if desired, pit.

(e) *Peaches, plums* (if desired, remove the skin).

Scald for from one to three minutes, depending on the ripeness of the fruit and the proportion of water to fruit. Dip immediately into cold water to stop the cooking, but do not let them stand in the water, just plunge in and out. Peel and cut into convenient-sized pieces for packing.

(f) *Pears and apples.* Wash and peel. Cut in half; remove core.

(g) *Apricots, plums, and prunes* may be washed, cut in half, and pitted.

(h) *Rhubarb.* Wash and cut in 1-inch lengths.

(i) *Tomatoes.* Select well ripened, firm tomatoes, uniform in size. Put in a shallow pan or a wire basket and plunge into boiling water for about one minute or until the skin loosens. Put into cold water to stop action of the heat. Remove the skins and all of the green core.

Pack into hot clean jars, as closely as possible. For exhibit purposes take care to avoid crushing and fill the jar either with strained juice from other tomatoes or hot water. Add $\frac{1}{2}$ teaspoon of salt to a pint or 1 teaspoon of salt to a quart.

See time table for processing.

TIME-TABLE FOR CANNING FRUITS AND TOMATOES

The times given for processing in boiling water apply only to places with altitudes of 1,000 feet or less. For all altitudes above 1000 feet the time should be increased 20 per cent for each additional 1,000 feet.

When half-gallon glass jars are used, add 5 minutes to time given for pint and quart glass jars.

Product	Method of treatment before processing	Processing period in boiling water
		Pint and quart glass jars
		<i>Minutes</i>
Apples.....	Slice, quarter, or halve, then pack in containers and cover with boiling sirup.	15
	Or boil whole in sirup, or bake as for serving, and cover with sirup, and pack hot.	5
	Or pack hot in form of apple sauce.....	5
Apricots.....	Same as peaches.	
Blackberries.....	Pack in containers. Fill with boiling hot, medium sirup. Or precook and pack hot.....	20
Blueberries.....		
Dewberries.....		
Huckleberries.....		
Loganberries.....		
Raspberries.....		5
Cherries.....	Pack in containers, cover with boiling sirup, using thick sirup for sour cherries, and medium for sweet.	25
	Or remove pits, add sugar as desired, bring to boil, and pack.	5
Currants.....	Same as berries.	
Figs.....	Sprinkle 1 cup of soda over 6 quarts of figs. Add 1 gallon of boiling water. Allow figs to stand in this five minutes. Drain and rinse well. Add 2 quarts boiling medium sirup. Boil for one hour. Fill in containers. Cover with hot sirup.	5
Gooseberries.....	Pack in containers. Fill with boiling hot, thick sirup.	20
	Or prepare sauce, using sugar as desired. Fill hot.	5
Peaches.....	Scald, dip into cold water, and peel. Firm Clingstone, lye or hand peeled. Cut into size desired, removing pits. Fill containers, then add sirup of desired consistency, in which one cracked peach pit for every quart of sirup has been boiled.	20 ¹
		30 ²
Pears.....	Pare and cook for four to eight minutes in boiling medium sirup. Pack hot in containers and fill with the boiling sirup.	20

¹ For ripe fruit. ² For firm fruit.

Product	Method of treatment before processing	Processing period in boiling water
		Pint and quart glass jars
		<i>Minutes</i>
Plums.....	Prick. Fill in containers. Cover with boiling medium sirup.	20
	Or bring to boil, using sugar as desired. Fill hot into containers.	5
Rhubarb.....	Cut in half-inch lengths. Add one-fourth as much sugar as rhubarb by measure. Bake until tender in covered baking dish. Pack in hot containers.	5
	Or pack uncooked with boiling sirup.....	20
Strawberries....	To each quart add 1 cup of sugar and 2 tablespoons of water. Boil slowly for 15 minutes. Let stand overnight in the kettle. Reheat to boiling. Fill containers hot.	5
Tomatoes.....	Scald and peel. Pack whole or cut in pieces. Cover with hot tomato juice. Add 1 teaspoon salt to each quart.	45
Tomato juice...	Select firm, ripe tomatoes. Wash well and drain. Cut into sections. Add a small quantity of water to start cooking and simmer until softened. Stir occasionally to prevent burning. Put through sieve fine enough to remove seeds. Bring juice to boiling and fill immediately into hot containers.	5

Taken from Farmers' Bulletin 1471

IV. Remove one jar at a time from the canner and pack it with the prepared fruit. In packing berries and cherries, pour them in, tapping the jar to make them pack in more tightly. When the jar is apparently full, press the top of the fruit gently with the bowl of a spoon or your fingers. You will find that quite a few more pieces will go in.

Peaches and all of the larger fruits are most easily packed by inserting the blade of a spatula or thin flat stick into the jar in a slanting position and then sliding the fruit into place on it. The jar packs more advantageously when the cut side of the fruit is turned down. Let the first piece slide so that it lies flat on the bottom of the jar. Change the position of the spatula so that the next piece lies partly on top of the first, also with the cut side down. Continue in this manner, changing the position of the

spatula each time in order to have all spaces filled. When the jar is about half full (if a pint jar is being used) you will probably find it easier to put the pieces in without using the spatula. Press the fruit in a bit so that the jar may be well filled.

V. You are now ready to put in the sirup. In adding the sirup to berries use this method: After the sirup has boiled, set the sirup pan to the back of the stove and let the sirup cool to about 175 degrees Fahrenheit, then slowly pour it over the berries. This is done to prevent the berries from shrinking.

Run the blade of your spatula into the jar again, but be careful not to cut into the fruit. Pour in the sirup so that it runs down on the spatula, which you will find makes a good path for the sirup to travel into the bottom of the jar. Fill only to within $\frac{1}{4}$ inch of the top of the jar. Run the blade of the spatula around in the jar to send any air bubbles to the top. Then add enough more sirup to let it come to within $\frac{1}{4}$ inch of the top.

VI. Wipe off any particles of fruit that may have gotten on the rim of the jar or the rubber. Be *sure* that your cloth is clean.

VII. Put on the lid. If your jar has a *screw top*, screw it down until it catches, then turn it back a little way; about an inch is sufficient. If your jar is a *wire clamp* glass top, put the upper clamp into the notch on top of the lid but do *not* lower the second clamp. The *automatic* seal jar simply needs to have the lid placed on and secured by a clamp furnished with the jar.

VIII. Put jars in the canner. It is best to have the water boiling when the jars are put in. Plunge the jars in quickly. If they have been removed and filled and put back in, there is no danger of breaking them. The water should come up over the tops of the jars about one inch as this insures more even temperatures and makes about the same pressure on all sides. When the jars go into boiling water, less time is required for the boiling point to be reached and a more accurate count can be made of the cooking.

IX. Process. (When we cook a product in a jar we say we "process" it.)

There is a clearness and almost a transparency in the product when it is processed sufficiently. Before that time the product looks dull and opaque. Remember that time is not counted until the water is again bubbling rapidly, after putting in the jars, and it *must* be kept bubbling all during the processing period.

X. Remove from the canner and completely seal. The lid to the screw-top jar is screwed on tight. The second clamp is put down on the wire clamp jar but the automatic seal jar is left just as it comes from the canner until it is cool. Set the jars on a cloth out of a draft and preferably several inches apart to hasten the cooling. Test for leaks by inverting.

XI. It is best to leave the jars in the kitchen for a few days where they can be observed to see whether there is any spoilage.

XII. Wash the jars with warm water and soap. Dry carefully.

XIII. Label the jars in this way: TOMATOES 1939. If the labels are all put on the smooth side of the jar an equal distance from either the top or the bottom, your fruit closet will be most attractive.

XIV. Score your product, using score card on page 16.

XV. Store in a cool, dry, dark place.

HOW TO FINISH UP

Although you are required to can only 25 quarts of fruit, you may can as much more as you care to or your family requires.

As you do any canning be sure to make a record of the work done in your record book.

When you have completed your work, total the columns, and put these totals in the space provided for totals on the back cover page. Next answer the questions found under the summary on page 6 and then write a story telling some of the things we would like to know about your work and your club.

Then be sure that you send your record book to your county club agent or to Mr. H. C. Seymour, State Club Leader, Oregon State College, Corvallis, Oregon.

Remember that until your record book has been received by your county club agent or the State Club Leader, there is no official record of your having completed the project.

Note:

Have you two jars that will make a good exhibit in the canning contest?