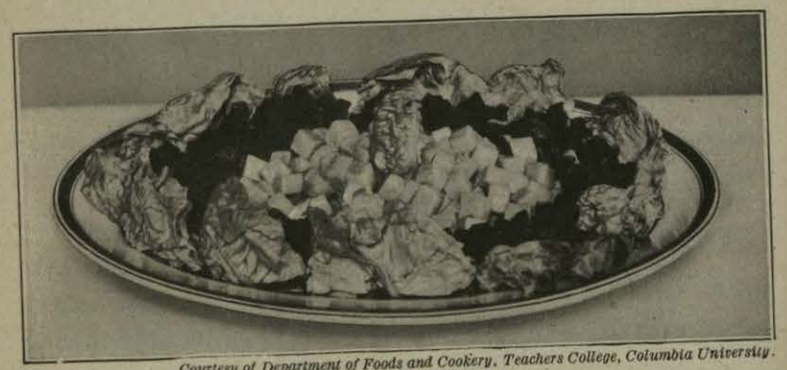
Potato salad.

What and how much.

Potato cubes	1 pint
Minced parsley	1 tablespoonful
Chopped onion	½ teaspoonful
Salt	
Pepper	
Dressing to moisten	



Courtesy of Department of Foods and Cookery, Teachers College, Columbia University.

FIG. 42. — Potato salad.

For variety add one of the following to the potatoes:

Minced ham	¼ cup
Nuts, cut fine	½ cup
Cucumbers, sliced or cubed	½ cup
Celery, in ½ in. lengths	1 cup

Boiled dressing.

What and how much.

Eggs	2
Mustard	½ teaspoonful
Salt	½ teaspoonful
Sugar	½ teaspoonful

Vinegar or lemon juice	3 teaspoonfuls
Hot water	½ cup
Butter	1 tablespoonful
A few grains of cayenne	

How to make. Mix the dry materials and beat with the eggs until light. Add the vinegar and water and cook in a double boiler, stirring constantly until thick and smooth. Remove from the fire, stir in the butter, and set away to cool.

Courtesy of Department of Foods and Cookery, Teachers College, Columbia University.

FIG. 43. — Tomato jelly salad.

Tomato jelly salad.

What and how much.

Tomato pulp (cooked and strained)	2 cups
Water	2 tablespoonfuls
Gelatin	1½ tablespoonfuls
Salt, pepper, and sugar to taste.	

For method of making, see recipe for gelatin on page 237. Serve with boiled or cream dressing.

Whipped cream dressing.

What and how much.

Thick cream, sweet or sour	½ cup
Vinegar	2 tablespoonfuls or less
Salt	¼ tablespoonful
Sugar	¼ tablespoonful
White pepper	

How to make. Beat cream stiff with Dover beater; add salt, sugar, pepper, and vinegar very slowly, still beating. Serve with fresh cabbage and garnish the salad with slices of green pepper. This dressing may be used with any other salad.

How to make tea. There are very few families who do not require tea. We need to learn to make it well, although only the grown people should drink it.

Is it not curious that among the thousands of plants in the world, the human race has found only a few to use for making a beverage? Tea has been used in China for hundreds of years; and the tea plant grows well there, and in Japan, India, and Ceylon. You may have heard of one plantation in South Carolina where very good flavored tea is grown; but the climate and soil of these other countries seem best to suit the tea plant. The leaves are gathered, dried, and rolled. The color and flavor of the tea depend upon the age of the leaf and the way in which it is dried, as well as upon the soil and climate.

Your family has some particular liking for some one kind of tea,—Oolong, a Chinese tea, Japan tea, Ceylon, or India, these latter having several "fancy" names.

Perhaps you use a "mixed" tea, which means a mixture of green and black tea, probably Chinese varieties.

What does tea contain? All these teas contain "theine," which is the substance that acts upon the nerves, making some people feel comfortable, bright, and talkative, and keeping others awake. But it is another substance in tea, tannin or tannic acid, which is bad for the digestion. The longer tea stands, especially if it boils, the more of this substance is taken out by the water. Miss James told the class that when one sees the teapot on the back of the stove all day, and somebody drinking tea from the pot, then somewhere in the house one will find a bottle of medicine for indigestion! It is better, too, to take tea at a meal when there is little or no meat. When Agnes Groves repeated this at home, her aunt, who was a great tea drinker and liked strong tea thoroughly boiled, said that she would like to have Agnes prepare tea correctly. The doctor had told her that she drank it too often and too strong. So Agnes made the tea for supper that night, explaining that if the water is poured on when it is boiling, and is allowed to stand upon the leaves only a few minutes, the flavor is drawn out, but much less of the tannin. Never boil the tea leaves in the water.

Making tea.

How much. 1 teaspoonful tea for each person, and 1 for the pot; and about 1 cup of water to each teaspoonful of tea.

Utensils. An earthen pot, measuring cup, teaspoon, strainer. Sometimes a tea ball or piece of cheesecloth.

How to make. Measure the water and bring it to the boiling point. Heat the tea slightly in the pot, pour on the water rapidly, allow to stand three to five minutes, strain into a heated pot for serving. If there is an astringent flavor, the tea has stood too long.

Where tea is to be served in very large quantities, this method is convenient: Make a small quantity of very strong tea, pour it off the leaves, and add boiling water when it is served.

EXERCISES AND PROBLEMS

1. What is the most important thing to remember in making tea?
2. Why should young people avoid tea drinking?
3. Make a list of materials that can be put into a salad.
4. Study a cook book for other salad recipes.
5. Make a recipe for using sour-milk cheese in a salad. How could you make this a very pretty dish? Can you "guess" why Marjorie Allen calls this "bird's egg salad"?

LESSON 12

THE CANNING OF FRUIT AND VEGETABLES

WE may have fresh fruit and berries and sometimes vegetables for supper in summer and autumn; but in winter and spring we depend upon canned and dried foods. What preserving can a girl do at home and at school?

An old-fashioned economy is storing away food when it is plenty for time of need. We have read of the early days in our own country, when the first settlers dried corn, apples, berries, salted codfish, smoked or salted beef, and made fruit preserves and pickles. Some of

Courtesy of Mrs. Jane S. McKimmon, State Agent for Canning Clubs, North Carolina.

FIG. 44. — Canning club girls at work.

you may have seen the old " smokehouse," or perhaps some one has pointed out to you the hooks in the beams of some old kitchen where food was hung to dry. You are fortunate if the smokehouse is still in use on your home farm.

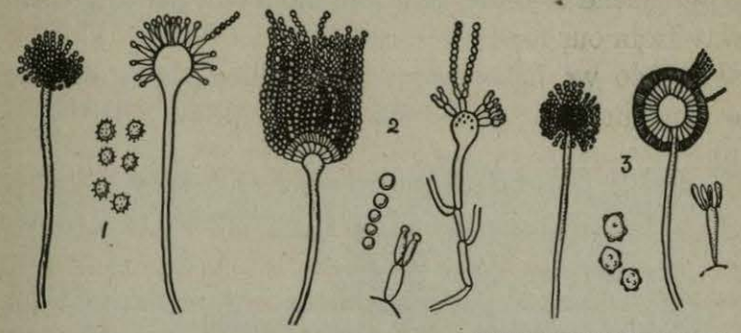
Nowadays we have many conveniences for canning and preserving; and our canneries all through the United States preserve many kinds of food in tins and glass. This industry still has a place in the home; and, as there are many fruits and vegetables to be preserved in the autumn, some of the first cooking lessons at the Pleasant Valley School were canning lessons.

A word about canning clubs. Mollie Stark had read in the local paper an account of a girls' canning club, and asked Miss Travers how such a club could be formed. You yourself can find out all about it in the pamphlets mentioned on page 296.

In the meantime, if it is not best to have a club in your own neighborhood, you all want to know how to preserve food for home use. And any businesslike girl can earn a little money by selling her products near home, if she will take the trouble.

Why does food spoil? Have you ever wondered why so many kinds of food spoil so easily, except a few that are dry like flour and meal and cereals; and even these sometimes have insects in them, or become musty? Recall what you have seen: the mold on fruit and on preserves or jelly; the " working " of canned fruit which we have already learned is caused by the presence of

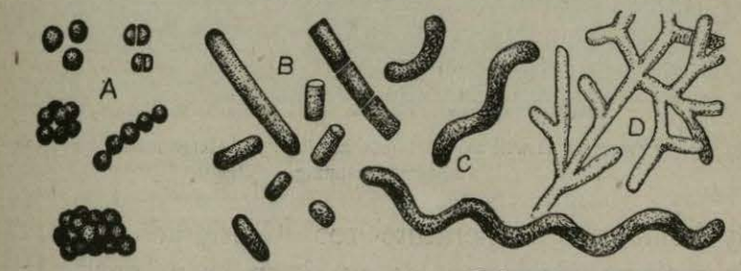
yeast. Not only do the molds and yeast cause the spoiling, but so do the still tinier organisms known as



Buchanan's Household Bacteriology.

FIG. 45. — Three species of mold as seen under a powerful microscope.

bacteria. Do not allow these pictures (Figs. 45 and 46) to deceive you. One of these cells may be only $\frac{1}{25000}$ of an inch in length, and some of the larger $\frac{1}{6000}$.



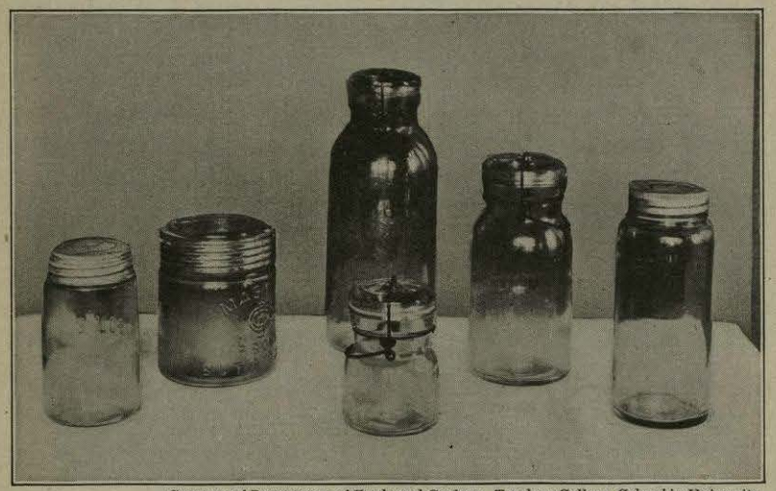
Buchanan's Household Bacteriology.

FIG. 46. — The four types of bacterial cells as seen under a powerful microscope. *A*, cocci; *B*, bacilli; *C*, spirilla; *D*, branched filamentous organism.

It is beyond our power to imagine them. How wonderful it is that we can actually see them through a microscope. Sometimes one, sometimes all three together, —

molds, yeast, and bacteria, — make all our trouble. How curious it is that because of them we have canneries and spend so much time and money in fighting them away from our food!

How do we fight them? By killing them and by keeping them out of the food. How do we kill them?



Courtesy of Department of Foods and Cookery, Teachers College, Columbia University.

FIG. 47. — Pint jars as well as quart jars, and jars with large mouths, are convenient for canning.

By boiling at temperature 100° Centigrade, or 212° Fahrenheit. And how do we keep them out? By sealing cans, by covering glasses, and in another way. Why is it that dried, and salted, and smoked, and sugared food, like candied fruit and vinegar pickles, keep? The tiny cells cannot live without moisture, and that accounts for drying as one way of preserving; and

they cannot live where the substances just named are found, and, therefore, we put these materials into the food. Perhaps you can think of some other materials in addition to these. Sometimes chemicals are used to preserve food, but when any proves harmful, this will be controlled by pure food laws.

While the yeast cell flourishes in sugar, a large amount prevents its growth. The action of yeast is called fermentation. While alcohol and vinegar result from fermentation, they both, when strong enough, prevent the growth of the tiny living cells that cause fermentation and decay.

Preserving fruits. Notice the picture (Fig. 47) of jars and glasses for home use. Jars with large mouths are convenient, for large fruit or ears of corn can easily be put in and taken out. It is a good plan to use some pint jars, unless the family can eat a quart of stewed fruit at one meal.

Apparatus.

Scales
Quart measure
A preserving kettle of good enamel ware
Plated knives
Large spoon of enamel or wood
Tablespoon and table fork
Pint and quart cans with glass tops fastened by springs
New rubber rings
Jelly glasses with covers
Cloth jelly bag
Stick on which to hang the bag

Large bowl
Boiler, in which to stand the cans
A funnel
A dipper
Old towels, or cheap cloths
Saucer and spoon for testing

Directions for work.

Courtesy of New York State College of Agriculture at Cornell University.

FIG. 48. — A steam cooker may be a part of the canning apparatus.

Thoroughly wash all the utensils just before using. Sterilize the cans and glasses by placing them in a large kettle or boiler on the stove, covering them with cold water, and allowing the water to reach the boiling point and to boil for half an hour. Covers and rubber rings should be treated in the same way.

Prepare the fruit by careful washing, picking over, paring, and cutting.

The skins may be loosened on peaches and tomatoes by pouring hot water over them.

Weigh both fruit and sugar, or measure if no scales are available.

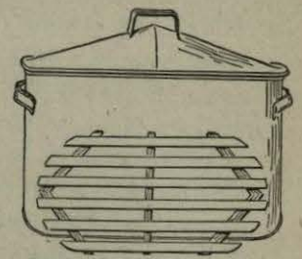
See that the cooking apparatus is in good order, that the proper heat may be continued.

Avoid rapid boiling of the fruit.

Place the cans, when they are to be filled with hot fruit, upon a towel wet in very hot water or in a pan holding an inch or so of hot water. Never hold the can or glass in the hand.

Use a dipper for putting cooked fruit into the can. A funnel is useful placed in the mouth of the jar.

Put whole fruit and halves compactly in the jar, using tablespoon and fork, or two tablespoons. It requires practice to do this well.



Courtesy of New York State College of Agriculture at Cornell University.

FIG. 49. — A sterilizer with a rack may be used for sterilizing cans and glasses.

See that all air bubbles are removed, and fill the cans to overflowing, before putting on the glass tops and fastening on the spring. Wipe off the jars

Courtesy of New York State College of Agriculture at Cornell University.

FIG. 50. — Spring top jar. Position of spring during cooking. Position of spring after cooking.

carefully, and stand them on their tops for a day in order to test the tightness of the rubbers and the fastening.

After filling jelly glasses, set them at one side, and cover them all with a piece of cheesecloth until the jelly becomes firm. Then pour melted paraffin upon the jelly in each glass, and when the paraffin is cooled, put the covers on firmly.

Label the jars with the name of the fruit and the date.

Canning.

Method 1. (Material cooked before it is put into the can.) This is a good method for berries, and for fruit that will be served as a sauce. Proceed in the preparation and finishing according to the general directions. Cook the fruit gently for half an hour. Use as little water as possible. No sugar *is required* in the canning process, but the flavor is better if a small amount is used in the beginning — a half cup of sugar to a pound of fruit is enough.

Courtesy of New York State College of Agriculture at Cornell University.

FIG. 51. — Testing the tightness of the rubbers and the fastenings, after the jars have been filled and have stood on their tops for a day.

Method 2. (Material cooked in the can.) This is the better method for whole fruit and halves. Select firm, well-shaped fruit for this method, rejecting the mellow and soft fruit. Pack the cans tightly with the fruit, and pour in hot water with sugar dissolved in it, a half cup to the quart can. More sugar can be used, if so desired. Set the jars in a boiler on a rack, and surround them with warm water, to a height that will not allow the water to boil into the cans.

Set the cover on each jar, but do not fasten them. Cover the boiler closely, bring the water to a boil, and allow it to boil for an hour. At the end of this time, with a fork test the fruit for tenderness; pour in more sirup if it is necessary. Remove the jars when the water has cooled sufficiently, and adjust the covers. Cold water is sometimes used at the beginning, but this makes the process longer.

Apparatus is constructed for this method of canning, but the ordinary boiler answers the purpose.

Preserving.

(A good method for peaches, apricots, and quinces.) Select firm and handsome fruit and prepare it carefully. Allow a pound of sugar to a pound of fruit. (What is the measure of a pound of sugar?) Place enough water in the kettle to cover the fruit, dissolve the sugar in the water, put the fruit into the kettle, and cook very gently until the fruit becomes a clear color. Rapid boiling spoils the shape of the fruit. Do not stir at all, but skim off any scum that rises to the top. When the fruit is done, put it with great care into the jars. If the sirup is thin, boil it down for a short time, and then fill the jar. Close the jar as in canning.

Making jam and fruit butter.

This is economical and very easy. It is nothing more than a fruit sauce, with a larger amount of sugar than usual to preserve it.

Soft and somewhat imperfect fruit may be used. For jam proper allow a pint of sugar to a pound of fruit. Cook the fruit with enough water to prevent its sticking to the kettle, using as little as possible.

Mash the fruit by stirring it once in a while as it cooks. When the fruit is soft, add the sugar, stir thoroughly, and cook gently for about five minutes. Test by cooling a spoonful on a saucer. The jam should thicken slightly. When ready, pour it into jelly glasses, or somewhat larger earthen jars — "jam pots." Seal, as directed for jelly.

The *fruit butter* is even more like fruit sauce than is the jam, for it is softer than jam and contains less sugar. A cup or only a half cup of sugar to the pound of fruit is enough. Proceed exactly as in jam making.

Apple butter may be flavored with spices and with ginger root and lemon juice. Quinces or a slice of pineapple may be cooked with the apples.

Jelly making.

Fruit contains a substance known as pectin, one of the carbohydrates, that jellies the fruit juice when the water in the juice is partially evaporated. Sugar helps in jellying, but no amount of sugar will set the jelly if there is no pectin. Some fruits have more than others, and also more when not overripe. Currants and firm apples are good jelly makers, and can be mixed with other fruits that do not jelly well. Mellow summer apples do not set well, but crab apples do. Some one is experimenting with the use of the white layer of orange peel cooked with the fruit to help the setting of the jelly, and it seems to be working well. (See recipes on page 302.)

There is another step in this process, the straining out of the juice from the pulp. For this, prepare a jelly bag from firm cotton cloth which has been boiled and washed. This bag must be hung in such a way that the juice drops from the point of the bag into a bowl below. It may be hung upon a stick between two chairs, or upon the rod of a strong towel rack over a table.

1. *Apple jelly.* Select tart, red-skinned apples, cut them in small pieces with the skins on, retain the cores, and put them in a kettle with cold water barely to cover. When thoroughly cooked and mashed, put this pulp into the jelly bag, and allow the juice to drip as long as it will. Do not squeeze the bag, nor stir the pulp, if you wish clear jelly. This dripping process is a matter of hours, and in the home kitchen may continue all night. Allow a pint of sugar or less to a pint of juice. Return the juice to the kettle, and allow it to simmer for twenty-five minutes or half an hour, skimming when necessary. In the meantime, heat the sugar, being careful not to melt or burn it. Stir the sugar gently into the juice, and boil five minutes. Test a little upon a saucer. It should show signs of jellying as it cools. Boil longer, if necessary. Finish as directed. Jelly often does not set until twenty-four hours have elapsed.

2. *Currant jelly.* The method is the same as with apple jelly. It is not necessary to remove the currants from the stem. Heat just long enough before the straining to make the juices flow well. It seems odd that white currants should make a red jelly.[1]

Very agreeable flavors are secured by the combining of two or more fruits in a jelly,—quince and pineapple with apple,—a leaf of rose geranium or lemon verbena in a glass of apple jelly,—raspberry with currant. White apple jelly may be flavored with mint leaves, and used in place of mint sauce with meat.

3. *Blueberry jelly.* Mention should be made of blueberry jelly — certainly not a common jelly. Examination of the blueberry shows a pulp rich in pectin. Although the juice is fairly sweet to taste, yet it is sufficiently acid to yield jelly of good firmness even when the proportion of sugar to juice is 1 : 1. With this proportion of sugar, the total time of making the jelly need not exceed 10 minutes.

The blueberry as a jelly fruit seems quite equal to the currant, with this difference in the jellies: although each is delicious, currant jelly is tart to the taste, while blueberry jelly is sweet. Hence, they may be used for different purposes in the menu.

Pickling.

Pickles are not desirable in the diet. If acid is craved, it is much wiser to secure it from fresh fruits and from lemon juice.

If a relish is wanted, here is a simple one:

Chili sauce.

What and how much.

Tomatoes	12, medium-sized and ripe
Green pepper	1, finely chopped
Vinegar	2 cups

[1] Adapted from *Principles of Jelly Making*, Cornell Reading Course, N. E. Goldwaithe.

Sugar	3 tablespoonfuls
Salt	1 tablespoonful
Clove	2 teaspoonfuls
Cinnamon	2 teaspoonfuls
Allspice	2 teaspoonfuls
Nutmeg	2 teaspoonfuls

How to make. Peel tomatoes and slice into a preserving kettle. Add other ingredients and heat to the boiling point. Cook slowly two and one half hours. Pour into preserve jars and seal.

Tomato catsup.

Select only ripe tomatoes for catsup, wash but do not peel, cut out green cores and bad places, quarter, measure, and place in open-top, porcelain-lined or agate vessel over stove. For every gallon of tomatoes add 1 level cup of finely chopped onion. Boil until both tomato and onion are soft. Strain juice and pulp through a coarse wire sieve, mashing through all the pulp possible. Measure this strained pulp and juice, and proceed as in the following recipe:

2 gallons strained mixture tomatoes and onions
2½ level teaspoonfuls ground cloves
3 level teaspoonfuls ground ginger
2 level teaspoonfuls ground red pepper
3 level teaspoonfuls ground cinnamon
2 level tablespoonfuls ground allspice
1 level tablespoonful ground black pepper
1½ level cups (½ pint cups) sugar
¾ level cup (½ pint cups) salt
1 quart vinegar

Place strained tomatoes in agate vessel; add spices, sugar, and salt; boil until thick; then add hot vinegar slowly and let boil 30 minutes before beginning to bottle mixture.

Use clear, flint, 10-ounce grape-juice bottle. Wash well with soda and place in vessel of hot water until you are ready to use. It is best to put wooden slats in the bottom of vessel; place the bottles filled with water thereon; and let come to a boil, thus sterilizing. Pour out water. Fill hot bottles with boiling catsup; cork tightly.

The measures for all recipes must be taken level. Scrape off spoons with a knife, patting and scraping until measure is level. These have been taken accurately, and you should get good results if directions are followed.

A good catsup can be made in winter by using five cans of club tomatoes, 1 cup of chopped onions, and half the quantity of all other ingredients mentioned in the above recipe.[1]

Why should we dry fruit and vegetables? This is an old-time method, and still a good one. It is easy; a little can be done at a time; the dried food keeps well in a dry place, and has a good flavor.

Dry pitted cherries on a plate, near the fire or in the oven when the fire is going out. Do berries in this way, too.

Sliced apples can be dried in the sun, covered with netting or wire screening to keep out flies.

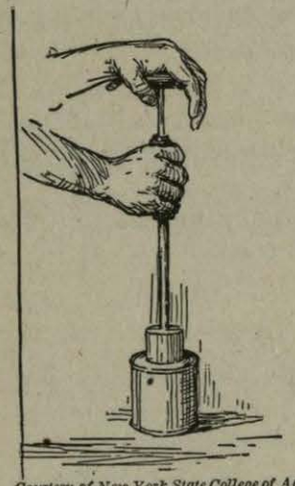
Many people do not know that dried sweet corn is quite as good as or better than canned corn. Cut off the kernels from the cob and dry, while the sweet corn is quite tender. In the winter make "succotash," the Indian name for "corn and beans," or "beans and corn."

More about the canning clubs. Here are some

[1] Courtesy of Mrs. Jane S. McKimmon, State Agent in Home Demonstration Work, North Carolina.

recipes for canning vegetables, used in the club work. Vegetables need longer cooking than fruit; and it is a good plan to cook them for two or three days in succession, two or three hours at a time.

The picture (Fig. 44) shows a large canner that is used out of doors. Even if there is no canning club in a



Courtesy of New York State College of Agriculture at Cornell University.

FIG. 52. — A tin can may be capped with round capping steel.

Courtesy of New York State College of Agriculture at Cornell University.

FIG. 53. — A tin can may also be tipped with soldering iron and solder.

town, such a canner is very convenient when preserving for a large family, and it soon pays for the first cost.

Some one asked Miss Travers whether it paid to can. Would it not be better to buy canned goods? Her answer was that where there is a plenty of fruit and vegetables on the place, it costs less money to can. When you have learned how, the labor is not too great.

Canning vegetables.[1]

To can string beans select beans that are young and tender, and have few strings. The Green Pod Stringless is a good variety. The trade likes a green bean about the size of a rat tail. Indeed, canners sometimes designate them as rat-tail beans. And if you pull it when it is young and tender enough and remove every vestige of string, there is no doubt of a market. Snap the bean at both ends, string, and put in the wire basket of your canner or in a thin cotton bag, and plunge in boiling water for 5 minutes. This removes certain acids and makes the flavor of your beans better. Never forget this when canning beans. Remove after the given time, pack tightly in sterilized cans within ½ inch of top, and fill with hot water. Add 1 level teaspoonful of salt, seal, exhaust for 5 minutes, tip, and return to the canner for 1 hour's boiling.

For No. 10 cans use 1 level tablespoon of salt, exhaust 10 minutes, and boil 2 hours and 20 minutes. Turn cans over once or twice while processing.

Corn, butter beans, peas, squash, and some other vegetables require three days' cooking and are all best when cooked in smaller cans and jars. No. 2 is good.

Select corn when young and very tender; cut from cob with sharp knife, gently scraping cob. Use sugar corn for canning. If this cannot be procured, take field corn, but be sure it is very tender. Do not prepare any more corn than you can immediately, as it quickly sours and you may lose your can. Pack in No. 2 cans only — do not use larger cans for corn — to within ½ inch of top; fill with cold water; add 1 level teaspoon of salt and 2 level teaspoons of sugar; seal but do not tip; allow it to exhaust 15 minutes. Tip the little hole with a drop of solder; return to the boiling water and boil for 1 hour. Remove from fire and set aside for 24 hours.

[1] A timetable will be found on page 296.