

Canning Fruits & Tomatoes

4-H Food Preservation Project Unit 3

Canning is an easy way to preserve food for later use. It saves money and can also be enjoyable.

You will learn these things in this project:

- ▶ How much food to preserve for your family.
- ▶ How to use canning equipment.
- ▶ How to preserve fruits and tomatoes using the boiling water bath method.
- ▶ How to blanch peaches and tomatoes to remove the skins.
- ▶ How to make syrup for canning fruit.
- ▶ How to label and store canned food.
- ▶ How to can safely.

You will do these things in this project:

- ▶ Decide how many pints or quarts of tomatoes, tomato juice, and fruit your family should can for home use.
- ▶ Can tomatoes and tomato juice.
- ▶ Can one or more kinds of fruit, such as blackberries, apples, pears, and plums.
- ▶ Label and store canned foods.
- ▶ Exhibit canned foods at fairs and exhibit days.
- ▶ Give a visual presentation showing something you have learned in this project.
- ▶ Help your family can other fruits and vegetables.

You will need these supplies in this project:

- ▶ Fruit, berries, or tomatoes that are ripe but firm and free from decay.
- ▶ Large pans for holding fruit after it is washed.
- ▶ Colander or strainer for draining berries and fruit.
- ▶ Paring knife.
- ▶ Measuring cups and spoons.
- ▶ Pan for cooking syrup.
- ▶ A jar lifter.
- ▶ A jar filler or funnel.
- ▶ A sieve for making tomatoes juice.
- ▶ Plastic spatula or table knife for removing air bubbles from jar.
- ▶ Two large spoons to pack fruit.
- ▶ Tongs for lifting hot lids.
- ▶ Wire basket or cloth for scalding peaches or tomatoes.
- ▶ Shallow pie pan or cake pan in which to set your jar, spoon, and filler when filling the jars.

- ▶ Clean pot holders and jar lifter for handling jars.
- ▶ Clean dish cloth and towels to use in keeping utensils and work surface clean.
- ▶ Water-bath canner to process jars of fruit and tomatoes.
- ▶ Jars free of nicks and cracks—pints if your family is small, quarts for a family of five or more.
- ▶ Clean cloth to wipe the tops of jars.
- ▶ 2-piece metal lids and bands.
- ▶ Board, rack, or cloth to set the processed fruit on to cool.
- ▶ Check to see if you need sugar, salt, or vinegar.

You will learn these words in this project:

- ▶ **Process** – to heat jars of fruits or tomatoes in a water-bath canner. Jars of vegetables and other low-acid foods are heated in a pressure canner.
- ▶ **Processing Time** – the time needed to sterilize jars of food. Processing time is measured from the time the water comes to a rolling boil.
- ▶ **Boiling Water-Bath Method** – a method of processing jars of food in a special kettle deep enough to allow 2 inches of water over the top of the jars. Jars are placed on a rack in the kettle. If you do not have a water-bath canner, use a deep kettle with a rack and a good cover. Be sure jars do not touch each other.
- ▶ **Hot Pack** – jars are filled with food that has been precooked 3 to 5 minutes. Follow the directions with the recipes.
- ▶ **Raw or Cold Pack** – jars are filled with raw food and covered with boiling water, hot syrup, or juice. Jars are then processed in the regular way.
- ▶ **Headspace** – space left at top of jar when filling with food.

Safety Rules

- ▶ Take your time – don't hurry.
- ▶ Let an adult help you when you use hot syrup, hot water, or remove hot jars.
- ▶ Use thick pot holders.
- ▶ Use a good strong jar lifter.
- ▶ When opening a hot canner, tip cover away from your face and hands.
- ▶ Keep handles of pans toward back of range.
- ▶ Set hot jars on wood board or cloth to cool. Do not expose the jars to sudden draft. Hot jars could break and scald you.

Canning Instructions

To can food successfully and safely, you must follow certain steps. It is easy to learn how and why you must follow these steps.

All around us, in the air, water, and soil, there are tiny forms of life called “microorganisms.” Some of these are yeast, molds, and bacteria. Microorganisms cause foods to spoil. Fresh food that is not preserved by canning, freezing, or drying will change color, flavor, texture, and eventually spoil. Canning stops this natural process of spoilage by heating foods in containers that seal.

Canned foods are divided into two types – acid and low-acid. Acid foods include fruits, tomatoes, sauerkraut, pickles, and relishes.

Since few bacteria thrive in acid foods, sealed jars can be heated in a boiling water-bath canner at 212 °F for a recommended time.

Low-acid foods include vegetables and meats. Sealed jars must be heated in a pressure canner at 240 °F for a recommended time.

Check and Wash Jars

- ▶ Use pints and quarts, depending on size of your family.
- ▶ Hold jars to the light or lightly run finger around top to check for nicks and cracks.
- ▶ Wash jars in hot soapy water.
- ▶ Rinse and keep hot water in jars.
- ▶ Keep jars hot until filled with fruit or tomatoes.

Check Jar Lids

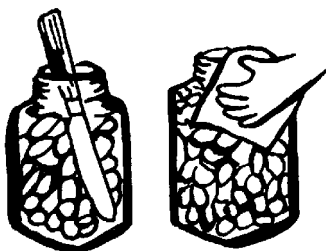
- ▶ Use only new lids.
- ▶ Rinse lids and follow the directions on the box for heating.

Sort and Wash Fruit

- ▶ Sort out all fruit that is bruised, decayed, or underripe.
- ▶ Wash fruit before you cut or peel. Lift fruit from the water. If you drain water from the fruit, dirt will remain on the fruit.
- ▶ Drain fruit in colander or sieve.

Pack Jars

- ▶ When you have enough for one jar, start packing fruit or tomatoes into it.
- ▶ Follow specific directions for the fruit or tomatoes.
- ▶ Run plastic spatula or plastic knife down between food and sides of jar to remove air bubbles.
- ▶ Wipe mouth of jar with clean cloth to remove all food particles.
- ▶ Take the clean lid from the hot water and place on top of the jar.
- ▶ Adjust the lid according to the manufacturer’s directions.



Process

- ▶ Have enough hot water in the canner to allow 2 inches above the top of jars. Start with canner about half full of water.
- ▶ The rack should hold jars at least ½ inch above bottom of canner.
- ▶ If fruit is packed raw, have water in the canner hot but not boiling.
- ▶ Lower jar gently into the water-bath canner.
- ▶ Fill your next jar.
- ▶ Work quickly.
- ▶ If needed, add boiling water to keep jars covered.
- ▶ Have space between jars so they do not touch each other.
- ▶ Most canners hold seven jars.
- ▶ Start timing when water comes to a rolling boil.
- ▶ Process the recommended length of time.
- ▶ Use a timer or alarm clock to remind you when to remove jars from canner.

Remove Jars

- ▶ When processing time is finished, remove jars from canner.
- ▶ Remove with jar lifter.
- ▶ Place jars on dry cloth, board, or rack to cool.
- ▶ Always cool jars top side up.
- ▶ Leave space between jars for air to cool the jar.
- ▶ Avoid drafts from open windows or doors.

Check the Seal

- ▶ Wait about 12 hours or overnight before checking seal. Jar must be cooled to room temperature.
- ▶ Remove screw band to re-use.
- ▶ Lids will be slightly snapped down in the center.
- ▶ Only jars with a perfect seal will keep.
- ▶ If your jars do not seal, look at the jar to determine the cause. Either refrigerate at once to eat or repack in another jar. Use a new lid and reprocess for the same length of time.

Label and Store

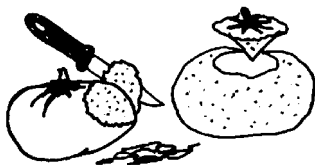
- ▶ Wipe jars with damp, clean cloth.
- ▶ Label jars.
- ▶ Store in cool, dry, dark place – 50 °F to 70 °F is ideal.

Directions for Canning Tomatoes

Boiling Water-Bath Method

1. Use only firm, ripe tomatoes. One bad spot can spoil them all. Wash tomatoes.
2. Dip in boiling water for about ½ minute or until peels loosen.
3. Dip quickly into cold water, peel, and remove core from stem end.
4. Quarter tomatoes. Put in a large saucepan and add enough water to cover tomatoes. Place on burner set on medium heat; bring to a boil, stirring to keep tomatoes from sticking. Boil gently for 5 minutes.
5. Pack boiling hot tomatoes into jars, within ½ inch of the top; add ½ teaspoon salt to pints; 1 teaspoon to quarts.

6. Tomatoes must be acidified by adding citric acid to each jar canned. Add ¼ teaspoon for pints and ½ teaspoon for quarts.
7. Work out air bubbles with a plastic knife blade or plastic spatula.
8. Wipe the jar rim with a clean, damp cloth. One speck of food or a seed can prevent a perfect seal. Air can then get in and cause the tomatoes to spoil. Adjust lids.
9. Put jars on a rack in a kettle of hot water. Leave space between jars. Have water 2 inches above tops. Put lid on canner, and start counting time when water boils. Process pints 40 minutes and quarts 45 minutes.
10. Remove jars from water bath. Space jars apart, top-side up, on a board, dry cloth, or rack. To prevent hot jars from cracking, keep them out of drafts and away from open doors or windows.



Canning Tomato Juice

1. Select firm, ripe tomatoes.
2. Wash, remove core, and cut tomatoes in quarters.
3. Heat only to simmering in covered kettle until juice flows freely.
4. Strain quickly by placing tomatoes through a food mill or sieve.
5. Reheat tomato juice to boiling point and pour into clean, hot jars, leaving ½-inch headspace.
6. Add ¼ teaspoon citric acid to each pint and ½ teaspoon to each quart. You may also add salt for flavor – ½ teaspoon per pint or 1 teaspoon per quart.
7. Wipe top of jar with clean, damp cloth.
8. Adjust lids.
9. Process in boiling water bath, 35 minutes for pints, 40 minutes for quarts.
10. Can tomato juice as quickly as possible to avoid loss of vitamin C.

Directions for Canning Berries and Fruits

1. Sort, using only good berries.
2. Wash berries gently. Lift out of the water.
3. Drain in colander or sieve.
4. Make medium syrup (see *How to Make Syrup* section).
5. Pack berries in hot jar. Gently shake berries down as you fill the jar.
6. Cover with boiling syrup to within ½ inch of top of jar.
7. Remove air bubbles gently with a plastic knife or thin rubber spatula.
8. Wipe top of jar with clean, damp cloth.
9. Adjust lids.
10. Process the recommended length of time.
11. Remove jars and place on dry cloth to cool.
12. Cool 12 hours or overnight and then check seal.

Canning Applesauce

1. Wash cooking apples well. Remove core, using a sharp paring knife. Cut into small pieces.
2. Dip the sliced apples into about 1 gallon of water that contains 2 tablespoons salt and 2 tablespoons vinegar.
3. Drain apples and place them in a saucepan. Add just enough water to cover the bottom of the pan. Stir often with a wooden spoon to keep the apples from sticking. Cook until tender.
4. Press the apples through a sieve or food mill.
5. Sweeten apples to taste (about ¼ cup sugar for every four medium apples). Add cinnamon and other spices, if desired.
6. Pour the strained applesauce into a saucepan. Heat to a boil. Stir constantly.
7. Pour the hot applesauce into clean canning jars. Leave ½ inch headspace.
8. Wipe the rim of each jar with a clean, damp cloth. Using tongs, place the lids on jars. Screw on metal rings according to package directions.
9. Place the jars in boiling water-bath canner. Be sure there are 2 inches of water above the tops of the jars. Place the lid on the canner. When water returns to a boil, start counting the time. Process pints 15 minutes, quarts 20 minutes.
10. When processing time is up, lift jars out of the canner, using a jar lifter. Place jars on wirerack or folded towel 2 to 3 inches apart. Cool at least 12 hours.
11. Check to see if all jars are sealed. If they are, remove metal rings. Wipe jars off with clean cloth. Label each jar.
12. Store the canned applesauce in a dark, dry, cool place.

Canning Peaches

1. Select peaches that are ripe but not soft.
2. Wash peaches.
3. Heat large pan of water to boiling.
4. Place peaches in wire basket, lower peaches into boiling water for ½ minute or until the peels slip off easily, and cool by dipping peaches into pan of cold water.
5. Remove peel, cut into halves, and remove pits.
6. Slice directly into jar or have large pan of salt and vinegar water on which to place peeled peaches (2 tablespoons salt and 2 tablespoons vinegar to 1 gallon cold water).
7. Place fruit in colander and run under cold water to rinse off salt and vinegar.
8. Pack in jars as quickly as possible.
9. Make medium syrup (see *How to Make Syrup* section).

Raw or Cold Pack

1. Pack fruit in hot jar using fork and spoon.
2. Have round side of fruit facing the outside of jar.
3. Cover with boiling syrup to within ½ inch of the top of jar.
4. Remove air bubbles with plastic knife or spatula.
5. Wipe top of jar.
6. Adjust lids.
7. Process pints for 25 minutes and quarts for 30 minutes in boiling water bath.
8. Remove from canner and cool.
9. Check seal next day.

Hot Pack

1. Simmer peeled peach halves in medium syrup 3 to 5 minutes.
2. Pack fruit in hot jars. Add syrup in which peaches are cooked.
3. Remove air bubbles with a plastic knife or plastic spatula.
4. Wipe top of jar with a clean, damp cloth.
5. Adjust lids.
6. Process pints for 20 minutes and quarts for 25 minutes in a boiling water bath.
7. Remove from canner and cool.
8. Check seal next day.

Directions for Canning Other Fruit

Follow these instructions for processing other fruits in the boiling water bath.

Fruit	Processing Time
Apples (hot pack)	Pints: 20 minutes Quarts: 20 minutes
Applesauce (hot pack)	Pints: 15 minutes Quarts: 20 minutes
Cherries (cold pack)	Pints: 25 minutes Quarts: 25 minutes
Cherries (hot pack)	Pints: 15 minutes Quarts: 20 minutes
Pears (cold pack)	Pints: 25 minutes Quarts: 30 minutes
Pears (hot pack)	Pints: 20 minutes Quarts: 25 minutes
Plums (cold pack)	Pints: 20 minutes Quarts: 25 minutes
Plums (hot pack)	Pints: 20 minutes Quarts: 25 minutes

How to Make Syrup

Type	Sugar	Water or Juice
Light	1 cup	4 cups
Medium	1¾ cup	4 cups
Heavy	2¾ cups	4 cups

1. Mix sugar and water, and slowly bring to a boil.
2. Boil 5 minutes.

Types of Syrup

Light – very sweet fruit

Medium – sweet apples, sweet cherries, berries, and grapes

Heavy – tart apples, apricots, sour cherries, gooseberries, nectarines, peaches, pears, and plums

Canning Fruit Juices

1. Sort, wash, and crush fruit.
2. Add 1 cup water to 8 cups crushed fruit.
3. Simmer (boil very gently) until juices flow freely.
4. Strain through several thicknesses of clean cheesecloth.
5. Add ½ cup sugar to 8 cups juice.
6. Reheat just to simmering.
7. Fill hot jars to within ¼ inch of top with hot juice.
8. Wipe tops and put on lids.
9. Process pints or quarts 5 minutes in water bath canner.
10. Remove jars from canner and cool.
11. Check seal next day.

Exhibits

As you select your jars to exhibit at the fair, here are some questions to ask yourself:

- ▶ Is the fruit well ripened and free from defects?
- ▶ Are the pieces of fruit or berries all about the same size?
- ▶ Is the fruit neatly packed in the jar?
- ▶ Does the liquid cover the fruit?
- ▶ Is the syrup or liquid clear and without bubbles?
- ▶ Are the jars full but not crowded?
- ▶ Are the jars standard canning jars?
- ▶ Are the jars clean?
- ▶ Is the seal tight?
- ▶ Do you have the correct labels and are the labels filled out correctly?

Visual Presentations

You may want to share the information you have learned with others. Below are some topics to consider for visual presentations:

- ▶ Canning Equipment for Fruits and Tomatoes
- ▶ Selection of Fruits and Tomatoes for Canning
- ▶ Preventing Cut Fruit from Browning
- ▶ Steps in Canning Tomatoes
- ▶ Safety Tips on Canning Tomatoes
- ▶ Selecting Jars and Lids for Canning
- ▶ How To Fill and Seal Jars

Score for Canned Food

Category	Description	Points	Score
Color	Food is similar to natural color of raw food.	20	
Condition	Food is free of blemishes and/or insect bites and cooked to the right state (not over- or under-cooked). Fruits are firm, yet evenly ripe.	30	
Clearness of liquid or syrup	Liquid or syrup is clear, free of dregs and foreign material. Syrup is bright.	20	
Uniformity	All pieces of food in container are uniform in color, shape, and size.	20	
Pack	Food is packed to ½ inch of top of container and the syrup or liquid covers the food.	10	
		Total possible score of 100	

4-H Project Record for Canning Fruits and Tomatoes–Unit 3

Name _____ Date _____

Name of 4-H club or project group _____

Age _____ Grade in school _____

1. What are the most important things you learned in this project?

2. How many food preservation project group meetings did you attend? _____

3. List any assistance you have given to other 4-H'ers with their food preservation projects.

Number helped	Kind of assistance given

4. List exhibits made in this project.

What was exhibited	No. of jars (*indicate level)

*Levels: Local (L), County (C), District (D), State (S)

5. List talks and visual presentations given which relate to this project. (Include radio and TV appearances.)

Topic	Number in audience	Number of times on each level*

*Levels: Local (L), County (C), District (D), State (S)

6. List awards and recognition received in this project.

Type of award	Indicate level*

* Levels: Local (L), County, (C), District (D), State (S)

7. Fruits and tomatoes canned:

Date	Name of vegetable	No. of jars	Size of jars

8. List other foods you preserved this year.

Date	Food	No. and size of jars or packages	Method of preparation*

*Methods of preparation: pressure canning or boiling-water bath

9. Write a story about what you did and learned in your food preservation project.

Leader's Signature

Extension Agent's Signature

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