



With the increased number of home gardens, more people are interested in freezing or canning surplus fruits and vegetables.

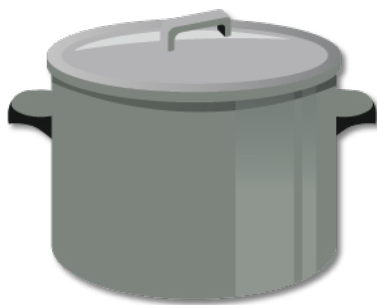
Freezing is one of the simplest and best ways to put up most fruits and vegetables. Canning can be an economical way to preserve food at home and provides safe, nutritious food if the products are selected and processed properly. If you already have the equipment, canning may be a less expensive way of storing food than freezing but usually requires more time for correct and safe processing.

Steps for Safe Home Canning

For safe and successful home canning, use the proper equipment and only recommended, tested methods, such as those found in LSU AgCenter, U.S. Department of Agriculture and the National Center for Home Food Preservation publications.

1. Determine the method of canning and equipment needed.

- a) **Boiling water canners** (also called boiling water bath canners or water bath canners) are used for foods high in natural acids (pH less than or equal to 4.6) including fruits, most tomatoes, pickles, relishes, jams and preserves.



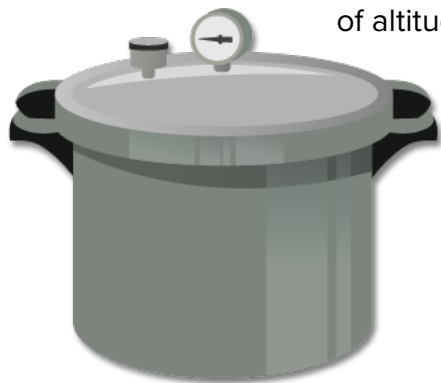
Boiling water canners are made of aluminum, porcelain-covered steel, stainless steel or enamel-covered steel. They have removable, perforated racks and fitted lids. The boiling water canner may be purchased, or it may be improvised from a large metal container or with a tightly fitting cover and an insertable rack to keep the jars from touching the bottom. The water bath canner must be deep enough so the water can cover the jars by 1

or more inches and still have ample room for boiling (2 to 4 inches above jar tops). NCHFP does not recommend improvised canners unless they meet all specifications, because most makeshift containers cannot maintain a stable boil or proper jar clearance. Only pots meeting the exact criteria for USDA boiling water canners should be used.

Note: Although tomatoes usually are considered an acid food, some have pH values slightly above 4.6. Figs also have pH values slightly above 4.6. Therefore, if they are to be canned as acid foods, they must be acidified to a pH of 4.6 or lower with lemon juice or citric acid. Please refer to the acidification steps outlined in the research-based recipe.

- b) **Pressure canners** are the only safe method of processing all other common vegetables, meat, fish and poultry (all with pH greater than 4.6). They reach an interior temperature of 240 F, which is much higher than the

temperature of boiling water which is 212 F. They reach this temperature when pressure builds up to 10.5 pounds at 0 to 1,000 feet of altitude. This higher



temperature kills microorganisms when applied for a sufficient period of time.

Pressure itself does not destroy microorganisms, but it is necessary to produce the high temperature that kills the botulism-causing bacterium *botulinum*. The pounds of pressure number was rounded to 11 pounds in dial gauge canners to avoid the confusion of half-pound recommendations.

Weighted gauge canners are already designed to operate at 10.5 pounds as a built-in safety factor when they are set at 10 pounds. To reach the temperature required to kill microorganisms, it's imperative to follow the manufacturer's instructions precisely and to use reliable sources for processing times.

The recommended 10.5 pounds was simplified to 11 pounds to avoid confusion due to lack of half increments on the pressure canner. This change ensures the canner reaches the internal temperature of 240 F that kills microorganisms.

Pressure canners come in styles deep enough for one layer of quart-size or smaller jars or deep enough for two layers of pint-size or smaller jars.

The USDA recommends that a canner be large enough to hold at least four 1-quart jars to be considered a pressure canner for its published processes. Any smaller pressure cookers or multicookers do not qualify and cannot be safely used with NCHFP or USDA-approved recipes.

Electric multicookers, including models marketed with a canning or pressure canning button, are not approved because they cannot guarantee USDA required temperatures. This is a common question from participants.

NCHFP approves steam canners for high acid foods after the boiling water canning section. The organization provides the following guidance:

"Steam canners can also be used for canning high acid foods such as fruits, properly acidified tomatoes and pickles when used exactly according to research tested instructions. Steam canners must be used with process times of 45 minutes or less, must be fully vented and jars must be preheated. This method is approved for use with high-acid foods only. This method cannot be used for low acid vegetables, meats, poultry, or seafood."

2. Use only high-quality produce. Fruits and vegetables that are not mature enough lack flavor. On the other hand, overripe fruits and tomatoes may lack enough natural acid to be safe when canned in the water bath canner. Be sure to wash fruit thoroughly.
3. For best results, use only jars and jar lids made especially for home canning. Don't use commercial jars in pressure canners as excessive breakage is a problem. Commercial jars with mouths that cannot be sealed with two-piece canning lids are not recommended for use in canning any food at home. Before using the canning jars, check them closely for signs of cracks or chips.

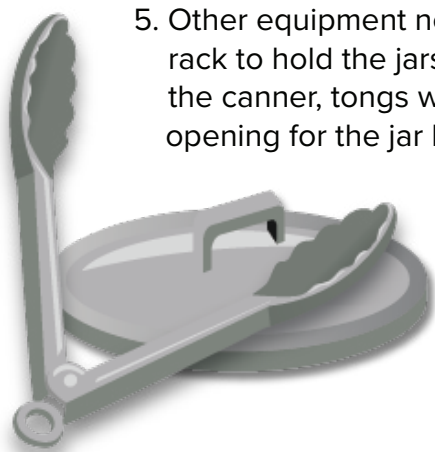
If jars will be processed in a boiling water bath for less than 10 minutes, sterilize them by placing them in boiling water for 10 minutes before filling them.

After the jars are sterilized, keep them hot by leaving them in the hot water until it's time to

fill them. They need to be washed in hot, soapy water, then rinsed and kept hot until filled and placed in the canner.

Jars processed in a boiling water bath for 10 minutes or more, or in a pressure canner, will be sterilized during processing and do not need prior sterilization. Follow the recommended procedures for filling the jars. To remove any trapped air bubbles, slide a nonmetallic spatula or scraper between the food and the sides of the jar. Add more liquid if necessary to obtain the proper headspace. Wipe the jar rim with a clean, damp cloth to remove any food particles. Tighten the band until it is fingertip tight.

4. Use sealing lids only once, but reuse the screw bands as long as they are in good condition. Follow the manufacturer's instructions for treating the lids. Some need to be covered with hot water, and others need to be boiled for a minute or more.



5. Other equipment needed includes a wire rack to hold the jars off the bottom of the canner, tongs with a large enough opening for the jar lids, oven mitts, cooling racks, a ladle, bubble releaser, jar grabber, towels, a rack for cooling and a timer.

6. Follow the time and temperature recommendations for specific foods as listed in the instructions.

7. After processing the foods, wait 12 to 24 hours to test for a good seal with one of the following ways:

- Press the center of the lid. If the dome is down and doesn't spring back, the jar is sealed.
- Tap the lid with the bottom of a teaspoon. If it makes a dull sound, it is not sealed. If it makes a ringing, high-pitched sound, it is sealed.
- Hold the jar at eye level and look across the lid. The lid is sealed if it is curved down slightly in the center. The lid should not be flat or bulging.

Remove the rings, and wash, dry and store them for reuse. Store home-canned foods in a cool, dry place, preferably somewhere between 50 F and 70 F.

8. Never use canned foods that show signs of spoilage. If spoilage or improper processing is suspected, boil all home-canned, low-acid foods for at least 10 minutes before tasting.
9. Consider taking the Mastering Home Food Preservation course through the LSU AgCenter. For more information on this course or to register, contact Shannon Coleman at Scoleman@agcenter.lsu.edu.
10. Contact your parish LSU AgCenter office for additional information. To find your agent, visit www.LSUAgCenter.com/findyouragent

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