

Boiling water canning is a method of preserving food that involves heating filled jars of food to a specific temperature for a specific time. This heating is known as processing and is essential for the safety of all home canned foods. Processing destroys microorganisms that enter jars upon filling and allows air to be vented from jars to create an airtight vacuum seal as the product cools.

Before beginning, review the following information and assemble all equipment and ingredients.

1. Jams and jellies must be put into **pint** (2 cup/500 mL) or **½ pint** (1 cup/250 mL) glass canning jars with two-piece canning lids. Larger jars would require longer processing times, possibly causing a loss of flavour, colour and texture. Processing times for larger jars are not available.
2. Visually inspect canning jars for nicks, cracks, uneven rims or sharp edges that may prevent sealing or cause jars to break. Screw bands may be reused. Check to ensure screw bands show no rust, are in good condition and fit properly on jars. Discard any jars and screw bands that are not in good condition. Use new metal lids each time to ensure a vacuum seal. Wash jars, screw bands and lids in hot soapy water. Rinse well.
3. Sterilize jars just before use. Place jars upright into rack in a boiling water canner. Any deep pot with a lid, such as a stock pot, that allows for at least 1 inch (2.5 cm) of water above the jars may be used as a boiling water canner. A rack, such as a cooling rack, should be used to elevate jars off the bottom of the canner. Cover jars with room temperature water. Cover canner with lid. Place over high heat and bring to a boil. Boil rapidly for 15 minutes at altitudes of 1001 – 3000 feet (305 – 914 meters) and for 20 minutes at altitudes of 3001 – 6000 feet (915 – 1829 meters). Reduce heat to low. Leave water-filled jars in canner until ready to fill with jam or jelly.
4. Prepare metal lids according to manufacturer's instructions; leave in hot water until ready to use. Screw bands do not need to be sterilized.
5. Prepare jam or jelly according to recipe. Use a Dutch oven or other wide pot. Choose freshly picked fruit in good shape. Do not use fruit that is over-ripe, damaged or that was picked up from the ground. Prepare only one recipe at a time. Unsweetened frozen fruit or juice may be used to make jam or jelly, if it has been prepared properly for the recipe. Refer to each recipe for preparation method.

Some recipes use commercially-prepared pectin products. These recipes must be followed exactly. Do not interchange powdered and liquid pectin or use a type of pectin not called for in the recipe. Check for recipes on package inserts and on product websites. To make a jam or jelly with less sugar, a **light** or **no sugar needed** pectin product must be used. They have their own recipes and must be followed exactly. Decreasing sugar may result in the jam or jelly not setting.

Some recipes do not use commercial pectin. These recipes use fruit with enough natural pectin or require long boiling times. Decreasing sugar may result in the jam or jelly not setting.

6. When filling jars, drain one jar at a time and fill immediately with prepared jam or jelly, leaving 1/4 inch (6 mm) headspace. Headspace is the space at the top of the jar between the underside of the lid and the top of the food or liquid.
7. Remove air bubbles by sliding a nonmetallic utensil, such as a narrow rubber spatula or plastic knife, between jar and jam or jelly. After removing air bubbles, add additional jam or jelly, if required, to maintain 1/4 inch (6 mm) headspace. Wipe jar rim thoroughly with a clean damp cloth.

8. Center prepared lid on jar. Apply screw band just until fingertip tight. **Do not** over tighten. Fingertip tight allows some give between the lid and jar and allows air to escape during processing. This creates a vacuum seal as the product cools.
9. Place filled jar into the canner or raised canner rack. Repeat process with remaining jars. When all jars are filled or canner is full, lower rack into hot water. Be sure jars are covered by at least 1 inch (2.5 cm) of water; add boiling water, if required. Place lid on canner and turn heat to high.
10. When water returns to a full rolling boil, reduce heat to maintain a gentle and steady boil and begin counting processing time. **In Alberta, all jams and jellies are processed for 10 minutes.** Turn off heat and remove canner lid. Allow boil to subside, then lift jars without tilting and place them upright on a rack, dry towel or cutting board to cool in a draft-free place. **Do not** retighten screw bands or turn jars upside down as seals may be broken. Allow jars to cool undisturbed for 24 hours.
11. After cooling, check jars for vacuum seal by pressing on center of each lid. Sealed lids curve downward and do not move. Refrigerate any unsealed jars and use within 4 weeks, or freeze or reprocess within 24 hours. To freeze, loosen jar lids to allow for expansion and wrap jars to protect from breaking in freezer.
12. Reprocessing is safe but not recommended as it gives a significantly overcooked product. If reprocessing is desired, empty jars, reserving jam or jelly. **Repeat all steps.** If a sealed jar becomes unsealed after some time in storage, this indicates spoilage from microbial growth. Discard the contents of the jar.
13. To store sealed jars, wipe with a clean damp cloth. Remove, wash and dry screw bands. Store separately or replace loosely on jars, as desired. Label jars and store in a cool dark place. As a guideline, use home canned foods within one year. Lower-sugar or no-sugar jams and jellies usually have a shorter refrigerator life than full-sugar products.
14. Most jams and jellies can be stored in the freezer instead of processing in a boiling water canner. Expect some changes, such as weeping, when the product is thawed. To freeze, pour into a clean, food-safe freezer container, leaving ½ inch (1.25 cm) headspace.

Methods and procedures outlined in this publication are recognized as safe. Many factors over which we have no control may cause spoilage. ATCO Blue Flame Kitchen assumes no responsibility for any failures or spoilage that may occur.

ATCO Blue Flame Kitchen information and recommendations contained in this publication have been researched and are in accordance with current guidelines published by Bernardin Ltd. and the Cooperative Extension Service, University of Georgia. We acknowledge their assistance. The Bernardin Ltd. "Guide to Home Preserving" is available at retail outlets.