CANNING 101
Simple steps for preserving food at home

Huron County Health Unit
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What is canning?

Canning is a process in which sugar, salt, and acid are used to preserve food. Glass canning jars are filled and closed with self-sealing canning lids. Heat is then applied to remove air and create a seal. The combination of precisely measured ingredients, proper equipment, and heat stops food from spoiling.

Canning is a great way to enjoy seasonal, local, or homegrown foods year-round and save money. If you have never canned food before, it’s a good idea to take a home-canning course. You can also get safe home-canning information and tested recipes online or at your local library. Use only current information and recipes.

Before you start canning, make sure you understand how to do it safely and that you have the following equipment:

- Proper glass canning jars (not reused jars from other products)
- New self-sealing metal lids
- Screw bands
- Water-bath canner (boiling water canner) or pressure canner
SAFE CANNING

Learn how to can foods safely to protect yourself, your family, and others. If food is not canned properly, it can contain germs (bacteria, yeasts, moulds) that could make you very sick or kill you.

There are many safe handling practices involved in home canning. It’s important to follow current and tested practices to ensure your canned food is safe to eat.

Botulism: rare but deadly

Botulism is food poisoning caused by a germ called Clostridium botulinum. The germ is found in soil. It can survive, grow, and produce toxin in a sealed jar of food. Improperly canned foods create the perfect place for C. botulinum to grow.

C. botulinum will grow on foods that are moist, with low-acidity (pH > 4.6), and in the temperature range between 4°C and 50 °C with less than two percent oxygen. If the correct home-canning methods are not used, your product will provide a home for C. botulinum to produce its toxin.

The botulinum toxin can affect your nerves, paralyze you, and kill you. Even taking a small taste of food containing this toxin can be deadly. Food-borne botulism is a medical emergency. You need to get diagnosed and treated immediately.

Symptoms usually start within 12 to 36 hours after eating or drinking food that contains the toxin. Get medical care immediately if you have these symptoms:

- Nausea
- Diarrhea
- Fatigue
- Weakness and dizziness
- Blurred vision
- Difficulty speaking and swallowing
- Paralysis (arms, legs, trunk, breathing muscles)
CANNING METHOD

Which method do I use: water-bath canning or pressure canning?

The canning method you use is based on whether the food has high-acid or low-acid content.

If the food you are canning is high in acid, use the water-bath method. If the food is low in acid, use the pressure canner method (see below).

### High-acid foods

- Fruit (whole, sauce, chutney, pie filling)
- Jam, jelly, marmalade, fruit butter
- Pickles, sauerkraut
- Salsa
- Tomatoes (add acid such as lemon juice, vinegar, or citric or ascorbic acid powder as per tested recipes)

All home preserves (except freezer spreads) need to be canned.

**Canning method**

Use a water-bath canner.

### Low-acid foods

- Most fresh vegetables except tomatoes
- Meat, seafood, poultry, milk products
- Soup
- Spaghetti sauce with meat, vegetables, tomatoes*

* Mixtures of low and high-acid foods must be processed as low-acid foods.

**Canning method**

Use a pressure canner. This is not the same as a pressure cooker.

A pressure canner uses steam under high pressure to reach high temperatures. (A water-bath canner can’t reach these temperatures). It usually has a locking lid, jar rack, pressure gauge, and steam vent. Check the pressure gauge every year.

Always follow the instruction manual. If you don’t have a manual, contact the manufacturer.

This method is best for intermediate and advanced canners.
Cleaning and sanitizing

• Wash your hands for at least 20 seconds with soap and warm water.

• Wash raw fruits and vegetables thoroughly with clean, running water before you prepare them. The skins and peels can be contaminated with bacteria, viruses, and parasites.

• Make a simple home sanitizer by mixing one teaspoon of bleach with one litre of water.

• Clean and sanitize all work surfaces, utensils, and equipment. Keep them clean during all stages of the canning process to avoid cross-contamination.

Equipment

• Use the proper jars for home canning. Inspect jars and threaded area for nicks, cracks, uneven rims, or sharp edges that may prevent sealing or cause breakage. Do not reuse commercial jars from other products.

• Only use new self-sealing lids and make sure the sealing compound is not damaged before you use them.

• Do not reuse old lids. Although the sealing compound of used lids may appear to be in good condition, the seal made with reused lids is inadequate.

• Screw bands can be reused if not rusted or dented.

Recipes

• Use only current, tested, home-canning recipes (page 12).

• Do not make any alterations or substitutions to a recipe. This includes changes to ingredients and jar size, as these could make your products unsafe.

  o Substitutions can affect acidity level and the time the canned food needs to be in the water-bath or pressure canner.

  o If the recipe uses pectin, use only the type called for. They are not interchangeable. Also, check expiry dates.

• Use the correct method for heat processing. The acidity of the food determines the method you use (page 3).

  o Never change the recommended processing times or pressure levels except to accommodate for changes in altitude.

• Leave the recommended headspace at the top of the jar according to the recipe.
Processing

- Check that adequate cooking or heating temperatures are maintained.
- If pressure canning, make sure the steam pressure in the canner is maintained.

Storing

- Label and date all home-canned foods before you store them.
- Store them in a cool, dark, dry place. For best quality, use within one year from the date they were made.

Adjust for altitude

Altitude affects your canning recipe. Recipes are written for altitudes of up to 305 m (1000 ft) above sea level. Some areas of Huron County, especially in the northeast, are at altitudes of up to 380 m (1250 ft).

Water-Bath Canning

<table>
<thead>
<tr>
<th>Altitude (feet)</th>
<th>Increase Processing Time</th>
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<tbody>
<tr>
<td>1000 - 3000</td>
<td>5 minutes</td>
</tr>
<tr>
<td>3001 - 6000</td>
<td>10 minutes</td>
</tr>
<tr>
<td>6001 - 8000</td>
<td>15 minutes</td>
</tr>
<tr>
<td>8001 - 10000</td>
<td>20 minutes</td>
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Pressure Canning

<table>
<thead>
<tr>
<th>Altitude (feet)</th>
<th>Pressure Setting</th>
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<tbody>
<tr>
<td></td>
<td>Weighted Gauge</td>
</tr>
<tr>
<td>0 - 1000</td>
<td>10</td>
</tr>
<tr>
<td>1001 - 2000</td>
<td>15</td>
</tr>
<tr>
<td>2001 - 4000</td>
<td>15</td>
</tr>
<tr>
<td>4001 - 6000</td>
<td>15</td>
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<tr>
<td>6001 - 8000</td>
<td>15</td>
</tr>
<tr>
<td>8001 - 10000</td>
<td>15</td>
</tr>
</tbody>
</table>
1. Prepare your gear

Gather these items:

- Water-bath canner with canning rack
- Canning jars and self-sealing lids (page 4)
- Common kitchen utensils:
  - Sauce pans
  - Measuring cups, spoons
  - Kitchen knives
  - Large wooden spoon
  - Dish cloths and paper towel
  - Cutting board
  - Ladle
  - Non-metallic spatula, e.g., narrow rubber spatula
  - Oven mitts
  - Tongs
  - Tray, e.g., cookie sheet
  - A canning funnel, jar tongs, magnetic wand, and space gauge can also make canning easier
- Fresh produce and other ingredients specific to your recipe
- Markers and labels

**Fill canner** with enough water to cover jars with at least 2.5 cm (1 in.) of water. Place lid on canner. Heat to a boil. (It takes longer than you may think).

**TIP** Also fill your kettle and bring to a boil. This can be helpful if you need more water in your canner.
Wash jars, lids, and screw bands in hot, soapy water. Rinse well.

Place clean jars on rack in water-bath canner. Ensure jars are covered. Heat to boil.

Follow instructions for the lids you've purchased. For snap lids, set screw bands aside, heat snap lid sealing discs in hot water, not boiling (180°F/82°C). You want to soften the rubber compound, not melt it.

Keep jars hot until ready to use in order to minimize risk of breakage when filling with hot food. Also keep sealing discs hot until ready to use.

**TIP** Prepare a few extra jars, in case you need them. If you don't have enough jars, put product into an air-tight container and refrigerate. Use within two weeks.

2. Follow your recipe

Read the recipe directions carefully. This is not a time to experiment. Even a slight change can throw off the recipe and make your products unsafe. Use only current, tested recipes.

Prepare recipe.

Fill each jar. Follow canning recipe for correct fill-level. Each jar needs space between the food and the rim (known as headspace) to allow the food to expand. Headspace is measured from the top of the jar rim down to the top of the food.

Remove air bubbles by sliding a small non-metallic narrow spatula inside the jar, gently pressing food against the opposite side of the jar.

Wipe the rims and threads of the jars. Centre new lid on the jar, then twist the screwband on with your fingertips (not your whole hand) just until you feel resistance. This is also called “fingertip tight”. Ensure bands are not over-tight. Air inside the jars must be able to escape during canning.
3. Preserve your food

**Place filled jars** on canning rack, using canning tongs. Lower into canner and ensure jars are covered by 2.5 cm (1 in.) of water. Place lid on canner and heat to a steady boil. Process jars for the time specified in recipe (start timer when water reaches a rolling boil). See altitude, page 5.

**Turn off heat** and let jars stand in water for 5 minutes. Using canning tongs, carefully remove jars from water without tilting and cool upright on wire rack or towel on countertop, undisturbed, for 24 hours.

After removing jars from the canning rack, do not re-tighten or over-tighten bands that may have come loose during processing. This would interfere with the sealing process.

**Press** on centre of **cooled lid**. If the jar is sealed, the lid will **not** flex up or down. If the lid flexes, the jar did not seal properly. You may refrigerate it for immediate use.

**Store** sealed and labelled jars in a cool, dark, and dry place for up to one year. Jars can be stored without bands, or you can clean underside of bands to ensure no moisture is trapped during storage.

**Congratulations!** You just canned. Enjoy your home preserves.
1. Prepare your gear

**Gather these items:**

- Pressure canner with canning rack
- Canning jars and self-sealing lids (page 4)
- Common kitchen utensils:
  - Sauce pans
  - Measuring cups, spoons
  - Kitchen knives
  - Large wooden spoon
  - Dish cloths and paper towel
  - Cutting board
  - Ladle
  - Non-metallic spatula, e.g., narrow rubber spatula
  - Oven mitts
  - Tongs
  - Tray, e.g., cookie sheet
  - A canning funnel, jar tongs, magnetic wand, and space gauge can also make canning easier
- Fresh produce and other ingredients specific to your recipe
- Markers and labels

**Wash jars, lids, and screw bands** in hot, soapy water. Rinse well.

Place clean jars on rack in pressure canner, fitted with rack and lid. Heat to boil.

Follow instructions for the lids you’ve purchased. For snap lids, set screw bands aside, heat snap lid sealing discs in hot water, not boiling (180°F/82°C). You want to soften the rubber compound, not melt it.
**TIP** Prepare a few extra jars, in case you need them. If you don’t have enough jars, put product into an air-tight container and refrigerate. Use within two weeks.

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**2. Follow your recipe**

**Read the recipe directions carefully.** This is not a time to experiment. Even a slight change can throw off the recipe and make your products unsafe. Use only current, tested recipes.

**Prepare recipe.**

**Fill each jar.** Follow canning recipe for correct fill-level. Each jar needs space between the food and the rim (known as headspace) to allow the food to expand. Headspace is measured from the top of the jar rim down to the top of the food.

**Remove air bubbles** by sliding a small non-metallic spatula inside the jar, gently pressing food against the opposite side of the jar.

**Wipe** the rims and threads of the jars. Centre new lid on the jar, then twist the screwband on with your fingertips (not your whole hand) just until you feel resistance. This is also called “fingertip tight”. Make sure bands are not over-tight. Air inside the jars must be able to escape during canning.
3. Preserve your food

Follow the manual that accompanies your pressure canner.

**Place filled jars** on canning rack. Canner should contain 5 to 7.5 cm (2 to 3 in.) of simmering water. Lock canner lid into place. Turn heat to medium-high and open vent. Bring water to a boil and leave vent open until a steady stream of steam has escaped from the vent for 10 minutes.

**Put weight** on vent and adjust heat to achieve correct pressure. See altitude, page 5. Process jars for the time specified in recipe, keeping pressure steady.

**Turn off heat** and let jars stand in canner until pressure is zero, then wait another 30 minutes before removing lid. Remove jars from water and cool upright on wire rack or towel on countertop, undisturbed, for 12 hours.

After removing jars from the canning rack, do not re-tighten or over-tighten bands that may have come loose during processing, so as not to interfere with the sealing process.

**Press** on centre of cooled lid. If the jar is sealed, the lid will not flex up or down. If the lid flexes, the jar did not seal properly. You may refrigerate it for immediate use.

**Store** sealed and labelled jars in a cool, dark, and dry place for up to one year. Jars can be stored without bands, or you can clean underside of bands to ensure no moisture is trapped during storage.

**Congratulations!** You just canned. Enjoy your home preserves.

➤ **CAUTION:**

If the food bubbles after cooling, throw it out! This is a sign of contamination.
Resources

**Food safety:**
Canadian Partnership for Consumer Food Safety Education
www.befoodsafe.ca

Health Canada—Safe Food Handling

Centers for Disease Control and Prevention
www.cdc.gov/Features/HomeCanning/index.html

University of Nebraska-Lincoln
http://food.unl.edu/preservation

**Tested recipes:**
Canadian Living magazine
www.canadianliving.com (search “canning”)

Kraft
www.kraft.com (search “Certo”) or 1.800.268.6083

Bernardin
www.berardin.ca or 1.888.430.4231

Chatelaine magazine
www.chatelaine.com (search “canning”)

**Disclaimer:** This resource is intended for home canning for personal use. If you intend to sell your canning, you need to meet additional standards. In Huron County, call the Environmental Health team at 519.482.3416.

Adapted with permission from Bernardin.