Safely Canning at Home

This fact sheet is provided to assist you with compliance of the Food Premise Regulation 493/17 pursuant to the Health Protection and Promotion Act.

What is home canning?

Home canning used to be a term for canning done at home but is now commonly used for small-scale canning operations that produce canned products for sale at stores, farmers' markets, and food establishments.

Home canning, also known as home bottling, is a method of preserving food that prevents spoiling. It uses heat and acid to help preserve food and keep it safe for us to eat. Spoiling can result from exposure to air, microorganisms, and moisture losses. Microorganisms may include bacteria, yeasts and molds which can produce a sour smell or cause food poisoning. Proper home canning will create a tight seal on the jars to keep air and microorganisms out and moisture and freshness locked inside.

Popular choices include tomatoes, jams, jellies, sauces, fruits, chutneys, relishes, pickles, and vegetables. You can preserve all types of foods but the canning equipment and method that you use will depend on what food you are preserving.

Keeping your food safe

If you are considering the use of home canning to process food for your own consumption or for sale or distribution to consumers, there are a number of things you need to know to ensure that your food products are safe to consume.

Home canning is very safe when done properly. However, improper home canning can increase the risk of botulism. Botulism is a serious foodborne illness that is caused by the Clostridium botulinum bacteria. The bacteria like to grow in environments that are low in acid and oxygen, and high in moisture. The bacteria and toxin that cause botulism are invisible to the naked eye and do not change the colour, odour or taste of food.

There have been many outbreaks of botulism associated with home-canned food products, especially low-acid foods like vegetables and meats, which may occur due to improper processing methods and insufficient addition of acid. As a result, spores of Clostridium botulinum bacteria germinate and produce a harmful neurotoxin.

It is very important to use a validated recipe from a reputable source, such as recipes from The National Centre for Home Food Preservation, Ball Corporation, or Bernardin. A validated recipe is one that has undergone verification tests that inactivate C. botulinum spores using specific temperatures, processing times and acidification requirements, thus rendering the product safe to eat. Recipes must be followed exactly as written. By changing the recipe, you can unknowingly produce an unsafe product. Reducing sugar content, salt, or vinegar can change the acid levels and the water activity allowing bacteria to grow in the product.

If using a recipe that has not been validated (ex. family recipe) for items that will be produced for public consumption, recipes must be submitted to Grand Erie Public Health (GEPH) for review and must be sent to a private laboratory to determine pH and water activity. Once the recipe has been tested and approved, this recipe must be followed exactly as written. Any changes to the recipe would require approval by GEPH.

Before you start canning

Home canning requires special equipment, such as glass jars, metal lids, metal rings, and boiling water canners and/or pressure canners. If you have never done any canning before, it may be a good idea to take a home canning course or read current books and magazines on home canning.

Foods for canning are classified into two types: high-acid foods and low-acid foods, and before you start canning, you need to determine the acid level of the food. Each type of food requires a different method of heat processing to achieve the required temperatures necessary to prevent the growth of harmful bacteria.

High-acid foods (low risk)

**requires a boiling water canner*

High-acid foods include those with a pH of less than 4.6, such as fruit, pickles, sauerkraut, jams, jellies, marmalades, and fruit butters. A boiling water canner heats food to 100°C (212°F) at sea level. The acid in the food and temperature of the boiling water will kill most yeasts, moulds and bacteria that could be present, but as the bacteria that causes botulism does not grow at a pH below 4.6, it is not a concern for high acid foods. A boiling water canner is sometimes called a “boiling water bath”. It is a large pot with a fitted lid and is usually made of aluminum or porcelain covered steel. It may also come with removable racks for resting the jars.

Low-acid foods (high risk)

**requires a pressure canner*

Low-acid foods include those with a pH of more than 4.6, such as meat, seafood, poultry, soup, milk and most fresh vegetables, except tomatoes. Tomatoes are borderline high-acid food and require an acid, such as lemon juice or vinegar, to be added for safer canning. Mixtures of low and high acid foods, such as spaghetti sauce with meat, vegetables and tomatoes, are considered low-acid foods. For low-acid foods, the required temperatures can only be achieved in a pressure canner to destroy the bacteria which cause botulism. A pressure canner is a vessel especially designed to treat canned foods. Pressure canners use steam under high pressure to ensure that the low-acid food reaches the high temperatures necessary to eliminate the bacteria that causes botulism. These high temperatures can only be reached with a pressure canner. A pressure canner is not the same as a pressure cooker. A pressure canner usually has a locking lid and comes with a jar rack, a pressure gauge and a steam vent. The pressure gauge must be checked each year to ensure the food is treated at the right pressure. Always follow the instruction manual that came with the pressure canner.

If you are producing canned foods for public consumption, you must follow these guidelines to ensure your product is safe for sale. Your Public Health Inspector may conduct any of the following actions when finding home-canned products for sale:

- Request the removal of a product from sale or distribution until laboratory documentation is provided proving the pH and aw of the processed product.
- Request documentation of the scientifically validated recipe of a product.
- Utilize the Health Protection and Promotion Act (HPPA) to seize and destroy the product if it is believed to be a health hazard.
- Seize samples of canned food products for laboratory testing by Public Health Laboratories.

In summary, all high-risk/low-acid canned products offered for sale or served in a restaurant must meet the following criteria:

- Be prepared utilizing a scientifically validated recipe.
- Be prepared in a pressure canner with the time and temperature monitored and recorded.
- Have a Food Safety Plan created and utilized for documentation.
- Have laboratory documentation for the pH and aw of all potentially high-risk/low-acid foods that the PHI deems necessary.

Tips for safe and high-quality canned food

Getting started:

- Start with high-quality foods. Choose freshly picked fruits and vegetables that are not diseased or moldy. Cut any bruised sections out of your produce. Avoid produce that is too ripe.
- Keep your workspace, canning equipment utensils, lids and jars clean during all stages of the canning process.
- Sterilize your jars. This means first washing your jars in hot soapy water and then boiling the jars according to recipe instructions. Washing with just hot water and soap will not sterilize your jars.
- Use the proper jars for home canning or bottling. Only use new self-sealing lids and make sure the sealing compound is not damaged before you use them. While jars without any nicks or cracks can be reused, always use new lids.

Processing your food:

- Use only current, tested home canning recipes.
- Use the appropriate canning method, determined by the pH level of your food (i.e. pressure canning for low acid foods and boiling water baths for high-acid foods).
- Always read the manufacturer's instructions for your canning equipment and follow recipes carefully. Changing ingredients, jar sizes or cooking times can result in unsafe food.
- Fill the canning jars while they are still hot. This helps to remove air and creates a tighter seal.
- Always wipe the mouth of the jar with a clean cloth before placing the lids on.
- Leave the recommended amount of "headspace" according to the recipe instructions. Headspace is the empty space between the food and the lid. This space is important to creating a tight seal and allows room for the food to expand when it is being heated.
- Listen for a popping sound once your jars have cooled. Check to see if the lid dips down in the middle. This will tell you that the jars have sealed properly.
- Check the jars after 24 hours to make sure that the lids are still sealed and not leaking. Have a look at them again one week later.
- Label and date your jars and store in a cool, dark and dry place.
- Preserve only as much as you will eat in one year.

Commercially canned products

The risk of botulism from commercially canned food is low, as manufacturers use strict thermal processes designed to destroy the spores of C. botulinum. However, avoid purchasing or using cans that are damaged or bulging, as this could indicate that the contents may not be safe to eat.

Home canned products

As home canned foods are popular gifts year-round, make sure that the foods were home canned under strict food safety conditions. Never eat canned or bottled foods that are dented, leaking or have bulging ends, or if you suspect they have been tampered with. When in doubt, throw it out!