

Home Canning of Fish - How to Avoid Botulism

What is Botulism?

Botulism is a serious, sometimes fatal form of food poisoning. The poison, which can be found in home-canned foods, is produced by *Clostridium botulinum*. The bacterium is found everywhere - in soil, on raw fruits and vegetables and on meat and fish. Every year incidences of botulism are reported as a direct result of improper home canning.

What Causes Botulism?

Botulism spores are resistant to heat - even when immersed in boiling water - and thrive in a moist, oxygen-free environment. As botulism spores reproduce, they generate one of the most powerful poisons on earth since only one teaspoon-worth is sufficient to kill 100,000 people. Improper canning creates the perfect environment in which to grow the botulism toxin. Also, because food contaminated by botulism may well look and smell normal, there is often no warning. That is why home canning must be done properly with *extreme* care.

What Are The Requirements For Safe Home Canning?

Heat and high acid levels are the two keys to canning safety. High-acid foods such as plums or rhubarb are quite resistant to bacteria. Low-acid foods - including most vegetables, meat and seafood - *must* be canned at higher temperatures, via a pressure canner.

What is The Boiling Water Bath Method?

The "boiling water bath" is probably what you saw your mother doing. It involves dropping a basket of sealed jars into a large pot of rapidly boiling water. This process is not designed to destroy the botulism spore and should be used only for those foods which do not require pressure canning, i.e. high-acid foods.

What is Pressure Canning?

A pressure canner is a large, cast-aluminum pot with a locking lid and a pressure gauge. By cooking under pressure, you can bring the temperature of boiling water up to 116°C (240°F). This is the minimum temperature necessary to destroy botulism spores, and the *only* way to guarantee safe canning for food items such as vegetables, meat and seafood. Your pressure canner should come with complete instructions.

Follow instructions carefully and keep these pointers in mind:

- Ten pounds is the minimum safe pressure.
- Processing time - which varies depending on the type of food being preserved and the size of the jar - must be accurate.
- If you live more than 1,000 feet above sea level, then both the pressure and cooking time will have to be adjusted (consult a chart).
- Pressure, once the right level is reached, must be kept constant.
- If you have a "weighted" gauge, have it checked for accuracy before each canning season.
- Never can *frozen* product unless canning procedures take this into account.
- Don't eat - or even taste - any home-canned food that appears to be spoiled, that foams, or develops a bad odour during cooking. Unfortunately, not all unsafe products produce these telltale signs.

What Jars Are Best For Canning?

Manufacturers make heavy-duty jars specifically for home canning. Do not use jars that are not specifically designed for pressure canning. "Mason" jars - which screw shut via a threaded neck - are the most common choice. You must never re-use the lids; after a lid has been pried off once, a perfect fit can no longer be guaranteed. The jars themselves can be used many times, as long as the sealing rims are perfectly smooth and there are no scratches or cracks. The use of metal cans for home canning is discouraged because of the greater potential for improper sealing and manufacturer defects, few of which can be detected by an untrained eye.

The Importance of Cleanliness

The other safety factor to keep in mind is cleanliness. All work surfaces should be kept clean during all stages of the canning process. It is particularly important to sterilize the jars and seals before use.

Any Questions?

Home canning is perfectly safe...but it needs to be done correctly. We recommend that you read up on home canning before you try it. Good books are available on the subject, either at the library or in the stores. Pressure canners and canning jars almost always come with comprehensive instructions. It is recommended that these are read, since the manufacturer is best qualified to give detailed instructions.

Updated: Nov 2013

