



Florida Cooperative Extension Service

Botulism: It Only Takes A Taste¹

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INTRODUCTION

It only took a little! This is the message behind the story of Loretta Boberg, a 62-year old woman from Wisconsin who always tastes food before serving it to company. In this case, the company can be very thankful she did.

When Mrs. Boberg opened a jar of home-canned carrots last January, she dipped in a finger to taste the juice. Not liking the taste, she served home-canned beans to her guests instead. Within two days, Mrs. Boberg became dizzy and had difficulty walking. At first, hospital staff thought she had suffered a stroke because of her slurred speech and muscle weakness. The doctor did ask her if she had eaten any spoiled food lately, however. Too weak to speak, Mrs. Boberg wrote "carrots" on a piece of paper.

If this physician had not suspected botulism, even though he had seen only a few cases, Mrs. Boberg would probably have died. The toxin moved through the respiratory system, paralyzing her muscles. A sample from the jar was fed to a laboratory mouse and it died instantly. A sample of Mrs. Boberg's blood was given to another mouse and it too died instantly.

The road to recovery for this lady was very slow. Six months later, she remained in the hospital on a respirator, still being fed intravenously. She had stood for only three minutes since the incident, and talked through a tube in her trachea when not out of breath. Muscle movement was returning slowly with the help

of physical therapy. Hospital officials estimated that her bill was running about \$200,000. These results are a terrible tragedy, but they could be even worse—botulism is fatal in many cases.

Mrs. Boberg used a boiling water canner for the carrots that gave her botulism. Yes, this was the same method she had used—and only by luck had gotten away with—for the past 44 years. This year she was not so lucky. If, like Mrs. Boberg, you are canning low-acid foods such as vegetables (except tomatoes), red meats, seafood, and poultry in a boiling water canner or by the open kettle method, you may wish to think twice before taking another chance.

Because native spores of *Clostridium botulinum*, the bacteria that cause the potentially fatal botulism, are extremely difficult to destroy at boiling water temperatures, all low-acid foods should be processed at the much higher temperatures achieved with pressure canners. Processing times are scientifically determined to ensure destruction of the most heat-resistant disease-causing bacteria capable of growing in each type of food packed in a jar of a specific size. Therefore, there are different processing times for different foods.

It takes so many, many hours at boiling water temperatures to begin to kill *C. botulinum* spores in low-acid foods that there would be very little, if any, food value or quality remaining at the end of the sterilization process. There is therefore no purpose, and a lot of risk, to determining canning processes for

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low-acid foods in a boiling water canner. The only time a water bath canner can be used is when canning acid foods such as tomatoes, fruits, pickled and fermented products, jams, jellies, marmalades and fruit butters. Once you start to add meat and/or vegetables to soups and tomato sauces, the acidity of that food changes and you must use a pressure canner for most formulations.

What if you don't own a pressure canner, can't borrow one or find access to one? Then your only option is to freeze the food.

There are no shortcuts to home canning! Home canning takes time, proper processing methods, proper equipment and current, scientifically-based process recommendations. Anytime you have a question about home canning, or freezing methods, please contact your County Cooperative Extension Office. They can provide you with the safest recommendations available from the U.S. Department of Agriculture and the Institute of Food and Agricultural Sciences (IFAS) at the University of Florida. Learn from the tragedy of Mrs. Boberg and don't take chances with your health or life.

IDENTIFYING AND HANDLING SPOILED HOME-CANNED FOOD

- DO NOT TASTE food from a jar with an unsealed lid or when food shows signs of spoilage. You can more easily detect some types of spoilage in jars stored without screw bands because the lids will be loose.
- Remove bands and wash off the jar and flat lid before storing jars. Growth of some spoilage bacteria and yeast produces gas which pressurizes the contents, swells lids and breaks their seals. As each jar is selected for use, examine its lid for tightness and vacuum. Lids with concave centers have good seals.
- Look for the following signs of spoilage in sealed jars.
- While holding the jar upright at eye level, rotate the jar and examine its outside surface for streaks of dried food originating at the top of the jar. Look at the contents for rising air bubbles and unnatural color.
- While opening the jar, check for spurting liquid, smell for unnatural odors and look for cotton-like mold growth (white, blue-black or green) on the top food surface and underside of lid.
- Carefully discard any jar of spoiled food to prevent possible illness to you, your family, and pets. Before discarding, detoxify any jar of spoiled low-acid food by removing the jar lid, taking care not to spill the contents. Then place the jar, its contents, and the loose lid in hot water and add enough water to cover the jar. Boil all items in the water for 30 minutes. Cool and discard jar contents in the garbage.