

# Chow Line

News from the College of Food, Agricultural, and Environmental Sciences

## A deadly reminder on home canning safety

**I was surprised when I heard that the botulism that recently killed someone likely came from home-canned potatoes. I just started canning last year. What can I do to make sure I'm doing so as safely as possible?**

A lot of people were surprised. Foodborne botulism is rare: The Centers for Disease Control and Prevention estimates that there are only about 20 cases per year in the U.S. But when it does strike, the culprit is usually home-canned foods.

Botulism is caused by a nerve toxin produced by bacteria called *Clostridium botulinum*. These bacteria are found in the soil but grow best in conditions with very low oxygen. The bacteria form spores which keep the bacteria dormant until they find themselves in an environment that allows them to grow. If untreated, someone with botulism could experience paralysis of the respiratory muscles, arms, legs and other parts of the body. Botulism is fatal in 3 to 5 percent of cases, the CDC says.

According to the National Center for Home Food Preservation, *C. botulinum* spores can produce deadly toxin within three to four days in the right conditions, which include:

- A moist, low-acid food.
- Temperature between 40 and 120 degrees F.
- Less than 2 percent oxygen.

All fresh vegetables, including green beans, asparagus, carrots, corn, potatoes and peppers, are low-acid foods, meaning they have a pH above 4.6. The lower the pH, the higher a food's acidity. Tomatoes used to be considered a high-acid food, but in recent years some types have been found to have pH values higher than 4.6, making them a low-acid food. Because tomatoes are right on the



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border between high acid and low acid, anyone using the boiling-water method to can tomatoes or homemade salsa needs to add lemon juice or citric acid during the canning process to be safe.

For low-acid foods, a pressure canner must be used (and used properly) to destroy any botulinum spores that may be lurking in the food. Temperatures need to reach 240 to 250 degrees F for a long enough time, which depends on the food being canned, the size of the jars and the way the food is packed in the jars.

The U.S. Department of Agriculture's Complete Guide to Home Canning is the bible for do-it-yourself canning. It is available to download for free, chapter by chapter, at the National Center for Home Food Preservation's website, [nchfp.uga.edu](http://nchfp.uga.edu).

Ohio State University Extension, the outreach arm of The Ohio State University's College of Food, Agricultural, and Environmental Sciences, also offers how-to videos and classes on home food preservation. For details, go to [fcs.osu.edu/food-safety/home-food-preservation](http://fcs.osu.edu/food-safety/home-food-preservation). OSU Extension also offers a fact sheet on botulism, available at [go.osu.edu/botulism](http://go.osu.edu/botulism).

Don't be cavalier about home canning. Home-canned foods can look, smell and taste normal and still be contaminated. Follow canning guidelines precisely to be sure your canned vegetables are safe.

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**Editor:** This column was reviewed by Linnette Goard, Ohio State University Extension's field specialist in Food Safety, Selection and Management.

*Chow Line is a service of the College of Food, Agricultural, and Environmental Sciences and its outreach and research arms, Ohio State University Extension and the Ohio Agricultural Research and Development Center. Send questions to Chow Line, c/o Martha Filipic, 2021 Coffey Road, Columbus, OH 43210-1043, or [filipic.3@osu.edu](mailto:filipic.3@osu.edu).*

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