



C O M M U N I Q U É

Ask A Professional Home Economist

For Immediate Release

Putting on the Pressure

By Ellie Topp, P.H.Ec.

Canadian gardeners have been preserving the results of their labours for generations. Keeping food in jars to be stored at room temperatures requires controlling the many invisible micro-organisms who share our world. These tiny beings, the yeasts, moulds and bacteria, can bring delightful benefits such as wine and cheese, but in other situations they cause our food to spoil. Preserving involves either destroying or restraining all the micro-organisms that are naturally present in food. For non-acid foods such as vegetables, only a pressure canner is able to safely preserve them.

Most bacteria and all moulds and yeasts are destroyed at the temperature of boiling water, which is a lower temperature than that reached with a pressure canner. However, there is one bacteria, *Clostridium botulinum*, which can change into spores that are able to withstand boiling water temperatures. Therefore, although the actual bacteria is destroyed by boiling-water temperatures, its spores will survive. These can transform back into active bacteria that are able to grow in an airtight environment, such as a canning jar, and

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produce a poisonous toxin causing botulism. The good news is that this bacteria is unable to grow in the presence of acids. Therefore, acid foods, such as fruits or condiments to which vinegar, lemon juice or ascorbic acid has been added, can be preserved safely by bringing the food to the temperature of boiling water and then ensuring that the jar develops an air-tight seal. But vegetables which are very low in acid must be processed at temperatures of at least 240°F (116°C) to destroy the *C. botulinum* spores. This can only be achieved in a pressure canner since boiling water temperatures will not rise above 220°F (100°C).

Two kinds of pressure canners are available for home canners. Weighted gauge canners have a weight that regulates the pressure to 5, 10 or 15 pounds. When the specified pressure is reached, small amounts of air and steam are exhausted causing the weight to jiggle and preventing the pressure inside the canner from rising any further. The rocking noise indicates that a constant pressure, as determined by the weight, is being maintained. Dial-gauge pressure canners have a dial that measures the pressure on the inside of the canner. Since the pressure will fluctuate with the amount of heat applied, these canners need to be monitored constantly to ensure that the recommended pressure remains constant.

Tips for Canning Vegetables

- ✓ Use the freshest vegetables for the best, most nutritious product;
- ✓ Check jars to be sure there are no nicks or cracks;
- ✓ Use new lids to ensure a secure seal;
- ✓ Follow recommended pressure canning procedures for filling jars;
- ✓ Measure processing times accurately;
- ✓ Ensure canner maintains proper pressure if using a dial gauge.

For detailed instructions on pressure canning vegetables and other non-acid foods, consult a reliable preserving guide such as that published by Bernardin. This information is also available from their website

at www.homecanning.com, or call toll-free 1-888-430-4231.

Ellie Topp is a Professional Home Economist and a Certified Culinary Professional. She is co-author of six cookbooks including “Healthy Home Cooking”, “The Complete Book of Year-Round, Small-Batch Preserving”, and “Savoury Wisdom: Delicious, Healthy Recipes for Two”.

The Ontario Home Economics Association, a self-regulated body of Professional Home Economists, promotes high professional standards among its members so that they may assist families and individuals to achieve and maintain a desirable quality of life.

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