



Canning in Electric Pressure Cookers



FOR QUESTIONS CONTACT:

Lizann Powers Hammond
WSU Benton County Extension
5600 W. Canal Drive
Kennewick, WA 99336

Phone: (509) 735-3551
Email: powers@wsu.edu

For information on
home canning visit:
www.homefoodpreservation.com

Electric Pressure Cookers are being advertised as an acceptable way to process home canned foods. Should I can in my electric pressure-cooker appliance?

Manufacturers of electric pressure cookers claim their appliances are acceptable for canning and preserving. Promoted as an alternative to stove top pressure canning, manufacturers claim their products meet USDA standards for canning they are able to produce a safe canned product.

Important Fact:

USDA does NOT endorse using their canning processes or processing times in electric, pressure-cooker appliances. The appliances are acceptable for cooking, but not canning. It is especially dangerous to use these appliances to attempt to can meat or vegetables.

Pressure canning low-acid foods is a tightly controlled process. When sealed in a container, all low-acid foods provide the ideal conditions for the growth of Botulism, a deadly bacteria which is odor-free, taste-less and otherwise invisible. Proper processing in a stove top pressure canner is necessary to ensure that the contents are safe. Processing times are carefully calculated based on the type of food being canned, the elevation and the equipment being used.

Problems with Electric Pressure Cookers include:

Temperature.

Manufacturers claim the cookers reach the pressure required for canning. This is a problem because thermal process canning research relates to the

temperature in the jars, not to the pressure inside the canner. The temperature and heat distribution inside a jar of food in the canner is what matters for the destruction of microorganisms. The pressure level in the canning vessel does not assure the food in the jars is heated throughout or is safe. There has been no USDA thermal process work done on jars inside an electric pressure cooker, tracking the temperatures inside the jars throughout the canning cycle.

The positioning of jars inside the canner and flow of steam around them also impacts proper processing. For example, there would be expected differences when a jar is standing upright on the canner base versus lying on its side. The USDA processing times were developed using stovetop pressure canners, large enough to hold four or more quart-size jars standing upright. The USDA processing times apply **ONLY** to canning vessels meeting these requirements.

Venting Pressure Canners.

When pressure canning, all stove top pressure canners require venting for 10 minutes before processing. Venting the canner insures there is a pure steam environment inside the canner. A canner that is not vented contains a mixture of air and steam, and the temperature inside the canner is lower than that of pure steam. Not venting a stove top pressure canner is a potentially fatal error, resulting in under processed foods, and foods at risk for botulism poisoning. There is no mechanism for venting air out of an electric, pressure-cooker appliance.

Altitude Adjustment.

When using a stove top pressure canner, it is necessary to increase the pressure inside the canner as elevation increases. The same pressure and process time combination cannot be used at all altitudes. As elevation increases, failure to make adjustments in pressure is a potentially fatal error, resulting in under processed foods, and foods at risk for botulism poisoning. The electric pressure cooker does not allow for altitude adjustment.

Fluctuating Heat Source.

Safety in pressure canning requires the temperature in the canner stay constant and at minimum

throughout the process time. In many electrical appliances the power cycles on and off, and temperature fluctuates up and down. It is unknown if there are power surges or drops, or if the temperature stays consistent inside the electric pressure-cooker.

Pathogen Destruction.

Most importantly, the USDA low-acid pressure process times rely on the entire canning process for the safety of the food. Bacteria are not only killed during the process time, but also the time it takes the canner to come up to pressure and the cool-down time. Even after the heat is turned off under the canner, at the end of the recommended process time, the food remains at high enough temperatures for a period of time that can still contribute to killing of bacteria.

This retained heat while the canner cools naturally to 0 pounds pressure after processing, contributes to the safety of the food. If anything is done to shorten the cooling period, including using a very small cooker, then the food could cool down more quickly, and be under-processed. (That is why we recommend using only stove top pressure cookers that hold four or more quart-size jars.)

For these reasons, the USDA does NOT endorse using their canning processes or processing times in electric pressure-cooker appliances. These appliances are acceptable for cooking, but not for canning. It is especially dangerous to use these appliances to attempt to can meat or vegetables.

Please note: This statement about electric pressure cookers does ***NOT include the Ball® FreshTECH Automatic Home Canning System*** for acid foods only, which is electric. It is not a "pressure-cooker", but a dedicated canner, and comes with its own instructions and pre-set canning options for specific food preparations, and it has had proper thermal process development testing done to support the canning recommendations in the instruction manual.

Dated: October 2015

By: Lizann Powers-Hammond, M.S., C.N.
WSU Benton County Extension