Lewis County
Master Food Preserver
WASHINGTON STATE UNIVERSITY EXTENSION

Food Safety and Preservation

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STEAM CANNING

The processing of home-canned foods in a steam canner remains an issue of concern. Steam canners consist of three pieces" a shallow pan that is filled with about two quarts of water, a perforated rack on which the jars stand, and a large done cover. According to the manufacturers, steam canners may be used instead of boiling water canners for processing acid foods. They are marketed as an energy-efficient method to process foods.

Historically, steam canning was supported by USDA as an acceptable option for processing home-canned foods. However, research from the 1940's indicated that the method was potentially hazardous. Early research from the 1940's indicated that the method was potentially hazardous. Early research found heat penetration from immersion in boiling water was more efficient than heat penetration from steam. Therefore, a processing time developed for boiling water canner was not adequate to make food safe in a steam canner.

There are some major problems with the use of steam canners for canning acid foods:

- Cold spots, where temperatures are below 212°F, may occur due to pockets of air trapped between jars or under the dome.
- Release of steam may occur if heat is maintained under the canner at too high a temperature. The increased pressure may build to a level high enough to lift the lid off, allowing much of the steam to escape, and cool air to enter.
- Increased jar breakage may occur, since jars are not separated by a rack in the canner.
- Under processing may occur, because home canners may not be able to differentiate between steam and an air-stream mixture. Water begins to give off a vapor, which can be mistaken for steam, at temperatures as low as 170°F.
- Uneven heating may occur, since jars are not separated by a rack in the canner. Jars may be jammed next to each other so the steam cannot equally penetrate the jars from each side.
- Steam burns may occur, since it is difficult to remove the dome cover safely.
- Increased spoilage may occur, because the lower processing temperature results in less killing power of bacteria and underprocessing.

Federal funding has been acquired to conduct research on processing and preserving in steam canners. The research began in 2012 at the University of Wisconsin in collaboration with the University of Georgia. Once the research is completed information on the use of a steam canner for the safe processing of home-canned foods will be made available to consumers. Until the new research is available, the use of steam canners for processing foods in not advised.