

Canning 101: Safe and Healthy Preserving



Lunch & Learn
12 noon to 1 pm
June 9, 2014

LW
Extension
Cooperative Extension

Why Canning?

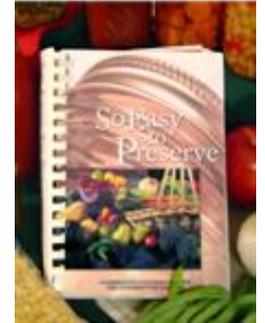
- Canning **preserves foods** in a form that makes meal preparation a snap
- Canning captures **peak-of-season flavor** for enjoyment year round
- Canning **requires** little to no energy input to keep the food safe and of high quality
- For safe, high quality foods for you and your family, **always follow up-to-date tested recipes**



Resources for Today



- National Center for Home Food Preservation
 - How do I....Can www.uga.edu/nchfp
 - Using Boiling Water Canners, Using Pressure Canners
- So Easy to Preserve www.setp.uga.edu
 - Book and Video
- University of Minnesota 5-minute lessons
<http://www.extension.umn.edu/food/food-safety/preserving/modules/>
- Safe and Healthy: Preserving Food at Home
<http://fyi.uwex.edu/safepreserving/>
 - Canning tips and answers to frequently asked questions
 - Tested and up-to-date recipes (date from 1994 or newer)
 - Videos for a quick review



Boiling Water Canning

- Using a boiling water canner is a great way to save **high-acid fruits** and **pickled products** for enjoyment later
 - Done properly, a boiling water canning process will destroy harmful pathogens like *Salmonella*, destroy spoilage microbes, and ensure a seal for a safe, high quality product days or months later
- A **boiling water canner** is used for foods with a pH less than, or equal to, 4.6:
 - Naturally acid fruits
 - Most tomatoes and tomato products
 - Pickles
 - Fermented foods like sauerkraut and genuine dill pickles



What do you need?



- **Jars** designed for home canning
- **New 2-piece lids** should be stored in a cool, dry place and used within 5 years of purchase
- **Screw bands** that can be reused, but should be discarded if bent or rusty
- A deep flat-bottomed **pot** with cover that will allow for water to cover jars by 1-2” and an additional 1-2” of boiling space
- A **rack** to set jars on that will help prevent jar breakage

Boiling Water Canning

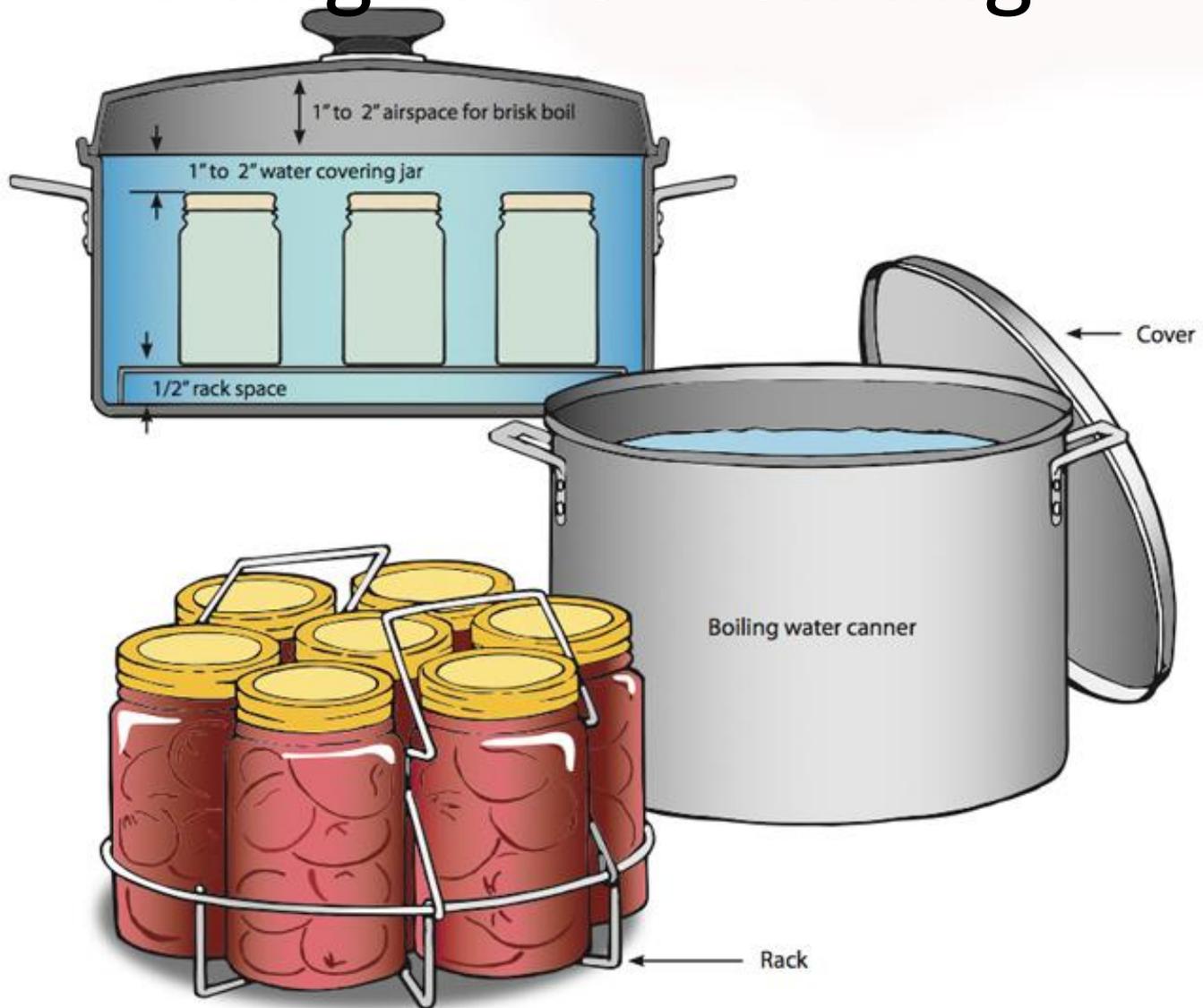


Figure 1. Boiling water bath canner.

(Adapted from USDA 2009)

10 Steps to Success

1. Heat water in the canner - 140°F raw pack, 180°F hot pack
2. Fill hot jars with product, top with hot liquid.
3. Remove air bubbles and adjust head space.
4. Seal with 2-piece lid, finger-tip tight.
5. Place jars on rack in heated water.
6. Add water to make sure jars are covered by 1-2.”
7. Turn heat to high, and cover the pot.
8. Start timing when water boils. **Adjust for elevation!**
9. Reduce heat and boil gently.
10. Turn off heat, take off lid and wait 5 minutes to remove jars. Cool on a towel on the counter.

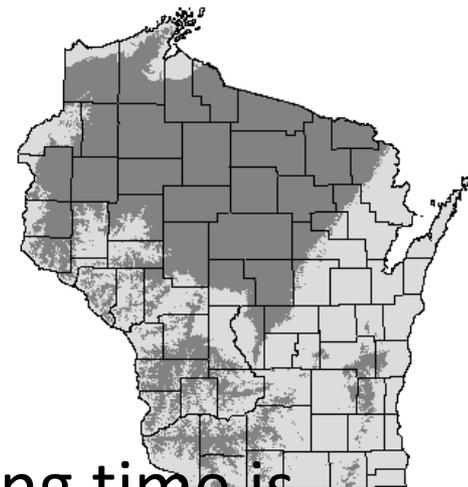
Tips for Success

- A funnel, jar lifter, bubble freer, and lid wand will make the job easier.
 - Do not use a metal knife as a bubble freer. It may scratch the glass and weaken the jar.
 - Do not use tongs to remove jar lids from water. Tongs can scratch the lid and cause rusting. **NEW last year: Ball/Kerr lids do not need preheating!**
 - Do not tilt jars when moving into, or out of, the canner.
- Tighten bands only finger-tip tight before canning; do not touch bands (or lids) until jars have cooled.
- Once jars are cool (12-24 hours):
 - Remove bands
 - Clean jars
 - Label for storage



(More) Tips for Success

- Adjust for elevation.
 - Add 5 minutes for elevation above 1,000'
 - Check elevation:
<http://fyi.uwex.edu/safepreserving/recipes/>
- Add water to cover jars by 2" when boiling time is over 30 minutes.
- Letting jars rest in the canner for 5 minutes before removing helps prevent food from expanding out and onto the rim of the jar.



If a Jar Doesn't Seal

If a canning jar fails to seal, you have 24 hours to choose what to do:

1. **Reprocess** in a clear jar with a new lid.
2. **Refrigerate** and use within several days.
3. **Store** in the freezer. Before freezing, adjust headspace to 1 ½ inches to allow for expansion.

Before choosing, I try to determine what caused seal failure in the first place: food particles on the jar rim, an old lid, jar filled too full, etc.



Burning Issue: Canning on a Smooth Cooktop

Smooth surface ranges require special care when canning. Excessive heat build-up can damage the cooktop and/or the stove can stop heating.

To begin, call the manufacturer to see what they recommend

- Always use a flat-bottomed pot
- Fit the canner size to the burner size, don't allow the canner to stick far over the edges of the burner
- Don't place too much weight on the burner

Gas ranges allow more flexibility in the style of pot used for boiling water canning.



Pressure Canning 101

A **pressure canner** raises the boiling point of water so that water boils at temperatures of 240-250°F, temperatures high enough to destroy spores of *Clostridium botulinum*.

- **Required** for safe canning of low-acid foods.
 - Vegetables: corn, green beans, peas, carrots, etc.
 - Meat, wild game, poultry, and seafood
- May also be used for canning of higher acid foods like fruits, e.g. applesauce, and tomatoes



Two Styles of Pressure Canner



Dial gauge canners register the pressure on a dial during canning.



Weighted gauge canners use weights that register 5, 10, and 15 pounds and **rock** or **jiggle** when at pressure.

Which style of pressure canner is best?

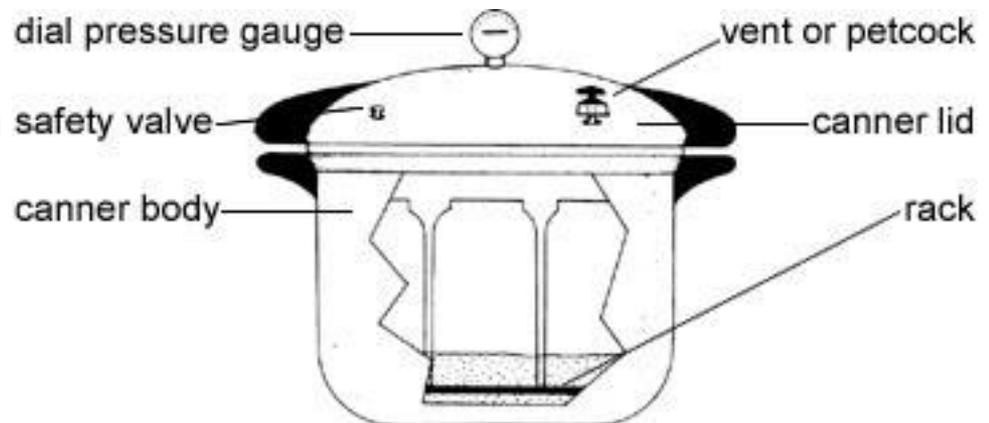
There is no one 'best' type of canner, it depends on what features you prefer!

- A **dial gauge canner** operates at 11 pounds pressure up to 2,000 feet in elevation. No need to change the recipe for different locations in Wisconsin.
 - A dial gauge canner should be checked at least **once every year** for accuracy. Contact your local county Extension office for this service.
 - You should carefully monitor the gauge during processing.
- A **weighted gauge** canner is operated at 10 or 15 pounds, depending on your elevation.
 - A weighted gauge doesn't need to be checked for accuracy.
 - You can monitor this type of canner by listening to the 'jiggle' or for the rocking of the weight.
 - A weighted gauge canner operates only at set pressures.

Canner Features

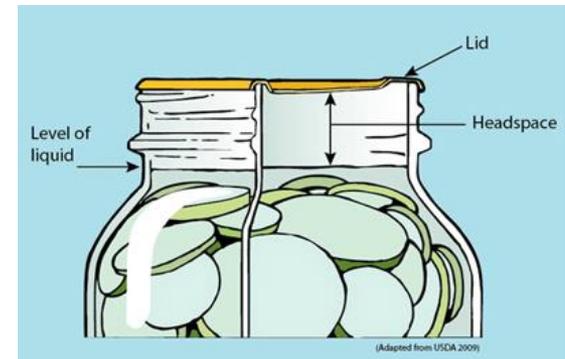
New-style pressure canners are light weight and come equipped with some excellent safety features.

- A tight-fitting **lid** that will establish pressure in the canner.
 - A **gasket** fits in the lid and helps seal the canner.
 - A **vent port** and **safety valve** with overpressure plug are important safety features.
 - A **dial** or **weighted gauge**.
 - A **rack** lifts the jars off the bottom of the canner.



Steps to Pressure Canning Success

- 1. Heat 2-3"** of water in the bottom of the canner – check your manual for information on how much water to use.
- 2. Fill** preheated jars with product, following recipe directions. Always top with hot liquid.
- 3. Adjust headspace**, remove air bubbles, and wipe jar rims. Headspace is the unfilled space between the top of the food and the underside of the lid.
- 4. Place** jars on rack in canner. You can mix pints and quarts, just make sure you use the appropriate processing time.
Some canners you can 'double stack' with 2 layers of pint jars with a rack in between!
- 5. Lock** the lid on the canner.



Steps to Pressure Canning Success



6. **(Important!) Exhaust** the canner for 10 minutes.

This step removes air from the canner, allowing it to pressurize easily.

7. **Close** the vent-port or petcock and **allow** the pressure to rise.

8. **Once** the canner reaches **pressure**, start timing the process.

-Adjust for elevation. <http://www.daftlogic.com/sandbox-google-maps-find-altitude.htm>

- Process in a dial gauge canner at 11 psi (pounds) at all WI elevations.

-Process in a weighted gauge at 10 psi up to 1,000 feet, process at 15 psi from 1,001 to 2,000 feet.

9. **Turn off the heat** and **allow the canner pressure to drop to zero**. Never force cool a canner! The cooling time is an important part of microbial lethality.

In the home stretch....



10. Let the **pressure drop** to 0 psig naturally. This may take up to 1 hour. You can look at a dial gauge to ensure the pressure is down. On a weighted gauge canner, look for the lid lock handle or button to indicate the canner is depressurized.
 11. **Remove** the weight, or petcock. Remove the lid from the canner. Wait **10 minutes**.
 12. **Place jars** on a padded surface to cool.
 13. Refrigerate unsealed jars.
 14. **Wipe** jars with a soapy cloth and dry. Remove ring band (don't store jars with ring bands in place).
 15. **Label** and date. ... ENJOY!
- (if a jar doesn't seal....same choices as for boiling water canning)

Frequently Asked Canning Questions

- How long can I store home canned food? Properly canned foods stored in a cool, dry place will retain ideal eating quality for at least **1 year**.
- Is it necessary to exhaust a pressure canner? Yes, it is important to allow steam to escape for **10 full minutes** before closing the valve/vent. Food processed in an unvented canner is considered under processed and not safe to consume.
- My recipe doesn't call for canning; just filling the jar and applying the lid. Is this safe? This is **not safe**. A canning process (boiling water for acid foods, pressure canning for low-acid foods) destroys harmful organisms and also bacteria allowing you to serve safe, high quality foods.