

# Canning 101: Safe and Healthy Preserving

---



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

**LW**  
**Extension**  
Cooperative Extension

# Why Canning?

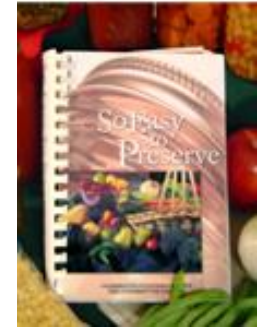
- Canning **preserves foods** in a form that makes meal preparation a snap
- Canning captures **peak-of-season flavor** for enjoyment year round
- Canning **requires** little to no energy input to keep the food safe and of high quality
- For safe, high quality foods for you and your family, **always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



# Resources for Today



- National Center for Home Food Preservation
  - How do I....Can [www.uga.edu/nchfp](http://www.uga.edu/nchfp)
  - Using Boiling Water Canners, Using Pressure Canners
- So Easy to Preserve [www.setp.uga.edu](http://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

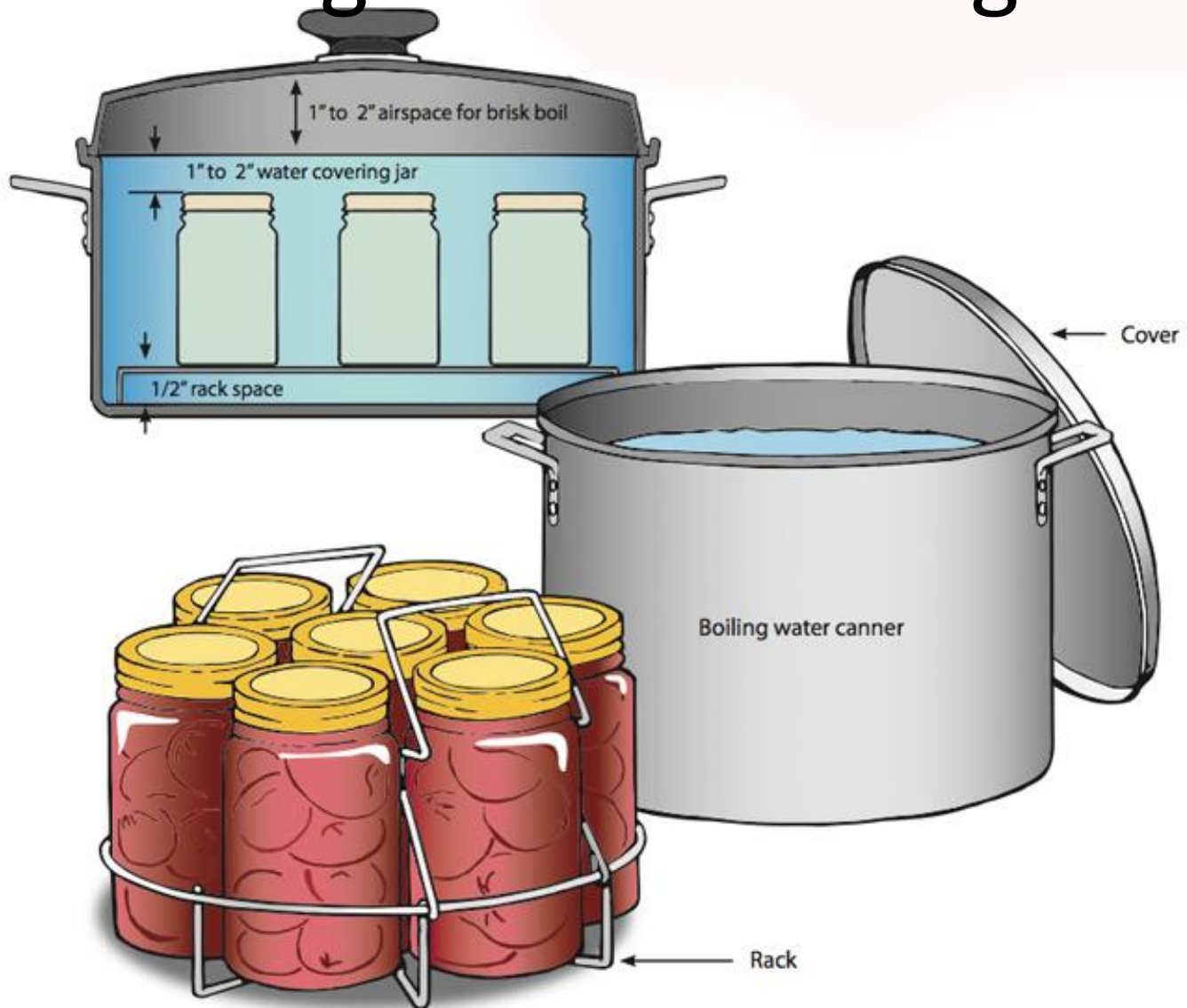


Figure 1. Boiling water bath canner.

(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

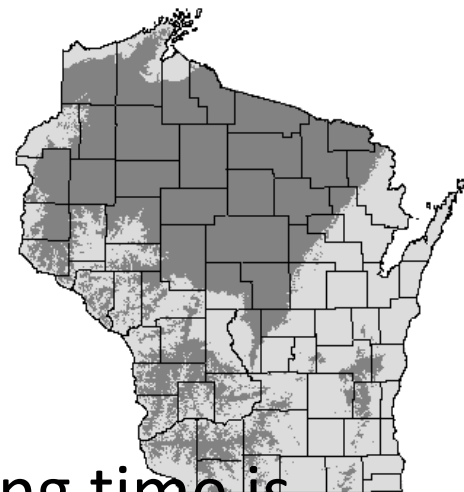
- A funnel, jar lifter, bubble freer, and lid wand will make the job easier.
  - Do not use a metal knife as a bubble freer. It may scratch the glass and weaken the jar.
  - Do not use tongs to remove jar lids from water. Tongs can scratch the lid and cause rusting. **NEW last year: Ball/Kerr lids do 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?

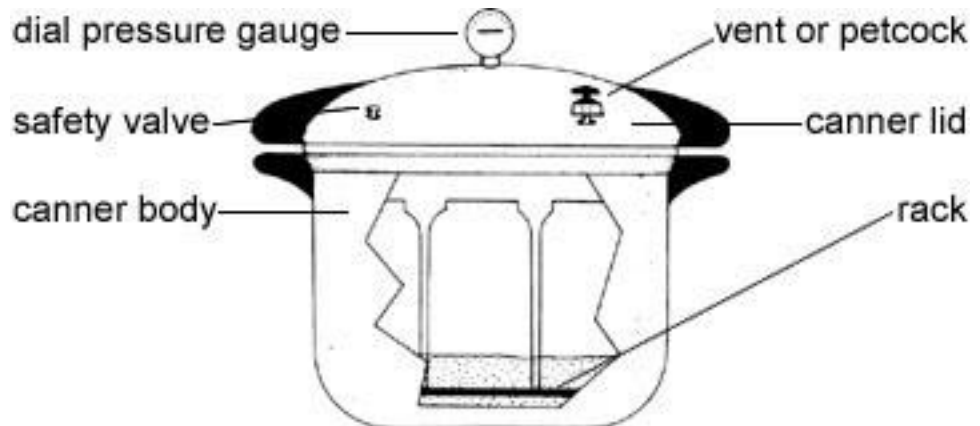
There is no one ‘best’ type of canner, it depends on what features you prefer!

- 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

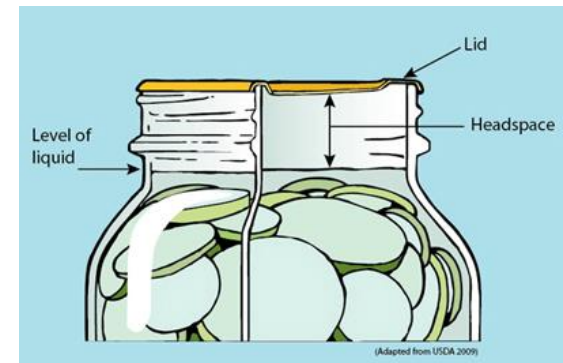
New-style pressure canners are light weight and come equipped with some excellent safety features.

- 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.