

NDSU

EXTENSION



2024

Field to Fork

www.ag.ndsu.edu/food EXTENDING KNOWLEDGE >> CHANGING LIVES



Upcoming Webinars

- **March 27 - How to Grow Garlic and Other Alliums**
- Harlene Hatterman Valenti, Plant Sciences Professor, NDSU
- **April 3 - Being Creative and Safe With Fruit and Vegetable Preparation and Storage**
- Julie Garden-Robinson, Professor and Extension Food and Nutrition Specialist, NDSU



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Presenter

Audio Settings ^

Chat

Raise Hand

Q&A

Leave

- **Please complete the short online survey** that will be emailed to you after today's webinar. It will take just a couple minutes!
- Be sure to sign up for an opportunity to win a prize in the drawing. After submitting the survey, a form to fill out with your name/address will appear.

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March 20

Safe and Healthy: Tips for Preserving the Bounty of the Harvest

Barb Ingham, Professor and Extension Food Safety Specialist, University of Wisconsin-Madison



Why preserve food at home?

- ▶ An abundant harvest
- ▶ Family meal or dietary preferences
- ▶ Capturing the peak flavor
- ▶ Others.....

→ In the Chat: **Why do you preserve food at home?**



In the chat: What is your favorite item to preserve at home?



Tips for Safe and Successful Preserving

- ▶ Follow up-to-date, research tested recipes
- ▶ Start slowly...Match the method with your goals
- ▶ Use the correct equipment



National Survey (801 completed interviews)

▶ Sources of information for home food preservers:

- ▶ Family and friends 51%
- ▶ Cookbooks 17%

▶ 30% admitted to altering recipes

▶ ‘Open kettle canning’ [‘hot fill hold’]

- ▶ Fruits and tomatoes (44%)
- ▶ Vegetables (35%)
- ▶ Meats and seafood (20%)

→ **Unsafe practices abound!** ☹️



Beware...Stop, Think, Make Food-Safe Choices

- ▶ **Dishwasher Canning** [Hint from the site: be sure to use the 'power scrub' cycle ☹️]
- ▶ **Oven Canning** [Tomato canning a la Pinterest]
- ▶ **Bon Appetit Test Kitchen video** (January 2021)
[Seafood canning in a boiling water canner]



Trusted...Tested...Safe

- ▶ National Center for Home Food Preservation <https://nchfp.uga.edu>

How Do I? Can, Freeze, Dry, and more



- ▶ North Central Food Safety Extension Network (NCFSEN)

Bi-Monthly e-newsletter

Tip sheets:

- ▶ Oops! Remaking Jams & Jellies
- ▶ Safe Canning Substitutions
- ▶ Steam Can it Right!
- ▶ And more...



NORTH CENTRAL FOOD SAFETY EXTENSION NETWORK



Which method of preserving is best?

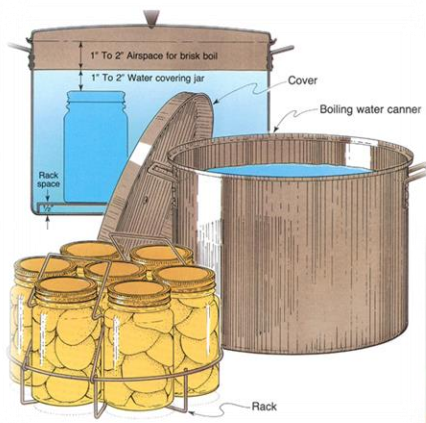
- ▶ How much product do you have to process?
- ▶ What quality are you looking for?
- ▶ Are tested recipes available?
- ▶ Do you have the right equipment?

Drying, making jam and jelly, pickling, canning, fermenting

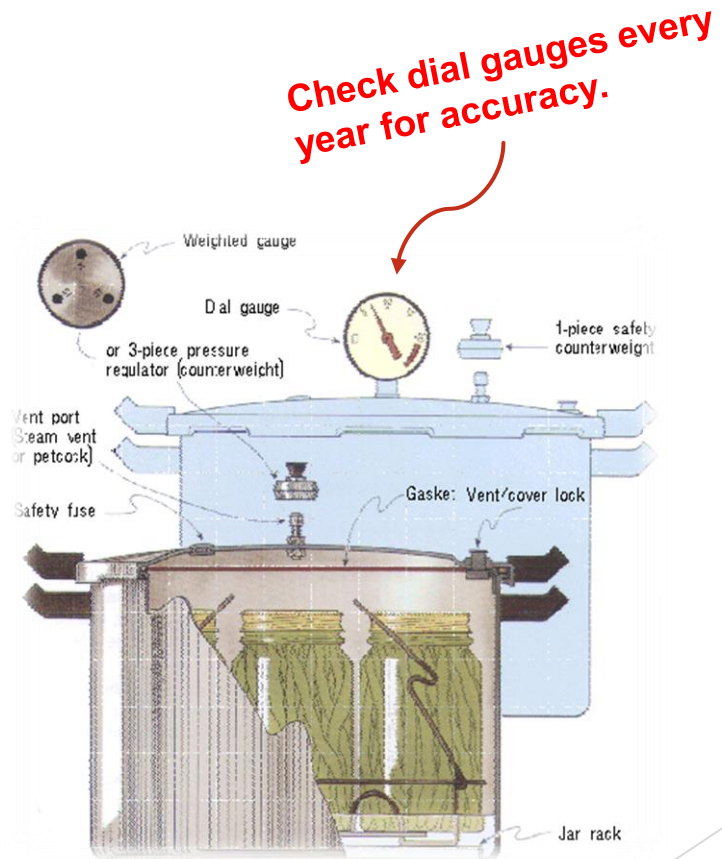


Canning - Safe on the Shelf

- ▶ Products are shelf stable
- ▶ Meal prep is easy



Boiling water or steam canning for naturally acid foods (most fruits) or acidified foods (pickles, salsa)



Pressure canning for low acid foods (meat, vegetables)

Weighted Gauge canners

- ▶ Weight responds to pressure of 5, 10, 15 psi
 - ▶ 1-piece weight
 - ▶ 3-piece weight



Presto Pressure Canner 3-piece Regulator Weight



▶ All American Canners

- ▶ Weighted gauge canner
- ▶ Dial is a pressure reference only



All American weighted gauge canner

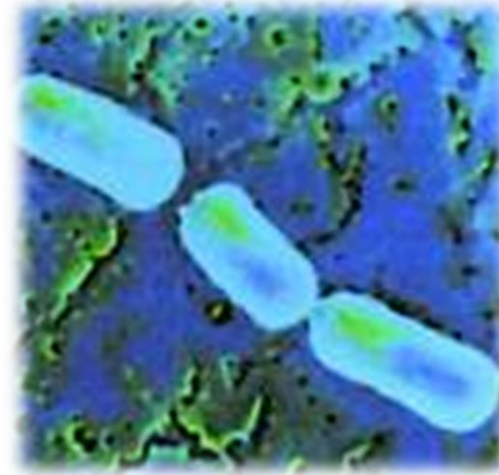
Pressure gauge for reference only; **not** used for canning.

See:
NCFSEN *Pressure Can it Right!*
NCHFP *Using Pressure Canners*

Take Care with Canning

Which bacterium is the greatest concern in canned food?

- A. *Salmonella*
- B. *E. coli*
- C. *Clostridium botulinum*
- D. There are no bacteria in canned foods



But I've always done it that way.....



Temperature (and Pressure) are Key!

▶ Acid Foods (most fruits, pickles, salsa)

- ▶ Jars of food surrounded by boiling water or pure steam (~212°F)
- ▶ Heat moves into the jar and destroys vegetative bacteria (*Salmonella*), yeast and mold

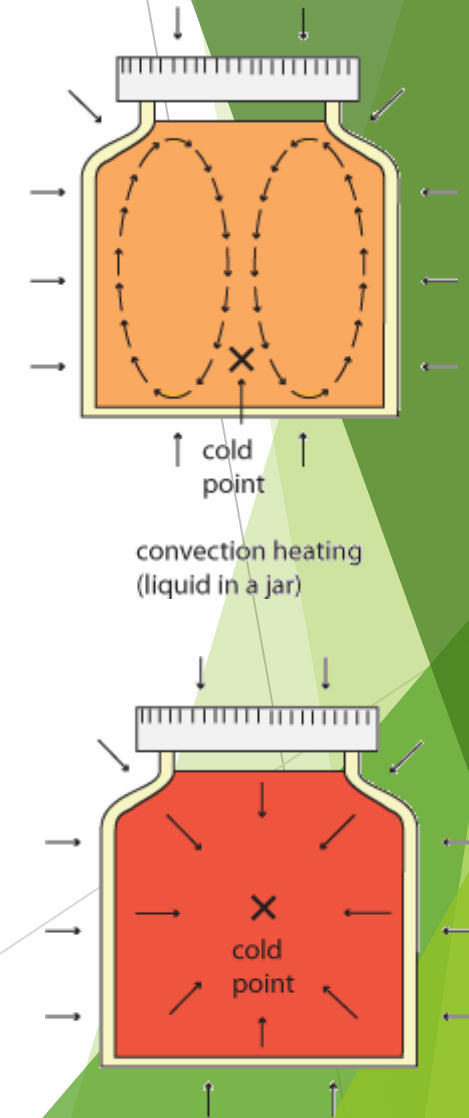
▶ Low-Acid Foods (vegetables, meat)

- ▶ Water → Steam → Pressure

Gauge pressure (psig)	0	6	10	15
Boiling point water (°F)	212	230	239	250

- ▶ High heat needed to destroy spores of *Clostridium botulinum*

Caution: Be sure to vent the canner. An environment of pure steam (no trapped air) is necessary to achieve the high temperatures needed for spore destruction.



5 Tips for Safe Canning

1. Add acid to tomatoes when canning

- ▶ Citric acid or bottled lemon juice

2. For crispy cucumbers, trim blossom end & pickle fresh

- ▶ Avoid alum (aluminum sulfate)
- ▶ Use pickling lime only when allowed in a tested recipe

3. To prevent floating fruit

- ▶ Let jam rest for 5-10 minutes (while you skim foam) before jarring
- ▶ Opt for a hot-pack method over raw-pack for fruits such as peaches
- ▶ Use a heavy syrup for fruit

4. Use approved lids and jars. Finger-tip tight!

5. Include a canning process (for shelf stability).

- ▶ Remove bands for storage.



What do you think?

What is key to canning safe food for your family?

- A. The jars all sealed
- B. Well, most of the jars sealed
- C. OK, some of the jars sealed
- D. You followed an up-to-date research tested recipe exactly as written and the jars all sealed



Freezing

- ▶ Blanch vegetables for quality prior to freezing
- ▶ Remember, freezing doesn't kill microbes
 - ▶ Thaw safely
 - ▶ Cook vegetables before eating
- ▶ Package to keep oxygen out and moisture in!
 - ▶ Glass, freezer storage bags, aluminum foil
- ▶ For best quality, label and use within 1 year
- ▶ Use the freezer to help prevent food waste



Best practices: <https://nchfp.uga.edu> and local Extension offices

Drying Foods at Home

- ▶ Pre-treatments protect quality
- ▶ Check temperature settings/take care with meat
- ▶ Consider - quantity and quality

- ▶ Use dried vegetables to flavor pasta, bread, soup
- ▶ Add dried fruits to cereal or breads; as a snack
- ▶ Avoid food waste (part #2)



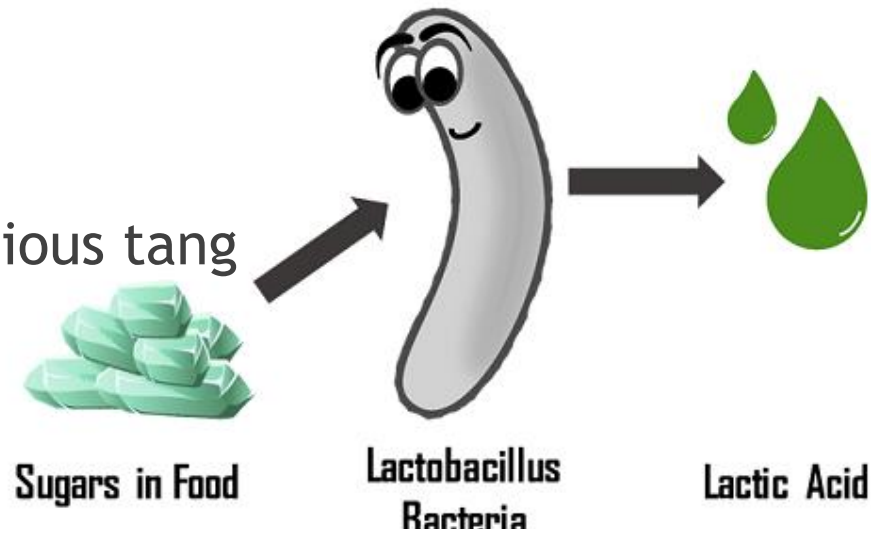
Freeze dryers - a new frontier. No research-tested recipes available (yet).

Tested recipes: National Center for Home Food Preservation - nchfp.uga.edu

Fermenting

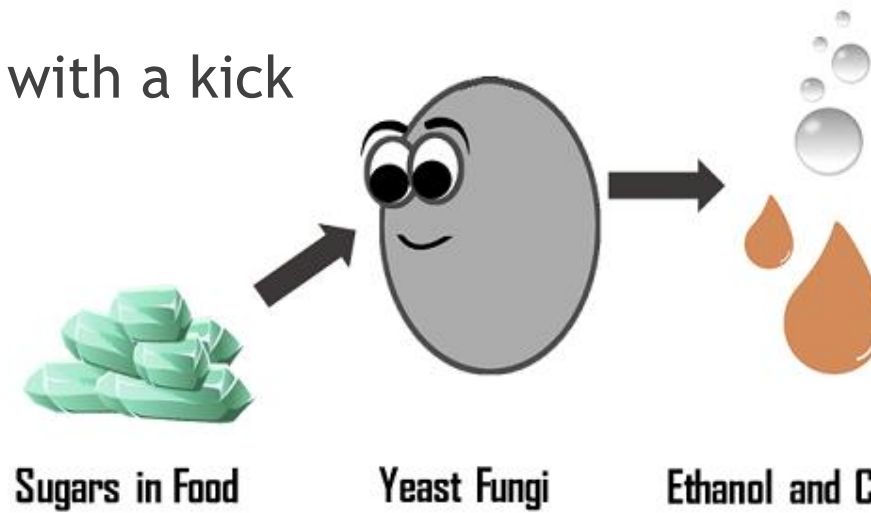
- ▶ Lactic acid fermentation - delicious tang

- ▶ Sour kraut
- ▶ Genuine dills
- ▶ Yogurt



- ▶ Ethanol fermentation - bubbles with a kick

- ▶ Beer
- ▶ Wine



- ▶ Kimchi, summer sausage,

A food safety hazard if not done safely.

Looking for reliable, research-tested information?

ADD [site: .edu](#) to your search term.

Example: Making wine at home [site: .edu](#)

Remember

- ▶ Up-to-date, research tested recipes
- ▶ Start slowly...Match the method with your goals
- ▶ Use the correct equipment

Ask for help or advice.

Once you know the correct methods, share what you know.



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