

Canning Low Acid Foods

Presented by Sue Mosbacher
 UC Master Food Preserver
 Coordinator
 April 3 & 4, 2025

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Today's Goals

1. Understand the similarities and differences between pressure canner models.
2. Identify processing steps for pressure canning.
3. Explain changes needed to pressure can general soup recipes.

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Pre-class Activities

- You read Chapter 5, completed the quiz, and checked out the resource materials
- You watched the 11 pre-class lessons
 - *Why pressure can*
 - *Pressure canner parts*
 - *Weighted gauge pressure canners*
 - *Dial gauge pressure canners*
 - *Pressure canning process*
 - *Pressure canning demo*
 - *Pressure canning recipes*
 - *Canning meat*
 - *Canning soup*
 - *Pressure canning safety*
 - *Testing gauges*


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Agenda

Class opening activities
 Mini breakout room
 Low Acid Canning Overview & Q&A
 Break (around 7:30/3:00)
 Converting Soup Recipes for Canning Activity
 Program group breakout rooms
 Closing activities

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Pressure Canning Comfort Zone

I'm already a pressure canning fanatic – I love it!	
Teach me, teach me! I'm excited to learn so I can do it at home and teach lasses!	
I don't plan on pressure canning, but I want to learn about it.	
Oh. My. Goodness. Those things scare the living daylight out of me!	









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Student Breakout Room Questions (5 min)

- What are the three stages of foodborne botulism?
- Why do you pressure can low-acid foods?
- What adjustments to processing do you need to make when pressure canning?

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Who Has a Pressure Canner?

 All American	Granite ware 
 Presto	T-Fal 
 Mirro (old)	Fagor 
 Mirro (new)	Zavor 




Digital Pressure Canner

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Presto Digital Pressure Canner

- Researched by Presto, reputable manufacturer
- Not independently evaluated by USDA or university research laboratory
- Not taught by Master Food Preservers
- If using for personal use, follow recipes in Presto's manual
 - NCHFP recipes designed for manual canners




Digital Pressure Canner

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Low Acid Canning

Overview



Pressure Canning Basics

- Sections 1- The Tools
 - Sanitizing and Disinfecting
 - Pressure Canning Parts
 - Running Heat: Canning in an Electric Multi-Cooker
 - Running Heat: Canning on Portable Burners
 - Running Heat: Canning in Pressure Cookers
 - Running Heat: Canning on Smooth Cooktops
- Section 2- The Process
 - Pressure Canning Basics
 - Pressure Steps Checklist
 - Avoiding Common (Major & Minor) Canning Mistakes
- Section 3- The Recipes
 - Ingredients
 - Timetables
 - Meats
 - Soups and Other Goodies

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Why Pressure Can? Poll




1. What's the main food safety goal of pressure canning?
 - A. To heat the product thoroughly
 - B. To prevent the growth of listeria monocytogenes
 - C. To destroy any Clostridium botulinum bacteria in the jar
2. What minimum temperature is needed to destroy Clostridium botulinum?
 - A. 212 degrees F
 - B. 240 degrees F
 - C. 260 degrees F
3. At sea level, what pressure is needed to reach the temperature needed to destroy the spore surrounding a Clostridium botulinum bacteria?
 - A. 10 psi
 - B. 10.5 psi
 - C. 11 psi
 - D. 11.5 psi
 - E. 15 psi
 - F. 15.5 psi
4. What creates the "perfect storm" in a jar?
 - A. low acid food, moisture, oxygen, cold temperature
 - B. low acid food, moisture, no oxygen, room temperature
 - C. high acid food, moisture, no oxygen, high temperature

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Which are dial-gauge canners? Poll

1.  2.  3. 

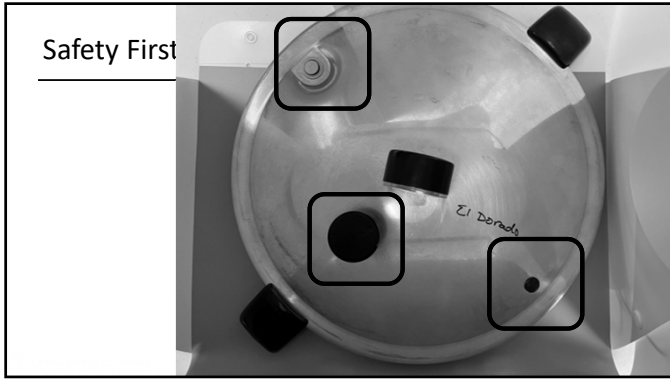
4.  5.  

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Safety First:

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Safety First

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Pressure Regulator

Poll

- What does it do? (*phrasing is important*)
 - Controls the pressure inside the canner
 - Regulates the pressure inside the canner
 - Maintains the pressure inside the canner
- How does it do that?
 - Jiggles and makes noise when above pressure to startle you into turning down the heat
 - Releases pressure from canner during processing to maintain correct setting
- Pressure increments?
 - 5, 10, 15
 - 5, 11, 15

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Pressure Regulator

Poll


• What's the type called & how do you know it's at pressure?

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Dial Gauge

- What does it do?
 - Regulates the pressure inside the canner
 - Reads the pressure inside the canner
- Why use it?
 - Easiest pressure canner to buy in a brick and mortar store
 - To have more flexibility with pressure increments
- How to control pressure?
 - Add a different pressure regulator
 - Adjust the burner heat
- Reliability?
 - Yes, always, why else would they be sold?
 - Yes, but you need to have the gauge checked for accuracy annually
 - Yes, but you need to have the gauge calibrated annually

Poll




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Dial Gauge

What's this?



Poll




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Dial Gauge

- What's this?
 - Single weight pressure regulator
 - Peacock
 - Petcock
- Which canner?
 - Old style Mirror
 - National
 - Old style All American
- Current safety features?
 - Yes, very solidly built
 - No, no removable parts
- What's open/close?
 - Up = open, Down = closed
 - Up = closed, Down = open

Poll



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<h3>Pressure Canning Process</h3> <hr/> <p>Compared to steam canning, 3 new steps</p>	<h4 style="background-color: #333; color: white; padding: 2px;">Canning Steps: Pressure</h4> <ol style="list-style-type: none"> 1. Use reputable, research-based recipe 2. Prep work area, food & jars 3. Heat 2-3" canner water (<i>not boiling</i>) <i>Hot pack: 180°F, Raw pack: 140°F</i> 4. Jars in canner; lid on; weight off; high heat 5. Vent 10 minutes 6. Weight on 7. Pressurize; lower heat to maintain pressure 8. Start timer; process; adjust heat as needed 9. Stop Timer off; heat off 10. Wait until pressure drops to 0 11. Weight off 12. Cool 10 minutes more 13. Lid off; jars out 14. Cool jars, undisturbed 12-24 hours <i>Check seal- remove rings; clean jars</i>
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<h3>Teaching Tips</h3> <hr/> <ul style="list-style-type: none"> • It takes so long to do a live demo! <ul style="list-style-type: none"> – Can just 1-2 jars of the product and fill the rest of the canner with open jars of water to take up space – Keep it simple – carrots – teach the process <ul style="list-style-type: none"> • Have the fancy stuff for show-and-tell – Magic spoon/wand <ul style="list-style-type: none"> • Carrots go in fridge for dinner – <i>tell them this!</i> – Set up 4 canners, each at a different stage of the process • BYOPC workshop: Can water 	<div style="text-align: right; font-size: small;">20</div>
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Agenda


- Class opening activities
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Break

Get your Soup recipe activity document



Canning Your Favorite Soup

What changes make it safe to pressure can?

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Canning Your Favorite Soup Recipe

Canning Soups: No Reputable Recipe?

- Select, wash, and prepare vegetables, meat and seafood.
- Cover meat with water, cook until tender. Cool meat, remove bones.
- Cook vegetables as described for a hot pack. For each cup of dried beans or peas, add 3 cups of water, boil 2 minutes, remove from heat, soak 1 hour, heat to boil and drain.
- Combine solid ingredients. Cover with broth, tomatoes, or water.
- Do not** add thickening agents before canning (hoodies or other pasta, rice, flour, cream, milk, etc.) **Do not** puree.
- Boil 5 minutes. Salt to taste, if desired.
- Fill jars with half solid mixture and half soup liquid, leaving 1-inch headspace.
- Place lids and rings on jars and process, adjusting for altitude.

Review pressure canning soups checklist:

- Any prohibited items? Dairy, noodles, rice, pureed, raw meat?
- Canned recipe? Processing time of 60 minutes for pints, 75 for quarts
- Adjusted for altitude?
- Enough liquid?
- Proper jar size? (pint or quart)

- Review checklist
- Make changes?

Soups in a weighted-gauge pressure canner at altitudes of:				
Style of Pack	Jar Size	Process Time	0 - 2,000 ft	Above 2,000 ft
Hot	Pints	60* min	10/10	13/10
	Quarts	75*	10	13

Soups in a dial-gauge pressure canner at altitudes of:					
Style of Pack	Jar Size	Process Time	0 - 2,000 ft	2,001 - 4,001 ft	4,001 - 6,001 ft
Hot	Pints	60* min	11 lb	12 lb	13 lb
	Quarts	75*	11	12	13

*Contains seafood? Process 100 minutes, adjust for altitude.

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Canning Your Favorite Soup Recipe

Review pressure canning soups checklist:

- Any prohibited items? Dairy, noodles, rice, pureed, raw
- Canned recipe? Processing time of 60 minutes for pints.
- Adjusted for altitude?
- Enough liquid?
- Proper jar size? (pint or quart)

- Review checklist
- Make changes?
- Let's do one! (*French onion, pg 8*)



University of California
Agriculture and Natural Resources
UCCE Master Food Preserver Program

Canning Your Favorite Soup

What changes make it safe to pressure can?
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Agenda

Class opening activities

Low Acid Canning Overview & Q&A

Break (*around 7:25/2:55*)

Converting Soup Recipes for Canning Activity

Small group breakout rooms

Closing activities

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Breakout Room: 30 minutes

Student facilitator; *MFPs guide as needed, not provide answers*

1. Quick introductions if needed
2. Pick a soup recipe (group's choice)
3. Using the format just practiced with French onion soup, as a group pick one recipe and discuss how you would modify the recipe to pressure can it.


Extra time? Work on a second recipe!

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Breakout Room Feedback/Questions

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Next Class: Dehydration

- Read Chapter 9 in training manual
- Watch Dehydration pre-class recordings
- Complete Dehydration Quiz
- Review handouts in Resources section

- Case Study #3 (April 4)
- Case Study #4 (May 2)
- Attend an MFP class: due May 9

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