• 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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Preserving Food Safely:
Home Food Preservation Update

April 20

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Scan for links!

Enjoy homegrown food year around
Preserves food at its peak
Great homemade taste!

Considerations

Source: PennState Extension, Preserving Food at Home Resource Guide, ©2022
The Science...Yes, it matters!

- Stops growth of microorganisms
  - Spoilage microorganisms
  - Pathogens
    - http://www.cdc.gov/features/homecanning/
- Inactivates enzymes
  - Change color
  - Affects texture
  - Changes flavor
  - Changes nutrition

Recipes

- Not recommended to can homemade (your own creation!) recipes
- Freeze homemade recipes for long-term storage

Adjusting for Altitude

Search Elevation Data at
https://www.daftlogic.com/sandbox-google-maps-find-altitude.htm
Pressure Gauge Testing

- Dial pressure gauges need yearly testing
- If more than 1 pound off, replace
- Weighted gauges do not need testing
  - 1 pound error in a 20-minute process causes over 10% decrease in sterilizing value
  - 2 pound error a 30% decrease
- We can only test
  - National
  - Presto
  - Magic Seal
  - Maid of Honor

All American Canners

ALL AMERICAN pressure cooker-canners are weighted-gauge canners. The pressure dial gauge is supplied as a reference only for when the unit is pressurized and timing for canning may roughly begin, or when the pressure has dropped to zero and the lid may be safely removed.

Older styles – get petcock replaced with weighted gauge

Presto Digital Pressure Canner

- Not tested by USDA!
  - Only meets USDA guidelines for processing
- Presto must stand behind their product


*The USDA and the National Center for Home Preservation provide guidelines for home canning. Neither agency certifies or approves home canning equipment.

Source: National Center for Home Food Preservation
Unsafe Processing Methods

- Dishwasher
- Oven or Microwave
- Open Kettle
- Canning Pressure Cooker
- Slow Cooker
- Electric Pressure Cooker

Put a Lid On It!

- Use two-pieced metal lid/ring
- Always use new lids – wash them!
- Current lids don’t need preheating
  - Do not boil! Just use simmering hot water

Types of Lids

- Buckled lid – ring screwed on too tight
- Hand Wash Rings
- New Lids
- Old Lids
- Screwed on too tight

How the seal forms

Air inside jars is replaced with condensed steam

- Wide and Regular mouth size
- Still use metal rings
- Water bath or pressure can
- FOLLOW THE DIRECTIONS FOR BEST RESULTS!!
- Univ. of Georgia did research
  - https://getd.libs.uga.edu/pdfs/sivanandam_g
  - getha_201412_ms.pdf

Reusable Lids

- Wide and Regular mouth size
- Still use metal rings
- Water bath or pressure can
- FOLLOW THE DIRECTIONS FOR BEST RESULTS!!
- Univ. of Georgia did research
  - https://reusablecanninglids.com/  
  - https://getd.libs.uga.edu/pdfs/sivanandam_g
  - getha_201412_ms.pdf

Jar It Right!

Do Not …

- Use Paraffin wax
  - Can cause mold growth
  - Heat processing prevents mold growth

Cured, Brined or Corned Beef – Safe to Can?

- In short, NO!
- Firmer and drier texture than fresh meat
- Curing ingredients could shorten processing times
  - C. botulinum more susceptible to heat
  - No research has been done!
- Freezing is the best choice

Freeze Drying

- Requires freeze drying machine
- Food placed in freeze dryer
- Food freezes at -30°F to -50°F under vacuum
- Sublimation converts ice from solid to water vapor
- Removes up to 98% water
- https://extension.psu.edu/lets-preserve-freeze-drying
Utah State University – Freeze Drying

- Buying a Home Freeze-Dryer: What to Know Before You Go
- Freeze Drying: Essential and Nice-to-have Tools and Supplies
  - [https://extension.usu.edu/preserve-the-harvest/freeze-drying](https://extension.usu.edu/preserve-the-harvest/freeze-drying)

Pickled Eggs

- There are no home canning directions for pickled eggs.
  - [https://nchfp.uga.edu/how/can_06/pickled_eggs.html](https://nchfp.uga.edu/how/can_06/pickled_eggs.html)
- Pickled eggs should be limited to no more than 2 hours in the temperature danger zone of 40 to 140 degrees F.
- Caution: Home pickled eggs stored at room temperature have caused botulism.
- No current research for water glass (sodium silicate) preserved eggs

Dairy Products

Despite what is found on the internet, there are no science-based methods for home canning of cheeses, milk, butter or other dairy products.

- [https://www.clemson.edu/extension/food/canning/canning-tips/38canning-dairy-products.html](https://www.clemson.edu/extension/food/canning/canning-tips/38canning-dairy-products.html)
- [https://nchfp.uga.edu/questions/FAQ_canning.html#33](https://nchfp.uga.edu/questions/FAQ_canning.html#33)
Fermentation

Sourdough Starter – a balance of art and science!
- Managing an ecosystem of microscopic yeast and bacteria
  - Time, temperature, moisture, acidity, nutrients, oxygen
- Control factors for microbial survival and growth
  - Safe food-handling procedures
  - Flour is a raw food! Do not taste raw sourdough starter!
  - Baking is the kill step
  - Wild yeast are inactive, but activate in the presence of water
- Take care of your starter!

Fermentation

Kimchi
- Flavorful, sour, salty fermented vegetables
- More than 200 variations
- Brining draws out water
- ‘Wild cultures’ ferment vegetables
- Short fermentation time

Fermentation

Kombucha
- Effervescent, cider-like beverage from fermenting sweet tea
- Starter culture is SCOBY
- Contains live bacteria, yeasts, organic acids, B vitamins, antioxidants, trace minerals
- Limited research on health benefits
- Alcohol content can be above 0.5% by volume
How to Learn to Preserve Food at Home

- Michigan State University - online classes
  - https://www.canr.msu.edu/foodpreservation/food_preservation_online_course
- Penn State University - online classes
- NDSU resources
  - https://www.ag.ndsu.edu/extension/features/food-preservation
- Kansas State University
  - https://www.rrc.k-state.edu/preservation/index.html

Newsletter

Scan the QR code and sign up for the NCR Preserve it Fresh, Preserve it Safe bi-monthly newsletter!

Learn More!
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