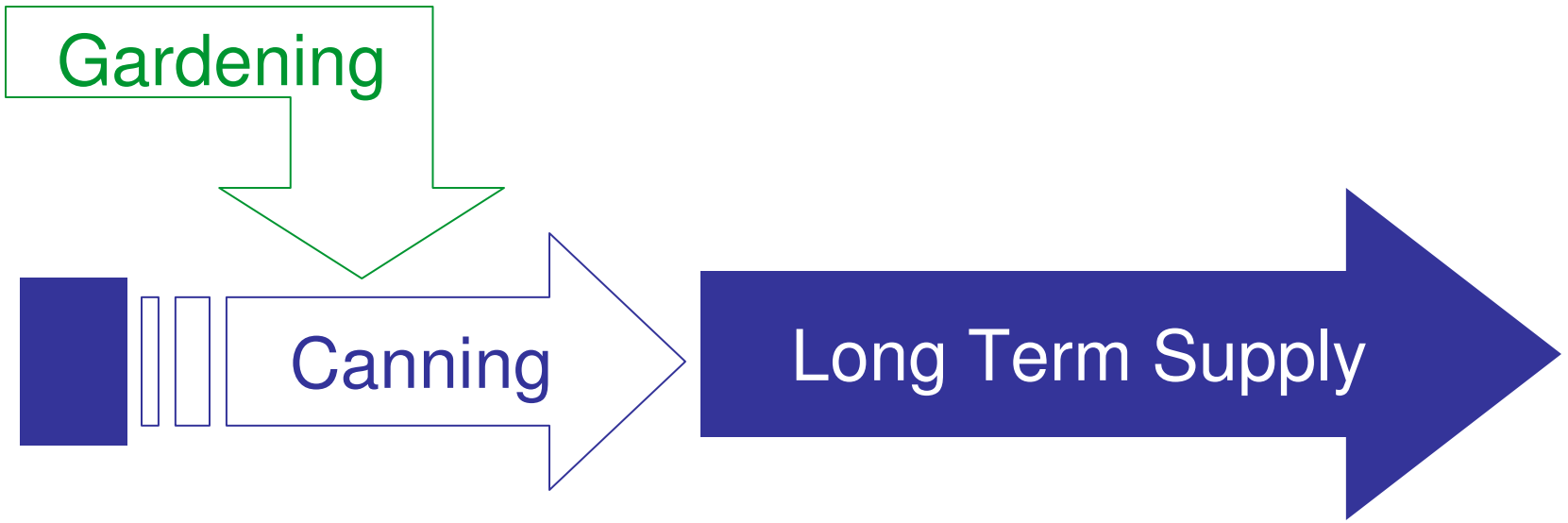
Home Canning

Hamilton County Preppers

February 26, 2012

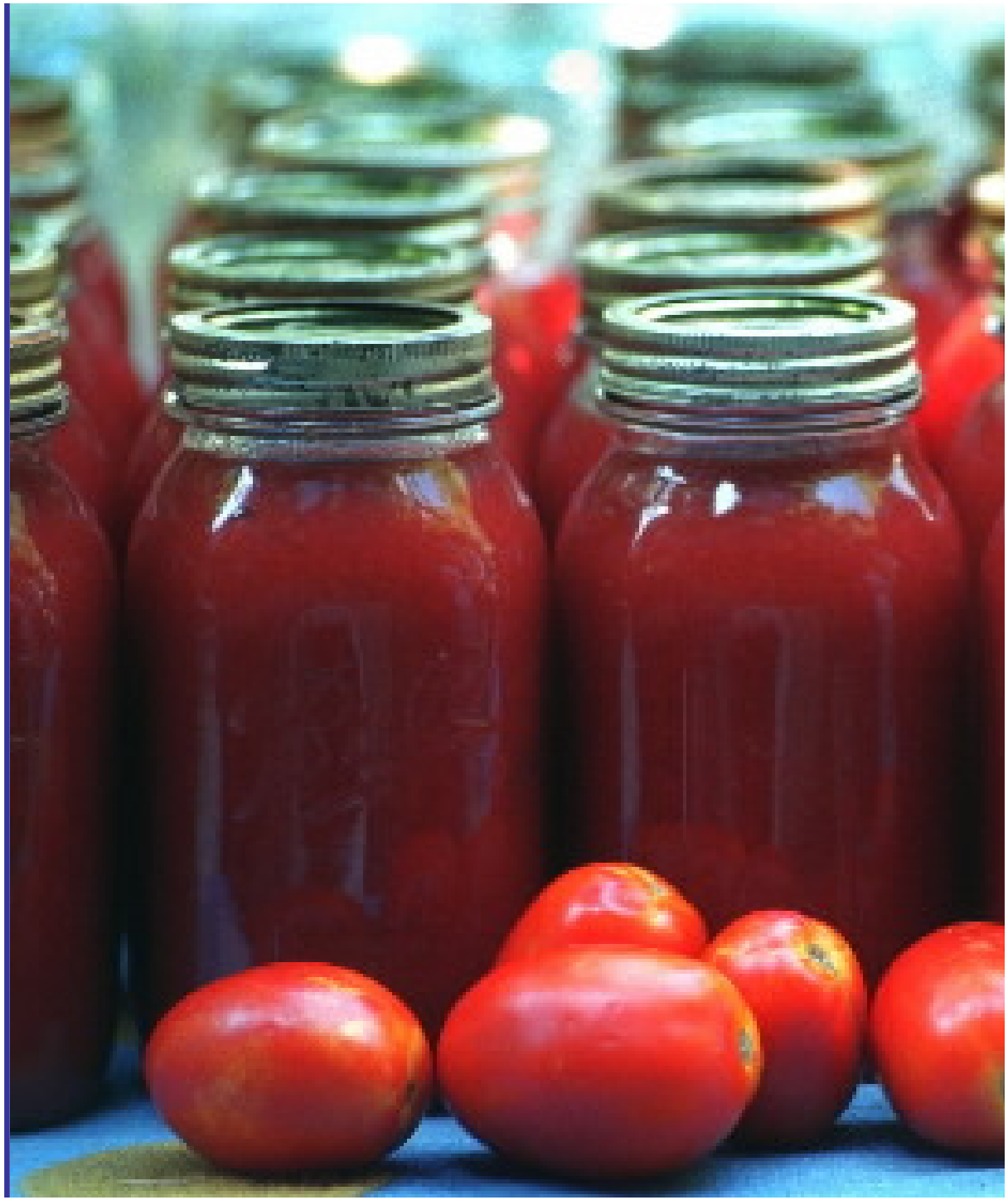
Why Bother?

Canning Extends Long Term Supplies



Overview

- Equipment
  - Canners
  - Jars, Lids & Bands
  - Specialty Tools
- How To
  - Fill Jars
  - Process
  - Store Your Goods
- Supplies to Keep
- Resources



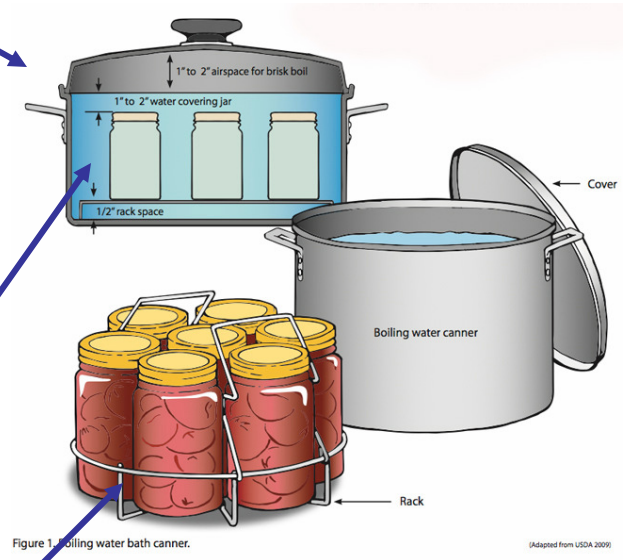
Boiling-Water Canners

DO NOT USE FOR LOW ACID FOODS
TEMPERATURE NOT SUFFICIENT TO DESTROY CERTAIN BACTERIAL
SPORES & TOXINS WHICH CAN LEAD TO DEADLY BOTULISM

Boiling-Water Canner

- Use for High-Acid Foods (pH 4.6 or less)
  - Examples: lemons, pickles, tomatoes
- Boiling water completely surrounds jar and two-piece cap
- 212°F temperature maintained for time specified in recipe
- Method sufficient to destroy molds, yeasts and some bacteria, as well as to inactivate enzymes

Lid – Keeps water boiling during processing period



Rack – Holds jars off bottom of canner, keeps upright

Base – Deep enough to cover jars with 1-2” Water & 1-2” Air

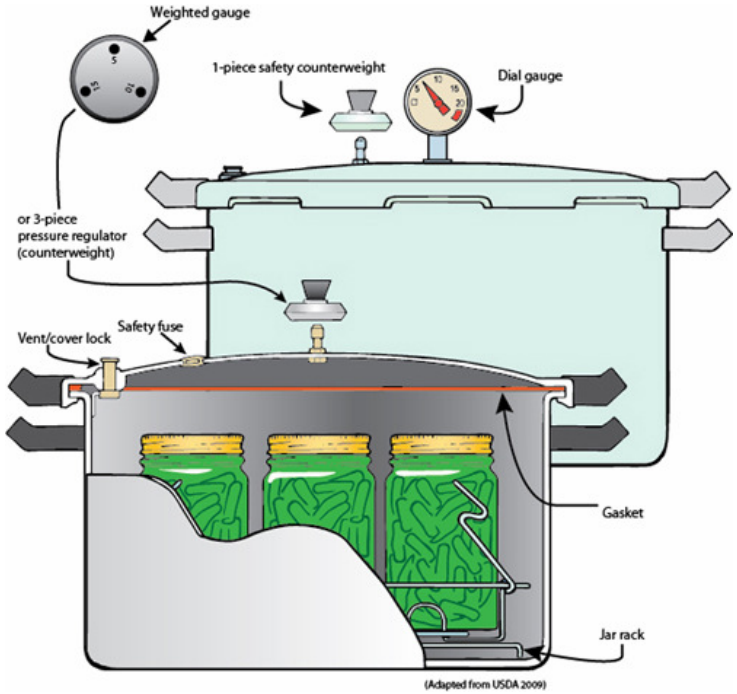
Steam-Pressure Canners

Steam-Pressure Canner

- Use for Low-Acid Foods (pH 4.7 or greater)
  - Examples: Vegetables, Meat, Poultry, Seafood, combination stews/sauces with pH >4.6
- To destroy bacteria & spores, low-acid foods must be heated to a temperature of 240°F and held there for the time specified in recipe
- Pressurized steam in canner allows temperature to exceed boiling point of water

Parts

- Pressure Dial Gauge – registers pressure in pounds per square inch (PSI)
- Pressure Regulator – Acts as safety device to prevent pressure in excess of 15lbs
- Vent Pipe – Primary pressure relief valve; regulator sits loosely on vent pipe
- Safety Fuse – overpressure plug, typically rubber, pops out to release pressure if vent becomes clogged
- Gasket/Sealing Ring – Forms pressure-tight seal between cover and body during canning
- Air Vent/Cover Lock – automatically vents air from canner; visual indicator of pressure. Engages locking bracket when pressurized to prevent opening of cover



Jars

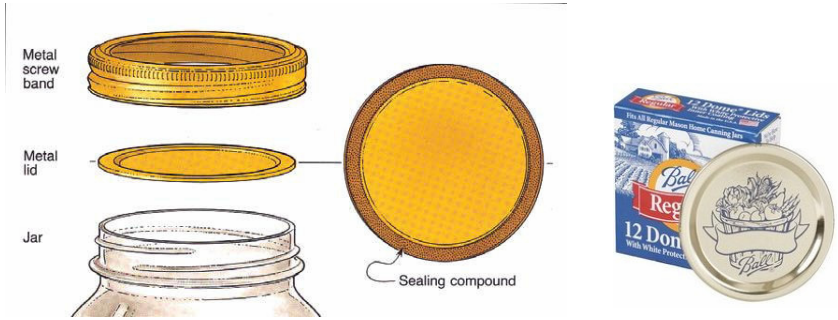
Jars

- Glass “Mason” jars
  - Manufactured to withstand heat of pressure canners
  - Made to fit home canning lids
    - Regular & Wide Mouth
  - Various sizes
    - Common: Quart, Pint, 8oz or 12oz Jelly Jars
- Preparation
  - Inspect for cracks, nicks, defects
  - Wash in hot, soapy water. Dishwasher OK
  - DO NOT use steel wool or abrasives that may damage glass
  - Jars must be heated for 10 minutes in simmering water (180°F) prior to filling; keep jars simmering until needed

Lids & Bands

Lids & Bands

- Two-piece vacuum caps
  - Regular & Wide Mouth
- Lid – Flat metal with a flanged edge, sealing compound on underside.
  - NOT REUSEABLE – STOCK UP
- Band – Threaded metal screw band fits over rim of jar and holds lid in place during processing
  - Can be reused if in good condition (no rust, etc.)
  - Good idea to stock up just in case!
- Preparation
  - Choose appropriate size caps for jars you'll be using
  - NEW LIDS ONLY
  - Wash two-piece caps in hot, soapy water
  - Rinse in hot water
  - Do not use abrasive materials or cleansers
  - Dry bands and set aside
  - LIDS MUST BE HEATED
    - Simmer in water for minimum 10 minutes at 180°F
      - Saucepan is perfect for this
    - Remove one at a time as needed



Specialty Tools

Jar Funnel

- Makes it WAY easier to fill jars quickly & neatly

Bubble Remover & Headspace Tool

- Use to remove trapped air from jars
- Gradations help accurately measure headspace

Lid Wand

- Magnetic end for retrieving lids from hot water

Food Scale

Jar Lifter

- Tongs made for pulling hot jars out of canner

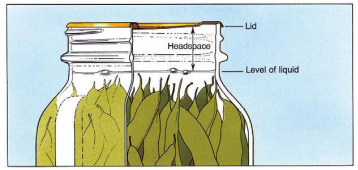
Filling Jars

Hot Pack

- Preferred for relatively firm foods
- Pre-cooking makes food pliable and allows for tighter packing and fewer jars
- Food is first cooked in brine, syrup, juice or water
- Preferred method for fruits without sweetening, nearly all vegetables, meats, poultry, seafoods and most fruits.

Raw Pack

- Foods that would be delicate after they are cooked (peaches) are usually easier to handle if raw packed
- Food is placed into jars while raw
- Pack firmly but do not crush
- Boiling brine, syrup, juice or water is poured over the raw food



Measuring Headspace

- Headspace - Space between top of food or liquid and inside of lid
- General Rule:
  - Low-Acid Foods, Vegetables & Meats: Leave 1 inch
  - High-Acid Foods, Fruits & Tomatoes: Leave ½ inch
  - Juices, Jams, Jelly, Pickles, Relish: Leave ¼ inch

Removing Air Bubbles

- After food has been packed, air bubbles must be removed from jar
- Place non-metallic spatula or bubble remover inside jar, between food and side of jar
- Press spatula against food to release trapped air.
- Repeat several times around inside of jar

Cleaning Jar Rims

- The rim of the jar must be wiped with a clean, damp cloth.
- Particles of food on the rim can prevent a vacuum seal

Adjusting Lids & Bands

- After each jar is filled and cleaned:
  - Place lid on jar rim, centering sealing compound on glass
  - Place a band over the lid and screw it onto jar, finger-tight. Should be firm and snug but not as tight as you can make it.

Processing

Boiling-Water

1. Fill boiling-water canner ½ full with water and bring to a simmer. Position canner rack over simmering water.
2. Prepare recipe. Fill jars & adjust caps.
3. Place jars on canner rack immediately after each jar is filled. Carefully lower rack into simmering water. Water level must cover jars and two-piece vacuum caps by 1-2 inches. Add boiling water if needed.
4. Put canner lid in place. Adjust heat to Med/High, bringing water to rolling boil. Set timer according to recipe and maintain rolling boil for entire processing time.
5. After processing period is complete, turn off heat and remove canner lid. Let canner cool 5 minutes before removing jars
6. Remove jars from canner, setting upright on a dry towel or cutting board to cool. Leave 1-2 inches of space between jars. Do not tighten bands if they loosened during processing. Let jars cool naturally 12-24 hours before checking for seal.

Steam-Pressure

1. Put canner rack inside canner base. Add 2-3 inches of water. Heat water to a simmer.
2. Prepare recipe. Fill jars and adjust caps.
3. Place jars on canner rack immediately after each jar is filled. Lock canner lid securely in place. Leave weight off vent pipe. Adjust heat to Med/High until steam flows evenly from the vent pipe. Exhaust steam from canner for 10 minutes.
4. Place pressure regulator on vent pipe. The canner should pressurize in ~5 minutes. After gauge indicates recommended PSI, adjust heat to maintain pressure for entire processing period. Set timer according to recipe.
5. After processing period is complete, turn off heat. Allow the canner to cool naturally. Do not remove the regulator or open the vent until the canner has depressurized and returned to zero pressure. Remove regulator. Unlock lid and lift it off the canner base, being careful that steam escapes away from you. Let canner cool 10 minutes before removing jars.
6. Remove jars from canner, setting upright on a dry towel or cutting board to cool. Leave 1-2 inches of space between jars. Do not tighten bands if they loosened during processing. Let jars cool naturally 12-24 hours before checking for seal.

After Processing

Cooling

- Allow jars to cool 12-24 hours
- Prevent exposure to extreme drafts or temperature changes that could result in jar breakage
- Inverting, moving, or storing jars in a box while warm can lead to seal failure and spoilage
- Do not adjust bands after processing
- Food shrinks from heat processing and you may notice a decrease in food or liquid levels; do not open the jars. They should be stored as-is.

Testing Seals

- After jars have cooled 12-24 hours, test lids to determine if vacuum seal has formed
- Best Method:
  - Press center of lid to determine if it is concave; then remove band and gently try to lift the lid off with your fingertips.
  - If the center does not flex down and you cannot lift the lid off, the lid has a good vacuum seal
- Listening for a “ping” when the lid seals is not always an accurate test.

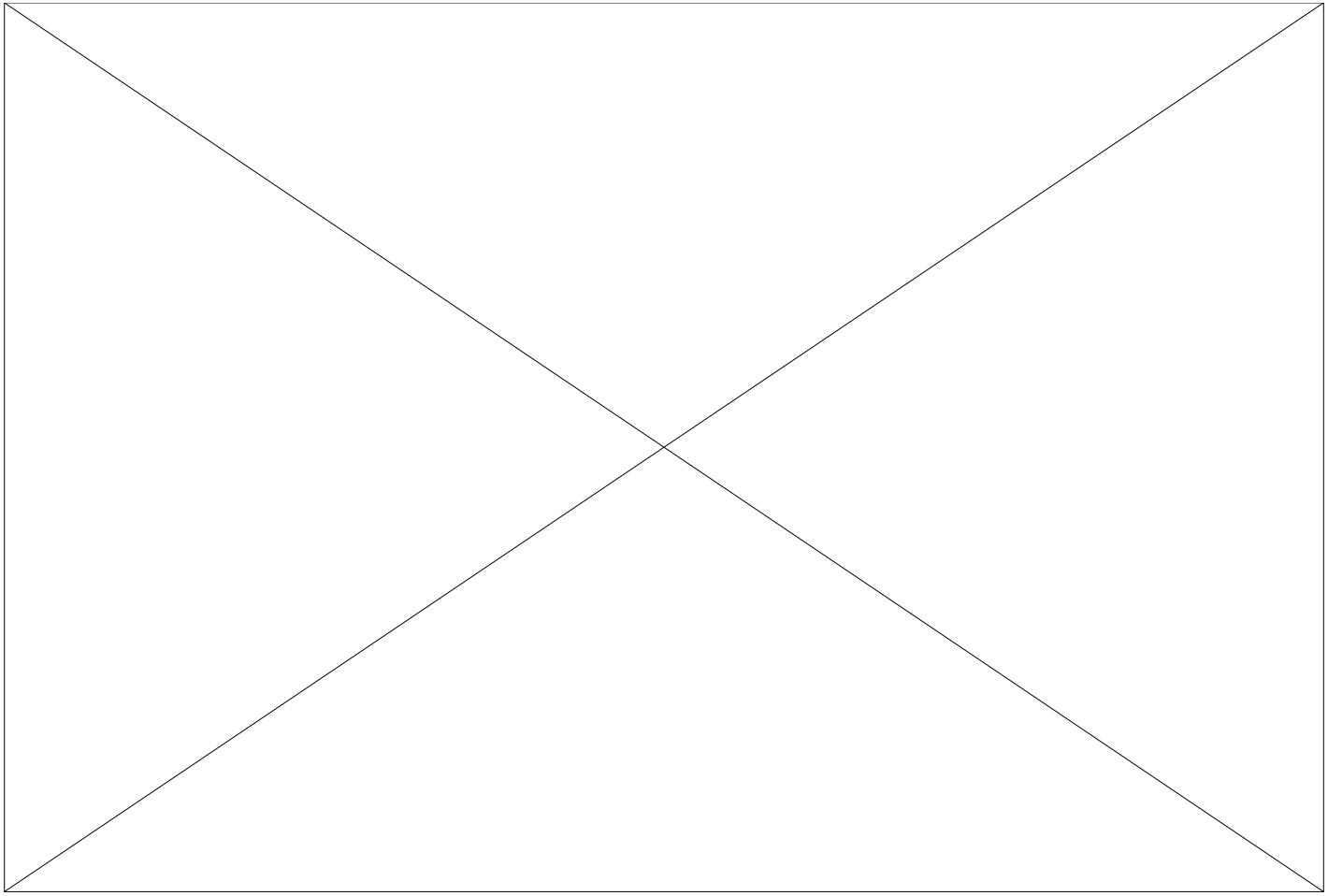
Unsealed Jars?

- If a lid does not seal within 24 hours, the product can be immediately reprocessed.
- To Reprocess:
  - Remove lid
  - Reheat food or liquid as recommended by recipe
  - Pack food into clean, hot jars
  - Place a new, heated lid on the jar and adjust band
  - Reprocess the product using the canning method and full length of processing time recommended by the recipe
- If you determine the lid did not seal because of damage to the jar, dispose of the jar and its contents.
- You may want to consider alternate storage methods (freezing, refrigeration) for foods that did not seal.

Storage

- Properly canned foods can be safely stored for one year. After one year, natural chemical changes may occur that could lessen quality.
  - Flavor
  - Color
  - Texture
  - Nutritional Value
- Rotate inventory; always use oldest canned foods first
- Label each jar with date processed and contents
- Before storing sealed jars, remove bands and wash lids and entire surface of jar to remove any food residue. Bands stored on jars may corrode and become difficult to remove.
- Ideal temperature range for storage is 50-70°F.
  - Loss of nourishing qualities will be accelerated in temperatures above 70°F
  - Freezing temperatures should also be avoided as food expansion could break seal
- Keep in cool, dry, dark place.
  - No direct sunlight.
  - Light hastens oxidation and destroys certain vitamins.

All Together



Supplies

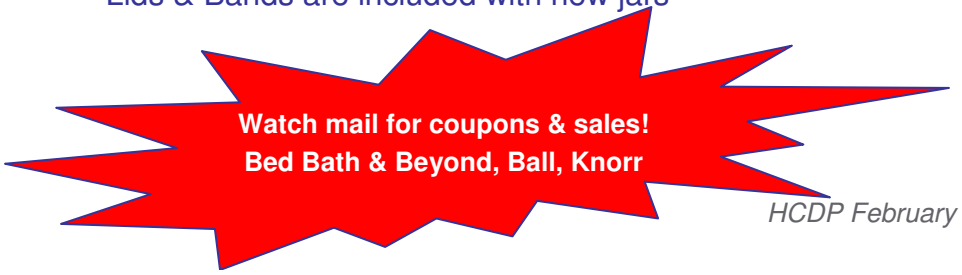
- Vinegar (labeled 5% acidity or 50 grain) – Provides tart taste and acts as preservative
  - High Grade Cider
  - White Distilled
- Acid - Bottled Lemon Juice (stock up) – adds flavor, helps gel formation of soft spreads
- Sweeteners
  - Sugar – Helps fruit retain bright color and firm texture; helps in gel formation
  - Brown Sugar
  - Honey
  - Corn Syrup
  - Non-Sugar sweeteners may be used but they may develop an off-flavor when heated in cooking or processing. For best results, apply non-sugar sweeteners just before serving canned fruit.
- Antioxidants – Protect color and flavor of fruits and vegetables that tend to darken when peeled or cut
  - Fresh-Fruit®, commercial ascorbic acid, or combination of ascorbic and citric acids
- Spices and Flavorings
  - Spices, herbs, wines, liqueurs
  - Pickling mixtures
  - Spaghetti seasonings (Mrs. Wages or similar)
- Fruit Pectin – aids in gelling soft spreads
  - Available in powder and liquid forms. NOT INTERCHANGEABLE. Get both.
  - Sure-Jell Dry Pectin or CERTO® Liquid Fruit Pectin
- Pickling/Canning Salt
- Salt
- Cheesecloth or Jelly Bag – used for straining seeds from berries, etc.
- Lids and Bands – stock up on both. Make sure you have both regular and wide mouth sizes.
- Heirloom seeds for gardening!!!

Budgeting (Equipment)

Item	Approximate Cost
Boiling Water Canner	$30-$60
Pressure Canner*	$90-$200
Quart Jars (1 Dozen)**	$10-15
Pint Jars (1 Dozen)**	$9-12
12 oz Jelly Jars (1 Dozen)**	$12-15
8 oz Jelly Jars (1 Dozen)**	$9-12
Lids (1 Dozen)	$2
Bands (1 Dozen, with 1 Dozen Lids)	$5
Canning Utensils	$10-15
Food Scale	$20

* Pressure Canners can typically double as Boiling Water Canners

** Lids & Bands are included with new jars



Likely Investment	
Canner	$120
Jars	$200
Other	$50
Total	**$370**

Resources

- Ball Blue Book Guide to Preserving
  - Recipes for pretty much everything
  - Order at Amazon or elsewhere online
  - *Utilized heavily for this content
- Ball Canning & Preserving Web Site
  - www.FreshPreserving.com
  - Great Example Video (Canning Tomatoes)
    - http://youtu.be/uMUFIkg39oM
- Tattler Reusable Canning Lids
  - BPA Free
  - http://www.reusablecanninglids.com
- Presto Pressure Cookers & Canners
  - www.gopresto.com