



Preserve Today, Relish Tomorrow

UCCE Master Food Preservers of El Dorado County

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Relish Your Harvest Quick-Process Pickling Fundamentals

Use the Right Equipment

- Standard canning jars, lids, and rings must be used.
- A deep, non-reactive kettle, stainless steel, enameled, or glass, must be used for cooking the product.
- Use a reputable recipe for the best results, as these recipes have been tested for quality, flavor, and safety.

Open Kettle Canning

- Open kettle canning involves heating the food to boiling, pouring it into the jars, applying lids, and allowing the heat of the jar to cause the lid to seal, without further processing.
- The USDA does not recommend this method of canning.

Use the Best Ingredients

- Select produce of good flavor and color, but not fully ripe.
- Cane or beet sugar can be used with equal success.

Getting Ready: Be Prepared!

- Read the recipe thoroughly before you begin. Measure out all ingredients and have all needed utensils at hand. Make sure your vinegar is 5% acidity (read label).
- Do not change the quantities of produce nor vinegar in any recipe, unless specified in a tested recipe.
- Check the jar for flaws. Wash jars, lids, and rings in hot soapy water and rinse well. Place clean jars into the boiling water canner and heat the jars.
- To prepare lids, follow the manufacturer's directions on the lid package; some say to heat and some say just wash.

Fill and Seal Jars Properly

- Fill hot jars with hot mixture. Leave headspace specified in the recipe.
- Wipe the rim with a clean, damp, paper towel.
- Place lids and rings on jars. Tighten the rings only fingertip tight.
- Paraffin, as a sealing agent, is not recommended.

Boiling Water Canner Processing

- Place jars in a canner with a spacer or rack in the bottom of the canner. The jars should not sit directly on the bottom of the canner. Water should be very hot but not boiling. Add enough water to cover the tops of the jars by at least 1".
- Place lid on canner. Bring the water to a rolling boil then reduce the heat to a gentle boil. Begin to count processing time when the water comes to a boil. Process for the time indicated in the recipe.

Atmospheric Steam Canners

- Use a research tested recipe and processing time developed for a boiling water canner when using an atmospheric steam canner. An atmospheric steam canner may be used with recipes approved for half-pint, pint, or quart jars.
- If using a canner with a temperature sensor, begin processing time when the temperature marker is in the green zone for your altitude. If using a canner without a temperature sensor, begin processing time when a steady stream of steam, 4-6 inches long, is visible from the vent hole(s).
- Caution! The gauge on atmospheric steam canner cannot be calibrated. Therefore, one should not depend on them for accuracy. Just use them as a guide. Always check the steam plume.
- Set the timer for the total minutes required for processing the food, adjusting for altitude. Processing time must be limited to 45 minutes or less, including any modification for elevation. The processing time is limited by the amount of water in the canner base. When processing food, do not open the canner to add water.
- Monitor the temperature sensor and/or steady stream of steam throughout the entire timed process. Regulate heat so that the canner maintains a temperature of 212°F.
- A canner that is boiling too vigorously can boil dry within 20 minutes. If a canner boils dry, the food is considered under-processed and therefore potentially unsafe.
- Maintain a gentle boil. Aside from keeping the jars from rattling around and bumping into each other and possibly breaking, there's another reason – canner belching. If it's boiling hard the lid may rise up just a little and belch out some steam. It will also suck cold air in!
- At the end of the processing time, turn off the heat, wait 2-3 minutes and remove the lid, lifting the lid away from you.

Adjusting for Altitude

- Not everybody lives at the same altitude. At sea level, water boils at 212F. All recipes are developed using sea level as the criteria for processing times. At higher altitudes water will boil at a lower degree.
- Adjustments have to be made to ensure safe canning. If you are at a higher altitude you must adjust the processing times according to the included chart.

Altitude Chart	
Altitude in feet	Increase processing time
1000 - 3000	5 minutes
3001 - 6000	10 minutes
Above 6001	15 minutes

Food safety tips

- Wash hands and forearms frequently: after using toilet, after changing baby's soiled diaper, after touching animals, before handling food, and after touching raw meat, fish and poultry.
- 20-second rule: wash hands for 20-seconds.
- Use disposable gloves if you have a cut or sore on your hands.

When in doubt - throw it out

- DANGER - Never taste food that looks or smells strange to see if it can still be used. Just discard it.
- Generally foods that contain bacteria will look, smell, and taste normal.
- Generally speaking most bacteria that cause food borne illness are odorless, colorless, and tasteless.

General cleaning tips

- Run sponges and pot scrubbers through the dishwasher frequently.
- Change dish cloths daily.
- Mop up spilled juices from meat, fish or poultry immediately using a disposable paper towel.
- Use a disinfecting solution consisting of 1 ½ teaspoon of chlorine bleach to 1 pint of water. Dispense with a spray bottle to disinfect countertops, cutting surfaces, etc. Make a new solution every week.
- AVOID CROSS CONTAMINATION. ALWAYS wash your hands, knives, cutting boards, and food preparation surfaces well with soapy water before and after any contact with raw meat, fish, or poultry.
- Rinse all fresh fruits and vegetables well under running water before preparing or eating them. Do not soak.

Basic canning tips

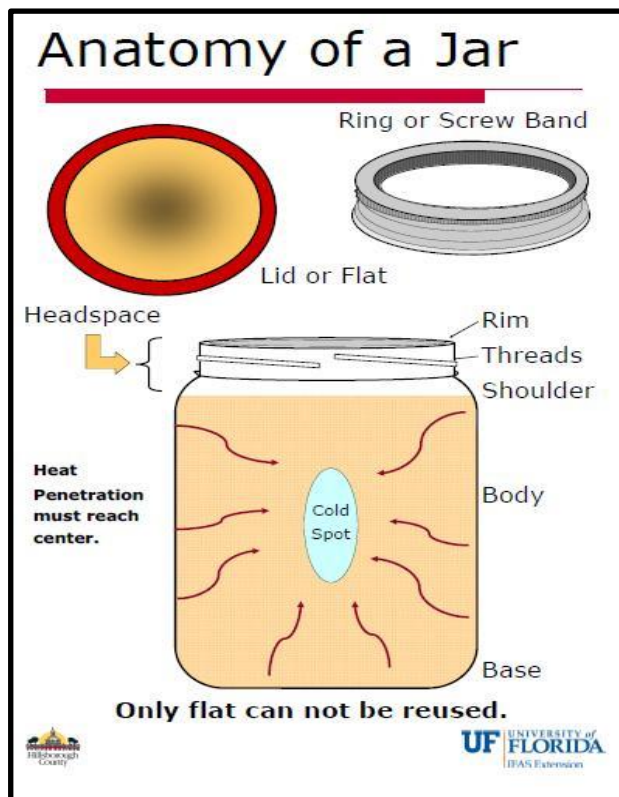
- Remove the jars from the canner as stated in the recipe. When you remove the jars from the canner after processing, hold upright; do not disturb the seal. Do not retighten the rings.
- Place the hot jars on a rack or folded towel away from drafts. Keep the jars separated so they will cool evenly.
- Leave the ring bands on the jars until they have cooled thoroughly. Do not try to dump the water off the lids.
- Some canning books still recommend inverting jars after removing them from the boiling water canner. The USDA does not recommend this method.
- After the jars have cooled (allow 24 hours), remove the ring bands. Look at the top of each jar. If the lid is slightly concave, it indicates a seal. Test the seal by pressing on the lid with your finger; the lid should not give. If you are not sure a jar is sealed, carefully lift the jar by the lid after removing the ring band. If not properly sealed, the lid will come off.
- Remove ring bands. Wash and dry ring bands and store for later use. Store jars without rings.
- Clean the jars to remove sticky residue.
- Label and date the jars, and store in a cool, dark, dry area.

Reprocessing

- If a jar does not seal, refrigerate and use within a few days, or reprocess it within 24 hours using a new metal lid. Check the jar for flaws. Process by the method originally advised and for the full length of time.



Image source: US Department of Agriculture



Relishes

Relishes are the perfect complement to add interest to a meal or appetizer. Relishes are made from chopped fruits and/or vegetables cooked to a desired consistency in a spiced vinegar solution. The blending of these ingredients adds a slightly sweet and satisfyingly savory touch to special dishes or to simply top off a hotdog at a cookout! Either way, relishes are popular and come in many flavors.

The level of acidity in a relish is as important to safety as it is to taste and texture. When canning, never alter the proportions of vinegar, food, or water in a recipe and use only tested recipes for canning distinctive flavors. By using tested recipes and following proper procedures, you can prevent the growth of *Clostridium botulinum*, which causes a type of food poisoning that can be fatal (botulism).

Produce

Select tender vegetables and firm fruits that show no signs of mold or decay. To ensure quality, plan to make the relish within 24 hours after the fruits and vegetables are picked. If using cucumbers, always use a pickling variety of cucumber. Do not expect good quality pickled products if you use "table" or "slicing" cucumbers. If you buy cucumbers, select unwaxed ones for pickling because the brine or pickling solutions cannot penetrate the wax. Just before pickling, sort the fruits and vegetables and select the size best suited for the specific recipe. Rinse thoroughly under running water, especially around the stems. Soil trapped here can be a source of bacteria responsible for the softening of pickles. Do not use soap or detergent. Be sure to remove a 1/16-inch slice from the blossom end of the vegetables since it contains enzymes that also can cause softening.

Salt

Use canning or pickling salt. Table salt contains anti-caking ingredients which can cloud the brine. Since flake salt varies in density (grain size), it is not recommended for making pickled and fermented foods. (If you must substitute Kosher salt, it is lighter than canning salt so you need to use the same amount of salt by weight, not volume.

In our class experiment, **1/2 cup pickling salt = 1 cup plus 2 Tablespoons Kosher salt.**

Vinegar

The level of acidity in a pickled product is as important to its safety as it is to taste and texture. When pickling, always use high-quality commercial vinegars with 5% acidity or higher (also listed as 50-grain). The acidity should be listed on the label; if not, assume it is not 5%.

- Do not alter vinegar, food, or water proportions in a recipe or use a vinegar with unknown acidity. Doing so may alter its preservative effect and undermine the safety of the product.
- Use only recipes with tested proportions of ingredients.
- White distilled and cider vinegars of 5% acidity are recommended. White vinegar is usually preferred when light color is desirable.
- Do not use homemade vinegar as the acidity is unknown. It also produces a cloudy brine that may make your products appear spoiled.

Water

- Soft water makes the best brine for pickles
- Hard water may cause cloudiness in the brine and discolor pickles. If only hard water is available, boil and let sit for 24 hours. Skim off scum and use water from the top of the container without disturbing the sediment.

Sugars

White granulated and brown sugars are most often used. Corn syrup and honey, unless called for in reliable recipes, may produce undesirable flavors.

Spices

Use fresh whole spices for the best quality and flavor in pickles. Powdered spices may cause the product to darken and become cloudy. Relishes will darken less if you tie whole spices loosely in a clean white cloth or cheesecloth bag and then remove the bag from the product before packing the jars.

Preventing Spoilage

Pickle products are subject to spoilage from microorganisms, particularly yeasts and molds, as well as enzymes that may affect flavor, color, and texture. Processing the pickles in a boiling-water or steam canner will prevent these problems. Standard canning jars and self-sealing lids are recommended. Processing times and procedures will vary according to food acidity and the size of food pieces.

Tips For Making Relish

- Cut all produce the same size to insure even cooking and even heat penetration during processing.
- Use unwaxed cucumbers. Brine cannot penetrate through wax.
- If pickling cucumbers are not available, consider removing the seeds from field cucumbers to reduce the amount of liquid.
- Remove the blossom end of the cucumbers and zucchini.
- A pepper is a pepper; mild or hot. Feel free to mix and match peppers to suit your taste.
- All onions are interchangeable EXCEPT green onions. Green onions cannot be substituted for other onions.
- Zucchini may be substituted for cucumbers in pickling recipes, and vice versa.
- Tomatillos may be substituted for tomatoes in pickling recipes, and vice versa.
- Use DRIED herbs and spices to customize your relishes to suit your taste.
- Use thickening agents such as flour or Clear Jel only when specified in a tested recipe.

Homemade Pickling Spice

Yield: ½ cup

- | | |
|--|--|
| • 1 cinnamon stick (about 4 inches) broken into pieces | • 1 Tbsp. ground ginger |
| • 5 bay leaves, crushed | • 1 Tbsp. dill seeds |
| • 2 Tbsp. mustard seeds | • 2 tsp. cardamom seeds |
| • 1 Tbsp. whole allspice | • 1 to 2 tsp. hot pepper flakes (optional) |
| • 1 Tbsp. coriander seeds | • 1 tsp. whole cloves |
| • 1 Tbsp. whole black peppercorns | |

In a small glass or stainless-steel bowl combine all ingredients. Stir well. Store in jars or another air-tight container for up to 1 year

Chow-Chow Relish

Yield: about seven 8-oz jars

- 2 cups diced English cucumber
- 1 ½ cups diced seeded red bell peppers
- 1 ½ cups diced green cabbage
- 1 ½ cups diced onions
- 1 ½ cups diced green tomatoes, unpeeled
- 9 cups water, divided
- 1 cup salt pickling (or canning salt)
- 3 cups white vinegar
- 2 ½ cups granulated sugar
- 3 Tbsp mustard seeds
- 2 Tbsp celery seeds
- 1 Tbsp turmeric
- 1 ½ cups diced green beans, blanched
- 1 ½ cups diced carrots, blanched

Day 1:

Wash and coarsely chop cucumber; do not peel; measure 2 cups (500 ml). Combine prepared cucumber, peppers, cabbage, onions and tomatoes in a large bowl. Add 8 cups water and pickling salt. Cover and let stand overnight in a cool place.

Day 2:

Rinse vegetables well and press out excess moisture; set aside.

Place beans and carrots in a saucepan; cover with boiling water; boil 2 minutes. Drain and set aside.

Combine vinegar, sugar, remaining 1 cup (250 ml) water, mustard seed, celery seed and turmeric in a large stainless-steel saucepan; bring to a boil. Add vegetable mixtures and return to a boil. Boil gently 30 to 40 minutes.

Fill hot jars with hot mixture, leaving ½ inch headspace. Remove air bubbles and adjust headspace, if needed, by adding more of the relish mixture. Wipe jar rims clean with a dampened clean paper towel. Place lids and rings on jars. Tighten rings only finger-tip tight.

Place jars in canner, ensuring they are completely covered with water. Process in a boiling water canner or atmospheric steam canner for 10 minutes 0-1000 ft., 15 minutes 1001-6000 ft., 20 minutes above 6000 ft. Remove canner lid, wait 5 minutes, then remove jars, cool, label and store

Source: Ball Complete Book of Home Preserving

Rummage Relish

Yield: about 8 pint jars

- 2 quarts cored, chopped green tomatoes (about 16 medium)
- 1 quart peeled, cored, chopped red ripe tomatoes (about 6 large)
- 1 quart chopped cabbage (about 1 small head)
- 3 cups chopped onions
- 2 cups chopped celery
- 1 cup chopped sweet green peppers (about 2 medium)
- 1 cup chopped cucumbers
- 1 cup chopped sweet red peppers (about 2 medium)
- ½ cup canning or pickling salt
- 4 cups brown sugar
- 2 cloves garlic, minced
- 1 tablespoon celery seed
- 1 Tablespoon ground cinnamon
- 1 Tablespoon mustard seed
- 1 teaspoon ground ginger
- ½ teaspoon ground cloves
- 2 quarts vinegar (5%)

Combine vegetables; add salt and mix thoroughly. Let stand 12 to 18 hours in refrigerator; drain thoroughly. Add sugar, spices and garlic to vinegar; simmer 10 minutes. Add vegetables; simmer 30 minutes. Bring to a boil.

Fill hot jars with hot mixture, leaving ½ inch headspace. Remove air bubbles and adjust headspace, if needed, by adding more of the relish mixture. Wipe jar rims clean with a dampened clean paper towel. Place lids and rings on jars. Tighten rings only finger-tip tight.

Place jars in canner, ensuring they are completely covered with water. Process in a boiling water canner or atmospheric steam canner for 10 minutes 0-1000 ft., 15 minutes 1001-6000 ft., 20 minutes above 6000 ft. Remove canner lid, wait 5 minutes, then remove jars, cool, label and store

Source: National Center For Home Food Preservation https://nchfp.uga.edu/how/can_06/rummage_relish.html

Oscar Relish

Yield: about 6 pint jars

- 8 cups chopped fresh peaches (about 12 large)
- 8 cups chopped ripe tomatoes (about 12)
- 2 cups diced green sweet peppers (2 large)
- 1 Tablespoon red hot pepper, ground (1 pepper)
- 2 cups ground onions (about 6)
- 4 cups light brown sugar (firmly packed)
- 2 cups cider vinegar (5%)
- 1½ teaspoons canning or pickling salt
- 4 tablespoons pickling spice, tied in cheesecloth bag

Peel and pit peaches. Chop into small pieces. Peel and chop tomatoes into ½ inch pieces. Remove stem and seed from peppers and dice into ¼ inch pieces. Peel onions and grind in food chopper. Grind red hot peppers.

Combine all ingredients in 10 quart saucepan. Cook and stir about 1½ to 2 hours, until it reaches desired thickness.

Fill hot jars with hot mixture, leaving ½ inch headspace. Remove air bubbles and adjust headspace, if needed, by adding more of the relish mixture. Wipe jar rims clean with a dampened clean paper towel. Place lids and rings on jars. Tighten rings only finger-tip tight.

Place jars in canner, ensuring they are completely covered with water. Process in a boiling water canner or atmospheric steam canner for 10 minutes 0-1000 ft., 15 minutes 1001-6000 ft., 20 minutes above 6000 ft. Remove canner lid, wait 5 minutes, then remove jars, cool, label and store

Variation — Use two small hot peppers if you like a hotter relish. For milder relish, substitute Tabasco to taste (½ to 1 teaspoon) for the peppers.

Source: National Center For Home Food Preservation https://nchfp.uga.edu/how/can_06/oscar_relish.html

Zesty Zucchini Relish

Yield: about 6 pint jars

- 4 ¼ lb zucchini, about 14 medium
- 1 ½ lb onion, about 5 medium
- 2 large sweet red peppers
- 1 large sweet green pepper
- ½ cup pickling salt
- 2 ½ cups granulated sugar
- 1 Tbsp each: ground nutmeg & ground turmeric
- 2 ½ cups white vinegar
- 4 Tbsp prepared horseradish
- 1 large hot pepper including seeds, chopped

Day 1

Pulse zucchini in food processor to finely chop; measure 12 cups (3000 ml). Repeat for onions; measure 4 cups (1000 ml). Place chopped vegetables in a large glass or stainless steel bowl. Remove seeds and membrane from sweet green and red peppers. Finely chop green pepper; cut red pepper into 1/4 inch (0.5 cm) cubes; add both to zucchini. Stir in pickling salt. Cover and refrigerate overnight.

Day 2

Drain vegetables; rinse with cold running water. Drain in a cheesecloth-lined colander, twisting cheesecloth to remove excess moisture. Place vegetables in a large stainless steel saucepan. Stir in sugar, nutmeg, turmeric, vinegar, horseradish and hot pepper; bring to a boil. Reduce heat and boil gently until thick, about 45 minutes.

Fill hot jars with hot mixture, leaving ½ inch headspace. Remove air bubbles and adjust headspace, if needed, by adding more of the relish mixture. Wipe jar rims clean with a dampened clean paper towel. Place lids and rings on jars. Tighten rings only finger-tip tight.

Place jars in canner, ensuring they are completely covered with water. Process in a boiling water canner or atmospheric steam canner for 10 minutes 0-1000 ft., 15 minutes 1001-6000 ft., 20 minutes above 6000 ft. Remove canner lid, wait 5 minutes, then remove jars, cool, label and store

Source: Ball Complete Book of Home Preserving

Green Tomato Hot Dog Relish**Yield: 6 eight-ounce jars**

- 6 cup finely chopped green tomatoes, about 4 lb.
- 2 onions, finely chopped
- ¼ cup pickling salt
- 2 green peppers, chopped
- 1 red pepper, chopped
- 2 cups white vinegar
- 1 clove garlic, minced
- 1 ½ cups brown sugar
- 1 Tbsp. dry mustard
- ½ tsp. salt
- ½ tsp. ginger
- 1 tsp. whole cloves
- 4 inches cinnamon stick
- 1 tsp. celery seed

Day 1

In a large stainless steel saucepan combine green tomatoes, onions and pickling salt. Cover and let stand 12 hours in a cool place.

Day 2

Rinse tomatoes and onions well and press out excess moisture; set aside.

In a large stainless-steel saucepan combine vinegar, garlic, brown sugar, mustard, salt, and ginger. Tie cloves, cinnamon stick and celery seed in a square of cheesecloth, creating a spice bag; add to saucepan. Mix well; bring to a boil. Add tomatoes, onions and peppers; simmer for 1 hour, stirring frequently, until tomatoes are transparent. Discard spice bag.

Fill hot jars with hot mixture, leaving ½ inch headspace. Remove air bubbles and adjust headspace, if needed, by adding more of the relish mixture. Wipe jar rims clean with a dampened clean paper towel. Place lids and rings on jars. Tighten rings only finger-tip tight.

Place jars in canner, ensuring they are completely covered with water. Process in a boiling water canner or atmospheric steam canner for 10 minutes 0-1000 ft., 15 minutes 1001-6000 ft., 20 minutes above 6000 ft. Remove canner lid, wait 5 minutes, then remove jars, cool, label and store

Source: Ball Complete Book of Home Preserving

Pickled Corn Relish

Yield: about 9 pints

- 10 cups corn kernels (about 16-20 medium-size ears of corn) or six 10 ounce packages of frozen corn
- 5 cups diced, seeded, mixed red and green bell peppers
- 2 ½ cups diced celery
- 1 ¼ cup diced onions
- 1 ¾ cups granulated sugar
- 5 cups white vinegar
- 2 ½ Tbsp. pickling salt
- 2 ½ Tbsp dry mustard
- 2 ½ tsp celery seeds
- 1 ¼ tsp ground turmeric

Boil ears of corn for 5 minutes. Dip in cold water to stop the cooking process. Cut whole kernels from cob.

Combine peppers, celery, onions, sugar, vinegar, canning salt, and celery seed in a saucepan. Bring to a boil and simmer for 5 minutes, stirring occasionally to dissolve the sugar and salt. Mix mustard and turmeric in ½ cup of the simmered mixture. Add this mixture and the corn to the hot mixture. Simmer another 5 minutes. If desired, thicken the mixture with flour paste (1/4 cup flour blended in ¼ cup water) and stir frequently.

Fill hot jars with hot mixture, leaving ½ inch headspace. Remove air bubbles and adjust headspace, if needed, by adding more of the corn mixture. Wipe jar rims clean with a dampened clean paper towel. Place lids and rings on jars. Tighten rings only finger tight.

Place jars in canner, ensuring they are completely covered with water. Process in a boiling water canner or atmospheric steam canner for 10 minutes 0-1000 ft., 15 minutes 1001-6000 ft., 20 minutes above 6000 ft.

Remove canner lid, wait 5 minutes, then remove jars, cool, label and store.

Source: National Center For Home Food Preservation https://nchfp.uga.edu/how/can_06/pickled_corn_relish.html

Singapore Chili Sauce

Yield: 6 eight-ounce jars

- 4 cups chopped fresh hot red peppers (Dutch or red Thai), about 1 lb.
- 2 ½ cups white vinegar, 5 % acidity
- 2 ½ cups granulated sugar
- 1 ½ cups sultana raisins, rinsed
- ¼ cup chopped garlic
- 1 Tbsp. grated fresh gingerroot
- 2 tsp. salt

Using gloves, prepare red peppers, discarding stems, and chop. (For a much milder sauce, remove seeds and white membranes before chopping.)

In a large stainless-steel saucepan combine vinegar and sugar. Bring to a boil over high heat; stirring occasionally. Reduce heat and simmer 3 minutes. Add red peppers, sultanas, garlic, gingerroot and salt. Bring to boil; reduce heat and simmer 5 minutes. Remove from heat.

Fill hot jars with hot mixture, leaving ½ inch headspace. Remove air bubbles and adjust headspace, if needed, by adding more of the relish mixture. Wipe jar rims clean with a dampened clean paper towel. Place lids and rings on jars. Tighten rings only finger-tip tight.

Place jars in canner, ensuring they are completely covered with water. Process in a boiling water canner or atmospheric steam canner for 10 minutes 0-1000 ft., 15 minutes 1001-6000 ft., 20 minutes above 6000 ft.

Remove canner lid, wait 5 minutes, then remove jars, cool, label and store

Source: Bernardine: <https://www.bernardin.ca/recipes/en/singapore-chili-sauce.htm>

Resources:

National Center for Home Food Preservation: <http://nchfp.uga.edu/>

Complete Guide to Home Canning. 2015. http://nchfp.uga.edu/publications/publications_usda.html

Also available in paper copy from Purdue Extension (online store is located at

https://mdc.itap.purdue.edu/item.asp?item_number=AIG-539)

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It's so easy to preserve!



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