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University of California
Agriculture and Natural Resources

UCCE Master Food Preserver Program
Sacramento County

Sacramento County Master Food Preservers
Monthly Wednesday Night Demonstration
June 15, 2022
Ready for BBQ Season

***Resources*:**

- Please visit the National Center for Home Food Preservation at http://nchfp.uga.edu for detailed information about research-based methods of home food preservation.
- UC ANR Catalog (http://anrcatalog.ucanr.edu)

Should you need assistance or require special accommodations for any of our educational programs, please contact us at 916-875-6913.

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STRAWBERRY LEMONADE

Source: https://www.ballmasonjars.com/blog?cid=strawberry-lemonade

Preserving Method: Water-Bath-Canning
Makes about 7 (16 oz) pints

The sweetness of fresh, ripe strawberries adds the perfect balance to tart lemons in this recipe. Preserving the freshness allows you to serve this summertime favorite at any special occasion throughout the year.

You will need

- 6 cups hulled strawberries
- 4 cups freshly squeezed lemon juice
- 6 cups granulated sugar
- 7 Ball® (16 oz) pint jars
- *Optional:* Ball® freshTECH Electric Water Bath Canner + Multicooker

Directions

1. Prepare boiling water canner. Heat jars in simmering water until ready for use. Do not boil. Wash lids in warm soapy water and set bands aside.
2. Puree strawberries in a blender or food processor fitted with a metal blade, working in batches, until smooth. Transfer to a large stainless steel saucepan as completed.
3. Add lemon juice and sugar to strawberry puree, stirring to combine. Heat to 190° F over medium-high heat, stirring occasionally. Do not boil. Remove from heat and skim off foam.
4. Ladle hot concentrate into hot jars leaving 1/4 inch headspace. Wipe rim. Center lid on jar. Apply band until fit is fingertip tight. Place jar in boiling water canner. Repeat until all jars are filled.
5. Process jars in a boiling water canner for 15 minutes, adjusting for altitude. Remove jars and cool. Check lids for seal after 24 hours. Lid should not flex up and down when center is pressed.

Quick tip: To reconstitute, mix one part concentrate with three parts water, tonic water or ginger ale. Adjust concentrate to suit your taste.

BARBECUE SAUCE (TOMATO)

Source: https://nchfp.uga.edu/how/can_03/bbqsauce.html

- 4 quarts (16 cups) peeled, cored, chopped red ripe tomatoes (about 24 large tomatoes)
- 2 cups chopped celery
- 2 cups chopped onions
- 1½ cups chopped sweet red or green peppers (about 3 medium peppers)
- 2 hot red peppers, cored, and chopped
- 1 teaspoon black peppercorns
- 2 cloves garlic, crushed
- 1 cup brown sugar
- 1 tablespoon dry mustard
- 1 tablespoon paprika
- 1 tablespoon canning salt
- 1 teaspoon hot pepper sauce (e.g., Tabasco®)
- 1/8 to 1¼ teaspoon cayenne pepper
- 1¼ cups of (5%) vinegar

Yield: About 4 pint jars

*****Caution: **Wear plastic or rubber gloves and do not touch your face while handling or cutting hot peppers. If you do not wear gloves, wash hands thoroughly with soap and water before touching your face or eyes.**

Please read Using Boiling Water Canners before beginning. If this is your first time canning, it is recommended that you read Principles of Home Canning.

1. Wash and rinse canning jars; keep hot until ready to use. Prepare lids according to manufacturer's directions.
2. Combine prepared tomatoes, celery, onions, and peppers. Cook until vegetables are soft (about 30 minutes). Puree using a fine sieve, food mill, food processor or blender. Cook until mixture is reduced to about one half, (about 45 minutes).
3. Tie peppercorns in a cheesecloth bag; add with remaining ingredients and cook slowly until mixture is the consistency of catsup, about 1½ to 2 hours. As mixture thickens, stir frequently to prevent sticking. Remove bag of peppercorns.
4. Fill hot sauce into clean, hot jars, leaving ½ inch headspace. Remove air bubbles and adjust headspace if needed. Wipe rims of jars with a dampened clean paper towel; apply two-piece metal canning lids.
5. Process in a boiling water canner according to the recommendations in Table 1. Let cool, undisturbed, 12 to 24 hours and check for seals.

Table 1. Recommended process time for **Barbecue Sauce** in a boiling water canner.					
		Process Time at Altitudes of			
Style of Pack	**Jar Size**	**0 - 1,000 ft**	**1,001 - 3,000 ft**	**3,001 - 6,000 ft**	**Above 6,000 ft**
Hot	Half-pints or Pints	20 min	25 min	30 min	35 min

Note: There are many types of barbecue sauce recipes and the acidity will vary among recipes. This canning process is intended for this recipe and procedure.

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This document was adapted from "So Easy to Preserve", 6th ed. 2014. Bulletin 989, Cooperative Extension Service, The University of Georgia, Athens. Revised by Elizabeth L. Andress. Ph.D. and Judy A. Harrison, Ph.D., Extension Foods Specialists. Reviewed August 2016.

ZESTY PEACH BARBECUE SAUCE

Source: https://www.ballmasonjars.com/blog?cid=zesty-peach-barbecue-sauce

Preserving method: Water bath canning

Makes about 8 (8 oz) half pints

Golden orange with red flecks, this barbecue sauce not only looks amazing, but tastes out of this world. Spoon some over your chicken or fish this summer!

You will need

- 6 cups finely chopped pitted peeled peaches (about 3 lb or 9 medium)
- 1 cup finely chopped seeded red bell pepper (about 1 large)
- 1 cup finely chopped onion (about 1 large)
- 3 Tbsp finely chopped garlic (about 14 cloves)
- 1-1/4 cups honey
- 3/4 cup cider vinegar
- 1 Tbsp Worcestershire sauce
- 2 tsp hot pepper flakes
- 2 tsp dry mustard
- 2 tsp salt
- 8 Ball® (8 oz) half pint glass preserving jars with lids and bands
  **Optional:* Ball® freshTECH Electric Water Bath Canner + Multicooker

Directions

1. Prepare boiling water canner. Heat jars in simmering water until ready for use. Do not boil. Wash lids in warm soapy water and set bands aside.
2. Combine all ingredients in a large saucepan. Bring to a boil. Reduce heat and simmer, stirring frequently, until mixture thickens to the consistency of a thin commercial barbeque sauce, about 25 minutes. If desired, puree in batches in a food processor or use an immersion blender to help break down the peaches.
3. Ladle hot sauce into hot jars leaving 1/2 inch headspace. Remove air bubbles. Wipe rim. Center hot lid on jar. Apply band and adjust until fit is fingertip tight. Place jar in boiling water canner. Repeat until jars are full.

- Process for 15 minutes, adjusting for altitude. Turn off heat; remove lid and let jars stand for 5 minutes. Remove jars and cool. Check lids for seal after 24 hours. Lid should not flex up and down when center is pressed.

CUCUMBER RELISH

Source: Ball Complete Book of Home Preserving, 2015

Makes about twelve 8-ounce jars or six pint (16 ounce) jars

Ingredients

8 cups finely chopped cucumbers
4 cups finely chopped seeded green bell peppers
4 cups finely chopped seeded red bell peppers
2 cups finely chopped celery
1 cup finely chopped onion
½ cup pickling or canning salt

3 cups white vinegar
2 ¼ cups granulated sugar
3 Tbsp celery seeds
3 Tbsp mustard seeds

Process

1. In a large glass or stainless steel bowl, combine cucumbers, green and red peppers, celery, onion and pickling salt. Cover and let stand in a cool place (70° to 75°) for 4 hours. Transfer to a colander placed over a sink and drain. Rinse with cool water and drain thoroughly. Using your hands, squeeze out excel liquid. Set aside.
2. Meanwhile, prepare canner, jars and lids.
3. In a large stainless steel saucepan, combine vinegar, sugar, celery seeds and mustard seeds. Stir well and bring to a boil over medium-high heat. Add drained cucumber mixture and return to a boil, stirring frequently. Reduce heat and boil gently, stirring frequently, until vegetables are heated through, about 10 minutes.
4. Ladle hot relish into hot jars, leaving ½ inch headspace. Remove air bubbles and adjust headspace. If necessary, by adding hot relish. Wipe rim. Center lid on jar. Screw band down until resistance is met, then increase to fingertip-tight.
5. Place jars in canner, ensuring they are completely covered with water. Bring to a boil and process both 8 ounce and pint jars for 10 minutes. Remove canner lid. Wait 5 minutes, then remove jars, cool and store.

CORN RELISH

Source: https://www.ballmasonjars.com/blog?cid=corn-relish

Preserving Method: Water-Bath-Canning

Makes about 6 (8 oz) Half Pint Jars

You'll get a lot of use from Ball®'s Corn Relish this summer! With fresh corn kernels, bright bell peppers, onion, and celery, this corn relish pairs well on everything from dips to toppings for your sausage and potatoes. Step your grill game up a notch with this sweet surprise!

You will need

2 cups white vinegar
2/3 cup sugar
1 Tbsp salt
4 cups cooked corn kernels (about 8 ears)
2 cups diced mixed red and green bell peppers (about 2 large)
3/4 cup diced celery (about 2 stalks)
1/2 cup finely chopped onion (about 1 small)
1 Tbsp dry mustard
1 tsp celery seeds
1 tsp ground turmeric

Directions

1. PREPARE boiling water canner. Heat jars and lids in simmering water until ready for use. Do not boil. Set bands aside.
2. COMBINE vinegar, sugar, and salt in a large saucepan. Bring to a boil, stirring to dissolve sugar. Add corn, red and green peppers, celery, onion, mustard, celery seeds and turmeric. Reduce heat and simmer 15 minutes, stirring frequently.
3. LADLE hot relish into hot jars leaving 1/2 inch headspace. Remove air bubbles. Wipe rim. Center hot lid on jar. Apply band and adjust until fit is fingertip tight. Place jar in boiling water canner. Repeat until all jars are filled.
4. PROCESS jars for 15 minutes, adjusting for altitude. Turn off heat; remove lid and let jars stand 5 minutes. Remove jars and cool. Check lids for seal after 24 hours. Lid should not flex up and down when center is pressed.

BEANS, BAKED

Source: https://nchfp.uga.edu/how/can_04/beans_baked.html

Quantity: An average of 5 pounds of beans is needed per canner load of 7 quarts; an average of 3¼ pounds is needed per canner load of 9 pints – an average of ¾ pounds per quart.

Quality: Select mature, dry seeds. Sort out and discard discolored seeds.
Please read Using Pressure Canners before beginning. If this is your first time canning, it is recommended that you read Principles of Home Canning.

Procedure: Soak and boil beans as follows – Sort and wash dry beans. Add 3 cups of water for each cup of dried beans or peas. Boil 2 minutes, remove from heat and soak 1 hour and drain. Heat to boiling in fresh water, and save liquid for making sauce.
Prepare molasses sauce as follows – Mix 4 cups water or cooking liquid from beans, 3 tablespoons dark molasses, 1 tablespoon vinegar, 2 teaspoons salt, and ¾ teaspoon powdered dry mustard. Heat to boiling.
Place seven ¾-inch pieces of pork, ham, or bacon in an earthenware crock, a large casserole, or a pan. Add beans and enough molasses sauce to cover beans. Cover and bake 4 to 5 hours at 350ºF. Add water as needed–about every hour.
Fill jars, leaving 1-inch headspace. Adjust lids and process according to the recommendations in Table 1 or Table 2 depending on the method of canning used.

Table 1. Recommended process time for **Beans, Baked** in a dial-gauge pressure canner.

			Canner Pressure (PSI) at Altitudes of			
Style of Pack	**Jar Size**	Process Time	**0 - 2,000 ft**	**2,001 - 4,000 ft**	**4,001 - 6,000 ft**	**6,001 - 8,000 ft**
Hot	Pints	65 min	**11 lb**	12 lb	13 lb	14 lb
	Quarts	75	**11**	12	13	14

Table 2. Recommended process time for **Beans, Baked** in a weighted-gauge pressure canner.				
			Canner Pressure (PSI) at Altitudes of	
Style of pack	**Jar Size**	**Process Time**	**0 - 1,000 ft**	**Above 1,000 ft**
Hot	Pints	65 min	**10 lb**	15 lb
	Quarts	75	**10**	15

This document was adapted from the "Complete Guide to Home Canning," Agriculture Information Bulletin No. 539, USDA, revised 2015.

Reviewed February 2018.

LEMON BARS

Source: Family recipe of Master Food Preserver Joanne Wenzel

9 x 13 baking pan
Preheat oven to 350°

Ingredients

For the Base
1 ½ sticks (3/4 cup) unsalted butter softened
2 cups unbleached all-purpose flour
1/2 cup light brown sugar
1/2 teaspoons salt

Mix together until you get lumps (a food processer works well for this but it isn't necessary). Press the dough into the bottom of a (greased or parchment lined) 9 x 13 baking pan and bake in the middle of the oven at 350 degrees for about 20 minutes or until golden.

While the base bakes make the topping:

1 ½ cups granulated sugar
4 large eggs, lightly beaten
1/3 cup unbleached all-purpose flour
3/4 cup lemon juice

Directions

Whisk together sugar, eggs, add the flour and lemon juice, mix until well combined.

When the base is removed from the oven reduce the heat to 300 degrees. Pour the topping mixture over the hot shortbread base and return to the middle rack of the 300 degree oven for 30 minutes.
When cooked remove from the oven and allow to cool completely before sprinkling with powdered sugar.

Cut into 24 pieces

WATERMELON RIND PICKLES

Source: https://nchfp.uga.edu/how/can_06/watermelon_rind.html (uga.edu)

- 3 quarts (about 6 pounds) watermelon rind, unpared
- ¾ cup salt
- 3 quarts water
- 2 quarts (2 trays) ice cubes
- 9 cups sugar
- 3 cups 5% vinegar, white
- 3 cups water
- 1 tablespoon (about 48) whole cloves
- 6 cinnamon sticks, 1 inch pieces
- 1 lemon, thinly sliced, with seeds removed

Yield: About 4 or 5 pints.

Please read Using Boiling Water Canners before beginning. If this is your first time canning, it is recommended that you read Principles of Home Canning.

Procedure - Trim the pink flesh and outer green skin from thick watermelon rind. Cut into 1 inch squares or fancy shapes as desired. Cover with brine made by mixing the salt with 3 quarts cold water. Add ice cubes. Let stand 3 to 4 hours.

Drain; rinse in cold water. Cover with cold water and cook until fork tender, about 10 minutes (do not overcook). Drain.

Combine sugar, vinegar, water, and spices (tied in a clean, thin, white cloth). Boil 5 minutes and pour over the watermelon; add lemon slices. Let stand overnight in the refrigerator.

Heat watermelon in syrup to boiling and cook slowly 1 hour. Pack hot pickles loosely into clean, hot pint jars. To each jar add 1 piece of stick cinnamon from spice bag; cover with boiling syrup, leaving ½ inch headspace. Remove air bubbles and adjust headspace if needed. Wipe rims of jars with a dampened clean paper towel; adjust two-piece metal canning lids.

Process according to the recommendations in Table 1. Let cool, undisturbed, 12-24 hours and check for seals.

Table 1. Recommended process time for **Watermelon Rind Pickles** in a boiling-water canner.

		Process Time at Altitudes of		
Style of Pack	**Jar Size**	**0 - 1,000 ft**	**1,001 - 6,000 ft**	**Above 6,000 ft**
Hot	Pints	**10 min**	15	20

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BOILING WATER CANNING PROCESS

1. Before you start preparing your food, fill the canner halfway with clean water. This is approximately the level needed for a canner load of pint jars. For other sizes and numbers of jars, adjust the amount of water in the canner so it will be 1 to 2 inches over the top of the filled jars.
2. Preheat water to 140°F for raw-packed foods and to 180°F for hot-packed foods. Food preparation can begin while this water is preheating. Do not have the water boiling when you add the jars.
3. Fill, fit with lids, load onto the canner rack and use the handles to lower the rack into the water; or fill the canner with the rack in the bottom, one jar at a time, using a jar lifter. When using a jar lifter, make sure it is securely positioned below the neck of the jar (below the screw band of the lid). Keep the jar upright at all times. Tilting the jar could cause food to spill into the sealing area of the lid.
4. Add boiling water, if needed, so the water level is at least 1 inch above jar tops. Pour the water around the jars, not on them. For process times over 30 minutes, the water level should be at least 2 inches above the tops of the jars.
5. Turn heat to its highest position, cover the canner with its lid, and heat until the water in the canner boils vigorously.
6. Set the timer for the total minutes required for processing the food, adjusting for altitude.
7. Keep the canner covered and maintain a boil throughout the process schedule. The heat setting may be lowered a little as long as a complete boil is maintained for the entire process time. If the water stops boiling at any time during the process, bring the water back to a vigorous boil and begin the timing of the process over, from the beginning.
8. Add more boiling water, if needed, to keep the water level above the jars.
9. When the jars have boiled for the recommended time, turn off the heat and remove the canner lid. Wait no more than 5 minutes before removing jars.
10. Using a jar lifter, remove the jars without tipping and place them on a towel, leaving at least 1-inch spaces between the jars during cooling. Let jars sit undisturbed to cool at room temperature for 12 to 24 hours.

ATMOSPHERIC STEAM CANNING PROCESS

1. Use 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.
2. Add enough water to the base of the canner to cover the rack. (Follow manufacturer recommendations.)
3. Preheat water to 140°F for raw-packed foods and to 180°F for hot-packed foods. Food preparation can begin while this water is preheating. Do not have the water boiling when you add the jars.
4. Heat jars prior to filling with hot liquid (raw or hot pack). Do not allow the jars to cool before filling.
5. Load filled jars, fitted with lids, onto the canner rack and place the lid on the canner base.
6. Turn heat to its highest position to boil the water until a steady column of steam (6-8 inches) appears from the vent hole(s) in the canner lid. Jars must be processed in pure steam environment.
7. 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 is visible from the vent hole(s).
8. 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.
9. 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.
10. At the end of the processing time, turn off the heat and wait 2 to 3 minutes. Carefully remove the lid, lifting the lid away from you.
11. Using a jar lifter, remove the jars without tipping and place them on a towel, leaving at least 1-inch spaces between the jars during cooling. Let jars sit undisturbed to cool at room temperature for 12 to 24 hours.

PICKLES and RELISHES PROBLEMS and SOLUTIONS		
Problem	**Cause**	**Prevention**
Pickles not crisp enough. Once a pickle becomes soft, it cannot be made firm again.	1. Over-heating	1. Use low-temperature pasteurization to process pickles if permitted for the recipe used.
	2. Blossom ends not removed from cucumber before fermentation. Blossoms may contain fungi or yeasts responsible for enzymatic softening.	2. Slice at least 1/16th inch off blossom end of cucumber and discard.
	3. "Crisping" procedures not followed.	3. Soak vegetable in saltwater, hydrate with ice, use lime water or calcium chloride as directed in recipe.
Soft and slippery pickles. Most likely due to enzyme activity from yeasts, molds, or remnants of cucumber blossom. If due to microbial spoilage, destroy the food. If softening not caused by microorganisms, pickles are safe to eat.	1. Too little salt in fermentation brine.	1. Maintain salt concentration specified in recipe.
	2. Vinegar too weak.	2. Use vinegar of at least 5% acidity.
	3. Cucumbers stored too high a temperature during fermentation.	3. Conduct fermentation at 70°F to 75°F to facilitate growth of desired lactic acid bacteria.
	4. Cucumbers not covered with brine during fermentation.	4. Keep cucumbers covered.
	5. Scum not removed from brin during fermentation.	5. Remove scum to prevent undesirable yeasts and mold from dominating the fermentation. Use an airlock system for fermentation.
	6. Insufficient heat treatment during processing to destroy microorganisms.	6. Process pickles after filling jars.
	7. Moldy garlic or spices.	7. Use fresh, high-quality spices and garlic.
Hollow pickles. Pickles are safe to eat.	1. Cucumber developed air pockets during growth or are over-ripe.	1. Since hollow cucumbers usually float, remove them when washing before use. Use floating cucumbers for relishes or chunk pickles.
	2. Holding cucumbers too long before brining.	2. Use cucumbers within 24 hours of harvesting.
	3. Fermentation too rapid.	3. Too high temperature during fermentation.

Shriveled pickles. Pickles are safe to eat.	1. Too strong a salt, sugar or vinegar solution at the beginning of the pickling process.	1. Use a weak solution at the beginning of the pickling process in preparing very sweet or sour pickles, then gradually increase the concentration.
	2. Long time between harvest and brining.	2. Use cucumbers within 24 hours of harvest.
	3. Overcooking or over-processing.	3. Carefully time processes.
	4. Dry weather around harvest.	4. None.
Dark pickles. Pickles are safe to eat, unless brass, copper or zinc utensils and brining equipment were used, in which case, do not use pickles.	1. Use of ground spices, too much spice, or leaving whole spices in jars.	1. Use whole spices and use them only to flavor the covering liquid, do not pack spices in the jar.
	2. Minerals from hard water.	2. Use softened water.
	3. Utensils leached metals, such as iron, copper, or zinc.	3. Use food-grade unchipped enamelware, glass, stainless steel or stoneware utensils.
	4. Iodized salt used.	4. Use canning or pickling sale..
	5. Overcooking or over-processing.	5. Carefully time processes.
Light and blotchy pickles. Pickles are safe to eat.	1. Sun-scaled, poorly colored cucumbers, or over-ripe cucumbers.	1. Select high-quality cucumbers.
Small brown spots on pickles. Pickles are safe to eat.	1. Holding cucumbers too long before brining.	1. Use cucumbers with 24 hours of harvest.
Abnormally bright green pickles. Pickles may not be safe, depending on the cause of color.	1. Prepared in copper utensil.	1. Consumption of excess copper is toxic. If abnormal green color is caused by copper, the pickles should be discarded.
	2. Green food coloring added.	2. Green food coloring is not recommended.

Strong, bitter taste.	1. Spices cooked too long in vinegar, or too many spices used.	1. Follow instructions for amount of spices to use and the boiling time.
	2. Dry weather may induce bitter flavor in cucumbers.	2. Taste cucumbers before processing to ensure bitterness is not present.
	3. Use of salt substitute.	3. Potassium chloride, present inmost salt substitutes, cause bitterness.
Off-Flavor in fermented pickles. If no mold is present, and pickles have fermented to proper acidity, they are probably safe to eat.	1. "Wrong" microorganismsgrowing in brine.	1. Follow direction carefully, especially regarding fermentation temperature and salt levels.
White sediment. Generally, not harmful, but if accompanied by soft and slippery texture and spoiled appearance or odor, discard pickles.	1. Sediment is normal product of bacterial fermentation. Also due to yeast growth on surface of prickles brine, and settling to bottom of jar.	1. To reduce yeast growth, use an airtight cover on fermentation container. Strain brine before using as covering liquid. Heat-process pickles to prevent yeast growth in jar.
	2. Salt that contains an anti-caking agent.	2. Use canning or pickling salt.
Blue or purple garlic. Use the pickles, discard the garlic.	1. Immature garlic.	1. Garlic contains anthocyanins, water-soluble pigments. With acid conditions they may turn blue or purple.
	2. Copper in the water.	2. Garlic contains sulfur compounds, which may react with copper to form copper sulfate, a blue compound.
Yellow crystals on pickled asparagus. Safe to eat.	1. The yellow crystals are rutin, a compound naturally present in asparagus that is insoluble in vinegar. During the pickling it is drawn out and crystalizes on the stem.	1. None.