

I can "Can", can you?



Procedures and tips for safe and effective canning of fruit spreads, pickles, fruits and vegetables

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General Canning Steps

Step-by-step instructions

1. Review procedure and equipment needs before buying produce. Choose a time when you can work with few or no interruptions.
2. Wash canning jars in hot sudsy water; rinse. Cover with boiling water until ready to fill. Jars used in recipes in which food is processed for less than 10 minutes must be sterilized by immersion in boiling water for 10 minutes.
Prepare lids and screw bands according to manufacturer's directions.
3. Fill canner with water; start heating.
4. Prepare only as much food as needed to fill the maximum number of jars your canner or large pot will hold at one time. Work quickly, keeping work area clean.
5. Place hot jars on cloth towels to prevent slippage while filling.
6. Fill jars, leaving recommended head space (space between top of food and jar rim) to promote sealing. Add salt to canned vegetables, if desired (use $\frac{1}{4}$ to $\frac{1}{2}$ teaspoon for pints; $\frac{1}{2}$ to 1 teaspoon for quarts). Add desired consistency of syrup to canned fruits, until jar is full to head space.
7. Add boiling liquid to jar, keeping specified head space, for vegetables.
8. Release trapped air bubbles in jar by gently working a nonmetallic utensil around the jar's sides. Add liquid if needed to maintain head space.
9. Wipe jar rim with clean, damp cloth (food on the rim prevents a perfect seal).
10. Position prepared lid and screw band, tightening according to manufacturer's instructions.
11. Set each jar into the canner as it is filled; jars should not touch.
12. If using a large pot, cover jars by 1" with water. Cover canner; process as directed.
13. Remove jars; set on towels or rack, leaving at least 1 inch between jars.
14. After jars are completely cooled (12 to 24 hours), press center of each lid. If dip in lid holds, the jar is sealed. If lid pops up and down, jar isn't sealed. Unsealed jars can be refrigerated and used within 2 or 3 days, frozen (allow 1-1/2-inch head space), or reprocessed within 24 hours. To reprocess, use a clean jar, and a new lid; process for the full length of time. Mark label and use any re-canned jars first. If the jars have lost liquid

but are still sealed, the contents are safe. However, any food that is not covered by liquid will discolor. Use these jars first.

15. Wipe jars and lids to remove any food residue. Remove, wash, and dry screw bands; store for future use. Label jars with contents and date; include a batch number if doing more than one canner load per day. (If one jar spoils, you can easily identify any others from that canner load.) Store jars in a cool (50 to 70°F), dry, dark place. Use within one year.

Health Concerns

The air we breathe and all foods in their natural state contain microorganisms, such as molds, yeast and bacteria as well as enzymes. Food spoils when enzyme, mold, yeast and bacteria growth is not controlled. Proper, safe home canning procedures control the growth of spoilage microorganisms, allowing us to keep food beyond its normal storage period.

Home canning is not complicated. It is a simple procedure of applying heat to food in a closed jar to interrupt the natural decaying that would otherwise take place.

Botulism- A food poisoning or food borne illness caused by the *Clostridium botulinum* bacterium. It is found in all foods, but because of the anaerobic environment in a can, it will thrive and multiply.

Ways that Botulism and canning infections can be prevented:

- * heating the filled jars to the designated temperature using the correct type of canner for the food being processed;
- * processing the filled jars for the required time as stated by an up-to-date, tested recipe to destroy the spoilage microorganisms and inactive enzymes;
- * cooling jars properly, allowing the lids to vent excess air from the jars to form a vacuum seal.

When followed exactly, the processing methods and times of up-to-date, tested home canning recipes adequately destroy normal levels of heat-resistant microorganisms. After processing and upon cooling, a vacuum is formed and the lid seals onto the jar. This ensures that home canned foods will be free of spoilage when the jars are stored properly and remain vacuum-sealed. This seal prevents other microorganisms from entering and recontaminating the food.

If you are located at an elevation higher than 1,000 feet above sea level, it is necessary to adjust the processing time when using the boiling-water method and the pounds of pressure when using the steam-pressure method.

NOTE: The cooking time necessary for recipe preparation before the food is placed in the jars is not a part of the processing time. It does not alter the processing time required for safe home canned foods.

Tips for Successful Canning

1. Use only the best, top quality ingredients. Preserve fruits and vegetables at their peak of ripeness.
2. Process ALL home canned foods.
*High-Acid Foods in a Boiling-Water Canner
*Low-Acid Foods in a Steam-Pressure Canner
3. Follow only current, tested home canning recipes that include the appropriate processing method for the food type being canned.
4. Follow manufacturer's directions for preparing home canning jars and two-piece vacuum caps. Complete instructions can be found on each Ball or Kerr package.
5. Fill hot jar with prepared recipe. Leave recommended head space. Remove air bubbles by sliding a nonmetallic spatula between the jar and food; press gently on the food to release trapped air. Repeat around the circumference of the jar.
6. Wipe rim and threads with a clean, damp cloth. Center heated lid on jar. Screw band down evenly and firmly until a point of resistance is met.
7. After processing, remove jars from canner; set jars upright on a towel to cool. Do NOT retighten bands or check for a seal while jars are hot.
8. After 24 hours, check lids for a seal. Sealed lids curve downward. Press the center of the lid to ensure it does not flex up or down. (Reprocess or refrigerate any unsealed jars.) Remove bands. Wipe jars and lids with a clean, damp cloth and dry. Wash bands in soapy water, dry and store.
9. Label and store jars in a cool, dry, dark place. For best quality, use home canned foods within one year.

Tips for Successful Fruit Spread Making

1. Keep your measurements exact.
2. Do not alter recipes or ingredients.
3. Do not reduce sugar.
4. Do not use sugar substitutes.
5. Do not double recipes. (you must prepare multiple recipes separately)
6. Make sure mixture comes to a full rolling boil.
7. When sugar boils, it doubles in capacity while boiling. Use a pot bigger than you think you need, to prevent a boil over.



Homemade Pectin

Ingredients

tart apples, such as granny smith, pippin, or crab apples, washed, and cut into eighths.
2 cups water for each pound of apples

Procedure

1. Place the apples and water in a large stock pot or soup kettle, cover, and bring to a boil. Reduce the heat and simmer 20 minutes, or until the apples are tender. Remove from the heat and cool slightly.
2. Pour the apples and juice through a jelly bag, or line a large bowl with dampened cheesecloth and pour the apples and juice into the bowl. Tie the corners of the cheesecloth together and suspend the bundle from a cabinet knob and allow it to drip into the bowl overnight.
3. The next day, pour the pectin juice into a large pot. Discard the apples. Bring the juice to a boil over high heat and cook until it is reduced by half. This is pectin. Cool, refrigerate, and use within 5 days, or pour into containers and freeze in one cup quantities for up to 6 months.

Fruit Spreads

*AKA Jams, Jellies, Preserves, Conserves, Butters and Marmalades

Jelly- A spread made by thickening cooked and sweetened fruit JUICE with pectin.

Jam- A thick mixture of fruit, sugar, and sometimes pectin, that is cooked until soft, and almost formless.

Preserves- A thick mixture of fruit, sugar, and sometimes pectin, that is cooked until soft, but medium to large chunks of fruit remain.

Conserves- A mixture of fruits, nuts and sugar cooked together until thick.

Marmalades- A preserve containing pieces of fruit rind, especially citrus.

Butters- Made from cooking fruit pulp with sugar to a thick consistency, which will spread easily, usually containing numerous spices.

Fruit Spreads should be boiled until it reaches a temperature of 200° to 222°F, or thickens enough to fall in a sheet off the side of a spoon.

The most common thickener of fruit spreads is pectin, which occurs in almost all fruits. Some fruits have enough pectin, some don't. When in doubt: Add pectin. Add a small amount of acid too.

Syrups for preparing fruit

Combine sugar and water and bring to a boil. If using a hot pack method for canning pour syrup while boiling over fruit. Make sure fruit is covered.

When enjoying your fruit, this syrup can be used to sweet beverages, or desserts.

Very Heavy Syrup- (for very tart fruits)- 1 cup water, 1 cup sugar.

Heavy Syrup- (tart apples, apricots, sour cherries, gooseberries, nectarines, peaches, pears, plums)- 1 cup water, $\frac{3}{4}$ cup sugar.

Medium Syrup- (sweet apples, sweet cherries, berries, grapes)- 1 cup water, $\frac{1}{2}$ cup sugar

Light Syrup- (very sweet fruit)- 1 cup water, $\frac{1}{4}$ cup sugar

Very Light Syrup- (approximates natural sugar levels in fruit)- 1 cup water, $\frac{1}{8}$ cup sugar

You can also add sprinklings of spices such as cinnamon or cardamom to your syrups, as well as scraped vanilla bean or vanilla extract, or whole spices such as cloves or cinnamon sticks.

Pickling Vegetables

Even though most people think of pickles as cucumbers that have been put into brine, any vegetable or fruit can be pickled.

High Acid solutions work the best. To increase crispness of vegetables being packed:

1. Remove blossom end of cucumbers (which contains the enzyme *cucurbitacin*) and may cause the pickles to go mushy
2. Cool your brine completely (or add some ice) to cold pack your pickles.
3. Use calcium chloride granules, according to package
4. Your vinegar solution can contain up to 50% water, but no more

It is not recommended to use raw garlic in the jars if being sealed and kept at room temperature. Bring the garlic to a boil to reduce the possibility of botulism contamination. If you are going to make refrigerator pickles, raw garlic is ok to use.

5. Salt- use a pure salt such as kosher salt, or pickling salt. Sea salts and iodized salts will make your brine cloudy, and the minerals in them may decrease the crispness of your pickles.
 - a. Most vegetables need a 2% salinity solution so for 1 cup of brine: you need a minimum of .8 tsp. salt
 - b. Pickled cucumbers need a 3.5% salinity solution so for 1 cup of brine: you need a minimum of 1 $\frac{1}{3}$ tsp. salt.



Packing Vegetables and Sauces

Any vegetables or non-dairy based sauce can be packed in a broth or brine for later use.

- Pack your vegetables tightly in jar with flavors and seasonings.
- Add a minimum of ½ tsp. of salt per pint jar, 1 tsp. of salt per quart jar.
- Top jars with accumulated juices, or boiling water.
- Press contents with the back of the spoon to remove any air bubbles that have accumulated

Jars of sauces can be filled and canned using hot water processing for later.



References and Recommended Readings

1. BALL Blue Book: Easy Guide to Tasty, Thrifty Home Canning and Freezing. 27th Edition. Published by Ball Brothers company Incorporated, 1963.
2. The Southern Living Cookbook. ed. Susan Carlisle Payne Oxmoor House. 1997
3. www.homecanning.com
4. Pickl-it. Good made easy. <http://www.pickl-it.com>

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