Preserve Like a Pro

Home food preservation has many benefits. Here are some things to consider before getting started.

Each food preservation method has its pros and cons. Canning can have more start-up costs due to the cost of various canners needed, the jars and lids, plus the other helpful tools, but once these are purchased, the only cost will be the food to preserve and new lids in subsequent years. Freezing, on the other hand, is less time-consuming and convenient but you'll have to deal with space constraints and potential power outages. Dried foods take up less room in your pantry and ideal for hiking and camping. Like canning, this method is more time-consuming and requires some trial and error. Fermentation, on the other hand, is safe and economical with potential health benefits.

Approved Methods for Home Canning

The pH of the food you are preserving will determine which type of canner to use. The boiling-water canning method is used for acidic foods, meaning those having a pH value of 4.6 or less. Most fruits are naturally high in acid and are safe to process using this method. However, some fruits must have additional acid added because they lack the level of acid needed to prevent spoilage. These foods include tomato products and figs which have a pH value right around 4.6. Other acidified foods can also be canned safely with this method.

Low-acid foods (pH greater than 4.6) must be canned in a pressure canner which is not to be confused with a pressure cooker. In order for a pressure canner to be considered suitable for use with USDA guidelines, it must be able to hold a minimum of four one-quart jars. Examples of low-acid foods include vegetables, meat, poultry and fish. The use of a pressure canner is necessary to prevent botulism.

Methods NOT Approved

Canning methods not recommended include, processing by way of the microwave or dishwasher, solar canning, open kettle canning or oven canning.

Canning is a science so it's important to use tested recipes.

Sources where you can find tested recipes include the National Center for Home Food Preservation, the 6th edition of So Easy to Preserve or any state Extension website. Also check to make sure the recipe is recent. You'll want to see a publication date of 1985 or newer.

Freezing

- Freezing food is a great option and it preserves several nutrients that are lost during the canning process. It also takes less time than canning or dehydrating. Over time, frozen foods will lose taste, texture and overall quality but will remain safe indefinitely.
- There are certain things we can do to improve the quality of frozen foods. Water makes up 70-90% of the weight of most fruits and vegetables. During the freezing process, water expands, and ice crystals are formed causing the cell walls to rupture. Freeze produce as quickly as possible. Smaller ice crystals will form resulting in a better quality product when thawed. For this reason, only freeze 2-3 pounds of food per cubic feet of space within 24 hours. Slow freezing will result in a softer texture and more liquid loss when thawed.
- It's also a good idea to freeze food flat for better circulation and to use good quality freezer packaging which will help protect against freezer burn.

Drying

Drying is one of the oldest methods of food preservation. Drying preserves foods by removing enough moisture from food to prevent spoilage. Foods that dry well include herbs, hot peppers and fruit or vegetable leathers. Remember to blanch vegetables first, pretreat fruits and eat dried food within 6-12 months for best quality.

Fermentation

- Fermentation is simply the process in which a substance breaks down into simpler components. Microorganisms like yeast, bacteria and mold play a role in the fermentation process, creating foods and drinks such as beer, wine, sourdough bread, sauerkraut, kimchi, yogurt, chocolate, pickles and miso.
- There are different types of fermentation. "Lacto" in lacto-fermentation refers to lactic acid that's produced by lactic-acid producing bacteria. These fermenting bacteria are present on the surfaces of all fruits and vegetables. In the fermenting vessel, which is an anaerobic (oxygen-free) environment, these bacteria are able to grow and convert sugars into lactic acid. These acids inhibit harmful bacteria and act as a preservative. It also gives fermented foods their characteristic sour flavor.
- Many fruits and vegetables can successfully be fermented.

References

Breidt, F., McFeeters R. F., Perez-Diaz I., and Lee C. 2013. Food Fermented Vegetables Microbiology: Fundamentals and Frontiers, 4th Ed. Edited by M. P. Doyle and R. L. Buchanan: ASM Press, Washington, D.C.

Vegetable Fermentation., Joell A. Eifert, Food Safety Extension Agent, Virginia Cooperative Extension, Renee R. Boyer, Associate Professor, Food Science and Technology, Virginia Tech, Robert C. Williams, Associate Professor, Food Science and Technology, Susan S. Sumner, Associate Dean Academic Programs, College of Agriculture and Life Sciences

USDA. 2009. USDA Complete Guide to Home Canning. U.S. Department of Agriculture National Institute of Food and Agriculture. Agriculture Information Bulletin No. 539.

The National Center for Home Preservation

2-Day Ginger Ale

Ingredients:

- 1/8 teaspoon dry active yeast
- 1 cup sugar
- 2 tablespoon (tbsp) grated fresh ginger root
- 3 tbsp freshly squeezed lemon juice
- Spring or filtered water
- 2-liter plastic soda bottle

Directions:

1. Put the sugar and yeast into the soda bottle and gently shake to distribute.

2. Peel and grate the ginger. Measure 2 tbsp into your measuring cup.

3. Juice the lemon and measure 3 tbsp into the same measuring cup.

4. Fill the measuring cup with ½ cup water and stir.

5. Using a funnel, pour the contents of the measuring cup into the soda bottle. If the ginger gets stuck, use more water to wash it through.

6. Fill the bottle the rest of the way up with water and screw the lid on. VERY GENTLY, tip the bottle upside down until the contents are thoroughly mixed.

7. Let the ginger ale sit for 24-48 hours on your counter at room temperature until the bottle can no longer be squeezed. It should be hard to the touch. The time it needs to sit will depend on the temperature inside your house. The warmer it is, the shorter the amount of time it will take.

8. Move the ginger ale to the refrigerator and let sit for 24 hours before opening to avoid an overflow.

NOTE: This is a fermented product and if it sits too long without being "burped" of the carbon dioxide, it will explode. Never make this in a glass container.

Pumpkin Leather

Ingredients:

- 2 cups canned pumpkin or 2 cups fresh pumpkin, cooked and puréed
- 1/2 cup honey
- 1/4 teaspoon (tsp) cinnamon
- 1/8 tsp nutmeg
- 1/8 tsp powdered cloves

Blend ingredients well. Spread on tray or cookie sheet lined with plastic wrap. For drying in the oven a 13" X 15" cookie pan with edges works well. Line pan with plastic wrap being careful to smooth out wrinkles. Do not use waxed paper or aluminum foil. To dry in a dehydrator, specially designed plastic sheets can be purchased or plastic trays can be lined with plastic wrap. Dry at 140ºF. Leather dries from the outside edge toward the center. Test for dryness by touching center of leather; no indentation should be evident. While warm, peel from plastic and roll, allow to cool and rewrap the roll in plastic. Cookie cutters can be used to cut out shapes that children will enjoy. Roll, and wrap in plastic. It will keep up to one month at room temperature.

Golden Sauerkraut

Ingredients:

5 pounds cabbage

1 head of garlic, peeled and sliced

2 tablespoons grated fresh ginger

2 tablespoons ground turmeric

3 tablespoons salt (1.8 oz.)

Instructions:

1. Shred the cabbage and combine in a large bowl with all other ingredients, starting with the 3 tablespoons of salt.
2. Pound the cabbage with a pounding tool (or your hands) for 5-10 minutes, until salt draws juices from cabbage.
3. Pack the cabbage mixture into a large sanitized glass jar (I used a 2-gallon jar), pressing the cabbage underneath the liquid. If necessary, add a bit of brine to completely cover vegetables. To make brine, boil 1 quart water with 1 1/2 Tbsp salt, then let cool.
4. Weigh cabbage down with a plate and 3 brine-filled bags (quart size works well). Cover the jar with a lid and towel. Jars with an air-lock may also be used.
5. Store at 70º to 75ºF while fermenting. At temperatures between 70º and 75ºF, kraut will be fully fermented in about 3 to 4 weeks; at 60º to 65ºF, fermentation may take 5 to 6 weeks. At temperatures lower than 60ºF, kraut may not ferment. Above 75ºF, kraut may become soft. If using a tight lid, burp daily to release excess pressure.

Note: If you weigh the cabbage down with a brine-filled bag, do not disturb the crock until normal fermentation is completed (when bubbling ceases). If you use jars as weight, you will have to check the kraut 2 to 3 times each week and remove scum if it forms. Fully fermented kraut may be kept tightly covered in the refrigerator for several months. Freezing is also an option.

Makes about 3 1/2 quarts.

Check Out these Resources

- The National Center for Home Preservation nchfp.uga.edu
- The 6th Edition of *So Easy to Preserve*
- IL Extension website, Watch Your Garden Grow
- "What's Cooking with Mary Liz" on YouTube
- Fermentation books and websites for recipes (the library can be a good resource)

Created by: Kristin Bogdonas, Nutrition and Wellness Educator, serving Henry, Mercer, Rock Island and Stark Counties.

July 2021

Illinois Extension
UNIVERSITY OF ILLINOIS URBANA-CHAMPAIGN