PRESTO®

Canning BASICS

Understanding the basic instruction and terminology is the first step to safe, confident home canning.

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CANNING INTRODUCTION

Canning is a process that enables the user to keep fruits, vegetables, and meat for extended periods of time without refrigeration or freezing. Normally, if left out, these foods would spoil. Canning interrupts the natural spoilage cycle so food can be preserved safely.

The Science of Canning

There are invisible micro- organisms present all around us and in our food that cause spoilage. Spoilage is natures way of telling us that food is no longer fit to eat. There are four basic agents of food spoilage —enzymes, mold, yeast, and bacteria.

Molds, yeast, and enzymes are destroyed at temperatures below 212°F, the temperature at which water boils (at sea level). Therefore, boiling water canning is sufficient to destroy those agents.

Bacteria, however, are not as easily destroyed. The bacteria Clostridium botulinum produces a spore that makes a poisonous toxin which causes botulism. This spore is not destroyed at 212°F. In addition, the bacteria thrive on low-acid foods in the absence of air. According to the United States Department of Agriculture (USDA), pressure canning is the only safe method of processing low-acid foods (vegetables, meats, poultry, fish, and seafood).

Therefore, for a safe food product, low-acid foods need to be processed at 240°F, a temperature only achieved with pressure canning.

As jars of food cool after processing (by either the boiling water canning method or pressure canning method), a vacuum is formed sealing food within and preventing any new microorganisms from entering and spoiling the food.

Determining the Correct Canning Method

The level of acidity in the food being canned determines which method of canning is required, either pressure canning or boiling water canning. For the purpose of home canning, foods are categorized as low acid and high acid.

Pressure Canning Method: Vegetables, meats, poultry, and seafood are low-acid foods and have a pH value higher than 4.6. Low-acid foods must only be processed using the pressure canning method.

Boiling Water Canning Method: Most fruits are naturally high acid and have a pH value of 4.6 or less. Pickles and tomatoes, which are not high acid, are made high acid with the addition of vinegar, lemon juice, or lime juice. High-acid foods, properly pickled vegetables, properly acidified tomatoes, and jams/jellies can be safely processed using the boiling water canning method.

Tomatoes and fruits can be safely processed using either the boiling water canning method or the pressure canning method. However, always follow the processing method stated in the research-tested recipe.

Current stovetop Presto® Pressure Canners and Presto Precise ® Digital Pressure Canners function as both a pressure canner and a boiling water canner.

Preplanning

Prior to the canning season, thoroughly examine your pressure canner. Whether you have a new canner or a trusted old canner, it’s important to do a trial run with water to ensure it is functioning acceptably. If your canner has a dial gauge, we recommend having it tested annually at your county extension office or with the manufacturer to ensure its proper operation. Finding a problem with a full load of vegetables in the

canner can be disheartening.

Selecting a Recipe

To produce home-canned food that is safe for storage at room temperature, it is necessary to use a tested canning recipe. Recipes that have been handed down through the years or those found on the web are oftentimes unreliable and usually do not include the scientifically tested processing procedures vital to a successful and safe canning project. Canning information published prior to 2015 may be incorrect and could pose a serious health risk. A tested canning recipe has been evaluated to determine the accurate processing method (boiling water canning or pressure canning) as well as the preparation instructions and processing time. Do NOT can leftovers; it is not safe.

Always choose recipes from a reliable resource, such as the National Center for Home Food Preservation (nchfp.uga.edu), your local Cooperative Extension Service, the GoPresto.com website or by calling National Presto Industries, Inc. at 800-877-0441.

Assembling Supplies

Assemble all ingredients, supplies, and equipment needed for your canning project. Carefully read, understand, and follow the recipe and canning instructions as directed. Do not substitute or omit ingredients.

Selecting Jars: Glass home canning jars, sometimes referred to as Mason jars, are the only jars recommended for safe home canning. They can withstand the heat of a pressure canner, are durable, and can be reused time after time. These jars are available in standard sizes (half-pint, pint, and quart jars) and nonstandard sizes. The diameter of Mason jars may vary from one manufacturer to another.

Note: Half gallon jars are recommended for canning grape and apple juice only.

Glass home canning jars offer a deep neck and wide sealing surface to assure a tight seal. Always visually examine canning jars for nicks or cracks. Recycle or discard any damaged jars.

Do not use jars from commercially prepared foods because they were made for single-use only.

When canning with a research-tested recipe, a smaller jar size may be used than what is specified in the recipe. However, you must follow the processing time for the smallest jar listed in the recipe. Never use a larger jar size than what is listed.

Cleaning and Warming Jars: Jars should be thoroughly washed in hot, sudsy water. Do not use wire brushes, abrasive materials, or cleansers because they may damage the glass. Rinse jars completely with hot water. To help prevent jar breakage, allow jars to stand in very hot water prior to filling with food. This can be done in a dishwasher or in the canner. Wash and dry jars on the regular dishwasher cycle.

When the cycle is complete, remove one jar at a time, keeping the rest of the jars heated until needed.

To heat jars in a stovetop canner, pour 3 quarts of warm water in the canner and heat to almost simmering. For raw-packed foods, heat to 140°F; for hot-packed foods, heat to 180°F.

Fill clean jars half full with warm water and place them on the rack in the canner. Place cover on canner aligning the V mark on the cover with the inverted V mark on the handle. The regulator should not be on the cover for jar warming. Heat jars for at least 10 minutes. Remove jars, one at a time, keeping the remaining jars hot until needed.

Jars do not need to be sterilized unless the food placed in them will be processed less than 10 minutes using the boiling water canning method, such as jams and jellies. To sterilize the jars, boil them for 10 minutes. If you live at an altitude of 1,000 feet or more, boil an additional minute for each 1,000-foot increase in altitude. If you wish, rather than sterilizing jars, the processing time can be increased to 10 minutes for those jams and jellies that have a processing time of 5 minutes. The additional processing time is not harmful to most gels. Keep in mind that if your altitude is above 1,000 feet the processing time needs adjustment.

Cleaning Lids and Screw Bands: The two-piece vacuum cap (lid and screw band) is the recommended closure for home canning. It consists of a flat metal lid with a sealing compound on the outer edge and a separate metal screw band that secures the lid during processing. The flat lid is for one use only, while the bands can be used repeatedly if they remain in good condition. Do not use dented or rusty bands. Use only jars, lids, and screw bands in perfect condition so an airtight seal may be obtained. Bands should be removed prior to storage. Avoid closures such as zinc caps and glass lids. These closures do not provide a proper method to determine if the seal is safe. Also, avoid commercial one-piece caps even if they have a rubber-like gasket because they are intended for one-time use only.

Selecting and Preparing Food

Select only produce that is at its peak quality. Produce that is overripe or damaged will not be a good canned product.

Always follow exact preparation instructions such as peeling, slicing, or chopping.

Altering the recipe may affect the heat penetration of the food which when canned may result in underprocessing.

There are two methods of packing food into jars: raw pack and hot pack. Recipes will indicate a packing method that is best for the food being canned. In some cases, both raw and hot pack are indicated. If given a choice, the hot pack method yields better color and flavor, especially when foods are canned using the boiling water method.

Raw Pack: Unheated food is put directly into the jars and then covered with boiling water, juice, or syrup. When raw packing meat, poultry, fish, and seafood, do not cover with liquid. Most food should be packed tightly in the jars because it will shrink during processing. However, corn, lima beans, peas, and potatoes expand during processing and should be packed loosely. Raw meat, as well, should not be packed tightly. Always refer to the recipe for specific pack instructions.

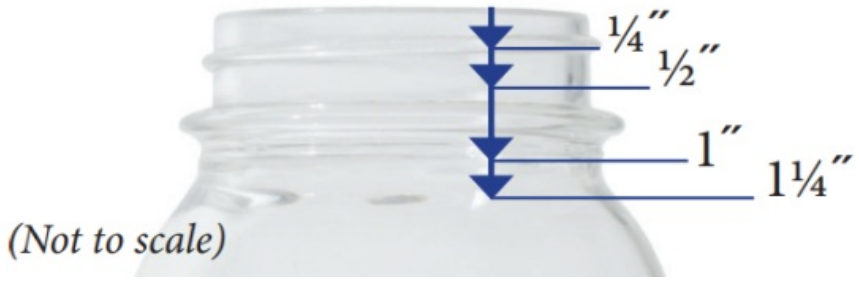
Hot Pack: Food is heated to boiling or cooked according to recipe before being packed into jars. The food is then covered with the boiling liquid. Foods that are hot packed should be put into the jars loosely because shrinkage will not occur during processing. Precooking the food allows it to conform to the jar better for a tighter, more efficient fit and prevents food from floating up in the jar during processing.

Measuring Headspace: All recipes will indicate the amount of headspace necessary for the food being canned.

Headspace is the air space between the top of the food or its liquid and the lid. Leaving too much headspace can result in underprocessing because it may take too long to release the air from the jar. Leaving too little headspace will trap food between the jar

and the lid and may result in an inadequate seal. As a general rule, allow ½-inch headspace for fruits and tomatoes, 1-inch for vegetables, meats, and seafood, and 1¼-inch for poultry.

Headspace: the space between the top of the food or its liquid and the lid. Refer to recipe for proper headspace for food being canned.



Removing Air Bubbles: After food has been packed in jars, any air bubbles must be removed. Air bubbles may rise to the top during processing, causing too much headspace. Work quickly to remove air bubbles that have become trapped between pieces of food by moving a clean, nonmetal spatula around the jar between the food and side of the jar. The use of metal utensils can damage canning jars and should be avoided.

Preparing Jar Rims and Adjusting Lids and Bands: Immediately after filling, wipe jar rims with a clean, damp cloth to remove any residue. Any food particles (such as seeds, grease, or syrup) on the jar may prevent the jar from sealing. Center a flat lid on the jar

rim making sure the sealing compound is touching the glass. Position a band over the lid and, using your fingertips, screw it onto the jar evenly and firmly (fingertip tight). Do not overtighten, as air must release from the jars during processing and cooling. When all the air is released, a vacuum is formed and the lid seals.

Canning Tip

To prevent mineral deposits on jars, add either 1 teaspoon of cream of tartar OR 2 tablespoons of white vinegar to the water in the canner prior to processing.

Processing

Process food according to a research-tested canning recipe which provides information on the processing method to use— Boiling Water Canning or Pressure Canning. It also indicates the processing time for the boiling water method or the processing pressure and time for the pressure canning method.

Cooling, Testing Seals, and Storing Food

Cooling: After processing, use a jar lifter to remove jars from canner. Lift straight up, being careful not to tilt them . Place jars on a dry towel on the countertop away from drafts, leaving 1 to 2 inches of space between jars to allow for even cooling. Do not retighten bands. Do not invert t jars or cover with a cloth. Allow jars to cool naturally. Check seals no earlier than 12 hours, but no later than 24 hours.

Testing Seals: After jars have cooled a minimum of 12 hours, press down on the center of the lid. If it is concave, or stays down when pressed, the jar is properly vacuum sealed. Remove the screw band and gently try to lift the lid with your fingertips. If the center does not flex up and down and you cannot lift the lid off, the lid has a good seal.

Storing Food: Wipe off any food residue from lids and jars. Do not replace bands as they may rust and become difficult to remove. Date and label jars. Store in a cool

(between 50° and 70°F), dark, and dry place to maintain optimum eating quality for up to a year. Storing food near a heat source or with exposure to sunlight can cause loss of food quality in just weeks or a few months.

Detecting Spoilage

If up-to-date instructions and processing times and pressures are followed carefully, spoilage is uncommon. However, it is still recommended to check for signs of spoilage before tasting any canned food. Check for a broken seal, gassiness when opening, mold, sliminess, cloudiness, or unpleasant odors. If any of these signs are present, discard the food. As a safeguard against using canned low-acid and tomato products which may be affected with spoilage that is not readily detected, boil food 10 minutes for altitudes up to 1,000 feet above sea level. Extend the boiling time by 1 minute for each 1,000 foot increase in altitude. Many times odors that cannot be detected in the cold product will become evident by this method. If, after boiling, food does not smell or look right, discard it without tasting.

For more canning information,

visit www.GoPresto.com

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Documents / Resources

	PRESTO v1, v25a Canning Basics [pdf] Owner's Manual v25a, v1, v1 v25a Canning Basics, v1 v25a, Canning Basics

References

- User Manual

Canning Basics, Presto, V1, v1 v25a, v1 v25a Canning Basics,
Presto v25a

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