PRESTO®

Easy, confident, and sustainable home canning.

Canning BASICS

To ensure the best and safest canning experience, review these basic canning guidelines.

Understanding Canning

The key to successful canning is to understand the acidity and spoilage factor of the food you wish to can, as well as the acceptable canning methods to process those foods. Invisible microorganisms exist naturally on fruits, vegetables, meat, poultry, and seafood. Yet they are not a problem unless food is left to sit for extended periods of time, causing food spoilage. This is nature's way of telling us when food is no longer fit to eat.

There are four basic agents of food spoilage—enzymes, mold, yeast, and bacteria. Canning will interrupt the natural spoilage cycle so food can be preserved safely.

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

Bacteria, however, are not as easily destroyed. The bacterium Clostridium botulinum produces a spore that makes a poisonous toxin which causes botulism. This spore is not destroyed at 212°F. In addition, this bacterium thrives on low acid foods in the absence of air. Therefore, for a safe food product, low-acid foods need to be processed at 240°F, a temperature only achieved with pressure canning.

Determining the Method

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

Low acid: Foods that are low acid have a pH value higher than 4.6 and include vegetables, meats, poultry, and seafood. Low-acid foods must only be processed using the pressure canning method.

High acid: Foods that are high acid have a pH value of 4.6 or less and include fruits, jams and jellies, properly pickled vegetables and properly acidified tomatoes. Most fruits are naturally high acid. Pickles and tomatoes, which are not high acid, are made high acid with the addition of an acid, such as vinegar or lemon juice. High-acid foods can be safely processed using the boiling water method.

Although **fruits and tomatoes** can be safely processed using the boiling water method, both can be acceptably canned using the pressure canning method. Always follow the processing method stated in the research-tested recipe.

Before you Begin

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. As a general rule, replace the sealing ring and over-pressure plug every two to three years. If your canner has a dial gauge, we recommend having it tested at your county extension office or with the manufacturer to ensure its proper

operation. Finding a problem when there is a load of vegetables in the canner can be disheartening and wasteful.

Always use reliable sources that offer current, research-tested procedures, recipes, and timetables. Such information is available from the National Center for Home Food Preservation (nchfp.uga.edu), your local Cooperative Extension Service, and National Presto Industries, Inc. either online at GoPresto.com or by calling (800) 368-2194. Recipes that have been handed down through the years or those found on the web are oftentimes unreliable and usually do not include scientifically tested processing procedures that are vital to a successful and safe canning project. Canning information published prior to 1994 may be incorrect and could pose a serious health risk.

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 cannng jars, sometimes referred to as Mason jars, are made of heat-tempered glass for durability and reuse. These are the only jars recommended for safe home canning. They are available in standard sizes (half-pint, pint, and quart jars) and will withstand the heat of a pressure canner, time after time. Note: Half gallon jars are recommended only for canning clear juices, such as grape and apple.

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. Always use the jar size and exact processing procedures indicated in the research-tested processing recipe.

Cleaning Jars for Canning

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. A dishwasher may also be used. Wash and dry jars using a regular cycle. When cycle is complete, remove one jar at a time, keeping the rest of the jars heated 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 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.

Canning Lids and Bands

The two-piece vacuum lid 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 bands can be used repeatedly if they remain in good condition; however, new lids must be used each time. Always prepare lids and bands according to manufacturer's instructions.

Avoid closures such as zinc caps and glass lids that require a jar rubber. 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 over-ripe or damaged will not be a good canned product. Always follow exact preparation instructions such as peeling, slicing, chopping, or puréeing. 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.

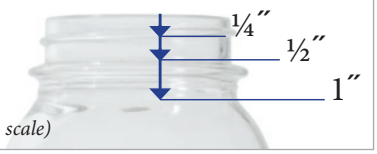
Raw Pack: Unheated food is put directly into the jars and then covered with boiling water, juice, or syrup. When raw packing meat, poultry, fish, and seafood, do not cover with liquid. Food should be packed tightly in the jars because it will shrink during processing. However, corn, lima beans, peas,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

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.

Preparing Filled Jars for Canning

Measuring Headspace

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.*



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 and 1-inch for vegetables, meats, poultry, and seafood.

Removing Air Bubbles

After food has been packed in jars, work quickly to remove air bubbles that have become trapped between pieces of food by moving a clean, nonmetallic 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

Immediately wipe jar rims with a clean, damp cloth to remove any residue. Place flat lid on rim of jar making sure sealing compound is touching glass. Position a band over the lid and screw onto the jar just until resistance is met. Not too tight, 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.

Processing

Process food according to the research-tested canning recipe which will provide information on the processing method to use, **boiling water** or **pressure canning**. It will also state the processing time for the boiling water method or the processing pressure and time for the pressure canning method.

Cooling and Storing Jars of Food

Cooling Jars

Carefully open cover. Using a jar lifter, remove jars from canner lifting straight up, being careful not to tilt them. Place jars on a dry towel on countertop away from drafts leaving 1 to 2 inches of space between jars to allow for even cooling. Do not invert jars or cover with a cloth. Allow jars to cool naturally to room temperature. Let jars completely cool for 12 to 24 hours before checking the seals. It is important to test the seals to be sure a vacuum has been formed. Press down on the center of the lid. If it is concave, or stays down when pressed, the jar is properly vacuum sealed.

Storing Canned Food

Remove bands. 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 before storing. Store canned food in a cool (between 50° and 70°F), dark, and dry place to maintain optimum eating quality for at least one 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 and recipes for your Presto® Pressure Canner, visit

GoPresto.com

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