



Selecting a Canning or Processing Method

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Peaches, strawberry jam, peas, beans, chicken, vegetable soup? Which method of home canning is suitable and safe for each product? The most important choice for a safe product is to choose the processing method that will destroy all harmful bacteria and prevent their growth during storage. Processing is heating the food in closed jars, until the food reaches the temperature needed to destroy spoilage and pathogenic

microorganisms. This process forces air from the jar creating an airtight vacuum seal making the product shelf stable.

Canning High Acid Foods

If you are canning fruits, acidified tomatoes, pickled products, and jams and jellies, you will be able to process them in a boiling water bath or an atmospheric steam canner.

- A boiling water bath canner may be purchased or you can create a water bath canner from equipment you already have. You need a pot that is deep enough so there is space for a rack, the jars, and at least one inch of water above the jars, and room for the water to boil rapidly without boiling over.

- An atmospheric steam canner has a low base that will hold about 2 quarts of water; the lid is a tall dome that covers the jars. After driving air from the canner until a steady column of steam forms that is 8 to 10 inches long, the jars are surrounded by steam that is as hot as boiling water.
- Use the same process times for an atmospheric steam canner as for boiling water processing.

Canning Low Acid Foods

A pressure canner is necessary for canning low acid vegetables and meats. Low acid vegetables include all vegetables except acidified tomatoes, pickles and sauerkraut. Peas, corn, beans, carrots, vegetable soup, pumpkin cubes, beets that are not pickled, asparagus, greens, mushrooms, okra, onions, peppers, and potatoes must be pressure canned at times and pressures specified in scientifically tested recipes in order for them to be safe.

- Up-to-date recipes specify processing vegetables and meats at 10 pounds pressure in a weighted gauge canner and 11 pounds pressure in a dial gauge canner (for altitudes no greater than 1,000 feet above sea level.)
- A pressure canner is essential to make the temperature of the food high enough (240°F) to destroy botulism spores—a potential source of deadly food borne illness.
- It is not safe to can low acid foods in a boiling water bath. Regardless of how long water boils, the water temperature will not rise above 212°F unless pressure is applied.
- Pressure canning is an option for canning some fruits. It is not necessary to pressure can fruits, but it is not unsafe. Fruits are pressure canned at 5 pounds pressure in a weighted gauge canner and 6 pounds pressure in a dial gauge canner.

Unsafe Canning Methods

Some canning methods used years ago are no longer considered safe.

- Open kettle method involves pouring hot food into jars and allowing the heat of the food to cause the jars to seal. This is not safe! Especially do not use this method for tomatoes or tomato juice. There is inadequate heat to destroy spoilage organisms. Do not use for pickles, jams or jellies either. Open kettle canning does not adequately destroy molds, yeasts and bacteria and it does not drive air out of jars in order to create strong vacuum seals.
- Oven processing, where jars filled with food are placed in the oven, can be dangerous as jars may explode injuring you. Additionally, heat may not be evenly distributed inside the jars thus not allowing food to reach the proper temperature. Jars are not designed

for oven temperatures. Do not use old cookbook recipes that have directions for oven canning.

- You may find directions for canning in microwave ovens, slow cookers, crock-pots, small electric pressure cookers, or the sun; however, these methods can be extremely dangerous and are not recommended.
- Avoid canning powders or chemicals that try to replace heat processing.

To be safe—use the pressure canner for low acid foods and the boiling water bath or atmospheric steam canner for high acid foods. [Penn State Extension Home Food Safety website](#), [National Center for Home Food Preservation](#) and [USDA Complete Guide to Home Canning](#) all have research based information on safe canning practices for a variety of foods.