

# Food Preservation

## Canning Vocabulary

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**Acid Foods:** Foods which contain natural acids, those which have had vinegar added to them or those produced by controlled microbial fermentation are classified as acid foods. This food group includes fruits, tomatoes, pickles, sauerkraut and relishes. Because microorganisms do not thrive in acid, these foods can be safely processed in a water bath canner at 212 F (100 C).

**Ascorbic Acid:** Used to prevent browning of peeled fruits, i.e. apples, peaches, pears and vegetables such as potatoes. It is the chemical name for vitamin C. Vitamin C tablets may also be used.

**Bacteria, Yeasts and Molds:** These are low forms of plant life known to scientists as microorganisms. They abound in nature in the vegetative (growing) and spore (seed) forms. They are always present in air, water and soil and on food crops, insects, rodents and humans. If not destroyed by application of heat, they will grow in canned foods and cause them to spoil.

**Blanching (scalding):** Blanching is the dipping of vegetables in boiling water or steaming them over boiling water for a pre-determined period of time, followed by immersing them in cold water to stop the cooking action. Blanching destroys enzymes that cause undesirable changes in color, flavor and texture. It removes air from the food which makes it pliable and easily handled.

**Boiling:** Boiling is the heating of a liquid to 212 F (100 C), at sea level, so it rolls and bubbles from top to bottom. Water that is simmering reaches only 180-185 F and is not hot enough to sterilize foods or jars. The boiling operation decreases as altitude increases.

**Botulism:** This is a type of food poisoning caused by eating foods that contain a toxin produced by the growth of spores (seed) of the bacteria *Clostridium botulinum* in a sealed jar.

These spores can grow in tightly sealed jars of any low acid food. They are produced by bacteria which grow in the absence of air and in low acid foods. Spores can be destroyed when low acid foods are correctly processed in a steam-pressure canner. As a safety precaution, all home-canned, low-acid foods should be boiled 10 to 20 minutes before tasting to destroy any toxin which could be present.

**Canning/Pickling Salt:** Salt that does not contain the additives for anticking or iodine that is in regular table salt.

**Citric Acid:** A form of acid that can be added to foods to increase acidity. It can be used to help prevent fruit and vegetable discoloration, but is not as effective as ascorbic acid.

**Cold Pack/Raw Pack:** A method of filling containers. Canning jars are packed with raw food and covered with boiling brine, water, syrup or juice. Pack raw corn, peas and lima beans loosely because they absorb water and expand. Pack all other fruits and vegetables firmly into jars since usually there will be some shrinkage during processing and some foods may float to the top of the jar.

**Enzymes:** Natural chemical substances found in all plant and animal tissue. In growing plants, they aid in all growth processes including maturation and ripening. After maturity, continued activity of enzymes can cause undesirable changes in color, flavor and texture. Enzymes that cause these undesirable changes are destroyed during heat processing of foods.

**Exhausting:** Forcing air to escape from a jar of food or a pressure canner by applying heat. Also called venting.

**Fermentation:** Intentional growth of microorganisms (bacteria, yeast or mold) in a food that changes its taste and



texture. It acts as a major preservative and flavoring agent in foods like sauerkraut and pickles.

**Flat Sour:** A common type of spoilage in canned vegetables caused by bacteria which give food an unpleasant flavor. It can be prevented by following correct methods of preparing, packing, processing and cooling foods.

**Head Space:** The space between the top of food in a container and the inside bottom of the lid or closure is called headspace. In canning, too little space can cause food to escape from the top of the jar, possibly ruining the seal; too much space can cause exposed food at the top of the jar to discolor.

**Hot Pack:** A method of filling containers. Food is heated in an open vessel in water, juice, syrup or steamed and packed hot into canning jars prior to processing. This is the preferred method when food is firm; it permits a tighter pack and requires fewer jars.

**Lid:** The term lid usually refers to the flat metal disc with flanged edge and a sealing compound on its underside and is used in combination with metal screwband for sealing glass jars.

**Low-Acid Foods:** Foods that contain very little natural acid are classified as low acid foods. This food group includes all vegetables (except tomatoes) meats, poultry, seafood, soups and mixed vegetable recipes which include tomatoes as one of the ingredients. All low acid foods must be processed at 240 F (116 C) to assure the destruction of spoilage microorganisms.

**Metal Band:** A threaded screw band used in combination with flat metal disc to form a two-piece closure for glass jars.

**Microorganisms:** Microscopic size organisms which includes bacteria, yeast and molds. They grow rapidly in proper conditions, i.e. moisture, nutrients, temperature and acidity, and reach very high populations quickly. Undesirable microorganisms cause food-borne illness, including death, and food spoilage.

**Open Kettle:** An old style method of canning that is no longer considered to be safe. In this method, the food is cooked

in an open kettle and then quickly put into jars and sealed without further processing.

**Pectin:** Pectin is the substance in fruits that forms a gel when it is in the right combination with acid and sugar. All fruits contain some pectin. High-pectin-containing fruits include apples, crab apples, some plums and grapes. Low-pectin-containing fruits include strawberries, blueberries, cherries and peaches.

**pH:** A measure of acidity or alkalinity. The scale runs from 0 to 14. A food is neutral when its pH is 7.0. The lower the pH, the more acidic the food.

**Pickling or acidifying:** A process of adding enough acid to a low-acid food (pH above 4.6) to lower the pH to 4.6 or below. Properly acidified or pickled foods can be safely heat processed in boiling water.

**Processing:** Heating food in closed canning jars for a long enough time and high enough temperature to destroy bacteria, yeasts, molds and enzymes.

**Steam Pressure Canner:** A large, heavy metal kettle with tight fitting cover that can be closed steam tight. The lid is fitted with a safety valve, steam vent or petcock and a pressure gauge, either weighted or dial. Steam produced inside the kettle is pressurized to obtain temperatures exceeding the boiling point of water [212 F (100 C)]. At 10 pounds pressure, the temperature will reach 240 F (116 C), at sea level, which is hot enough to kill botulinum spores. All low-acid foods must be processed in a pressure canner at 240 F (116 C).

**Vacuum:** Reflects how much air has been removed from within an air tight container that has been processed -- the higher the vacuum, the less air left inside the container.

**Water Bath Canner:** A large metal kettle with a tight fitting cover and rack or basket to keep glass jars from resting on the bottom of the kettle or from bumping together. The kettle must be deep enough for the water to be well over the top of the jars and still have room to boil briskly. The water bath canner is recommended for foods that can be adequately processed at 212 F (100 C) such as fruit, tomatoes, fermented foods and food with vinegar added, jellies, jams and preserves.



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