

# WET-PACK CANNING

## "WHY CAN FOODS?"

"Canning foods can be a **safe and economical way to preserve quality food at home**. Disregarding the value of your labor, canning homegrown food may save you **half the cost** of buying commercially canned food. Canning favorite and special products to be enjoyed by family and friends is a **fulfilling experience** and a source of pride for many people." -*Complete Guide Home Canning and Preserving- Second Edition, Chapter 1, p.5.*" I

## "HOW CANNING PRESERVES FOODS?"

"**The high percentage of water in most fresh foods makes them very perishable.** They spoil or lose their quality for several reasons:"

- ▼ Growth of undesirable microorganisms- bacteria, molds and yeasts,
- ▼ Activity of food enzymes,
- ▼ Reactions with oxygen,
- ▼ And moisture loss.

"**Microorganisms live and multiply quickly on the surfaces of fresh food** and on the inside of bruised, insect-damaged, and diseased food. Oxygen and enzymes are present throughout fresh food tissues."

-*Complete Guide to Home Canning and Preserving- Second Edition, Chapter 1, p.5.*"

### **"Proper canning practices include:"**

- ▼ Carefully selecting and washing fresh food,
- ▼ Peeling some fresh foods,
- ▼ Hot packing many foods,
- ▼ Adding acids (lemon juice or vinegar) to some foods,
- ▼ Processing jars in boiling-water (Wet-pack Process) or a Pressure Canner for the correct period of time.

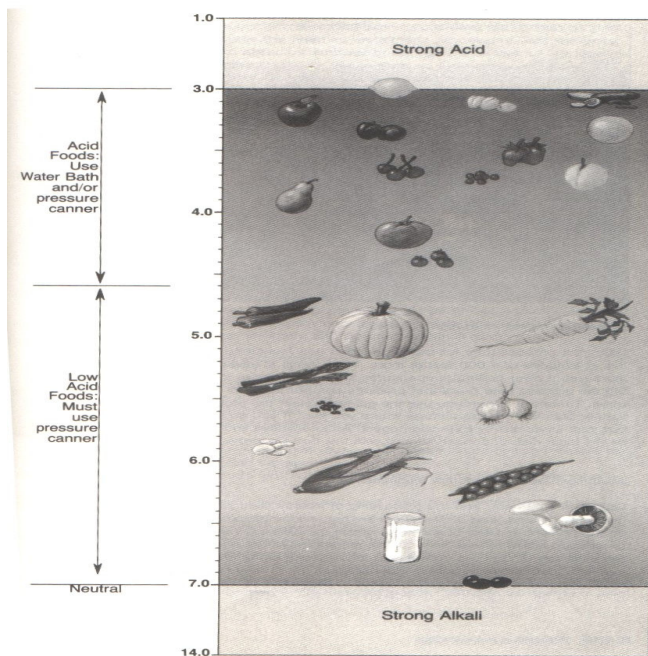
-*Complete Guide to Home Canning and Preserving- Second Edition, Chapter 1, p.5.*"

**"Collectively, these practices remove oxygen; destroy enzymes; prevent the growth of undesirable bacteria, yeasts, and molds; and help form a high vacuum in jars. Good vacuums form tight seals which keep liquid, air and microorganisms out."** - *"Complete Guide to Home Canning and Preserving- Second Edition, Chapter 1, p.6."*

## WHAT IS WET-PACK CANNING?

Wet-pack canning is the process of preserving fruits that contain a **high-acidity content** so they can be preserved without worry of bacterial poisoning and so these fruits can be enjoyed in the future! Fruits contain a natural acidity and sugar content. **"Acid foods** contain enough acidity to block the growth of bacteria, or they destroy them more rapidly when heated. The term **'pH' is a measure of acidity**; the lower its value, the more acid in the food. The acidity level in foods can be increased by adding lemon juice, citric acid, or vinegar. **Acid foods can be canned using the 'Wet-pack Canning' method but they must have a pH of 4.6 or lower.** These foods include fruits, pickles, sauerkraut, jams, jellies, marmalades, and fruit butters. **Although tomatoes usually are considered acid food, some are now known to have pH values slightly above 4.6. Figs also have pH values slightly above 4.6.** Therefore, if they are to be canned as 'acid foods,' these products must be acidified to a pH of 4.6 or lowered with lemon juice or citric acid. Properly acidified tomatoes and figs are now 'acid foods' and be safely processed in a boiling-water canner (Wet-Pack process)" -*"Complete Guide to Home Canning and Preserving- Second Edition, Chapter 1, p.8."*

See **pH Food Chart** below to see what foods you use and can with a **Wet-pack Canner versus a Pressure Canner** -*"Complete Guide to Home Canning and Preserving- Second Edition, Chapter 1, p.9."* :



## "ENSURING HIGH\_QUALITY CANNED FOODS"

"**Begin with good-quality fresh foods suitable for canning.** Quality varies among varieties of fruits and vegetables. Many county Extension Offices can recommend varieties best suited for canning. Examine food carefully for freshness and wholesomeness. Discard diseased and moldy food. Trim small diseased lesions or spots from food."

"Can fruits and vegetables picked from your garden or purchased from nearby producers **when the products are at their peak of quality**- within 6 to 12 hours after harvest for most vegetables. For best quality, apricots, nectarines, peaches, pears, and plums should be ripened 1 or more days between harvest and canning. **If you must delay the canning of other fresh products, keep it in a shady, cool place.**"

### "Maintaining color and flavor in canned food:"

- ▶ Remove oxygen from food tissues and jars,
- ▶ Quickly destroy the food enzymes,
- ▶ Hot packing many foods,
- ▶ Obtain high jar vacuums and airtight jar seals.

*-"Complete Guide to Home Canning and Preserving- Second Edition, Chapter 1, p.11."*

## "PROCESSING AND STORAGE OF FOODS"

- ▶ "Use only high-quality foods which are at the proper maturity and are free of diseases and bruises."
- ▶ "Use the hot-pack method, especially with acid foods to be processed in boiling-water (Wet-pack process)."
- ▶ "Don't unnecessarily expose prepared food to air. Can them as soon as possible."
- ▶ "While preparing the canner load of jars, keep peeled, halved, quartered, sliced or diced apples, apricots, nectarines, peaches, and pears in a solution of 3 grams ascorbic acid to 1 gallon of cold water. This procedure is also useful in maintaining the natural color of mushrooms and potatoes, and for preventing stem-end discoloration in cherries and grapes. You can get ascorbic acid in several forms: Pure powdered form (1 tsp= 3 grams); Vitamin C tablets (500-milligram variety; crush 6 tablets per 1 gallon of water); and commercially prepared mixes of ascorbic and citric acid (aka ***Fruit Fresh***, follow the manufacturers instructions.)"

▼ "Fill hot foods into jars and adjust headspace as specified in recipes."

▼ "Tighten screw bands securely, but if you are especially strong, not as tightly as possible." (Just until screw bands are just snug!)

▼ "Process and cool the jars."

▼ "Store the jars in a relatively cool, dark place, preferably between 50 degrees and 70 degrees Fahrenheit."

▼ "Can no more food than you will use within a year!"

-*"Complete Guide to Home Canning and Preserving- Second Edition, Chapter 1, p.11-12."*

## "ADVANTAGES OF HOT-PACKING"

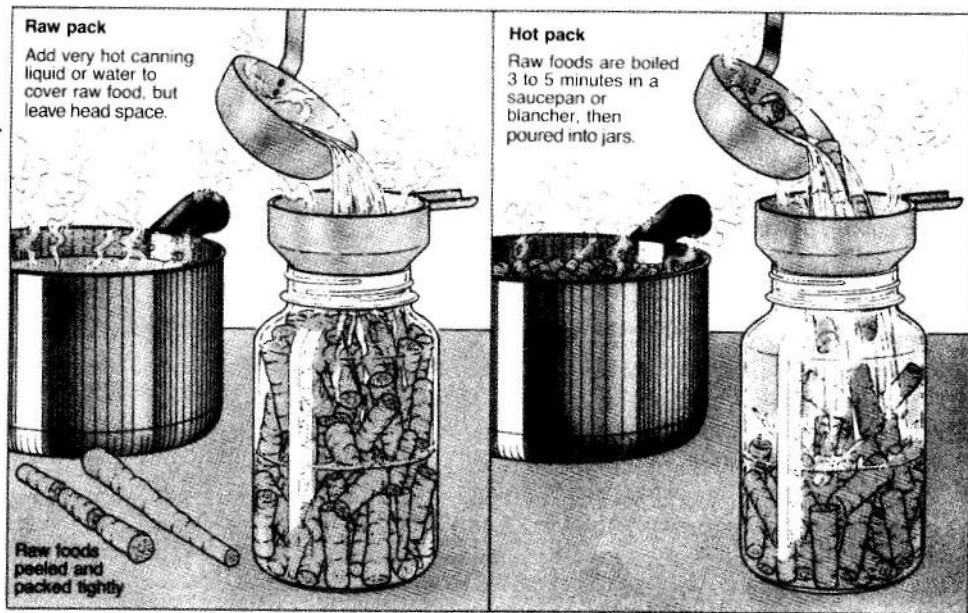
▼ "Many fresh foods contain from 10% to more than 30% air. How long canned food retained high quality depends on how much air is removed from food before jars are sealed."

▼ "**Raw-packing is the practice of filling jars tightly with freshly prepared, but unheated food.** Such foods, especially fruit, will float in the jars. The entrapped air in and around the food may cause discoloration within 2-3 months of storage. Raw-packing is more suitable for vegetables processed in a pressure canner."

▼ "**Hot-packing is the practice of heating freshly prepared food to boiling, simmering it 2-5 minutes, and promptly filling jars loosely with the boiled food.** Whether food has been hot-packed or raw-packed, the juice, syrup, or water to be added to the foods should also be heated to boiling before adding it to the jars. This practice helps to **remove air from food** tissues, **shrinks food**, **helps keep the food from floating** in the jars, **increases vacuum in sealed jars** and **improves shelf life**. Preshrinking food permits filling more food into each jar."

▼ "**Hot-packing is the best way to remove air and is the preferred pack style for foods processed in a boiling-water canner (Wet-pack process).** At first, the color of hot-packed foods may appear no better than that of raw-packed foods, but within a short storage period, both color and flavor of hot-packed foods will be superior."

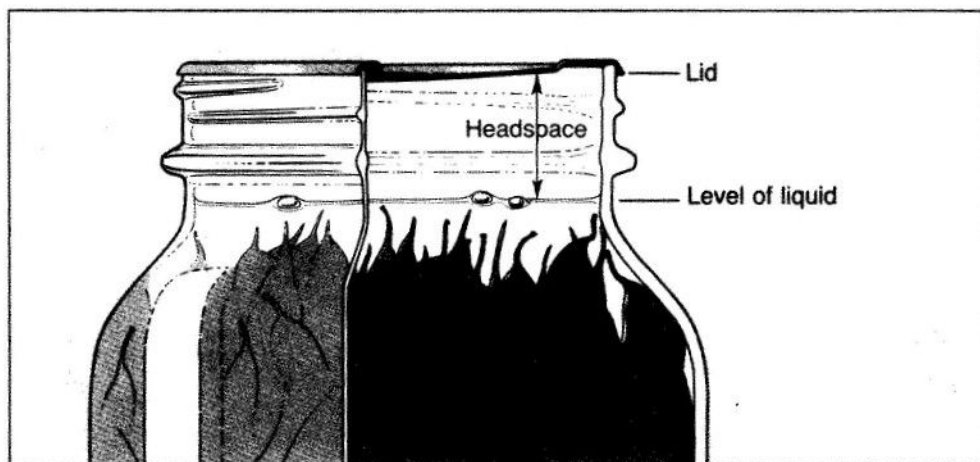
▼ "See Raw-pack versus Hot-pack image below:"



-*"Complete Guide to Home Canning and Preserving- Second Edition, Chapter 1, p.12-13."*

## WHAT IS HEADSPACE?

**"The unfilled space above the food in a jar and below its lid is termed headspace.** Directions for canning specify leaving **1/4-inch** for jams and jellies, **1/2-inch** for fruits and tomatoes to be processed in boiling water (**Wet-pack process**), and from **1- to 1-1/4-inches** in low-acid foods to be processed in a **Pressure Canner**. The extent of expansion is determined by the air content in the food and by the processing temperature. Air expands greatly when heated to high temperatures; the higher the temperature, the greater the expansion. Foods expand less than air when heated. (See **Head Space** image below):"



*-"Complete Guide to Home Canning and Preserving- Second Edition, Chapter 1, p.13."*

## **JAR SELECTION, CLEANING and STERILIZATION!**

▼ **Food is usually canned in glass jars (Kerr or Ball)** because they can be used more than once and, therefore, they are less costly in the long run. I usually purchase my Ball or Kerr jars from the local grocery store or Wal-Mart. Jars come as "regular" or "wide-mouthed" and are available in 1/2 pint (1 cup= 4 ounces), 1 pint (2 cups= 8 ounces) and quart sizes (4 cups= 16 ounces). **"Wide-mouth" jars are generally preferred over "regular mouth" jars because they have openings of about 3-inches, making them more easily filled and emptied.** "With careful use and handling, canning jars may be reused many times, requiring only new lids each time. When jars and lids are used properly, jar seals and vacuums are excellent, and jar breakage is rare." *-"Complete Guide to Home Canning and Preserving- Second Edition, Chapter 1, p.14."*

▼ **"Before every use, wash empty jars in hot water with dish soap, and rinse well by hand, or wash in a dishwasher.** Unrinsed soap may cause unnatural flavors and colors. These washing methods do not sterilize jars. Scale or hard-water films on jars are easily removed by soaking several hours in a solution containing 1 cup vinegar (5 % acidity per gallon of water." *-"Complete Guide to Home Canning and Preserving- Second Edition, Chapter 1, p.14."*

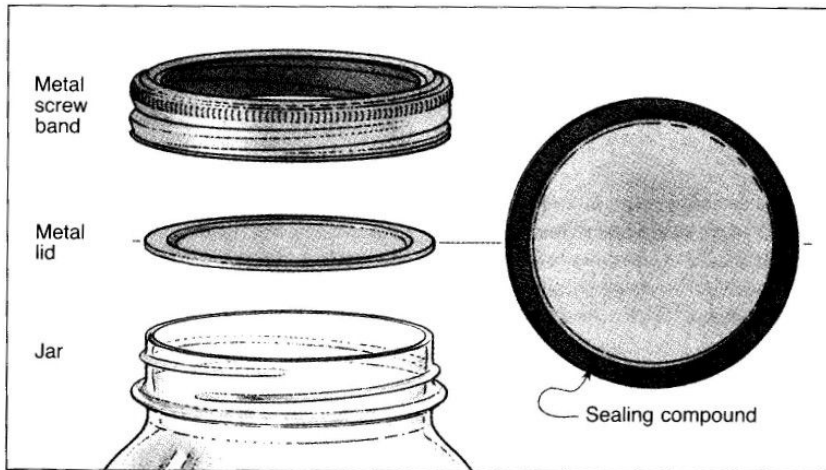
▼ **"All jams, jellies, and pickled products process less than 10 minutes should be filled into sterile empty jars. To sterilize empty jars,** put them right side up on the rack in a boiling-water canner. Fill the canner and jars with hot (not boiling) water to 1-inch above the tops of the jars. Boil 10 minutes at altitudes or less than 1,000ft. At higher elevations, boil 1 additional minute for each additional 1,000ft elevation. **We are at 1,600 ft elevation in Arizona, so boil you jars for ~11 minutes.**" *-"Complete Guide to Home Canning and Preserving- Second Edition, Chapter 1, p.15."* **I use a "steam canner" so after washing and drying the jars, I put the jars in a roasting pan in the oven and bake the jars for 20 min in a 200 degree oven to sterilize the jars thoroughly. This works as well as using the boiling-water method and saves times as well!**

## **LID SELECTION, PREPARATION AND USE!**

▼ **"The common self-sealing lid consists of a flat metal lid shelf in place by a metal screw band during processing. The flat lid is crimped around its bottom edge to form a trough, which is filled with a colored gasket compound. When jars are processed, the lid gasket softens and flows slightly to cover the jar-sealing surface, yet allows air to escape from the jar. The gasket then forms an airtight seal as the jar cools. Gaskets in unused lids work well for at least 5 years from date of manufacture. The gasket compound in older unused lids may fail to seal on jars." *-"Complete Guide to Home Canning and Preserving- Second Edition, Chapter 1, p.15."* **I try to keep all of my spare lids in the house due to the dry heat of AZ garages which wear out these lids quicker!****



▼ "Buy only the quantity of lids you will use in a year! To ensure a good seal, carefully follow the manufacturer's directions in preparing lids for use. Examine all metal lids carefully. Do not use old, dented, or deformed lids or lids with gaps or other defects in the sealing gasket." - "*Complete Guide to Home Canning and Preserving- Second Edition, Chapter 1, p.15.*" (See Jar Lid Placement image below :)



## FILLING YOUR JARS WITH FOOD

Fill your jars with food using a **canning funnel** to control spills on outside of jar. "After filling the jars with food, **release air bubbles** by inserting a flat plastic (not metal) spatula or knife between the food and the jar. Slowly turn the jar and move the spatula up and down to allow air bubbles to escape. **Adjust the headspace** and then **clean the jar rim (sealing surface)** with a dampened paper towel. **Place the lid gasket down**, onto the cleaned jar-sealing surface. Uncleaned jar-sealing surface may cause seal failures. Then fit the metal screw band over the flat lid. Follow the manufacturer's guidelines enclosed with or on the box for tightening the jar lids properly." - "*Complete Guide to Home Canning and Preserving- Second Edition, Chapter 1, p.16.*" (See Filling Jars image below :)



## RECOMMENDED CANNER

I use the "Steam Canner" for processing **high acid foods** using the **Wet-Pack Canning Method**. This is what a **Steam Canner** looks like:

