

Strengthening Families

Cumberland County Center

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Contact Us

NC Cooperative Extension
Cumberland County Center
301 E. Mountain Drive
Fayetteville, NC 28306

(910) 321-6869 Phone
(910) 321-6883 Fax

cumberland.ces.ncsu.edu

Candy Underwood
Extension Agent
Family & Consumer
Sciences
candy_underwood@ncsu.edu

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Preserving Summer Bounties

Gardens overflowing with red tomatoes and bright green peppers...orchards filled with sweet, juicy peaches...farmers markets piled high with fresh produce. Why not save some of the bounty to enjoy all year around?

Canning, freezing and drying are the three methods of preserving food. The method you choose to use will depend on whether safe guidelines for that method are available for the particular food you have and which method best suits your needs.

Freezing is a safe method to preserve any food. However, if a food contains a lot of water, like lettuce, the frozen product may not have acceptable quality. Canning, freezing and drying, if done correctly, can help you store good quality food for later use.

Unless food is preserved in some manner, it begins to spoil soon after it is harvested or slaughtered. This spoilage is caused by microorganisms; physical damage such as bruising, water loss, or punctures; or by chemical changes such as those caused by enzymes.

Most bacteria grow best on low acid foods such as vegetables or meats. Most can be destroyed by heat. However, others form spores that can only be destroyed by temperatures higher than boiling (212°F at sea level). It is because of one of these bacteria - *Clostridium botulinum* - that some canned foods have to be processed in a

pressure canner where the temperature reaches at least 240°F.

Canning is the process in which foods are placed in jars or cans and heated to a temperature that destroys microorganisms and inactivates enzymes. This heating and later cooling forms a vacuum seal. Acid foods such as fruits and tomatoes can be processed or "canned" in boiling water, while low acid vegetables and meats must be processed in a pressure canner at 240°F (10 pounds pressure at sea level).

Pickling is another form of canning. Pickled products have an increased acidity that makes it difficult for most bacteria to grow. The amount of acid present is very important to the safety of the product.

Jams and Jellies have very high sugar content. The sugar binds with the liquid present making it difficult for microorganisms to grow. To prevent surface contamination after the product is made, these are either canned, frozen or refrigerated.

Freezing reduces the temperature of the food so that microorganisms cannot grow. Enzyme activity is slowed down but not stopped during freezing.

Drying removes most of the moisture from foods. Thus microorganisms cannot grow and enzymes action is slowed down. Dried foods should be stored in airtight containers to prevent moisture from rehydrating the product.

Source: So Easy To Preserve

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Canning on Smooth Cooktops

Can a smooth cooktop be used for canning? We have to say to follow your manufacture's advice because styles of smooth cooktops being manufactured differ in ways that influence suitability for canning. Some smooth cooktop manufacturers say do not can on them, while others who say it is okay, still put stipulations on the diameter of the canner compared to the diameter of the burner. Boiling water or pressure canners may not be available that meet the maximum diameter pot they allow. There are several issues to consider:

- 1) There can be damage to the cooktop from excessive heat that reflects back onto the surface, especially if the canner used has a larger diameter than is intended for the burner being used. The damage can range from discoloration of white tops to actual burner damage to cracking of the glass tops to fusion of the metal to the glass top. Even if the manufacture says a burner/cooktop can be used for canning, be aware that scratching can occur when the canner is slid or pulled across the cooktop.
- 2) Many of these cooktops have an automatic cut-off on their burners when heat becomes excessive. If that option is built in, and the burner under a canner shuts off during the process time, then the product will be underprocessed and cannot be salvaged as a canned food.
- 3) Even if boiling water canning is approved by the manufacturer, it may be necessary to fashion your own canner out of a flat-bottomed stockpot with a bottom rack inserted. Many canners do not have flat enough bottoms to work well on a smooth cooktop to be able to maintain a full boil over the tops of the jars. The pot used as a canner must also be large enough to have lots of water boiling freely around the jars and at least 1 inch over the tops of the jars.

Contact the manufacturer of your smooth cooktop before making a decision to use it for canning.

Source: National Center for Home Food Preservation

Recommended Canning Equipment

Before each canning season, assemble and examine all canning equipment.

Canning jars. Use only standard canning jars (also called Mason jars) with the manufacture's name printed on the side. These jars can withstand the temperature extremes for canning. Canning jars need to be in perfect condition. Check all jars, new or used, for hair-line cracks, chips or nicks on the sealing edge. Such defects can result in breakage or failure to seal.

Canning lids. The only safe way to seal a canning jar is with a two-piece canning lid. The set consists of a flat metal lid and a screw band. The lid has sealing compound around the edge and is enameled on the under side to prevent food from reacting with the metal. The screw band holds the lid in place during processing. You can reuse the screw bands if they are in good condition but always use new lids.

Two types of canners. Use a water bath canner to process high acid foods like fruits and tomatoes. A water bath canner is a large deep kettle that has a cover and a rack to hold jars. You can also use a big, cov-

ered pot that is deep enough to allow water to extend 1 to 2 inches over the tops of the jars with enough room for the water to boil briskly. Also, add a rack to keep the jars off the bottom of the pot.

Use a pressure canner to process low acid foods like vegetables and meats. A pressure canner has either a dial gauge or a weighted gauge. It is a deep heavy kettle that has a rack on the bottom for the jars to stand on. It also has a tight-fitting lid with a gasket and a pressure gauge. The gasket keeps steam from leaking out around the cover. If the gasket is worn, stretched, or hardened, replace it.

If you would like to get your dial gauge canner tested call 910-321-6869 to make an appointment.



Source: NC State Cooperative Extension

Preparing Fruits and Vegetables for

Select high quality, unblemished fruits and vegetables for canning. Canning will not improve quality. Can the produce as soon as possible after harvesting. If you must hold foods before canning, keep them in the refrigerator. If you buy fruits or vegetables to can, get them fresh from local farmer's markets, roadside stands or pick-your own farms.

Thoroughly wash fruits and vegetables before canning even if they will be peeled. Garden soil contains bacteria. **NOTE:** Potatoes must be peeled before canning. Potatoes skins contain a high bacteria count increasing the chance of botulinum toxin formation.

Wash by scrubbing with a vegetable brush and rinsing thoroughly. Or, if more practical, soak in water for several minutes. Lift out of the water so the soil that has been washed off won't settle back on the food. Peel, pit, and/or slice only as much food as you can process at one time.

Some fruits and vegetables (apples, apricots, nectarines, peaches, pears and potatoes) darken when cut. To prevent darkening, keep raw prepared produce in a solution of 1 teaspoon ascorbic acid to one gallon of cold water. Check among the canners' supplies in the supermarket to get this product.



Sugar and Salt

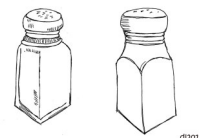
Sugar helps retain the color, shape and texture of canned fruits. Sugar is usually added as a syrup. To make syrup, pour 4 cups of water into a saucepan and add:

- 2 cups of sugar to make 5 cups of thin syrup OR
- 3 cups of sugar to make 5½ cups of medium syrup OR
- 4¾ cups of sugar to make 6½ cups of heavy syrup.

Heat until sugar dissolves. Make 1 to 1½ cups of syrup for each quart of fruit. Up to half the sugar used in making syrup can be replaced with light corn syrup or mild-flavored honey. Fruits also can be safely canned without



sugar. Pack the fruit in extracted juice, in juice from another fruit (such as bottled apple juice, pineapple juice, or white grape juice) or in water. Salt may be added to vegetables and tomatoes before canning. Since its only function is flavor, it can be safely omitted. Canning fruits and vegetables without adding sugar or salt does not affect the processing times or microbiological safety.

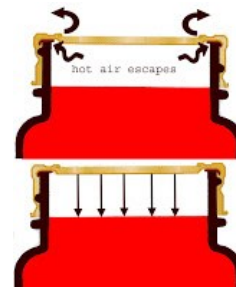


Packing Instructions

The two methods of packing food into canning jars are raw pack and hot pack. **Raw pack** is packing raw, prepared food into clean, hot jars and then adding hot liquid. Fruits and most vegetables need to be packed tightly because they will shrink during processing. However, raw corn, lima beans, and peas should be packed loosely, as they will expand. For **hot pack**, heat prepared food to boiling or partially cook it. It should be packed loosely while boiling hot into clean, hot jars. Hot pack takes more time but has been found to result in higher quality canned foods.

For either packing method, pack acid foods including acidified tomatoes and acidified figs to within ½ inch of the top of the jar. Low acid foods to within 1 inch of the top of the jar.

After food is packed into jars, wipe the jar rims clean. Put on the lid with the sealing compound next to the jar rim. Screw the band down firmly so that it is hand-tight. Do not use a jar wrench to tighten screw bands. There must be enough "give" for air to escape from the jars during processing. Process food promptly after packing it into jars and adjusting lids. Processing times are given for pints and quarts. If you are using half pint jars, use processing times for pints. For one-and-one half pints jars, use processing times for quarts. Fruit juices are the only product that may be canned in half-gallon jars.



Canning and Freezing Recipes

When canning, always look for research-based recipes. Good resource books are: Ball Blue Book, USDA Complete Guide to Home Canning and So Easy To Preserve from Georgia Cooperative Extension.

Apples

Select apples that are juicy, crisp and preferably both sweet and tart. **Hot pack** - make a very light, light or medium syrup, or apples can be canned in water. Wash, peel, core and slice apples. To prevent darkening use ascorbic acid. Remove apples from antidarkening solution and drain well. Add one pint water or syrup per five pounds of sliced apples. Boil five minutes, stirring occasionally. Fill jars with hot slices and hot syrup or water, leaving ½ inch headspace. Remove air bubbles. Wipe jar rims. Adjust lids. Process in a **Boiling Water Bath**.
Pints or Quarts.....20 minutes



Cranberry Sauce (about 2 pint jars)

1 quart cranberries
1 cup water
2 cups sugar



Hot Pack - wash cranberries. Cook berries in water until soft. Press through a fine sieve. Add sugar and boil three (3) minutes. Pour boiling hot sauce into hot jars, leaving ½ inch headspace. Wipe jar rims. Adjust lids. Process in a **Boiling Water Bath**.
Pints or Quarts.....15 minutes

Beans - Lima, Butter, Pintos or Soy

Select young, tender well-filled pods with green seeds (beans). Discard insect and disease damaged beans. Shell and wash beans thoroughly.

Hot Pack - cover beans with boiling water; bring to a boil. Boil three (3) minutes. Pack hot beans loosely into hot jars, leaving 1-inch headspace. Add ½ teaspoon salt to pints; 1 teaspoon to quarts, if desired. Fill jar to 1 inch from top with boiling hot cooking liquid. Remove air bubbles. Wipe jar rims. Adjust lids and process as directed below.

Raw Pack - pack beans loosely into hot jars, leaving 1-inch headspace for pints. For quarts, leave 1½ inches if beans are small, 1¼ inches if they are large. Add ½ teaspoon salt to pints; 1 teaspoon to quarts if desired. Fill with boiling water, again leaving the headspace giving above. Remove air bubbles. Wipe jar rims. Adjust lids and process.

Process in a **Dial Gauge Pressure Canner** at 11 pounds pressure **OR** in a **Weighted Gauge Pressure Canner** at 10 pounds pressure:
Pints.....40 minutes
Quarts.....50 minutes



Freezing - Whole Kernel and Creamed Corn

Blanch, cool and drain.

For whole kernel corn, cut corn off cob about 2/3 the depth of kernels. For cream style corn, cut at ½ the depth of kernels and scrape cob with back of knife to remove juice. Package, seal and freeze.



Blanching time (in boiling water) is 4 minutes.

Summer Squash (including Zucchini)

Select young tender squash. Wash and cut into ½-inch slices. Blanch, cool and drain. Package, seal and freeze.

Blanching time (in boiling water) is 3 minutes.

Grated Zucchini for Baking—Steam in small quantities until translucent. Pack in amounts used in recipes, allowing a headspace. Put containers in cold water to cool. Seal and freeze. Drain before using in baking.
In steam - 1-2 minutes.

