**FOOD PRESERVATION BASICS**

**ALLEGHENY MOUNTAIN INSTITUTE**

***SOURCE: NATIONAL CENTER FOR HOME FOOD PRESERVATION***

**FOR MORE RECIPES, VISIT:** http://nchfp.uga.edu

# Freezing Vegetables

## Blanching

Blanching (scalding vegetables in boiling water or steam for a short time) is a must for almost all vegetables to be frozen. It stops enzyme actions which can cause loss of flavor, color and texture.

Blanching cleanses the surface of dirt and organisms, brightens the color and helps retard loss of vitamins. It also wilts or softens vegetables and makes them easier to pack.

Blanching time is crucial and varies with the vegetable and size. Underblanching stimulates the activity of enzymes and is worse than no blanching. Overblanching causes loss of flavor, color, vitamins and minerals.

## Water Blanching

For home freezing, the most satisfactory way to heat all vegetables is in boiling water. Use a blancher which has a blanching basket and cover, or fit a wire basket into a large pot with a lid.

Use one gallon water per pound of prepared vegetables. Put the vegetable in a blanching basket and lower into vigorously boiling water. Place a lid on the blancher. The water should return to boiling within 1 minute, or you are using too much vegetable for the amount of boiling water. Start counting blanching time as soon as the water returns to a boil. Keep heat high for the time given in the directions for the vegetable you are freezing.

## Steam Blanching

Heating in steam is recommended for a few vegetables. For broccoli, pumpkin, sweet potatoes and winter squash, both steaming and boiling are satisfactory methods. Steam blanching takes about 1½ times longer than water blanching.

To steam, use a pot with a tight lid and a basket that holds the food at least three inches above the bottom of the pot. Put an inch or two of water in the pot and bring the water to a boil.

Put the vegetables in the basket in a single layer so that steam reaches all parts quickly. Cover the pot and keep heat high. Start counting steaming time as soon as the lid is on.

**Cooling**

As soon as blanching is complete, vegetables should be cooled quickly and thoroughly to stop the cooking process. To cool, plunge the basket of vegetables immediately into a large quantity of cold water, 60ºF or below. Change water frequently or use cold running water or ice water. If ice is used, about one pound of ice for each pound of vegetable is needed. Cooling vegetables should take the same amount of time as blanching.

Drain vegetables thoroughly after cooling. Extra moisture can cause a loss of quality when vegetables are frozen.

**Blanching Times\* (Water blanching, unless noted)**

| **Vegetable** | **Blanching Time *(minutes)*** |
| --- | --- |
| **Artichoke-Globe** *(Hearts)* | 7 |
| **Artichoke-Jerusalem** | 3-5 |
| **Asparagus**  Small Stalk Medium Stalk Large Stalk | 2  3  4 |
| **Beans-Snap, Green, or Wax** | 3 |
| **Beans-Lima, Butter, or Pinto** Small Medium Large | 2  3  4 |
| Beets | cook |
| **Broccoli** *(flowerets 11/2 inches across)* Steamed | 3  5 |
| **Brussel Sprouts**  Small Heads Medium Heads Large Heads | 3  4  5 |
| **Cabbage or Chinese Cabbage** *(shredded)* | 1 1/2 |
| **Carrots** Small Diced, Sliced or Lengthwise Strips | 5  2 |
| **Cauliflower**  *(flowerets, 1 inch across)* | 3 |
| **Celery** | 3 |
| **Corn**  *Corn-on-the-cob*  Small Ears Medium Ears Large Ears *Whole Kernel or Cream Style* *(ears blanched before cutting corn from cob)* | 7  9  11   4 |
| **Eggplant** | 4 |
| **Greens**  Collards  All Other | 3  2 |
| **Kohlrabi**  Whole Cubes | 3  1 |
| **Mushrooms**  Whole *(steamed)* Buttons or Quarters *(steamed)* Slices *steamed)* | 5  3 1/2  3 |
| **Okra**  Small Pods Large Pods | 3  4 |
| **Onions** (*blanch until center is heated*) Rings | 3-7  10-15 seconds |
| **Peas-Edible Pod** | 1 1/2-3 |
| **Peas-Green** | 1 1/2 |
| **Peppers-Sweet**  Halves Strips or Rings | 3  2 |
| **Potatoes-Irish *(New)*** | 3-5 |
| **Pumpkin** | cook |
| **Rutabagas** | 3 |
| **Soybeans-Green** | 5 |
| **Squash-Chayote** | 2 |
| **Squash-Summer** | 3 |
| **Squash-Winter** | cook |
| **Sweet Potatoes** | cook |
| **Turnips or Parsnips** Cubes | 2 |

**HOT WATER BATH CANNING:**

**Bread-and-Butter Pickles**

* 6 lbs of 4- to 5-inch pickling cucumbers
* 8 cups thinly sliced onions (about 3 pounds)
* 1/2 cup canning or pickling salt
* 4 cups vinegar (5 percent)
* 4-1/2 cups sugar
* 2 tbsp mustard seed
* 1-1/2 tbsp celery seed
* 1 tbsp ground turmeric
* 1 cup pickling lime (optional- for use in variation below for making firmer pickles)

**Yield:** About 8 pints

**Procedure:** Wash cucumbers. Cut 1/16-inch off blossom end and discard. Cut into 3/16-inch slices. Combine cucumbers and onions in a large bowl. Add salt. Cover with 2 inches crushed or cubed ice. Refrigerate 3 to 4 hours, adding more ice as needed.

Combine remaining ingredients in a large pot. Boil 10 minutes. Drain and add cucumbers and onions and slowly reheat to boiling. Fill jars with slices and cooking syrup, leaving 1/2-inch headspace. Adjust lids and process in a hot water bath for 10 minutes.

**Storage:** After processing and cooling, jars should be stored 4 to 5 weeks to develop ideal flavor.

**Variation:** Squash bread-and-butter pickles. Substitute slender (1 to 1-1/2 inches in diameter) zucchini or yellow summer squash for cucumber.

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| **Table 1.** Recommended process time for **Bread-and-Butter Pickles** in a boiling-water canner. | | | | |
|  | | **Process Time at Altitudes of** | | |
| **Style of Pack** | **Jar Size** | **0 - 1,000 ft** | **1,001 - 6,000 ft** | **Above 6,000 ft** |
| Hot | Pints or Quarts | **10 min** | 15 | 20 |

**Pickled Dilled Beans**

* 4 lbs fresh tender green or yellow beans (5 to 6 inches long)
* 8 to 16 heads fresh dill
* 8 cloves garlic (optional)
* 1/2 cup canning or pickling salt
* 4 cups white vinegar (5 percent)
* 4 cups water
* 1 tsp hot red pepper flakes (optional)

**Yield:** About 8 pints

**Procedure:** Wash and trim ends from beans and cut to 4-inch lengths. In each sterile pint jar, place 1 to 2 dill heads and, if desired, 1 clove of garlic. Place whole beans upright in jars, leaving 1/2-inch headspace. Trim beans to ensure proper fit, if necessary. Combine salt, vinegar water, and pepper flakes (if desired). Bring to a boil. Add hot solution to beans, leaving 1/2-inch headspace. **Process according to bread-and-butter chart above.**

**Pickled Beets**

* 7 lbs of 2- to 2-1/2-inch diameter beets
* 4 cups vinegar (5 percent)
* 1-1/2 teaspoons canning or pickling salt
* 2 cups sugar
* 2 cups water
* 2 cinnamon sticks
* 12 whole cloves
* 4 to 6 onions (2- to 2-1/2-inch diameter) if desired

**Yield:** About 8 pints

**Procedure:** Trim off beet tops, leaving 1 inch of stem and roots to prevent bleeding of color. Wash thoroughly. Sort for size. Cover similar sizes together with boiling water and cook until tender (about 25 to 30 minutes). **Caution: Drain and discard liquid.** Cool beets. Trim off roots and stems and slip off skins. Slice into 1/4-inch slices. Peel and thinly slice onions. Combine vinegar, salt, sugar, and fresh water. Put spices in cheesecloth bag and add to vinegar mixture. Bring to a boil. Add beets and onions. Simmer 5 minutes. Remove spice bag. Fill jars with beets and onions, leaving 1/2-inch headspace. Add hot vinegar solution, allowing 1/2-inch headspace. Process.

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| **Table 1.** Recommended process time for **Pickled Beets** in a boiling-water canner. | | | | | |
|  | | **Process Time at Altitudes of** | | | |
| **Style of Pack** | **Jar Size** | **0 - 1,000 ft** | **1,001 - 3,000 ft** | **3,001 - 6,000 ft** | **Above 6,000 ft** |
| Hot | Pints or Quarts | 30 min | **35** | 40 | 45 |

## Peach Jam with powdered pectin

* 3¾ cups crushed peaches (about 3 pounds peaches)
* ¼ cup lemon juice
* 1 package powdered pectin
* 5 cups sugar

**Yield:** About 6 half-pint jars

**To prepare fruit.** Sort and wash fully ripe peaches. Remove stems, skins, and pits. Crush peaches.

**To make jam.** Measure crushed peaches into a kettle. Add lemon juice and pectin; stir well. Place on high heat and, stirring constantly, bring quickly to a full boil with bubbles over the entire surface. Add sugar, continue stirring, and heat again to full bubbling boil. Boil hard for 1 minute, stirring constantly. Remove from heat; skim.

Fill hot jam immediately into hot, sterile jars, leaving ¼ inch headspace. Wipe rims of jars with a dampened clean paper towel; adjust two-piece metal canning lids. Process in a **Boiling Water Canner** for 5 minutes (10 minutes for AMS elevation).

**Pickled Jalapeño Rings (can also use Banana/Wax Peppers)**

* 3 pounds jalapeño peppers
* 1½ cups pickling lime
* 1½ gallons water
* 7½ cups cider vinegar (5%)
* 1¾ cups water
* 2½ tablespoons canning salt
* 3 tablespoons celery seed
* 6 tablespoons mustard seed

**Yield:** About 6 pint jars.

**Procedure:**

***Caution:* Wear plastic or rubber gloves and do not touch your face while handling or cutting hot peppers. If you do not wear gloves, wash hands thoroughly with soap and water before touching your face or eyes.**

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|  | 1. | Wash peppers well and slice into ¼" thick slices (a mandolin slicer works well). Discard stem end. Mix 1½ cups pickling lime with 1½ gallons water in a stainless steel, glass or food grade plastic container. Avoid inhaling lime dust while mixing the lime-water solution. Soak pepper slices in the lime water, in refrigerator, for 18 hours, stirring occasionally (12 to 24 hours may be used). |
|  | 2. | Drain lime solution from soaked pepper rings. Rinse peppers gently but thoroughly with water. Cover pepper rings with fresh cold water and soak, in refrigerator, 1 hour. Drain water from peppers. |
|  | 3. | Repeat the rinsing, soaking and draining steps two more times. Drain thoroughly at the end. |
|  | 4. | Wash and rinse pint canning jars; keep hot until ready to use. Prepare lids according to manufacturer's directions. |
|  | 5. | Place 1 tablespoon mustard seed and 1½ teaspoons celery seed in the bottom of each clean, hot pint jar. Pack drained pepper rings into the jars, leaving ½-inch headspace. |
|  | 6. | Bring cider vinegar, 1¾ cups water and canning salt to a boil over high heat. Ladle boiling hot brine solution over pepper rings in jars, leaving ½-inch headspace. Make sure pepper rings are covered with brine. |
|  | 7. | Remove air bubbles and adjust headspace if needed. Wipe rims of jars with a dampened, clean paper towel; apply two-piece metal canning lids. |
|  | 8. | Process.  Let cool, undisturbed, 12 to 24 hours and check for seals. |

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| **Table 1.** Recommended process time for **Pickled Jalapeño Rings** in a boiling-water canner. | | | | |
|  | | **Process Time at Altitudes of** | | |
| **Style of Pack** | **Jar Size** | **0 - 1,000 ft** | **1,001 - 6,000 ft** | **Above 6,000 ft** |
| Raw | Pints | **10 min** | 15 | 20 |

## Applesauce

**Quantity:** An average of 21 pounds is needed per canner load of 7 quarts; an average of 13½ pounds is needed per canner load of 9 pints. A bushel weighs 48 pounds and yields 14 to 19 quarts of sauce – an average of 3 pounds per quart.

**Quality:** Select apples that are sweet, juicy and crisp. For a tart flavor, add 1 to 2 pounds of tart apples to each 3 pounds of sweeter fruit.

**Procedure:** Wash, peel, and core apples. If desired, slice apples into water containing [ascorbic acid](http://nchfp.uga.edu/how/can_01/ascorbic_acid.html#ascorbic) to prevent browning. Placed drained slices in an 8- to 10-quart pot. Add ½ cup water. Stirring occasionally to prevent burning, heat quickly until tender (5 to 20 minutes, depending on maturity and variety). Press through a sieve or food mill, or skip the pressing step if you prefer chunk-style sauce. Sauce may be packed without sugar. If desired, add 1/8 cup sugar per quart of sauce. Taste and add more, if preferred. Reheat sauce to boiling. Fill jars with hot sauce, leaving ½-inch headspace. Adjust lids and process according to table below.

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| **Table 1.**Recommended process time for **Applesauce** in a boiling-water canner. | | | | | |
|  | | **Process Time at Altitudes of** | | | |
| **Style of Pack** | **Quart Size** | **0 - 1,000 ft** | **1,001 - 3,000 ft** | **3,001 - 6,000 ft** | **Above 6,000 ft** |
| Hot | Pints | **15 min** | 20 | 20 | 25 |
| Quarts | **20** | 25 | 30 | 35 |

**Apple Butter (Yield: About 8 to 9 pints)**

Use Jonathan, Winesap, Stayman, Golden Delicious, Maclntosh, or other tasty apple varieties for good results.

* 8 lbs apples
* 2 cups apple cider
* 2 cups vinegar
* 2¼ cups white sugar
* 2¼ cups packed brown sugar
* 2 tbsp ground cinnamon
* 1 tbsp ground cloves

**Procedure:** Wash, remove stems, quarter and core fruit. Cook slowly in cider and vinegar until soft. Press fruit through a colander, food mill, or strainer. Cook fruit pulp with sugar and spices, stirring frequently. To test for doneness, remove a spoonful and hold it away from steam for 2 minutes. It is done if the butter remains mounded on the spoon. Another way to determine when the butter is cooked adequately is to spoon a small quantity onto a plate. When a rim of liquid does not separate around the edge of the butter, it is ready for canning. Fill hot into sterile half-pint or pint jars, leaving ¼-inch headspace. Quart jars need not be pre-sterilized. Adjust lids and process according to the recommendations in [Table 1.](http://nchfp.uga.edu/how/can_02/apple_butter.html#TBLE1)

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| **Table 1.**Recommended process time for **Apple Butter** in a boiling-water canner. | | | | |
|  | | **Process Time at Altitudes of** | | |
| **Style of Pack** | **Jar Size** | **0 - 1,000 ft** | **1,001 - 6,000 ft** | **Above 6,000 ft** |
| Hot | Half-pints or Pints | **5 min** | 10 | 15 |
| Quarts | **10** | 15 | 20 |

# Selecting, Preparing and Canning Tomatoes

## Introduction

**Quality:** Select only disease-free, preferably vine-ripened, firm fruit for canning.

**Caution: Do not can tomatoes from dead or frost-killed vines. Green tomatoes are more acidic than ripened fruit and can be canned safely with any of the following recommendations.**

**Acidification:** To ensure safe acidity in whole, crushed, or juiced tomatoes, add two tablespoons of bottled lemon juice or 1/2 teaspoon of citric acid per quart of tomatoes. For pints, use one tablespoon bottled lemon juice or 1/4 teaspoon citric acid. Acid can be added directly to the jars before filling with product. Add sugar to offset acid taste, if desired. Four tablespoons of a 5 percent acidity vinegar per quart may be used instead of lemon juice or citric acid. However, vinegar may cause undesirable flavor changes.

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## Standard Tomato Sauce

**Quantity:** For thin sauce – An average of 35 pounds is needed per canner load of 7 quarts; an average of 21 pounds is needed per canner load of 9 pints. A bushel weighs 53 pounds and yields 10 to 12 quarts of sauce-an average of 5 pounds per quart.   
For thick sauce – An average of 46 pounds is needed per canner load of 7 quarts; an average of 28 pounds is needed per canner load of 9 pints. A bushel weighs 53 pounds and yields 7 to 9 quarts of sauce-an average of 6½ pounds per quart.

**Procedure:**  Wash, remove stems, and trim off bruised or discolored portions. To prevent juice from separating, quickly cut about 1 pound of fruit into quarters and put directly into saucepan. Heat immediately to boiling while crushing. Continue to slowly add and crush freshly cut tomato quarters to the boiling mixture. Make sure the mixture boils constantly and vigorously while you add the remaining tomatoes. Simmer 5 minutes after you add all pieces. If you are not concerned about juice separation, simply slice or quarter tomatoes into a large saucepan. Crush, heat, and simmer for 5 minutes before juicing. Press both types of heated juice through a sieve or food mill to remove skins and seeds.

Simmer in large-diameter saucepan until sauce reaches desired consistency Boil until volume is reduced by about one-third for thin sauce, or by one-half for thick sauce. **Add bottled lemon juice or citric acid to jars**. Add 1 teaspoon of salt per quart to the jars, if desired. Fill jars, leaving ¼-inch headspace. Adjust lids and process.

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| **Table 1.** Recommended process time for **Standard Tomato Sauce** in a boiling-water canner. | | | | | |
|  | | **Process Time at Altitudes of** | | | |
| **Style of Pack** | **Jar Size** | **0 - 1,000 ft** | **1,001 - 3,000 f**t | **3,001 - 6,000 ft** | **Above 6,000 ft** |
| Hot | Pints | **35 min** | 40 | 45 | 50 |
| Quarts | **40** | 45 | 50 | 55 |

**Tomato Salsa with Paste Tomatoes**

* 7 quarts peeled, cored, chopped paste tomatoes
* 4 cups seeded, chopped long green chiles
* 5 cups chopped onion
* ½ cup seeded, finely chopped jalapeño peppers
* 6 cloves garlic, finely chopped
* 2 cups bottled lemon or lime juice
* 2 tablespoons salt
* 1 tablespoon black pepper
* 2 tablespoons ground cumin (optional)
* 3 tablespoons oregano leaves (optional)
* 2 tablespoons fresh cilantro (optional)

**Yield:** About 16 to 18 pints

**Hot Pack:** Combine all ingredients except cumin, oregano and cilantro in a large saucepot and heat, stirring frequently, until mixture boils. Reduce heat and simmer for 10 minutes, stirring occasionally. Add spices and simmer for another 20 minutes, stirring occasionally. Ladle hot into clean, hot pint jars, leaving ½-inch headspace. Remove air bubbles and adjust headspace if needed. Wipe rims of jars with a dampened, clean paper towel; apply two-piece metal canning lids.

## **IMPORTANT:** The only change you can safely make in this salsa recipe is to change the amount of spices and herbs. Do not alter the proportions of vegetables to acid and tomatoes because it might make the salsa unsafe.

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| **Table 1.** Recommended process time for **Tomato Salsa with Paste Tomatoes** in a boiling-water canner. | | | | |
|  | | **Process Time at Altitudes of** | | |
| **Style of Pack** | **Jar Size** | **0 - 1,000 ft** | **1,001 - 6,000 ft** | **Above 6,000 ft** |
| Hot | Pints | **15 min** | 20 | 25 |

## Whole or Halved Tomatoes (packed raw without added liquid)

**Quantity:** An average of 21 pounds is needed per canner load of 7 quarts; an average of 13 pounds is needed per canner load of 9 pints. A bushel weighs 53 pounds and yields 15 to 21 quarts-an average of 3 pounds per quart.

**Procedure:** Wash tomatoes. Dip in boiling water for 30 to 60 seconds or until skins split, then dip in cold water. Slip off skins and remove cores. Leave whole or halve. **Add bottled lemon juice or citric acid to the jars** ). Add 1 teaspoon of salt per quart to the jars, if desired. Fill jars with raw tomatoes, leaving 1/2-inch headspace. Press tomatoes in the jars until spaces between them fill with juice. Leave 1/2-inch head space.

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| **Table 1.** Recommended Process Time for **Whole or Halved Tomatoes (packed raw without added liquid)** in a Boiling-Water Canner | | | | | |
|  | | **Process Time at Altitudes of** | | | |
| **Style of Pack** | **Jar Size** | **0 - 1,000 ft** | **1,001 - 3,000 ft** | **3,001 - 6,000 ft** | **Above 6,000 ft** |
| Raw | Pints or Quarts | 85 min | 90 | 95 | 100 |

## Crushed Tomatoes (with no added liquid)

A high-quality product, ideally suited for use in soups, stews, and casseroles. This recipe is similar to that formerly referred to as "Quartered Tomatoes."

**Quantity**: An average of 22 pounds is needed per canner load of 7 quarts; an average of 14 fresh pounds is needed per canner load of 9 pints. A bushel weighs 53 pounds and yields 17 to 20 quarts of crushed tomatoes-an average of 2¾ pounds per quart.

**Procedure:** Wash tomatoes and dip in boiling water for 30 to 60 seconds or until skins split. Then dip in cold water slip off skins, and remove cores. Trim off any bruised or discolored portions and quarter. Heat one-sixth of the quarters quickly in a large pot, crushing them with a wooden mallet or spoon as they are added to the pot. This will exude juice. Continue heating the tomatoes, stirring to prevent burning. Once the tomatoes are boiling, gradually add remaining quartered tomatoes, stirring constantly These remaining tomatoes do not need to be crushed. They will soften with heating and stirring. Continue until all tomatoes are added. Then boil gently 5 minutes. **Add bottled lemon juice or citric acid to jars**. Add 1 teaspoon of salt per quart to the jars, if desired. Fill jars immediately with hot tomatoes, leaving ½-inch headspace.

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| **Table 1.** Recommended process time for **Crushed Tomatoes** in a boiling-water canner. | | | | | |
|  | | **Process Time at Altitudes of** | | | |
| **Style of Pack** | **Jar Size** | **0 - 1,000 ft** | **1,001 - 3,000 ft** | **3,001 - 6,000 ft** | **Above 6,000 ft** |
| Hot | Pints | **35 min** | 40 | 45 | 50 |
| Quarts | **45** | 50 | 55 | 60 |

### Tomato Ketchup

* 24 lbs ripe tomatoes
* 3 cups chopped onions
* 3/4 tsp ground red pepper (cayenne)
* 3 cups cider vinegar (5 percent)
* 4 tsp whole cloves
* 3 sticks cinnamon, crushed
* 1-1/2 tsp whole allspice
* 3 tbsp celery seeds
* 1-1/2 cups sugar
* 1/4 cup salt

**Yield:** 6 to 7 pints

**Procedure:** Wash tomatoes. Dip in boiling water for 30 to 60 seconds or until skins split. Dip in cold water. Slip off skins and remove cores. Quarter tomatoes into 4-gallon stock pot or a large kettle. Add onions and red pepper. Bring to boil and simmer 20 minutes, uncovered. Combine spices in a spice bag and add to vinegar in a 2-quart saucepan. Bring to boil. Cover, turn off heat and hold tomato mixture for 20 minutes. Then, remove spice bag and combine vinegar and tomato mixture. Boil about 30 minutes. Put boiled mixture through a food mill or sieve. Return to pot. Add sugar and salt, boil gently, and stir frequently until volume is reduced by one-half or until mixture rounds up on spoon without separation. Fill pint jars, leaving 1/8-inch headspace.

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| **Table 1.** Recommended process time for **Tomato Ketchup** in a boiling-water canner. | | | | |
|  | | **Process Time at Altitudes of** | | |
| **Style of Pack** | **Jar Size** | **0 - 1,000 ft** | **1,001 - 6,000 ft** | **Above 6,000 ft** |
| Hot | Pints | **15 min** | 20 | 25 |

## Sauerkraut

* 25 lbs cabbage
* 3/4 cup canning or pickling salt

**Quality:** For the best sauerkraut, use firm heads of fresh cabbage. Shred cabbage and start kraut between 24 and 48 hours after harvest.

**Yield:** About 9 quarts

**Procedure:** Work with about 5 pounds of cabbage at a time. Discard outer leaves. Rinse heads under cold running water and drain. Cut heads in quarters and remove cores. Shred or slice to a thickness of a quarter. Put cabbage in a suitable fermentation container, and add 3 tablespoons of salt. Mix thoroughly, using clean hands. Pack firmly until salt draws juices from cabbage. Repeat shredding, salting, and packing until all cabbage is in the container. Be sure it is deep enough so that its rim is at least 4 or 5 inches above the cabbage. If juice does not cover cabbage, add boiled and cooled brine (1-1/2 tablespoons of salt per quart of water). Add plate and weights; cover container with a clean bath towel. Store at 70º to 75ºF while fermenting. At temperatures between 70º and 75ºF, kraut will be fully fermented in about 3 to 4 weeks; at 60º to 65ºF, fermentation may take 5 to 6 weeks. At temperatures lower than 60ºF, kraut may not ferment. Above 75ºF, kraut may become soft.

If you weigh the cabbage down with a brine-filled bag, do not disturb the crock until normal fermentation is completed (when bubbling ceases). If you use jars as weight, you will have to check the kraut 2 to 3 times each week and remove scum if it forms. Fully fermented kraut may be kept tightly covered in the refrigerator for several months or it may be canned as follows:

**Hot pack** – Bring kraut and liquid slowly to a boil in a large kettle, stirring frequently. Remove from heat and fill jars rather firmly with kraut and juices, leaving 1/2-inch headspace.

**Raw pack** – Fill jars firmly with kraut and cover with juices, leaving 1/2-inch headspace.

Adjust lids and process according to the recommendations in [Table 1.](http://nchfp.uga.edu/how/can_06/sauerkraut.html#tble1)

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| **Table 1.** Recommended process time for **Sauerkraut** in a boiling-water canner. | | | | | |
|  | | **Process Time at Altitudes of** | | | |
| **Style of Pack** | **Jar Size** | **0 - 1,000 ft** | **1,001 - 3,000 ft** | **3,001 - 6,000 ft** | **Above 6,000 ft** |
| Hot | Pints | **10 min** | 15 | 15 | 20 |
| Quarts | **15** | 20 | 20 | 25 |
| Raw | Pints | **20** | 25 | 30 | 35 |
| Quarts | **25** | 30 | 35 | 40 |