

# Home Canning Low-Acid Vegetables

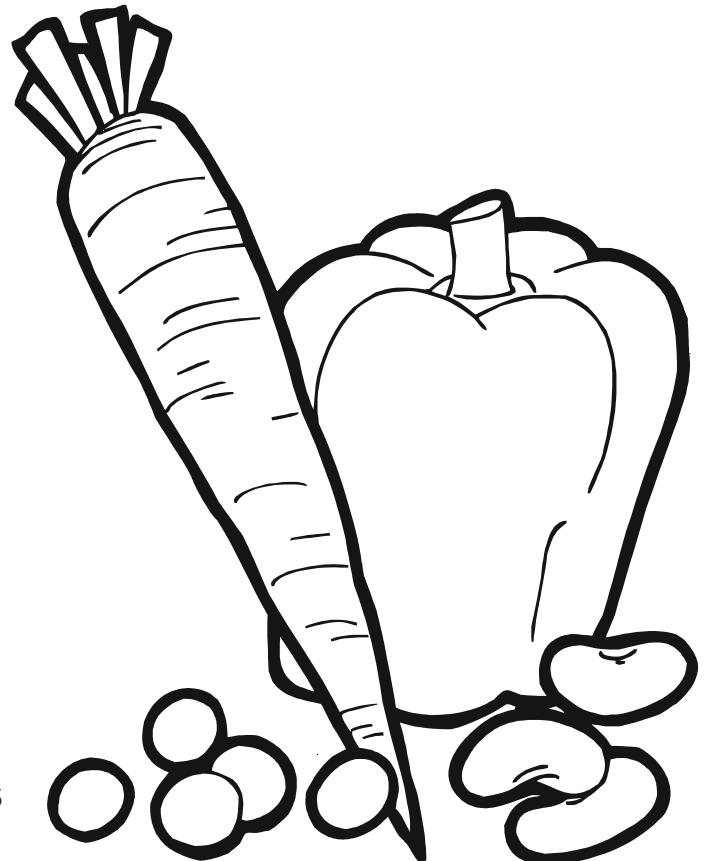
Pat Beck, Nutrition Specialist

The method used for canning a product is determined primarily by the acidity of the food or mixture of foods being canned. Low-acid foods must be processed in a pressure canner to be free of botulism risks.

Pressure does not destroy microorganisms, but high temperatures applied for an adequate period of time do kill microorganisms. Successfully destroying all microorganisms capable of growing in canned food is based on the temperature obtained in pure steam, free of air, at sea level. At sea level, a canner operated at a gauge pressure of 10 pounds provides an internal temperature of 240 degrees Fahrenheit.

All fresh vegetables except for most tomatoes are low-acid foods. Most mixtures of low-acid

and acid foods also are low-acid products unless their recipes include enough lemon juice, citric acid or vinegar to make them acid foods. Other low-acid foods are red meats, seafood, poultry and milk.

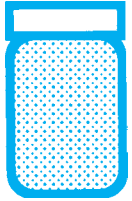


*Based on "Complete Guide to Home Canning," Agriculture Information Bulletin 539, September 1994 revision.*



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# General Canning Procedures

## Jars and Lids

Use Mason-type canning jars no larger than what is recommended for the specific food being canned. Use two-piece self-sealing lids. Buy only the quantity of lids that will be used in a year and follow the manufacturer's directions for preparing the lids.

## Filling Jars

After filling jars with food, release air bubbles by inserting a flat plastic (not metal) spatula between the food and the jar. Slowly turn the jar and move the spatula up and down to allow air bubbles to escape. Salt may be added if desired. In vegetables, salt seasons the food but is not necessary to ensure their safety. Add salt substitutes, if desired, when serving. 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 surfaces may cause seal failures.

Next 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.

## The Pressure Canner

Two serious errors in temperatures obtained in pressure canners occur because:

- 1. Internal canner temperatures are lower at higher altitudes.** To correct this error, canners must be operated at the increased pressures specified in this publication for appropriate altitude ranges.
- 2. Air trapped in a canner lowers the temperature obtained at 5, 10, or 15 pounds of pressure and results in underprocessing.** The highest volume of air trapped in a canner occurs in processing raw-packed foods in dial-gauge canners. These canners do not vent air during processing. To be safe, *all types of pressure canners must be vented 10 minutes before they are pressurized.*

**To vent a canner,** leave the vent port uncovered on newer models or manually open petcocks on some older models. Heating the filled canner with its lid

locked into place boils water and generates steam that escapes through the petcock or vent port. When steam first escapes, set a timer for 10 minutes. After venting 10 minutes, close the petcock or place the counterweight or weighted gauge over the vent port to pressurize the canner.

Weighted-gauge models exhaust tiny amounts of air and steam each time their gauge rocks or jiggles during processing. They control pressure precisely and need neither watching during processing nor checking for accuracy. The sound of the weight rocking or jiggling indicates that the canner is maintaining the recommended pressure. The single disadvantage of weighted-gauge canners is that they cannot correct precisely for higher altitudes. At altitudes above 1,000 feet, they must be operated at canner pressures of 10 instead of 5, or 15 instead of 10, PSI.

Check dial gauges for accuracy before use each year and replace if they read high by more than 1 pound at 5, 10, or 15 pounds of pressure. Low readings cause over-processing and may indicate that the accuracy of the gauge is unpredictable. Gauges may be checked at most county offices of the NDSU Extension Service.

Handle canner lid gaskets carefully and clean them according to the manufacturer's directions. Nicked or dried gaskets will allow steam leaks during pressurization of canners. Keep gaskets clean between uses. Gaskets on older model canners may require a light coat of vegetable oil once per year. Gaskets on newer model canners are pre-lubricated and do not benefit from oiling. Check your canner's instructions if there is doubt that the particular gasket you use has been pre-lubricated.

Lid safety fuses are thin metal inserts or rubber plugs designed to relieve excessive pressure from the canner. Do not pick at or scratch fuses while cleaning lids. Use only canners that have the Underwriter's Laboratory (UL) approval to ensure their safety.

Replacement gauges and other parts for canners are often available at stores offering canning equipment or from canner manufacturers. When ordering parts, give your canner model number and describe the parts needed.

## Using Pressure Canners

Follow these steps for successful pressure canning:

1. Put 2 to 3 inches of hot water in the canner.  
Place filled jars on the rack, using a jar lifter.  
Fasten canner lid securely.
2. Leave weight off vent port or open petcock.  
Heat at the highest setting until steam flows from the petcock or vent port.
3. Maintain high heat setting, exhaust steam 10 minutes, and then place weight on vent port or close petcock. The canner will pressurize during the next 3 to 5 minutes.
4. Start timing the process when the pressure reading on the dial gauge indicates that the recommended pressure has been reached, or when the weighted gauge begins to jiggle or rock.
5. Regulate heat under the canner to maintain a steady pressure at or slightly above the correct gauge pressure. Quick and large pressure variations during processing may cause unnecessary liquid losses from jars. Weighted gauges on Mirro canners should jiggle about two or three times per minute. On Presto canners, they should rock slowly throughout the process.
6. When the timed process is completed, turn off the heat, remove the canner from heat if possible, and let the canner depressurize. Do not force-cool the canner. Forced cooling may result in food spoilage. Cooling the canner with cold running water or opening the vent port before the canner is fully depressurized will cause loss of liquid from jars and seal failures. Force-cooling may also warp the canner lid of older model canners, causing steam leaks. Depressurization of older models should be timed. Standard-sized heavy-walled canners require about 30 minutes when loaded with pints and 45 minutes with quarts. Newer thin-walled canners cool more rapidly and are equipped with vent locks. These canners are depressurized when their vent lock piston drops to a normal position.
7. After the canner is depressurized, remove the weight from the vent port or open the petcock. Wait two minutes, unfasten the lid, and remove it carefully. Lift the lid away from you so that the steam does not burn your face.
8. Remove jars with a lifter, and place on towel or cooling rack.

**DO NOT RETIGHTEN LIDS AFTER PROCESSING JARS.**

## Cooling Jars

Cool the jars at room temperature for 12 to 24 hours. Jars cooled on racks or towels minimize heat damage to counters. The food level and liquid volume of raw-packed jars will be noticeably lower after cooling. Air is exhausted during processing and food shrinks. If a jar loses excessive liquid during processing, do not open it to add more liquid. Check for sealed lids as described below.

## Testing Jar Seals

After cooling jars for 12 to 24 hours, remove the screw bands and test seals in one of the following ways.

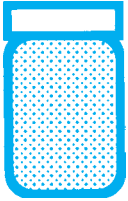
**Option 1:** Press the middle of the lid with a finger or thumb. If the lid springs up when you release your finger, the lid is unsealed.

**Option 2:** Tap the lid with the bottom of a teaspoon. If it makes a dull sound, the lid is not sealed. If food is in contact with the underside of the lid, it will also cause a dull sound. If the jar is sealed correctly, it will make a ringing, high-pitched sound.

**Option 3:** Hold the jar at eye level and look across the lid. The lid should be concave (curved down slightly in the center). If center of the lid is either flat or bulging it may not be sealed.

## Reprocessing Unsealed Jars

If a lid fails to seal on a jar, remove the lid and check the jar-sealing surface for tiny nicks. If necessary, change the jar, add a new, properly prepared lid, and reprocess within 24 hours using the same processing time. Headspace in unsealed jars may be adjusted to 1½ inches and jars could be frozen instead of reprocessed. Foods in single unsealed jars could be stored in the refrigerator and consumed within several days.



## Recipes

### Asparagus Spears or Pieces

An average of 3½ pounds per quart.

**Quality:** Use tender, tight-tipped spears, 4 to 6 inches long.

**Procedure:** Wash asparagus and trim off tough scales. Break off tough stems and wash again. Cut into 1-inch pieces or can whole.

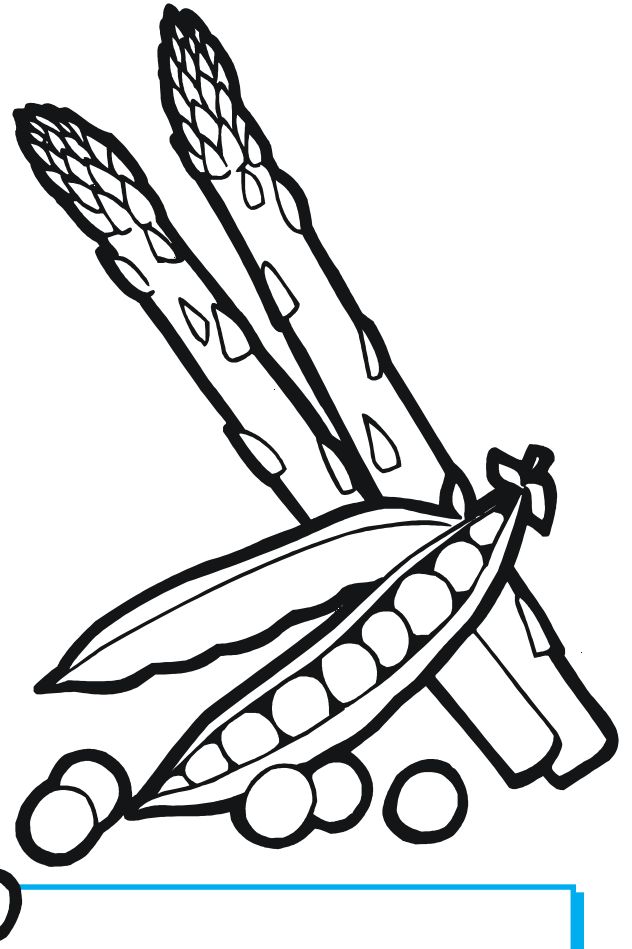
**Hot pack** — Cover asparagus with boiling water. Boil 2 or 3 minutes. Loosely fill jars with hot asparagus, leaving 1-inch headspace.

**Raw pack** — Fill jars with raw asparagus, packing as tightly as possible without crushing, leaving 1-inch headspace.

Add 1 teaspoon of salt per quart to the jars, if desired. Add boiling water, leaving 1-inch headspace. Adjust lids and process according to #1 on Table 1 or 2.

### Beans, Baked

**Procedure:** Soak and boil beans and prepare molasses sauce according to directions for beans with sauce on page 5. Place seven ¾-inch pieces of pork, ham, or bacon in an earthenware crock, a large casserole, or a pan. Add beans and enough molasses sauce to cover beans. Cover and bake four to five hours at 350 F. Add water as needed — about every hour. Fill jars, leaving 1-inch headspace. Adjust lids and process according to #3 on Table 1 or 2.



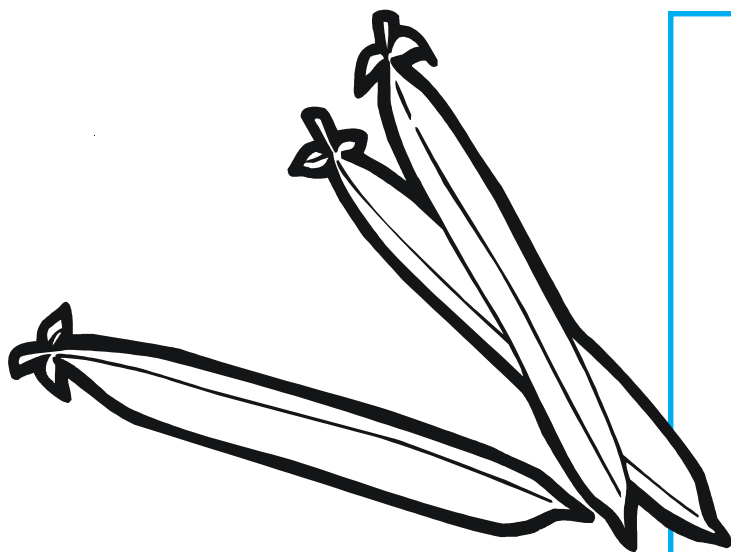
### Beans or Peas, Shelled, Dried

#### All varieties

An average of ¾ pounds per quart.

**Quality:** Select mature, dry seeds. Sort out and discard discolored seeds.

**Procedure:** Place dried beans or peas in a large pot and cover with water. Soak 12 to 18 hours in a cool place. Drain water. To quickly hydrate beans, you may cover sorted and washed beans with boiling water in a saucepan. Boil two minutes, remove from heat, soak one hour and drain. Cover beans soaked by either method with fresh water and boil 30 minutes. Add ½ teaspoon of salt per pint or one teaspoon per quart to the jar, if desired. Fill jars with beans or peas and cooking water, leaving 1-inch headspace. Adjust lids and process according to #2 on Table 1 or 2.



### Beans, Dry, with Tomato or Molasses Sauce

An average of  $\frac{3}{4}$  pounds per quart.

**Quality:** Select mature, dry seeds. Sort out and discard discolored seeds.

**Procedure:** Sort and wash dry beans. Add three cups of water for each cup of dried beans or peas. Boil two minutes, remove from heat and soak one hour and drain. Heat to boiling in fresh water, and save liquid for making sauce. Make your choice of the following sauces:

**Tomato Sauce — Option #1.** Mix 1 quart tomato juice, 3 tablespoons sugar, 2 teaspoons salt, 1 tablespoon chopped onion, and  $\frac{1}{4}$  teaspoon each of ground cloves, allspice, mace, and cayenne pepper. Heat to boiling. **Option #2.** Mix 1 cup tomato ketchup with 3 cups of cooking liquid from beans. Heat sauce to boiling.

**Molasses Sauce** — Mix 4 cups water or cooking liquid from beans, 3 tablespoons dark molasses, 1 tablespoon vinegar, 2 teaspoons salt, and  $\frac{3}{4}$  teaspoon powdered dry mustard. Heat to boiling.

Fill jars three-fourths full with hot beans. Add a  $\frac{3}{4}$ -inch cube of pork, ham, or bacon to each jar, if desired. Fill jars with heated sauce, leaving 1-inch headspace. Adjust lids and process according to #3 on Table 1 or 2.

### Beans, Snap and Italian – Pieces

Green and wax

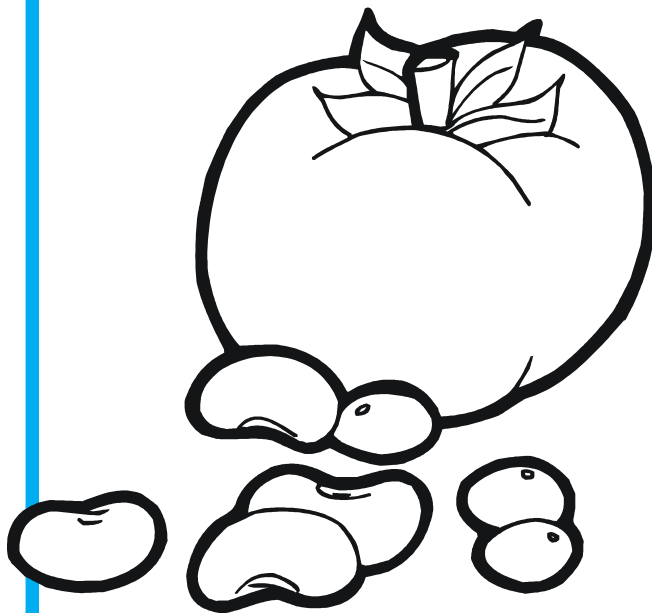
An average of 2 pounds per quart.

**Quality:** Select filled but tender, crisp pods. Remove and discard diseased and rusty pods.

**Procedure:** Wash beans and trim ends. Leave whole or cut or snap into 1-inch pieces.

**Hot pack** — Cover with boiling water; boil five minutes. Fill jars, loosely leaving 1-inch headspace

**Raw pack** — Fill jars tightly with raw beans, leaving 1-inch headspace. Add 1 teaspoon of salt per quart to the jar, if desired. Add boiling water, leaving 1-inch headspace. Adjust lids and process according to #4 on Table 1 or 2.

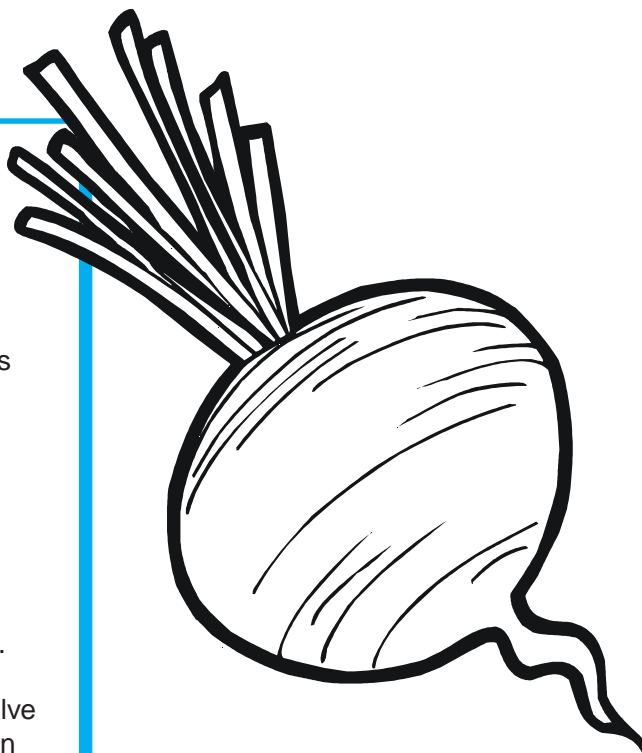


## Beets Whole, Cubed, or Sliced

An average of 3 pounds per quart.

**Quality:** Beets with a diameter of 1 to 2 inches are preferred for whole packs. Beets larger than 3 inches in diameter are often fibrous.

**Procedure:** Trim off beet tops, leaving an inch of stem and roots to reduce bleeding of color. Scrub well. Cover with boiling water. Boil until skins slip off easily, about 15 to 25 minutes depending on size. Cool, remove skins, and trim off stems and roots. Leave baby beets whole. Cut medium or large beets into ½-inch cubes or slices. Halve or quarter very large slices. Add 1 teaspoon of salt per quart to the jar, if desired. Fill jars with hot beets and fresh hot water, leaving 1-inch headspace. Adjust lids and process according to #5 on Table 1 or 2.



## Carrots, Sliced or Diced

An average of 2½ pounds per quart.

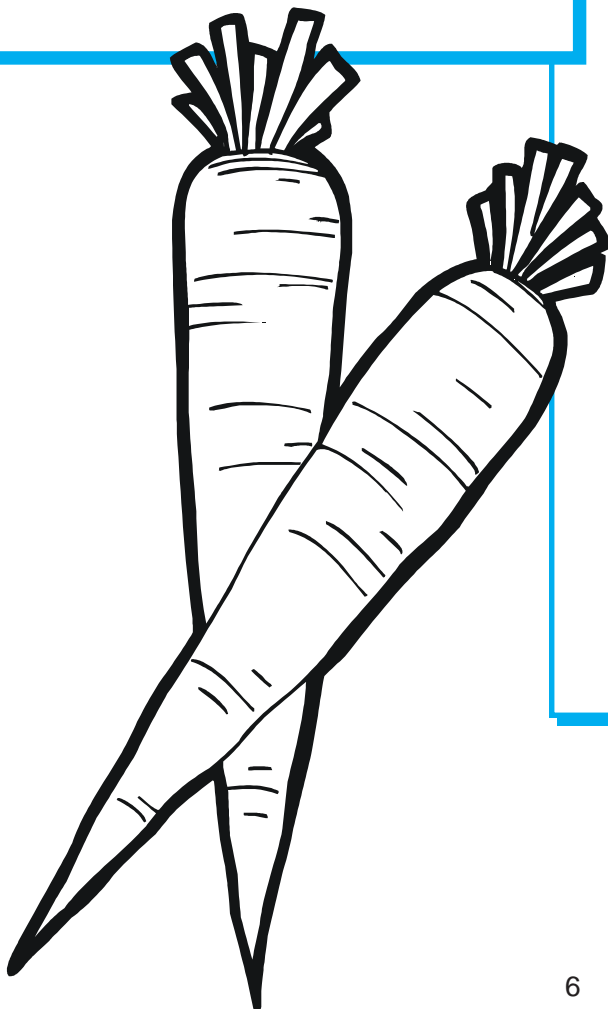
**Quality:** Select small carrots, preferably 1 to 1¼ inches in diameter. Larger carrots are often too fibrous.

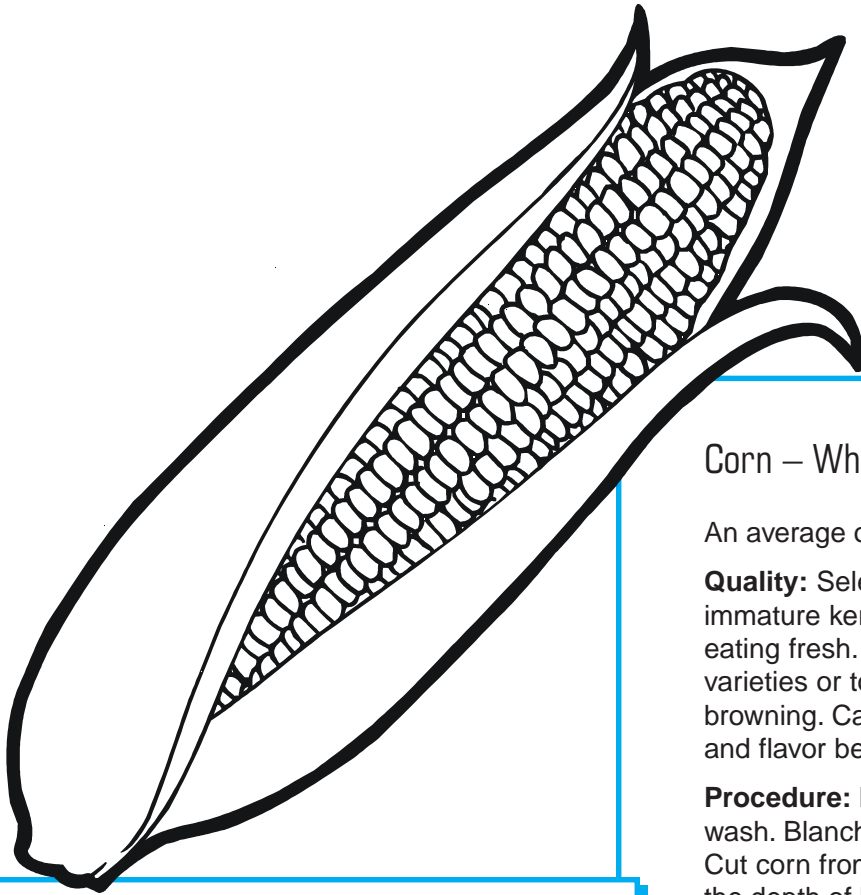
**Procedure:** Wash, peel and rewash carrots. Slice or dice.

**Hot pack** — Cover with boiling water; bring to boil and simmer for five minutes. Fill jars, leaving 1-inch of headspace.

**Raw pack** — Fill jars tightly with raw carrots, leaving 1-inch headspace.

Add 1 teaspoon of salt per quart to the jar, if desired. Add hot cooking liquid or water, leaving 1-inch headspace. Adjust lids and process according to #6 on Table 1 or 2.





### Corn – Cream Style

An average of 2¼ pounds per pint

**Quality:** Select ears containing slightly immature kernels, or of ideal quality for eating fresh.

**Procedure:** Husk corn, remove silk, and wash ears. Blanch ears 4 minutes in boiling water. Cut corn from cob at about the center of kernel. Scrape remaining corn from cobs with a table knife.

**Hot pack** — To each quart of corn and scrapings, add two cups of boiling water. Heat to boiling. Add ½ teaspoon salt to each jar, if desired. Fill pint jar with hot corn mixture, leaving 1-inch headspace.

Adjust lids and process according to #7 on Table 1 or 2.

### Corn – Whole Kernel

An average of 4½ pounds per quart.

**Quality:** Select ears containing slightly immature kernels or of ideal quality for eating fresh. Canning of some sweeter varieties or too immature kernels may cause browning. Can a small amount, check color and flavor before canning large quantities.

**Procedure:** Husk corn, remove silk, and wash. Blanch three minutes in boiling water. Cut corn from cob at about three-fourths the depth of kernel.

**Caution: Do not scrape cob. Scraping the cob would make this product too dense to process at the times given.**

**Hot pack** — To each quart of kernels in a saucepan, add 1 cup of hot water, heat to boiling and simmer 5 minutes. Add 1 teaspoon of salt per quart to the jar, if desired. Fill jars with corn and cooking liquid, leaving 1-inch headspace.

**Raw pack** — Fill jars with raw kernels, leaving 1-inch headspace. Do not shake or press down. Add 1 teaspoon of salt per quart to the jar, if desired.

Add fresh boiling water, leaving 1-inch headspace. Adjust lids and process according to #8 on Table 1 or 2.

## Mixed Vegetables

- 6 cups sliced carrots
- 6 cups cut, whole kernel sweet corn
- 6 cups cut green beans
- 6 cups shelled lima beans
- 4 cups whole or crushed tomatoes
- 4 cups diced zucchini

**Optional mix** — You may change the suggested proportions or substitute other favorite vegetables except leafy greens, dried beans, cream style corn, winter squash and sweet potatoes.

**Yield:** 7 quarts

**Procedure:** Except for zucchini, wash and prepare vegetables as described for each vegetable. Wash, trim and slice or cube zucchini; combine all vegetables in a large pot or kettle, and add enough water to cover pieces. Add 1 teaspoon salt per quart to the jar, if desired. Boil 5 minutes and fill jars with hot pieces and liquid, leaving 1-inch headspace. Adjust lids and process according to #9 on Table 1 or 2.

## Peas, Green – Shelled

An average of 4½ pounds per quart.

It is recommended that sugar snap and Chinese edible pods be frozen for best quality.

**Quality:** Select filled pods containing young, tender, sweet seeds. Discard diseased pods.

**Procedure:** Shell and wash peas. Add 1 teaspoon of salt per quart to the jar, if desired.

**Hot pack** — Cover with boiling water. Bring to a boil in a saucepan, and boil 2 minutes. Fill jars loosely with hot peas, and add cooking liquid, leaving 1-inch headspace.

**Raw Pack** — Fill jars with raw peas, add boiling water, leaving 1-inch headspace. Do not shake or press down peas. Adjust lids and process according to #10 on Table 1 or 2.

## Peppers

An average of 1 pound per pint.

Hot or sweet, including chiles, jalapeno and pimiento.

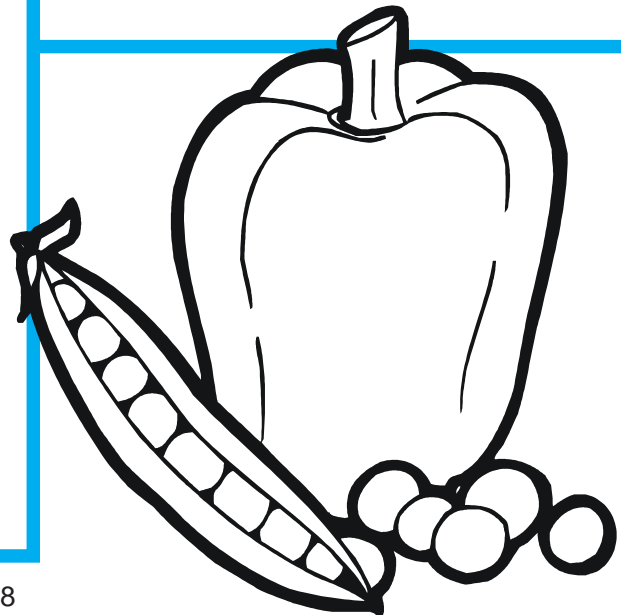
**Quality:** Select firm yellow, green or red peppers. Do not use soft or diseased peppers.

**Procedure:** Select your favorite pepper(s). Caution: If you choose hot peppers, wear plastic gloves while handling them or wash hands thoroughly with soap and water before touching your face. Small peppers may be left whole. Large peppers may be quartered. Remove cores and seeds. Slash two or four slits in each pepper and either blanch in boiling water or blister using one of the following methods.

**Oven or broiler method.** Place peppers in a hot oven (400 F) or broiler for 6 to 8 minutes until skins blister.

**Range-top method.** Cover hot burner, either gas or electric, with heavy wire mesh. Place peppers on burner for several minutes until skins blister.

Allow peppers to cool. Place in a pan and cover with a damp cloth. This will make peeling the peppers easier. After several minutes, peel each pepper. Flatten whole peppers. Add ½ teaspoon of salt to each pint jar, if desired. Fill jars loosely with peppers and add fresh boiled water, leaving 1-inch headspace. Adjust lids and process according to #11 on Table 1 or 2.





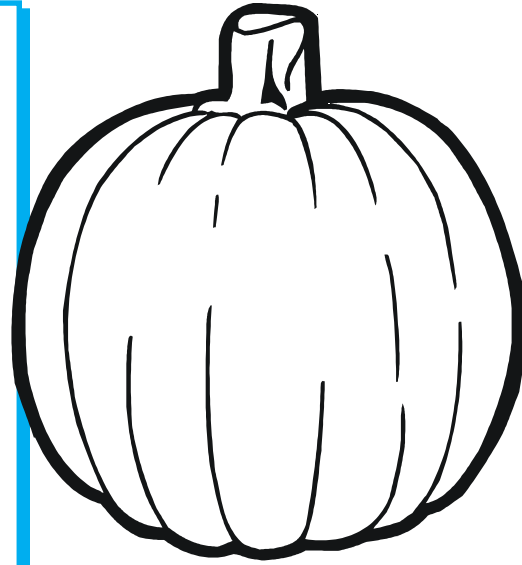
## Pumpkins and Winter Squash – Cubed

An average of 2¼ pounds per quart.

**Quality:** Pumpkins and squash should have a hard rind and stringless, mature pulp of ideal quality for cooking fresh. Small size pumpkins (sugar or pie varieties) make better products.

**Procedure:** Wash, remove seeds, cut into 1-inch-wide slices, and peel. Cut flesh into 1-inch cubes. Boil 2 minutes in water. Caution: Do not mash or puree. Fill jars with cubes and cooking liquid, leaving 1-inch headspace. Adjust lids and process according to #12 on Table 1 or 2.

For making pies, drain jars and strain or sieve cubes.



## Soups

Vegetable, dried bean or pea, meat, poultry or seafoods

**Procedure:** Select, wash, and prepare vegetables, meat and seafoods as described for the specific foods. Cover meat with water and cook until tender. Cool meat and remove bones. Cook vegetables. For each cup of dried beans or peas, add 3 cups of water, boil 2 minutes, remove from heat, soak 1 hour, and heat to boil. Drain and combine with meat broth, tomatoes, or water to cover. Boil 5 minutes. Caution: Do not thicken before canning. Salt to taste, if desired. Fill jars halfway with solid mixture. Add remaining liquid, leaving 1-inch headspace. Adjust lids and process according to #13 on Table 1 or 2.

**\*Caution: Process 100 minutes if soup contains seafoods.**

## Spinach and Other Greens

An average of 4 pounds per quart.

**Quality:** Can only freshly harvested greens. Discard any wilted, discolored, diseased, or insect-damaged leaves. Leaves should be tender and attractive in color.

**Procedure:** Wash only small amounts of greens at one time. Drain water and continue rinsing until water is clear and free of grit. Cut out tough stems and midribs. Place 1 pound of greens at a time in cheesecloth bag or blancher basket and steam 3 to 5 minutes or until well wilted. Add ½ teaspoon of salt to each quart jar, if desired. Fill jars loosely with greens and add fresh boiling water, leaving 1-inch headspace. Adjust lids and process according to #14 on Table 1 or 2.

## Squash, Winter – Cubed

Prepare and process according to instructions for "Pumpkin."

Table 1. Recommended Process Times in a Dial-Gauge Pressure Canner.

	Style of Pack	Jar Size	Process Time	Canner Pressure (PSI) at Altitudes of		
				0-2,000 ft.	2,001-4,000 ft.	4,001-6,000 ft.
1) Asparagus	Hot and Raw	Pints	30 min.	11 lb.	12 lb.	13 lb.
		Quarts	40 min.	11 lb.	12 lb.	13 lb.
2) Dried Beans and Peas	Hot	Pints	75 min.	11 lb.	12 lb.	13 lb.
		Quarts	90 min.	11 lb.	12 lb.	13 lb.
3) Beans, dry, baked or with tomato or molasses sauce	Hot	Pints	65 min.	11 lb.	12 lb.	13 lb.
		Quarts	75 min.	11 lb.	12 lb.	13 lb.
4) Beans, snap and Italian	Hot and Raw	Pints	20 min.	11 lb.	12 lb.	13 lb.
		Quarts	25 min.	11 lb.	12 lb.	13 lb.
5) Beets	Hot	Pints	30 min.	11 lb.	12 lb.	13 lb.
		Quarts	35 min.	11 lb.	12 lb.	13 lb.
6) Carrots	Hot and Raw	Pints	25 min.	11 lb.	12 lb.	13 lb.
		Quarts	30 min.	11 lb.	12 lb.	13 lb.
7) Corn, cream style	Hot	Pints	85 min.	11 lb.	12 lb.	13 lb.
8) Corn, whole kernel	Hot and Raw	Pints	55 min.	11 lb.	12 lb.	13 lb.
		Quarts	85 min.	11 lb.	12 lb.	13 lb.
9) Mixed Vegetables	Hot	Pints	75 min.	11 lb.	12 lb.	13 lb.
		Quarts	90 min.	11 lb.	12 lb.	13 lb.
10) Peas	Hot and Raw	Pints or Quarts	40 min.	11 lb.	12 lb.	13 lb.
11) Peppers	Hot	Half-pints or Pints	35 min.	11 lb.	12 lb.	13 lb.
12) Pumpkin and Winter Squash — cubed	Hot	Pints	55 min.	11 lb.	12 lb.	13 lb.
		Quarts	90 min.	11 lb.	12 lb.	13 lb.
13) Soups	Hot	Pints	60* min.	11 lb.	12 lb.	13 lb.
		Quarts	75* min.	11 lb.	12 lb.	13 lb.
<b>*Caution: Process 100 minutes if soup contains seafoods.</b>						
14) Spinach and Other Greens	Hot	Pints	70 min.	11 lb.	12 lb.	13 lb.
		Quarts	90 min.	11 lb.	12 lb.	13 lb.

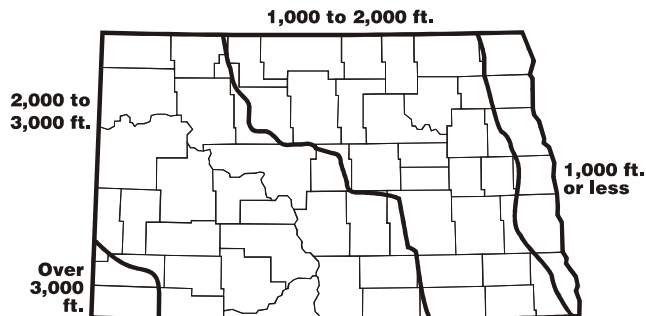
Table 2. Recommended Process Times in a Weighted-Gauge Pressure Canner.

	Style of Pack	Jar Size	Process Time	Canner Pressure (PSI) at Altitudes of	
				0-1,000 ft.	Above 1,000 ft.
1) Asparagus	Hot and Raw	Pints	30 min.	10 lb.	15 lb.
		Quarts	40 min.	10 lb.	15 lb.
2) Dried Beans and Peas	Hot	Pints	75 min.	10 lb.	15 lb.
		Quarts	90 min.	10 lb.	15 lb.
3) Beans, dry, baked or with tomato or molasses sauce	Hot	Pints	65 min.	10 lb.	15 lb.
		Quarts	75 min.	10 lb.	15 lb.
4) Beans, snap and Italian	Hot and Raw	Pints	20 min.	10 lb.	15 lb.
		Quarts	25 min.	10 lb.	15 lb.
5) Beets	Hot Quarts	Pints	30 min.	10 lb.	15 lb.
		35 min.	10 lb.	15 lb.	
6) Carrots	Hot and Raw	Pints	25 min.	10 lb.	15 lb.
		Quarts	30 min.	10 lb.	15 lb.
7) Corn, cream style	Hot	Pints	85 min.	10 lb.	15 lb.
8) Corn, whole kernel	Hot and Raw	Pints	55 min.	10 lb.	15 lb.
		Quarts	85 min.	10 lb.	15 lb.
9) Mixed Vegetables	Hot	Pints	75 min.	10 lb.	15 lb.
		Quarts	90 min.	10 lb.	15 lb.
10) Peas	Hot and Raw	Pints or Quarts	40 min.	10 lb.	15 lb.
11) Peppers	Hot	Half-pints or Pints	35 min.	10 lb.	15 lb.
12) Pumpkin and Winter Squash - cubed	Hot	Pints	55 min.	10 lb.	15 lb.
		Quarts	90 min.	10 lb.	15 lb.
13) Soups	Hot	Pints	60* min.	10 lb.	15 lb.
		Quarts	75* min.	10 lb.	15 lb.
<b>*Caution: Process 100 minutes if soup contains seafoods.</b>					
14) Spinach and Other Greens	Hot	Pints	70 min.	10 lb.	15 lb.
		Quarts	90 min.	10 lb.	15 lb.

# Adjust for Altitude

As altitudes increase air becomes thinner, and this affects both pressures and boiling points in home canning. Using the process times for canning food at sea level may result in spoilage if you live at altitudes of 1,000 feet or more. Water boils at lower temperatures as altitude increases. Lower boiling temperatures are less effective for killing bacteria. Increasing the processing time or canner pressure compensates for lower boiling temperatures. Select the proper processing time or canner pressure for the altitude where you live.

The altitude in North Dakota varies from 800 feet above sea level in the east to 3,000 feet in the west. The map below shows the approximate altitude of areas of North Dakota.



For more specific information regarding altitude in your county, contact your county extension office