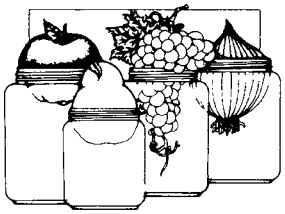
How to Can Fresh Vegetables

Quality for Keeps



Vegetables are at peak quality for six to 12 hours after harvesting. If you must delay canning fresh vegetables, keep refrigerated until you are ready to begin.

Pressure canning is the only safe method for canning vegetables because they are low-acid. *Clostridium botulinum*, the bacterium that causes botulism food poisoning, is destroyed in low-acid foods, such as vegetables, only when they are processed for the correct amount of time at the recommended pounds of pressure in a pressure canner.

- **Canning low-acid foods in boiling-water or canner is absolutely unsafe because the botulinum bacteria can survive this process.**
- If *Clostridium botulinum* bacteria survive and grow inside a sealed jar of food, they can produce a poisonous toxin.

Please refer to MU Extension publications GH1451, *Crucial Home Canning Basics* (extension.missouri.edu/publications/gh1451), and GH1452, *Step by Step Successful Home Canning* (extension.missouri.edu/publications/gh1452) for information on correct canning procedures and the steps to follow in pressure canning.

It's OK to skip the salt

Salt seasons vegetables, but it is not necessary for safety. It is perfectly safe to can vegetables without adding salt. Add salt substitutes when serving vegetables, but not when canning. If added before the canning process, salt substitutes may cause a bitter taste. If you do add salt, be sure to use canning salt as table salt creates a cloudy product.

Asparagus — spears or pieces

Quantity: For eight to 12 quart jars, you need an average of 24 pounds of fresh asparagus.

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

Procedure: Wash asparagus. Trim off tough scales, break off tough stems and wash again. Cut into 1-inch pieces or leave whole.

Hot pack: Cover asparagus with boiling water. Boil 2 or 3 minutes. Loosely fill jars with hot asparagus; leave 1 inch of headspace.

Raw pack: Fill jars with raw asparagus, pack as tightly as possible without crushing, and leave 1 inch of headspace.

Final steps: Add 1 teaspoon canning salt per quart, or ½ teaspoon per pint, to each jar, if desired. Add boiling water; leave 1 inch of headspace. Adjusts lids, and process as directed in Table 1.

Beans or peas—shelled and dried (all varieties)

Quantity: For each 7-quart canner load, you need an average of 5 pounds of dried beans or peas. For each 9-pint canner load, you need an average of 3¼ pounds of dried beans or peas (an average of ¾ pound per quart).

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

Procedure: Place dried beans or peas in a large pot, and cover with water. Soak 12 to 18 hours in a refrigerator. Drain water or, to save time, cover sorted and washed beans or peas with boiling water in a saucepan. Boil 2 minutes, remove from heat, soak 1 hour, and drain.

After soaking beans or peas, cover with fresh water and boil 30 minutes.

Final steps: Add 1 teaspoon canning salt per quart, or ½ teaspoon per pint, to each jar if desired. Fill jars with beans or peas and cooking water; leave 1 inch of headspace. Adjust lids, and process as directed in Table 1.

Beans, baked

Quantity: An average of 5 pounds of beans is needed per canner load of 7 quarts; an average of 3¼ pounds is needed per canner load of 9 pints – an average of ¾ pounds per quart.

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

Procedure: Soak and boil beans as follows – Sort and wash dry beans. Add 3 cups of water for each cup of dried beans or peas. Boil 2 minutes, remove from heat and soak

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1 hour and drain. Heat to boiling in fresh water, and save liquid for making sauce.

Prepare molasses sauce as follows – Mix 4 cups water or cooking liquid from beans, 3 tablespoons dark molasses, 1 tablespoon vinegar, 2 teaspoons salt, and ¾ teaspoon powdered dry mustard. Heat to boiling.

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 4 to 5 hours at 350°F. Add water as needed–about every hour.

Fill jars, leaving 1-inch headspace. Adjust lids and process according to the recommendations in Table 1.

Beans, fresh lima—shelled

Quantity: For each 7-quart canner load, you need an average of 28 pounds of fresh, shelled lima beans. For each 9-pint canner load, you need an average of 18 pounds of fresh, shelled lima beans.

A bushel weighs 30 pounds and yields 5 to 8 quarts (an average of 4 to 5 pounds per quart).

Quality: Select well-filled pods with green seeds. Discard insect-damaged and diseased seeds.

Procedure: Shell beans, and wash thoroughly.

Hot pack: Cover beans with boiling water, and heat to boil. Boil 3 minutes. Fill jars loosely; leave 1 inch of headspace.

Raw pack: Fill jars loosely with raw beans. Do not press or shake down.

Small beans: Leave 1 inch of headspace for pints and 1½ inches for quarts.

Large beans: Leave 1 inch of headspace for pints and 1¼ inches for quarts.

Final steps: Add 1 teaspoon canning salt per quart, or ½ teaspoon per pint, to each jar if desired. Add boiling water; leave the same headspace listed above. Remove air bubbles. Adjust lids and process as directed in Table 1.

Beans, snap and Italian—pieces (green and wax)

Quantity: For each 7-quart canner load, you need an average of 14 pounds of fresh beans. For each 9-pint canner load, you need an average of 9 pounds of fresh beans.

A bushel weighs 30 pounds and yields 15 to 20 quarts (an average of 1½ to 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, cut or snap into 1-inch pieces.

Hot pack: Place beans in a large saucepan, and cover with boiling water; boil 5 minutes. Fill jars; leave 1 inch of headspace.

Raw pack: Fill jars with raw beans, pack tightly, and leave 1 inch of headspace.

Final steps: Add 1 teaspoon canning salt per quart, or ½ teaspoon per pint, to the jar, if desired. Add boiling water; leave 1 inch of headspace. Remove air bubbles. Adjust lids, and process as directed in Table 1.

Beets—whole, cubed or sliced

Quantity: For each 7-quart canner load, you will need an average of 21 pounds of fresh beets (without tops). For each 9-pint canner load, you will need an average of 13½ pounds of fresh beets.

A bushel of beets (without tops) weighs 52 pounds and yields 17 to 20 quarts (an average of 2½ to 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 and tough.

Procedure: Trim off beet tops; leave 1 inch of stem and root 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 just enough to remove skins. 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.

Final steps: Add 1 teaspoon canning salt per quart, or ½ teaspoon per pint, to each jar, if desired. Fill jars with hot beets and fresh hot water; leave 1 inch of headspace. Remove air bubbles. Adjust lids, and process as directed in Table 1.

Carrots—sliced or diced

Quantity: For each 7-quart canner load, you will need an average of 17½ pounds of fresh carrots (without tops). For each 9-pint canner load, you will need an average of 11 pounds of fresh carrots. A bushel of carrots (without tops) weighs 50 pounds and yields 16 to 20 quarts (an average of 2½ to 3 pounds per quart).

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

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

Hot pack: Cover with boiling water, bring to boil again and simmer for 5 minutes. Fill jars; leave 1 inch of headspace.

Raw pack: Fill jars with raw carrots, packing tightly.

Final steps: Add 1 teaspoon canning salt per quart, or ½ teaspoon per pint, to each jar, if desired. Add boiling cooking liquid or water; leave 1 inch of headspace. Remove air bubbles. Adjust lids, and process as directed in Table 1.

Corn—cream style

Quantity: For each 9-pint canner load, you will need an average of 20 pounds of sweet corn (in husks). A bushel weighs 35 pounds and yields 12 to 20 pints (an average of 2¼ pounds per pint).

Quality: Select ears containing slightly immature kernels or corn that is at the ideal stage or maturity 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 the kernel. Scrape remaining corn from cobs with a table knife.

Caution: Quart jars are not recommended due to the denseness of the canned product.

Hot pack: Add 1 cup of boiling water for each 2 cups of corn. Heat to boiling.

Final steps: Add ½ teaspoon canning salt to each pint jar, if desired. Fill pint jars with hot corn mixture; leave 1 inch of headspace. Remove air bubbles. Adjust lids, and process as directed in Table 1.

Corn—whole kernel

Quantity: For each 7-quart canner load, you need an average of 31½ pounds of sweet corn (with husks). For each 9-pint canner load, you need an average of 20 pounds of sweet corn.

A bushel weighs 35 pounds and yields 8 to 9 quarts (an average of 4½ pounds per quart).

Quality: Select ears containing slightly immature kernels at the ideal stage of maturity for eating fresh. Some of the sweeter varieties may turn brown during the canning process. Kernels that are too immature may also turn brown. This discoloration does not affect safety. For best quality, can a small amount and check color and flavor before canning large quantities.

Procedure: Remove husks and silk, and wash corn. Blanch 3 minutes in boiling water. Cut corn from cob at about three-fourths the depth of the kernel.

Caution: Do not scrape the cob.

Hot pack: Place kernels in a saucepan. Add 1 cup of hot water for each quart of corn, heat to boiling and simmer 5 minutes. Add 1 teaspoon canning salt per quart, or ½ teaspoon per pint, to each jar, if desired. Fill jars with corn and cooking liquid; leave 1 inch of headspace.

Raw pack: Fill jars with raw kernels; leave 1 inch of headspace. Do not shake or press down. Add 1 teaspoon canning salt per quart, or ½ teaspoon per pint, to each jar, if desired. Add fresh boiling water; leave 1 inch of headspace.

Final steps: Remove air bubbles. Adjust lids, and process as directed in Table 1.

Mixed vegetables

Quantity: For each 7-quart canner load, you will need: 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, sweet potatoes, broccoli, cauliflower or cabbage.

Procedure: Except for zucchini, wash and prepare vegetables as described for carrots (nchfp.uga.edu/how/can/canning-vegetables-and-vegetable-products/carrots-sliced-or-diced), corn (nchfp.uga.edu/how/can/canning-vegetables-and-vegetable-products/corn-whole-kernel), lima beans (nchfp.uga.edu/how/can/canning-vegetables-and-vegetable-products/beans-fresh-lima-shelled), snap beans or italian beans (nchfp.uga.edu/how/can/canning-vegetables-and-vegetable-products/beans-snap-and-italian-pieces-green-and-wax) and whole (nchfp.uga.edu/how/can/how-do-i-can-tomatoes/whole-or-halved-tomatoes-packed-in-water/) or crushed tomatoes (nchfp.uga.edu/how/can/how-do-i-can-tomatoes/crushed-tomatoes-with-no-added-liquid/). Wash, trim, and slice or cube zucchini; combine all vegetables in a large pot 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.

Final steps: Adjust lids and process following the recommendations in Table 1.

Mushrooms—whole or sliced

Quantity: An average of 14-1/2 pounds is needed per canner load of 9 pints; an average of 7-1/2 pounds is needed per canner load of 9 half-pints – an average of 2 pounds per pint.

Quality: Select only brightly colored, small to medium-size domestic mushrooms with short stems, tight veils (unopened caps), and no discoloration. **Caution: Do not can wild mushrooms.**

Procedure: Trim stems and discolored parts. Soak in cold water for 10 minutes to remove dirt. Wash in clean water. Leave small mushrooms whole; cut large ones. Cover with water in a saucepan and boil 5 minutes. Fill jars with hot mushrooms, leaving 1-inch headspace. Add 1/2 teaspoon of salt per pint to the jar, if desired. For better color, add 1/8 teaspoon of ascorbic acid powder, or a 500-milligram tablet of vitamin C. Add fresh hot water, leaving 1-inch headspace.

Final steps: Adjust lids and process following the recommendations in Table 1.

Okra

Quantity: For each 7-quart canner load, you need an average of 11 pounds of fresh okra. For each 9-pint canner load, you need an average of 7 pounds of fresh okra.

A bushel weighs 30 pounds and yields 19 to 21 quarts (an average of 1½ pounds per quart).

Quality: Select young, tender pods. Remove and discard diseased and rust-spotted pods.

Procedure: Wash pods, and trim ends. Leave whole or cut into 1-inch pieces. Cover with hot water in a saucepan, boil 2 minutes and drain. Fill jars with hot okra and cooking liquid; leave 1 inch of headspace.

Final steps: Add 1 teaspoon canning salt per quart, or ½ teaspoon per pint, to each jar if desired. Remove air bubbles. Adjust lids, and process as directed in Table 1.

Peas, green or English—shelled

Note: Sugar snap and Chinese edible podded peas should be frozen for best quality.

Quantity: For each 7-quart canner load, you need an average of 31½ pounds of fresh peas (in pods). For each 9-pint canner load, you need an average of 20 pounds.

A bushel weighs 30 pounds and yields 6 to 8 quarts (an average of 4½ pounds per quart).

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

Procedure: Shell and wash peas. Add 1 teaspoon canning salt per quart, or ½ teaspoon per pint, to each jar, if desired.

Hot pack: Cover with boiling water. Bring to a boil in a saucepan, and boil 2 minutes. Fill jars with hot peas (don't pack tightly), and add cooking liquid. Leave 1 inch of headspace.

Raw pack: Fill jars with raw peas, and add boiling water; leave 1 inch of headspace. Do not shake or press down peas.

Final steps: Remove air bubbles. Adjust lids, and process as directed in Table 1.

Peppers—hot or sweet

Types: Chili, jalapeño and pimento peppers.

Caution: If you choose hot peppers, wear plastic gloves while handling them, or wash hands thoroughly with soap and water before touching your face.

Quantity: For each 9-pint canner load, you need an average of 9 pounds of fresh peppers.

A bushel weighs 25 pounds and yields 20 to 30 pints (an average of 1 pound per pint).

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

Procedure: Select your favorite pepper(s). Leave small peppers whole. Cut large peppers into quarters. Remove cores and seeds. Slash 2 or 4 slits in each pepper, and either blanch in boiling water or blister in an oven or broiler.

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

Allow peppers to cool. Place in a pan, and cover with a damp cloth to make peeling the peppers easier. After several minutes, peel each pepper. Flatten whole peppers. Fill jars loosely with peppers, and add fresh boiling water; leave 1 inch of headspace.

Final steps: Add ½ teaspoon canning salt to each pint jar, if desired. Adjust lids, and process as directed in Table 1.

Potatoes, sweet—pieces or whole

Caution: It is unsafe to dry-pack or can mashed or pureed sweet potatoes.

Quantity: For each 7-quart canner load, you need an average of 17½ pounds of potatoes. For each 9-pint canner load, you need an average of 11 pounds of fresh potatoes.

A bushel weighs 50 pounds and yields 17 to 25 quarts (an average of 2½ pounds per quart).

Quality: Choose small to medium potatoes. They should be mature and not too fibrous. Can within 1 to 2 months after harvest.

Procedure: Wash potatoes, and boil or steam just until tender, about 15 to 20 minutes. Remove skins. Cut potatoes into uniform pieces. Fill jars; leave 1 inch of headspace. Add 1 teaspoon canning salt per quart, or ½ teaspoon per pint, to each jar, if desired. Cover with fresh boiling water or syrup. (See MU Extension publication GH1455, *How to Can Fresh Fruit*, for syrup directions.) Remove air bubbles.

Final steps: Adjust lids, and process as directed in Table 1.

Potatoes, white—cubed or whole

Quantity: For each 7-quart canner load, you need an average of 35 pounds of potatoes. For each 9-pint canner load, you need an average of 22½ pounds of potatoes.

A 50-pound bag yields 8 to 12 quarts (an average of 5 pounds per quart).

Quality: Select small-to-medium, mature potatoes of ideal quality for cooking. Potatoes stored below 45 degrees F may discolor when canned. Choose potatoes with a 1- to 2-inch diameter if they are to be packed whole.

Procedure: Wash and peel potatoes. Place in ascorbic acid solution to prevent darkening. (See MU Extension publication GH1455, *How to Can Fresh Fruit*. (extension.missouri.edu/publications/gh1455) If desired, cut into ½-inch cubes. Drain. Cook cubed potatoes 2 minutes in boiling water, and drain again. For whole potatoes, boil 10 minutes and drain. Add 1 teaspoon canning salt per quart, or ½ teaspoon per pint, to each jar, if desired. Fill jars with hot potatoes and fresh hot water; leave 1 inch of headspace. Remove air bubbles.

Final steps: Adjust lids, and process as directed in Table 1.

Pumpkins and winter squash

Caution: It is unsafe to can mashed or pureed pumpkins or squash. Instead, cut pumpkins or squash into cubes.

Quantity: For each 7-quart canner load, you need an average of 16 pounds of pumpkins or squash. For each 9-pint canner load, you need 10 pounds of pumpkins or squash (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 pumpkins (sugar or pie varieties) make better canned products.

Procedure: Wash, remove seeds, cut into 1-inch-wide slices and peel. Cut flesh into 1-inch cubes. Boil 2 minutes in water. Fill jars with cubes and cooking liquid; leave 1 inch of headspace. Remove air bubbles. Adjust lids, and process as directed in Table 1.

Soups

Vegetable, dried bean or pea, meat, poultry, or seafood soups can be canned. These directions are intended for use with ingredients that already have separate canning recommendations for those foods.

Caution: Do not add noodles or other pasta, rice, flour, cream, milk or other thickening agents to home canned soups. If dried beans or peas are used, they ***must*** be fully rehydrated first.

Procedure: Select, wash, and prepare vegetables, meat and seafoods as described for the specific foods in their own canning instructions. Cover meat with water and cook until tender. Cool meat and remove bones. Cook vegetables as described for a hot pack. 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. Combine solid ingredients with meat broth, tomatoes, or water to cover. Boil 5 minutes.

Caution: Do not thicken. Salt to taste, if desired. Fill jars halfway with solid mixture. Add remaining liquid, leaving 1-inch headspace.

Final steps: Adjust lids and process following the recommendations in Table 1.

Spinach and other greens

Note: Greens can be canned, but freezing results in a better product.

Quantity: For each 7-quart canner load, you need an average of 28 pounds of fresh spinach or other greens. For each 9-pint canner load, you need an average of 18 pounds of fresh spinach or other greens. A bushel weighs 20 pounds and yields 3 to 9 quarts (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 a 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 wilted thoroughly.

Fill jars loosely with greens, add fresh boiling water and leave 1 inch of headspace. Add ½ teaspoon canning salt to each quart jar, or ¼ teaspoon per pint, if desired. Remove air bubbles. Adjust lids, and process as directed in Table 1.

Table 1. Recommended process times for vegetables in a pressure canner.

Product	Recommended style of pack	Jar size	Process time (minutes)	Canner gauge pressure recommended for different elevations (in feet)		
				Dial gauge (pounds)	Weighted gauge (pounds)	
				0–2,000 feet	0–1,000 feet	Above 1,000 feet
Asparagus	Hot or raw	Pints	30	11	10	15
		Quarts	40	11	10	15
Beans or peas, shelled dried	Hot or raw	Pints	75	11	10	15
		Quarts	90	11	10	15
Beans, Baked	Hot	Pints	65	11	10	15
		Quarts	75	11	10	15
Lima beans	Hot or raw	Pints	40	11	10	15
		Quarts	50	11	10	15
Beans, snap and Italian	Hot or raw	Pints	20	11	10	15
		Quarts	25	11	10	15
Beets	Hot or raw	Pints	30	11	10	15
		Quarts	35	11	10	15
Carrots	Hot or raw	Pints	25	11	10	15
		Quarts	30	11	10	15
Corn, cream style	Hot	Pints	85	11	10	15
Corn, whole kernel	Hot or raw	Pints	55	11	10	15
		Quarts	85	11	10	15
Mixed Vegetables	Hot	Pints	75	11	10	15
		Quarts	90	11	10	15

Product	Recommended style of pack	Jar size	Process time (minutes)	Canner gauge pressure recommended for different elevations (in feet)		
				Dial gauge (pounds)	Weighted gauge (pounds)	
				0–2,000 feet	0–1,000 feet	Above 1,000 feet
Mushrooms	Hot	Half-Pints	45	11	10	15
		Pints	45	11	10	15
Okra	Hot	Pints	25	11	10	15
		Quarts	40	11	10	15
Peas	Hot or raw	Pints	40	11	10	15
		Quarts	40	11	10	15
Peppers, hot or sweet	Hot	Pints	35	11	10	15
Potatoes, sweet	Hot	Pints	65	11	10	15
		Quarts	90	11	10	15
Potatoes, white	Hot	Pints	35	11	10	15
		Quarts	40	11	10	15
Pumpkin and winter squash	Hot	Pints	55	11	10	15
		Quarts	90	11	10	15
Soups * if it contains seafood 100 minutes	Hot	Pints	60*	11	10	15
		Quarts	75*	11	10	15
Spinach and other greens	Hot	Pints	70	11	10	15
		Quarts	90	11	10	15

ALSO FROM MU EXTENSION PUBLICATIONS

GH1451 *Crucial Home Canning Basics*
GH1452 *Step By Step Successful Home Canning*
GH1455 *How to Can Fresh Fruit*
GH1456 *How to Can Fresh Tomato Products*
GH1457 *How to Can Pickled Products*
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