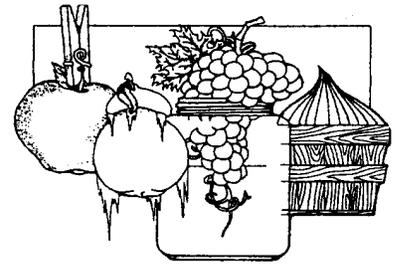


# Quality for Keeps



Information for those who produce and preserve food

## June brings bushels of beans

*Farmer's Markets and local gardens are producing a bountiful crop of green beans and yellow wax beans.*

Fresh green beans can be enjoyed in salads, stir fry, or simply boiled for a fresh taste of summer. Extra green beans can be canned, frozen or pickled for later enjoyment.

One bushel of green beans (30 pounds) will yield 30 to 45 pints. Plan to pick 2/3 to 1 pound for each pint of canned beans.

**Section.** Look for crisp, tender beans without scars, rust spots, or insect bites. Pods should be well-shaped with small seeds. Length is unimportant. Green beans should feel pliable and velvety, not hard or tough.

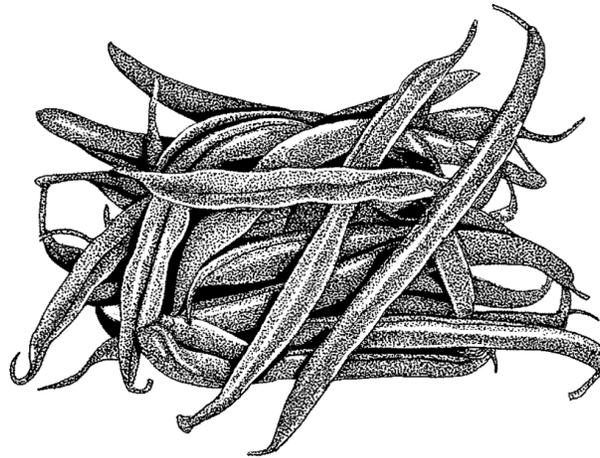
**Storage.** Store fresh green beans in the refrigerator in plastic bags up to 2-4 days. Wash green beans in cold water just before using, not before refrigerator storage.

**Preparation.** Newer varieties of green beans are more tender and do not require as long a cooking period as the older varieties. Trim and cut green beans into 1-inch pieces just before using. Vegetables cut or chopped ahead of time

lose nutrients more quickly than whole vegetables. Most varieties of green beans are now "stringless," so no strings need be removed.

One pound of fresh green beans makes five to six servings.

For best color, flavor, and nutrient retention: Bring a small



amount of water to boil - not more than 1-inch in the bottom of a pan for one pound of green beans. Add green beans and cook uncovered for the first few minutes to let some of the volatile acids escape in the steam (this will preserve the bright green color). Cover and cook until just tender crisp. One pound of crosscut green beans will be ready to serve in 13 to 15 minutes. Overheating and overcooking cause discoloration .

**Freezing.** Before freezing, blanch green beans to destroy enzymes that cause flavor and color changes during storage.

Select young tender green, snap, or wax bean pods when the seed is first formed. Wash in cold water and cut into 1-inch or 2-inch pieces, or slice lengthwise.

Water blanch 3 minutes. Cool promptly, drain, package, seal and freeze.

Store at 0°F for up to 10 months. Green beans can be tray frozen and packaged in large freezer bags. Beans remain loose and can be poured from the container when needed and the package reclosed.

To cook frozen green, snap, or wax beans, heat 1-inch frozen pieces for 12 to 18 minutes in boiling water. Cook frozen Julienne strips for 5 to 10 minutes

Frozen green beans may be substituted for fresh or canned beans in most recipes.

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## Canning snap, Italian and wax green beans

**P**ressure canning is the only safe method for canning vegetables. *Clostridium botulinum* is the bacterium that causes botulism food poisoning in low-acid foods such as vegetables.

Processing vegetables in a pressure canner at the correct time and temperature destroys the bacterium. Never can green beans or other vegetables in a boiling water canner. The botulinum bacteria can survive this process and produce a poisonous toxin.

**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; don't use them when canning. If added before the canning process, salt substitutes may cause a bitter taste. When using salt, choose **canning salt**.

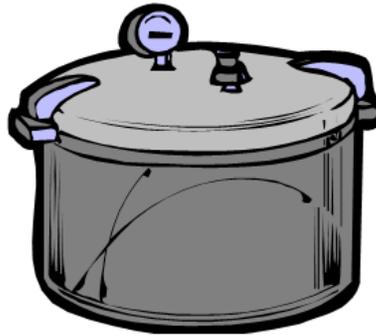
**Quantity.** For each 7-quart canner load, use an average of 14 pounds of fresh beans. For each 9-pint canner load, use an average of 9 pounds of fresh beans. A bushel weighs 30 pounds and yields 12 quarts to 20 quarts (an average of 2 pounds per quart).

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

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

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

**Raw pack.** Fill jars with raw beans, pack tightly and leave 1-inch



of headspace. Add 1 teaspoon canning salt per quart jar, if desired.

Add boiling water; leave 1-inch of headspace. Adjust lids.

Process pint jars for 20 minutes at 11 pounds of pressure in a dial-gauge canner at 0 to 2,000 feet altitude and at 10 pounds of pressure in

a weighted-gauge canner at 0 to 1,000 feet altitude, (15 pounds of pressure in a weighted-gauge canner above 1,000 feet altitude).

Process quart jars for 25 minutes at 11 pounds of pressure in a dial-gauge canner at 0 to 2,000 feet altitude, at 10 pounds of pressure in a weighted-gauge canner at 0 to 1,000 feet altitude, (15 pounds of pressure in a weighted-gauge canner above 1,000 feet altitude).

**Hints.** To help prevent mushiness, select green beans for canning that are a little more mature than those selected for freezing or immediate table use.

Water that has been softened may also cause canned green beans to be mushy, just as very hard water may toughen beans.

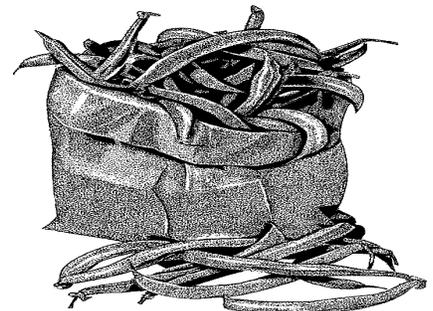
Green beans are a low-acid vegetable and **must be** hot packed and processed in a pressure canner for safety.

*Source: Quality for Keeps: Preserve Your Garden Delights—How to Can Fresh Vegetables, University of Missouri Extension guide sheet gh1454 (<http://extension.missouri.edu/explorepdf/hesguide/foodnut/gh1454.pdf>)*

### “Market to Market !”

Do something fun and good for the entire family and yourself! Visiting a pick-your-own farm is a great way to enjoy time together, soak up some fresh air and sunshine and reap the health benefits of fresh fruits and vegetables.

“Market to Market” is a directory, which includes contact information, types of produce grown, hours of operation, and directions to farmer’s markets and pick-your-own farms in the St. Louis area. To download or view a copy go to:  
<http://extension.missouri.edu/ecregion/market/2009markettomarket.pdf>

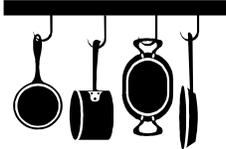


## Simple solutions for common canning problems

Problem	Cause	Prevention
<b>Loss of liquid from glass jars during processing</b> This is not a sign of spoilage; do not open to replace liquid. However, if at least half of the liquid is lost, refrigerate the jars and use within two to three days.	Lowering pressure in canner suddenly after processing period.	Do not force pressure down by placing canner in a draft, opening the vent too soon, etc. Allow pressure to drop to zero naturally; wait 2 minutes before opening.
	Fluctuating pressure during processing in pressure canner.	Maintain a constant temperature throughout processing time.
	Failure to work out air bubbles from jars before processing.	Remove by running a plastic spatula or knife between food and jar.
	Jars not covered with water in water bath canner.	Jars should be covered with 1 to 2 inches of water throughout processing period.
	Food packed too tightly in jars can boil over during processing and start a siphon.	Leave the appropriate headspace.
<b>Imperfect seal</b> Discard food unless the trouble was detected within a few hours.	Chips or cracks in jars.	Examine carefully by rubbing finger around the mouth of the jar.
	Particles left on mouth of jar.	A clean, damp cloth should be used to remove any seeds, seasonings, etc. that prevent a perfect seal.
	Using old closures that should be discarded.	Do not reuse rubber rings and self-sealing metal lids. Do not use rusty bands.
	Lifting jars by top or inverting while hot.	Use jar lifters for removing jars from canner, grasping below lip. Leave in upright position.
<b>Product dark at top of jar</b> Not necessarily a sign of spoilage.	Air left in the jar permits oxidation.	Remove air bubbles before sealing jars. Use recommended headspace.
	Insufficient amount of liquid or syrup.	Cover product with water or syrup.
	Food not processed long enough to destroy enzymes.	Process recommended length of time.
<b>Cloudy liquid</b> Sometimes denotes spoilage.	Starch in vegetables.	Select products at desirable stage of maturity. Do not use overmature vegetables.
	Minerals in water.	Use soft water.
	Fillers in table salt.	Use pure refined salt.
	Spoilage.	Process by recommended methods and for recommended time.
<b>Color changes that are undesirable</b>	Contact with minerals such as iron, zinc or copper in cooking utensils or water.	Avoid iron, zinc, or copper utensils. Use soft water.
	Immature or overmature products.	Select fruits and vegetables at optimum stage of maturity.
	Exposure to light.	Best to store canned foods in dark place.
	Natural and harmless substances in fruits and vegetables (pink or blue color in apples, cauliflower, peaches or pears).	None
<b>Spoilage</b>	Incorrect pressure.	Gauge should be checked every year for accuracy.
	Incorrect timing.	Follow directions for timing.
	Incorrect method used.	Low-acid vegetables and meats must be pressure-canned for safety.
	Poor seal on jars.	Check jars and lids for defects Wipe jar rim before closing. Don't overfill jars.

Source: Clemson University Extension, South Carolina, [http://www.clemson.edu/extension/hgic/food/food\\_safety/preservation/hgic3050.html](http://www.clemson.edu/extension/hgic/food/food_safety/preservation/hgic3050.html)

## THE RECIPE BOX



### Pickled three bean salad

- 1-1/2 pounds green beans
- 1-1/2 pounds wax beans
- 1 pound lima beans
- 2 cups sliced celery (about 3 stalks)
- 1/2 pound onion, sliced (about 1 large)
- 1 cup diced sweet red pepper (about 1 medium)
- 2-1/2 cups sugar
- 1 tablespoon mustard seed
- 1 teaspoon celery seed
- 4 teaspoons canning salt
- 3 cups vinegar
- 1-1/4 cups water

Wash beans, celery and pepper; drain. Cut green and wax beans into 1-1/2 inch pieces. Shell lima beans. Combine beans, celery, onion and pepper in a large saucepot. Cover with boiling water; cook 8 to 10 minutes. Drain; keep hot. Combine sugar, mustard seed, celery seed, salt, vinegar and water in a large saucepot. Bring to a boil. Reduce heat and simmer 15 minutes. Pack hot vegetables into hot jars, leaving 1/4-inch headspace. Ladle hot liquid over vegetables, leaving 1/4-inch headspace. Remove air bubbles. Adjust two-piece lids. Process 15 minutes in a boiling water canner.

Yields: approx. 5 pints

Source: *Ball blue Book of Preserving*® edition #32, published by: Jarden Home Brands, Ball corporation Muncie, Indiana 2008, [www.freshpreserving.com](http://www.freshpreserving.com)

*Quality for Keeps*, published monthly, April through October, is made available to residents of East Central and South-east Missouri by their Extension Councils. Contact your county Extension office to subscribe or visit our website <http://extension.missouri.edu/franklin>. Questions may be directed to:

*Mary Schroepfer*

Mary Schroepfer  
Nutrition & Health Specialist  
116 W. Main  
Union, MO 63084  
Ph: (636) 583-5141  
Fax: (636) 583-5145  
Email: [SchroepferM@missouri.edu](mailto:SchroepferM@missouri.edu)

#### EAST CENTRAL OFFICES:

Franklin	(636) 583-5141
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St. Louis	(314) 615-2911
Warren	(636) 456-3444
Washington	(573) 438-2671

*Judith Lueders*

Judith Lueders  
Nutrition & Health Specialist  
321 N. Main, Suite 1  
Perryville, MO 63775  
Ph: (573) 547-4504  
Fax: (573) 547-4535  
Email: [LuedersJ@missouri.edu](mailto:LuedersJ@missouri.edu)

#### SOUTHEAST MISSOURI OFFICES

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