

# Freezing Vegetables



## For Quality Frozen Vegetables

Get vegetables from the garden into the freezer as quickly as possible to preserve the quality of the food. Fresh, tender vegetables are best for freezing. The fresher the vegetables when frozen, the better your product.

### *First Steps*

Begin most vegetables with washing. Wash thoroughly in cold water. Lift from water as grit settles to bottom of pan. Sort vegetables by size for heating and packing unless you plan to cut them into same-sized pieces. Peel, trim, and cut into pieces as directed for each vegetable.

## Heating or Blanching Vegetables

An important step in preparing vegetables for freezing is to heat or blanch them. Most vegetables, except green peppers, keep better quality in frozen storage if you heat them before packing.

The reason to heat vegetables before freezing them is to slow or stop the action of enzymes. Until vegetables are ready to pick, enzymes help them grow and mature. After harvest, enzymes can cause loss of flavor and color.

If vegetables are not adequately processed with heat, enzymes stay active during storage in the freezer. Vegetables may develop off flavor, discoloration, or toughen and become unappetizing in a few weeks.

Heating also wilts or softens vegetables and makes them easier to pack. The type of vegetable and the size of the pieces determine the right heating time and temperature.

### *Heating in Boiling Water*

For home freezing, the best way to heat most vegetables is in boiling water. Use a blancher, which has a blanching basket and cover. Or fit a wire basket into a large kettle, and add a cover.

For each pound of prepared vegetables, use at least 1 gallon of boiling water in the blancher or kettle. Put vegetables in the blanching basket or wire basket, and lower into boiling water. Put lid on blancher or kettle and immediately start counting time. Keep heat high for time given in the directions for vegetables you are freezing.

### ***Heating in Steam***

Heating in steam is recommended for some vegetables. Both steaming and boiling work well for pumpkin, sweet potatoes, and winter squash.

To steam, use a kettle with a tight lid and a rack that holds a steaming basket at least 3 inches above the bottom of the kettle. Put from 1 inch to 2 inches of water in the kettle, and bring water to a boil. Put vegetables in the basket in a single layer so that steam reaches all parts quickly. Cover kettle and keep heat high. Start counting time as soon as the lid is on.

### ***Other Ways To Heat***

You can heat pumpkin, sweet potatoes, and winter squash in a pressure cooker or in the oven before freezing.

### **Cooling and Packaging**

After vegetables are heated, cool quickly and thoroughly to stop cooking.

To cool vegetables heated in boiling water or steam, plunge basket of vegetables immediately into cold water 60 °F or below. Change water frequently, or use cold running water or ice water. If you use ice, you'll need about 1 pound of ice for each pound of vegetable. It will take as long to cool the food as it does to heat it. When vegetables are cool, remove from water, and drain thoroughly.

To cool vegetables heated in the oven, a pressure cooker, or a fry pan, set pan of food in water and change water to speed the cooling process.

Pack the food into bags or other containers. A stand to hold bags makes filling easier. A funnel helps keep the sealing edges clean.

Leave the amount of head space recommended for the vegetables. Seal by twisting or folding back the top of the bag and tying with a string, or seal with a paper-covered wire or rubber band. Freeze at once. Store at 0 °F or below. If bags easily become brittle at low temperatures, put the bag in a carton for protection.

### ***Dry Pack More Practical***

You can use a dry or brine pack to freeze most vegetables. We recommend the dry pack for all vegetables because preparation for freezing and serving is easier.

### ***Directions***

#### ***Asparagus***

Select young tender asparagus with compact tips. Sort by stalk thickness. Wash well, and cut off and discard tough parts. Cut into 2-inch pieces or leave in spears to fit container size. Heat in boiling water according to stalk thickness: small – 2 minutes; medium – 3 minutes; large – 4 minutes. Cool quickly and drain. Pack into container, leaving no head space. Seal and freeze.

#### ***Lima Beans***

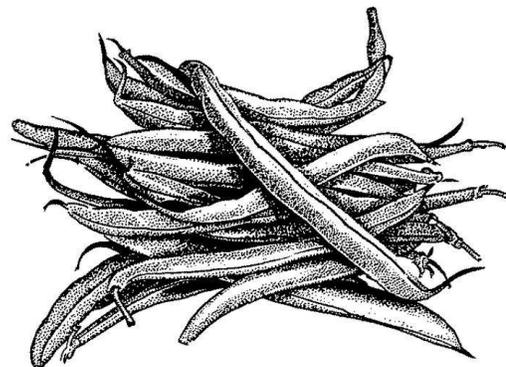
Choose beans that are green but not starchy or mealy. Shell and sort by size, or leave in pods to shell after heating and cooling. Heat in boiling water, depending on bean or pod size: small – 2 minutes; medium – 3 minutes; large – 4 minutes. Cool quickly and drain. Pack into containers, leaving 1/2-inch head space. Seal and freeze.

#### ***Beans, Shell, Green***

Select pods that are plump, not dry or wrinkled. Shell beans. Heat in boiling water 1 minute, cool in cool water, and drain. Pack into containers, leaving 1/2-inch head space. Seal and freeze.

#### ***Beans, Snap***

Select young, tender beans. Wash and cut or break off ends. Cut in lengths from 1 inch to 2 inches, or slice into strips. Heat in boiling water 3 minutes. Cool quickly in cold water, and drain. Pack into containers, leaving 1/2-inch head space. Seal and freeze.

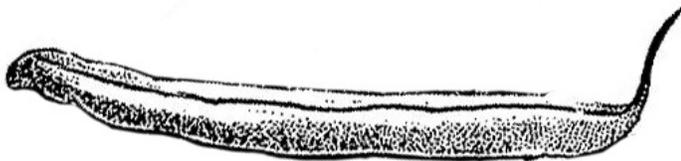


### **Beets**

Freeze beets that are young or mature, but discard those that are more than 3 inches across. Wash, and sort by size. Trim tops, leaving 1/2-inch of stems. Cook in boiling water until tender, depending on size: small – 25 to 30 minutes; medium – 45 to 50 minutes. Cool quickly in cold water. Peel, and cut into slices or cubes. Pack into containers, leaving 1/2-inch head space. Seal and freeze.

### **Beans, Soybeans, Green**

Select well-filled, bright green pods. Wash. Heat beans in pods in boiling water for 5 minutes. Cool quickly in cold water. Squeeze out of pods. Pack into containers, leaving 1/2-inch head space. Seal and freeze.



### **Broccoli**

Select tight, compact, dark-green heads with tender stalks free from woodiness. Wash, peel stalks, and trim. To remove insects, soak for 1/2 hour in a solution of 4 teaspoons salt to 1 gallon cold water. Split lengthwise into pieces so florets are not more than 1 1/2 inches across. Heat in steam 5 minutes or in boiling water 3 minutes. Cool promptly in cold water, and drain. Pack broccoli into containers, leaving no head space. Seal and freeze

### **Brussels Sprouts**

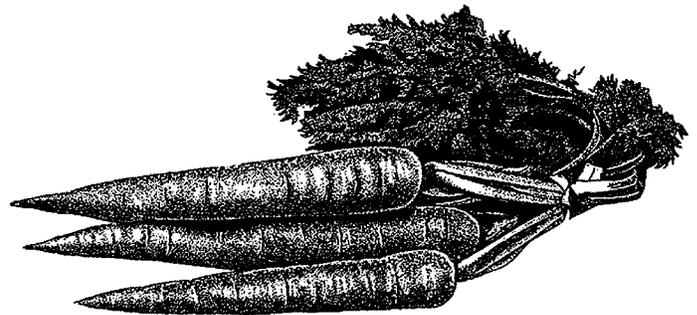
Select green, firm, compact heads. Examine heads carefully to make sure they don't have insects. Trim, removing coarse outer leaves. Wash thoroughly. Sort into small, medium, and large sizes. Heat in boiling water: small heads – 3 minutes; medium heads – 4 minutes; and large heads – 5 minutes. Cool promptly in cold water, and drain. Pack Brussels sprouts into containers, leaving no head space. Seal and freeze.

### **Cabbage**

Use frozen cabbage only as a cooked vegetable. Choose freshly picked, solid heads. Trim off coarse outer leaves. Cut into medium to coarse shreds or thin wedges, or separate head into leaves. Heat in boiling water 1 1/2 minutes. Cool promptly in cold water, and drain. Pack into containers, leaving 1/2-inch head space. Seal and freeze.

### **Carrots**

Freeze mild-flavored, tender carrots. Remove tops, then wash, and peel. Leave small carrots whole, and cut bigger ones into 1/4-inch cubes, thin slices, or long strips. Heat in boiling water depending on size: small, whole – 5 minutes; diced or sliced or lengthwise strips – 2 minutes. Cool quickly in cold water, and drain. Pack into containers, leaving 1/2-inch head space. Seal and freeze.



### **Cauliflower**

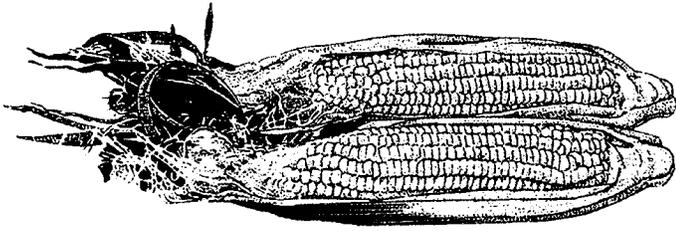
Choose firm, tender, snow-white heads. Break or cut into pieces about 1 inch across. Wash well. To remove insects, soak vegetable for 30 minutes in a solution of 4 teaspoons salt to 1 gallon cold water. Drain. Heat in boiling water containing 4 teaspoons salt to 1 gallon water for 3 minutes. Cool promptly in cold water, and drain. Pack cauliflower into containers, leaving no head space. Seal and freeze.

### **Corn**

**Whole Kernel and Cream Style.** Select ears with plump, tender kernels and thin, sweet milk. Freeze as cream style if milk is thick and starchy. Husk, silk, and wash ears. Heat in boiling water 4 minutes. Cool quickly in cold water; drain. For whole kernel, cut kernels at about two-thirds of the depth. For cream style, cut corn from cob at about the center of kernels. Scrape cobs with back of knife to remove juice and heart of kernel. Pack, leaving 1/2-inch head space. Seal and freeze.

**On-the-Cob.** Select and prepare the same way as for whole kernel corn except sort ears by size. Heat in boiling water depending on ear size: small – 7 minutes; (1¼ inch or less in diameter); medium – 9 minutes (1¼ to 1½ inches in diameter); large – 11 minutes (more than 1½ inches in diameter).

Cool in cold water; drain. Pack into containers, or wrap individually and then together in desired number with material that resists moisture and vapor. Seal and freeze.



### ***Eggplant***

Wash, peel, and slice from 1/3 to 1/2 of an inch thick. Prepare an ascorbic acid solution using 1 quart water to 1/2 teaspoon ascorbic acid. Dip eggplant slices in ascorbic acid solution.

Blanch in boiling water 4 minutes in same proportion of ascorbic acid solution used in preparing eggplant. Chill in cold water. Drain.

Pack in freezer container with two pieces of freezer paper between slices. Seal and freeze. Frozen eggplant keeps well from 9 to 12 months. One pound fresh eggplant yields about 1 pint frozen.

### ***Greens***

Select young, tender leaves. Wash well. Remove imperfect leaves and tough stems. Heat in boiling water in small amounts to avoid matting: mustard and turnip greens – 2 minutes; collards – 3 minutes; spinach – 2 minutes; very tender leaves, spinach – 1½ minutes. Cool quickly; drain well. Pack, leaving 1/2-inch head space. Seal and freeze.

### ***Kohlrabi***

Select young, tender, mild-flavored kohlrabi that are small to medium in size. Cut off tops and roots. Wash, peel, and leave whole or dice into 1/2-inch cubes. Heat in boiling water: whole – 3 minutes; cubes – 1 minute. Cool promptly in cold water and drain. Pack whole kohlrabi into containers or wrap in material that is resistant to moisture and vapor. Seal and freeze. Pack cubes into containers, leaving 1/2-inch head space. Seal and freeze.

### ***Mushrooms***

Choose mushrooms that don't have spots or decay. Sort according to size. Wash thoroughly in cold water. Trim off ends of stems. If mushrooms are larger than 1 inch across, slice them, or cut into quarters.

You can steam or heat mushrooms in fat in a fry pan. Mushrooms that will be steamed will have better color if given an anti-darkening treatment first. (Dip for 5 minutes in a solution containing 1 teaspoon lemon juice or 1½ teaspoons citric acid to a pint of water.) Then steam: whole mushrooms – 5 minutes; buttons or quarters – 3½ minutes; slices – 3 minutes. Cool promptly in cold water, and drain.

To heat mushrooms in fry pan, heat small amounts in table fat in an open fry pan until almost done. Cool in air or set in cold water the pan you used to cook mushrooms. Pack into containers, leaving 1/2-inch head space. Seal and freeze.

### ***Okra***

Select young, tender, green pods. Wash well. Cut off stems so as not to cut open seed cells. Heat in boiling water: small – 3 minutes; large – 4 minutes. Cool quickly in cold water, drain. Leave whole, or slice crosswise. Pack into containers, leaving 1/2-inch head space. Seal and freeze.

Another method for sliced okra is heating on a baking sheet in an oven at 350° about 20 minutes. Cool on trays, package, and freeze.

### ***Parsley***

Select dark green, tender stalks. Wash, and remove any wilted leaves. Put just enough for one meal in a package. If you want chopped parsley, chop it while it is frozen.

### *Parsnips*

Choose from small to medium parsnips that are tender and not woody. Remove tops, wash, peel, and cut in 1/2-inch cubes or slices. Heat in boiling water 2 minutes. Cool promptly in cold water; drain. Pack into containers, leaving 1/2-inch head space. Seal and freeze.

### *Peas*

Select well-filled, flexible pods with tender seeds. Shell, discarding hard peas. Heat in boiling water 2 minutes. Cool quickly in cold water, drain. Pack into containers, leaving 1/2-inch head space. Seal and freeze.

### *Peas, English and Green*

Choose bright green, plump, firm pods with sweet, tender peas. Do not use immature or tough peas. Shell. Heat in boiling water 1 1/2 minutes. Cool quickly in cold water, drain. Pack into containers, leaving 1/2-inch head space. Seal and freeze.

### *Peppers*

**Sweet.** Peppers frozen without heating are best for use in uncooked foods. Heated peppers are easier to pack and good for use in cooking. Choose firm, crisp, thick-walled peppers. Wash, cut out stems, cut in half, and remove seeds. If desired, cut into 1/2-inch strips or rings. If you heat peppers, heat in boiling water: halves – 3 minutes; slices – 2 minutes. Cool in cold water; drain. If you don't heat peppers, pack, leaving no head space in container. Seal and freeze. If you heat peppers, leave 1/2-inch head space.

**Hot.** Wash and stem. Pack into small containers, leaving no head space. Seal and freeze.

### *Pimentos*

Select firm, crisp, thick-walled pimentos. To peel, roast pimentos in an oven at 450° for 3 to 8 minutes. Remove charred skins by rinsing in cold water. Drain. Pack into containers, leaving 1/2-inch head space. Seal and freeze.

### *Potatoes*

**New Potatoes.** Select potatoes that are 1 inch to 1 1/2 inches in diameter. Scrub vigorously in cold water or scrape to remove skin. Heat in boiling water 4 minutes. Cool quickly in cold water. Drain. Package, leaving no head space. Seal.

**French Fried.** Cut and scald potatoes. Fry quickly in fresh, first-grade fat. Drain. Cool quickly. Package. Seal and freeze.

**Other Potatoes.** Wash, peel, and remove deep eyes, bruises, and green surface coloring. Cut in 1/4- to 1/2-inch cubes. Heat in boiling water 5 minutes. Cool. For hash browns, cook in jackets until almost done. Peel and grate. Pack into containers, leaving 1/2-inch head space. Seal and freeze.

### *Pumpkin*

Select full-colored, mature pumpkin with texture that is fine rather than coarse and stringy. Wash, cut into pieces, remove seeds. Cook pieces until soft in water, steam, a pressure cooker, or oven. Remove pulp from rind and mash or press through a sieve. To cool, place pan in cold water. Stir occasionally. Pack into containers, leaving 1/2-inch head space. Seal and freeze.

### *Rutabagas*

Select young, tender, medium-size rutabagas with no tough fibers. Cut off tops, wash and peel. For cubed rutabagas, cut into 1/2-inch cubes. Heat in boiling water for 2 minutes. Cool promptly in cold water; drain. Pack into containers, leaving 1/2-inch head space. Seal and freeze. For mashed rutabagas, cut into pieces. Cook until tender in boiling water and drain. Mash or press through a sieve. To cool, place pan containing rutabagas in cold water. Stir rutabagas occasionally. Pack into containers, leaving 1/2-inch head space. Seal and freeze.

### *Squash*

**Summer.** Select young, small-seeded, and tender-rind squash. Wash, and cut in 1/2-inch slices. Heat in boiling water 3 minutes. Cool quickly in cold water, and drain. Pack into containers, leaving 1/2-inch head space. Seal and freeze.

**Winter.** Select firm, mature squash. Wash, cut into pieces, and remove seeds. Cook pieces until soft in boiling water, steam, pressure cooker, or the oven. Remove pulp from rind, and mash or press through a sieve. To cool, place pan containing squash in cold water, and stir squash occasionally. Pack into containers, leaving 1/2-inch head space. Seal and freeze.

### ***Sweet potatoes***

Pack whole, sliced, or mashed. Freeze medium-to-large, mature, cured sweet potatoes. Sort by size, and wash. Cook until almost tender in water, steam, a pressure cooker, or oven. Let stand at room temperature until cool. Peel, cut in halves, slice, or mash. To prevent darkening, dip whole or sliced sweet potatoes for 5 seconds in a solution of 1 tablespoon citric acid or 1/2 cup lemon juice to 1 quart water. To prevent darkening of mashed sweet potatoes, mix 2 tablespoons orange or lemon juice with each quart of sweet potatoes. Pack, leaving 1/2-inch head space. Seal and freeze.

For variety, roll cooked sweetpotato slices in sugar. Pack into containers, leaving 1/2-inch head space. Seal and freeze, or pack whole or sliced, cooked sweet potatoes in containers and cover with cold syrup made of equal parts of sugar and water. Leave head space. Seal and freeze.

### ***Tomatoes***

**Juice.** Wash, sort, and trim firm, vine-ripened tomatoes. Cut in quarters or eighths. Simmer 5 to 10 minutes. Press through sieve. If desired, add 1 teaspoon salt per quart of juice. Pour into containers, leaving head space for liquid pack. Seal and freeze.

**Stewed.** Remove stem ends, peel, and quarter ripe tomatoes. Cover, and cook until tender (10 to 20 minutes). Place pan in cold water to cool. Pack into containers, leaving head space for liquid pack. Seal and freeze.

### ***Turnips***

Choose small-to-medium, firm, tender, mild-flavored turnips. Wash, peel, and cut into 1/2-inch cubes. Heat in boiling water 2 minutes. Cool quickly in cold water. Drain. Pack, leaving 1/2-inch head space. Seal and freeze.

### **Storage Period**

The longest storage time for best quality vegetables is from 8 months to 12 months. The exception is French fried potatoes, which keep well for up to 1 month after freezing.

## Varieties Suitable for Freezing

- Asparagus: Mary Washington
- Beans, Snap  
Bush: Falcon, Maestro, Astro, Green Isle, Early Gallatin, Contender, Slenderwhite, Cherokee (wax)  
Pole: Kentucky Wonder 191, Blue Lake, Dade
- Beans, Lima  
Bush: Thaxter, Henderson's Bush, Nemagreen, Jackson Wonder, Butterpea  
Pole: Carolina, Willow Leaf, Florida Speckle
- Beets: Detroit Dark Red, Burpee Red Ball, Ruby Queen
- Broccoli: Spartan, Coastal, Gem
- Carrot: Red Core Chantenay, Emperor, Commander
- Cauliflower: Snowball E, Snowball M
- Collard: Vates
- Corn, Sweet: Royal Gold, Golden Security, Aristogold Bantam Evergreen, Seneca Chief, Silver Queen, Jubilee, Merit, Midway
- Eggplant: Black Beauty, Florida Market
- Mustard: Florida Broadleaf, Southern Giant Curled, Tendergreen
- Okra: Emerald, Clemson Spineless, La. Green Velvet
- Peas  
English: Little Marvel, Laxton, Creole, Wando  
Southern: Mississippi Silver, Dixilee, Mississippi Purple, Pinkeye Purple Hull
- Pepper  
Sweet: Keystone, Resistant Giant, Yolo Wonder L, Miss Belle, Sweet Banana, Emerald Giant  
Hot: Long Cayenne, Tabasco, Hungarian wax (yellow), Jalapeño
- Potato  
Irish: Red LaSoda, Superior, LaChipper, Norchip  
Sweet: Centennial, Goldrush, Unit I Porto Rico
- Spinach: Early Hybrid No. 7, Bloomsdale Longstanding, Dixie Market, Chesapeake Hybrid, New Zealand (summer)
- Squash: Early Yellow Summer Crookneck, Early Prolific Straightneck, Patty Pan (white), Aristocrat (zucchini)
- Turnip: Purple Top White Globe, Shogoin (for greens), Just Right, Crawford

## Head Space to Allow Between Packed Food and Closure

Type of Pack	Container with the wide top opening*		Container with narrow top opening**	
	Pint	Quart	Pint	Quart
Liquid Pack	½ inch	1 inch	¾ inch***	1 ½ inches
Dry Pack**** (Vegetable packed without added liquid)	½ inch	½ inch	½ inch	½ inch

\*This is head space for tall containers – either straight or slightly flared.

\*\*Glass canning jars may be used for freezing most vegetables, except those packed in water.

\*\*\*Head space for juice should be 1 ½ inches.

\*\*\*\*Vegetables that pack loosely, such as broccoli and asparagus, require no head space.

For information on freezing fruits, see MSU Extension Publication **663 Freezing Fruits**.

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