

## Extend the Harvest by Properly Storing Fruits and Vegetables

Whether harvested from your garden or purchased from the grocery or farm market, fruits and vegetables need to be stored properly for best quality. Each harvested commodity has an optimum storage temperature. Many fruits and vegetables, such as tomatoes, should be stored only at room temperature because refrigerator temperatures (ideally 32°F to 40°F) damage them or prevent them from developing good texture and flavor.

Long storage life also depends on careful handling. Most fruits and vegetables are easily bruised if not handled carefully. When harvesting, treat produce gently. Most produce should be washed after harvest and before storage, but there are some exceptions. Delicate berries should be rinsed in cold water just before consuming. Washing berries before storage will hasten the decay process. While potatoes store better with a fine layer of soil left on the skin, avoid leaving clumps of soil on potatoes as this will only encourage spoilage.



Harvesting leeks.

Several vegetables benefit from post-harvest curing. Curing heals or suberizes injuries from harvesting operations. It thickens the skin, reducing moisture loss and affording better protection against insect and microbial invasion. Curing is usually accomplished at an elevated storage temperature and high humidity. An enclosed home storage area with a space heater can provide the conditions effective for curing some crops.

Root crops such as beets, carrots, rutabagas, parsnips and turnips can be left in the ground into late fall and early winter. A heavy mulch of straw will prevent the ground from freezing so the roots can be dug when needed. Many people prefer the taste of these crops after they have been frosted because their flavors become sweeter and milder. But make sure to finish harvesting these crops before the ground freezes solid, or you'll have to wait until spring to dig them out.

### Recommendations for Handling Some Specific Fruits and Vegetables:

**Potatoes:** Late crop potatoes are best for long-term storage. After harvest, cure late potatoes by holding them in moist air for 1 to 2 weeks at 60 to 75°F. Lightly cover during curing to help retain moisture. After curing, lower the storage temperature to about 40 to 45°F, ideally in a cool, dark basement or cellar. Do not wash potatoes before they are put into storage and avoid chilling below 40°F. Store potatoes in the dark to prevent greening.



**Onions:** Harvest onions when the tops have fallen over and begun to dry. Cure onions after harvesting by spreading them in a single layer on screens in the shade or in a wellventilated garage or shed for 1 to 2 weeks or until the tops are completely dry and shriveled. Trim tops back to 1 inch and store onions in shallow boxes, mesh bags or hang in old nylons in a cold, dry well-ventilated room.



**Garlic:** Harvest garlic in mid-summer when the plant still retains 5 green leaves. Cure garlic in a warm, dry place with good air circulation for 1 month before cutting the tops and roots back. Hardneck garlic will store between 3-9 months while softneck garlic will store for 6-12 months or more.



**Sweet and hot peppers:** Mature, green bell peppers can be kept for 2 to 3 weeks if handled properly.

Firm, dark green peppers free of blemishes and injury are best for storage. Harvest before frost to avoid damage to the fruit. Hot peppers are easiest to store after they are dry. Peppers can be dried by either pulling the plants together and hanging them upside down or by picking the peppers from the plants and stringing them together.



**Tomatoes:** With care, mature green tomatoes will keep and ripen for about 4 to 6 weeks in the fall. Harvest tomatoes from vigorous vines, tomatoes from nearly spent vines are more subject to decay. Harvest fruit just before the first killing frost. To store, pick tomatoes and remove the stems. Reduce rot by disinfecting fruit by washing in water with 1-1/2 teaspoon bleach per gallon of water. Dry thoroughly with a soft cloth and pack fruit 1 or 2 layers deep in shallow boxes. Remove fruits as they ripen.



**Pumpkins and winter squash:** Harvest mature fruit with hard rinds (ones that resist fingernail pressure) just before frost. Leave the stem on when cutting from the plants to prevent decay. Cure for 10 days at 80 to 85°F. The one exception is acorn squash: store at 45°F after harvest. (Curing acorn squash will lead to stringiness.)



**Apples:** Late maturing apples are best suited for storage. Store in baskets or boxes lined with plastic or foil to help retain moisture. Always sort apples carefully and avoid bruising them. Store apples as close to 32°F as possible, a temperature of 30 to 32°F is ideal. Because apples give off a gas, ethylene, that will hasten the ripening of other fruit, store apples separately from other crops if possible.



**Pears:** For good flavor and texture, ripen pears after harvest. Pick pears when they are fully mature, firm in texture and light green in color. Ripen pears by placing them in a room at 60 to 65°F for 1 to 3 weeks. Once pears ripe, the fruit is soft and a yellow-green color, transfer to the refrigerator and store at 29 to 32°F and 90% humidity.



Many fall-harvested crops lend themselves to long term storage. The following storage conditions are recommended for extended shelf life and maximum eating quality of fall produce:

Storage Temperature, Humidity & Storage Life of Selected Fruits and Vegetables <sup>1</sup>			
Commodity	Temperature (°F)	Relative Humidity (%)	Storage Life
Apples, late season	30-38	95	2-6 months
Beet, bunched	32	98-100	10-14 days
Beet, topped	32	98-100	4-6 months
Broccoli	32	95-100	10-14 days
Brussels Sprouts	32	95-100	3-5 weeks
Cabbage	32	98-100	3-6 weeks
Carrot, bunched	32	95-100	2 weeks
Carrot, mature	32	98-100	7-9 months
Cauliflower	32	95-98	3-4 weeks
Celeriac	32	97-99	6-8 months
Celery	32	98-100	2-3 months
Garlic	32	65-70	6-7 months
Horseradish	30-32	98-100	10-12 months
Kale	32	95-100	2-3 weeks
Kohlrabi	32	98-100	2-3 months
Onion, dry	32	65-70	1-8 months
Parsnip	32	98-100	4-6 months
Pears	34-36	95	2-4 months
Pepper, sweet	45-55	90-95	2-3 weeks
Potato, late	50-60	90-95	5-10 months
Radish, winter	32	95-100	2-4 months
Rutabaga	32	98-100	4-6 months
Squash, winter	50	50-70	Variable
Tomato, ripe	46-50	90-95	4-7 days
Turnip	32	95	4-5 months

<sup>1</sup>From Knott's Handbook for Vegetable Growers

In addition, the following conditions are recommended for curing fall vegetables:

Commodity	Curing Temp. (°F)	Curing Relative Humidity (%)	Length of Curing Time	Storage Temp after Curing (°F)
Potato, late season	60-70	80-90	10-14 days	40-45
Onion	60-80	40-50	3-7 days	32
Pumpkin	80-85	80-90	10 days	55-60
Sweet Potato	80-95	95	10 days	55
Winter Squash (except acorn)	80-85	80-90	7-14 days	55-60

– Karen Delahaut, Fresh Market Vegetable Specialist, University of Wisconsin - Madison

## **Additional Information:**

- ❑ Harvesting Vegetables from the Home Garden – UW-Extension publication A2727 at learningstore.uwex.edu/Harvesting-Vegetables-from-the-Home-Garden-P248.aspx
- ❑ From Garden to Table: The Art of Growing and Preserving Vegetables – UW-Extension publication A3776 at learningstore.uwex.edu/From-Garden-to-Table-The-Art-of-Growing-and-Preserving-Vegetables-P250.aspx
- ❑ The Commercial Storage of Fruits, Vegetables, and Florist and Nursery Stock – USDA Agricultural Handbook #66 at www.ba.ars.usda.gov/hb66/contents.html