Storing Your Garden Harvest

By Kathy Wolfe
August 2, 2019

Keep a watchful eye during the winter

Your plentiful harvest has been picked at its prime, is of high quality, and is ready to store for an extended shelf life. You might choose to can your tomatoes and peaches, dry your pears and hot peppers, or pickle the beets and cucumbers. Perhaps freezing applesauce, corn, berries and beans is your system of choice. These techniques are great for preserving produce but today we will talk about a different way to store our food for the long term that doesn't require appliances or additional ingredients. This type of cold storage is used for vegetables and fruits that you have selected to be good keepers that can be stored somewhere between 2-8 months, depending on the crop.

The easiest method to store root crops such as beets, carrots, rutabagas, parsnips and turnips can be to leave them 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 when they become sweeter and milder. Or you can dig and store them as recommended below. But in the case where your crop will not last long after the weather turns frosty, there are other cold storage techniques you can use.

Let garlic dry in shade for about 10 days to let it harden. Once it's hardened the dirt should be easy to brush off. Hang up your garlic in a cool dry place for future use. *Photo by Nancy Crowell / WSU Skagit County Extension Master Gardeners.*

After harvesting, continue to carefully handle the fruit to avoid bruising. One bad apple really can spoil the whole lot. Most produce should be washed before storage but there are some exceptions, e.g. potatoes, which prefer a fine layer of soil left on their skin. Garlic and storage onions are also often just brushed off, not washed.

Curing is important for several crops because it is used to promote the drying down and toughening up of external tissues. Curing reduces moisture loss in storage as well as reducing entry points for decay organisms. Onions can be spread in a single layer on a screen or in a well-ventilated area for 2-4 weeks before storing. Garlic can be spread in a single layer or tied in bunches in a shaded, well-ventilated and cool area for the same period. Potatoes need curing in a dark place for 1-2 weeks at 50-65 degree F before moving them to a long-term storage area.

Plants kept in storage are still living, so think of storage as a control system to reduce your crop's respiration rate, which uses up energy, and minimize its transpiration rate, which leads to dehydration. Different vegetables and fruits

need different conditions for storage. Temperature and humidity are the main storage factors to consider for maintaining long term preservation.

The four combinations for long-term storage are:

1. Cool and dry (50-60 degrees F and 60-70% humidity): pumpkins, winter squash
2. Cold and dry (32-50 degrees F and 60-70% humidity): dry beans, storage onions and garlic. (Store seed garlic at 50 degrees F)
3. Cold and moist (32-40 degrees F and 80-90% humidity): potatoes, apples, cabbage
4. Cold and very moist (32-40 degrees F and 90-95% humidity): beets, Brussels sprouts, carrots, cauliflower, celeriac, leeks, parsnips, rutabagas and turnips

Pick your garlic, but don't worry about cleaning off the dirt just yet. *Photo by Nancy Crowell / WSU Skagit County Extension Master Gardeners.*

You will need to find the right storage area. Some older homes may have a root cellar, unheated back hall, enclosed porch or shed that can be adapted for cold storage. Homes heated with wood stoves often have peripheral areas that might work. A cool, dry basement with good ventilation, if kept between 50-60 degrees F, is also an option for cool, dry fruit storage needs. If your vegetables require cool, moist conditions, you may be able to construct a separate room located in the coldest part of the basement, away from the furnace, perhaps on the north and east side of the house. Avoid heat ducts and hot water pipes that generate heat. Humidity can be added with a pan of water sitting on the floor or wet burlap sacks or a similar material in the room. Many use areas in their garage for storage. Just remember to protect your produce from rodents, monitor

room temperatures often to avoid a sudden freeze and remove any rotting vegetables from the area. Assess your specific situation using a thermometer prior to harvest time to find the most convenient, appropriate storage area.

Home refrigerators are generally cold and dry (40 degrees F and 50-60% humidity) which may be good for garlic and onions but not ideal for most other crops. Check your own unit's temperature before storing your produce there for long periods. Putting vegetables in perforated plastic bags can provide cold and moist conditions but only for a moderate amount of time. Unperforated plastic bags often create too much humidity which leads to condensation and growth of mold or bacteria. An old or extra refrigerator can be set to the proper conditions and used for food storage only. The amount of energy used usually is low because the door is opened infrequently and it is generally housed in a cool, out of the way place.

Winter squash is an ideal crop for storing. *Photo by Nancy Crowell / WSU Skagit County Extension Master Gardeners.*

There are several things to be avoided or checked upon on a regular basis. Some crops are sensitive to chilling injury, so you may want to aim for a few degrees above the optimal temperature when storing. Potatoes are very sensitive, while onions, winter squash and carrots are moderately sensitive, meaning they can tolerate brief exposure to sub-optimal temperatures. Cruciferous crops are the most tolerant of cold and least susceptible to chilling problems.

Beware combining certain fruits and vegetables that may pick up off-odors from their neighbors. Avoid apples or pears with celery, cabbage, carrots, potatoes or onions. Also don't store celery with onions or carrots.

Ethylene is produced naturally by some crops and can cause other crops to age faster, develop off colors or blemishes. Cabbage and carrots are often affected by ethylene exposure. Ethylene producers include apples, pears and tomatoes. These groups should be stored separately for longest storage life.

For more information, consult the helpful, detailed fact sheet called "Storing Garden Vegetables" from the Maine Organic Farmers and Gardeners Association (MOFGA Fact Sheet #15) or check with your local extension service or Master Gardeners. With a little bit of preparation of your storage area in early fall, knowledge of the best conditions for the crops you will be storing, and keeping a watchful eye during the winter, you can enjoy your bounty for many months to come.

RESOURCES:

- "Harvesting and Storing Home Garden Vegetables." University of Minnesota Extension, reviewed 2018.
- https://extension.umn.edu/planting-and-growing-guides/harvesting-and-storing-home-garden-vegetables
- "Storing Vegetables into Winter." Vern Grubinger, Vegetable and Berry Specialist, University of Vermont Extension. 8/28/12.
- https://www.uvm.edu/vtvegandberry/factsheets/WinterVegetableStorage.pdf
- "Storage Guidelines for Fruit & Vegetables." Cornell Cooperative Extension of Chemung County, revised 3/2004.
- http://chemung.cce.cornell.edu/resources/storage-guidelines-for-fruits-vegetables
- "Storing Garden Vegetables." MOFGH Fact Sheet #15. Eric Sideman, PhD, MOFGA's Organic Crop Specialist and Cheryl Wixson, P.E., MOFGA's Agricultural Engineer, Maine Organic Farmers and Gardeners Association.. August 2010.
- http://www.mofga.org/Portals/2/Fact%20Sheets/FS%2015%20Storing%20Garden%20Veg.pdf
- "Extend the Harvest by Properly Storing Fruits and Vegetables." Susan Mahr, Master Gardener Program, Division of Extension, University of Wisconsin-Madison, September 1, 2006.
- https://wimastergardener.org/article/extend-the-harvest-by-properly-storing-fruits-and-vegetables/