

Storage and Handling of Garden Produce
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Some level of gardening skill is needed in order to be successful in any given year. The other factor involved in gardening is lots of luck. Now that the gardening season is winding down hopefully you have found that luck was on your side and you have some vegetables that have been harvested or are in need of harvesting. The question remains is what to do with that produce now?

Harvest your produce during the coolest part of the day, usually during the early morning hours. Handle the crop carefully so as to not bruise or damage the vegetables. Any damage will be a site of possible infection of storage diseases which will cause your produce to rot prematurely. Place your produce in a shaded area while in the garden until you can get the crop cooled down.

Shortly after harvest it is important to pre-cool the crop. Pre-cooling removes field heat (ambient temperature caused by sun and air temperature in the garden) of the fresh vegetables. A good way to pre-cool most garden vegetables is to run cold water over them. This not only removes heat but also washes them. Do not use this method for berries, potatoes to be stored, onion bulbs, or garlic. These crops do not tolerate wetting very well.

Quality cannot be improved after harvest so it is very important that the quality remains as close to harvest quality as possible. The most important factor to keep the quality intact is to cool the crop down as quickly as possible. This is true for most vegetables and fruits. Soon after harvesting produce starts to break down and rotting can set in very quickly. Refrigeration after harvest retards several factors involved in produce quality including; aging caused by ripening, softening, textural and color changes; metabolic changes, respiratory heat production; moisture loss and wilting; attack by bacteria, fungi, and yeasts which cause spoilage; and undesirable growth.

Many vegetables and fruit store well at temperatures just above freezing while others store well at higher temperatures or 45 – 55 degrees F. Storage at the incorrect temperature can cause chilling injury. Depending on the temperature and the amount of time the produce is subjected to that temperature. Eggplants, pumpkins, summer squash, okra, and cucumbers are highly sensitive to chilling injury. Even if these look good in storage after removing them from the refrigeration they will start to degrade very quickly in warmer temperatures. Humidity is also important in keeping produce quality high. Keeping the humidity level high will aid in the vegetables and fruit from losing water. Humidity between 80 and 95 percent is optimal but storage diseases are encouraged when the humidity is this high. Be sure to allow the crop to breath while in storage. The following table illustrates selected produce and the preferred storage conditions to maintain quality and freshness.

Crop	Temperature (°F)	Humidity (%)	Storage length
Apples	32	90	2-6 months
Beets	32	95	3-5 months
Beans, snap	40-50	95	7-10 days
Carrots	32	95	4-5 months
Corn, sweet	32	95	4-8 days
Garlic	32	65-75	6-7 months
Grapes	32	90	4-6 weeks
Leeks	32	95	1-3 months
Onions	32	65-75	6-7 months
Pears	32	95	2-7 months
Peppers, hot	50	60-65	6 months
Peppers, sweet	45-50	95	2-3 weeks
Potatoes	40-60	90	4-9 months
Rhubarb	32	95	2-4 weeks
Squash, winter	50-60	50-60	2-6 months
Tomatoes	45-50	90	4-7 days
Watermelon	40-50	80-85	2-3 weeks

Successful gardening depends on several factors including skill, luck, and proper handling and storage of the fruits of your labor. If you have additional questions about this topic or other horticultural questions please call me at 605-394-2188 or e-mail to ricky.abrahamson@sdsstate.edu. You can also find additional information about horticulture at the Pennington County Extension Website at www.co.pennington.sd.us/extension/extsvc.html.

Sources: National Sustainable Agriculture Information Service - <http://attra.ncat.org>
 Cornell University Gardening Website - www.gardening.cornell.edu