

Optimal Storage Conditions and Ethylene Sensitivity of Fall Storage Crops

Crop	Storage	Notes	Ethylene Sensitivity*
Beet, Radish, Turnip & Rutabaga	Store at 32°F and 95% RH with greens removed. Radishes can be stored for 2-4 months, turnips and rutabaga for 4-5 months, and beets for 4-6 months.	Low humidity causes shriveling and weight loss, and shortens storage life.	LOW
Cabbage	Store cabbage at 32°F and 98-100% RH. Can last 4-6 months in optimum conditions.	Cabbage and other Brassicas freeze at 30°F, and storability starts to decrease at >34°F. Presence of light in storage can decrease leaf yellowing during storage.	HIGH (promotes leaf yellowing, wilting, and abscission)
Carrot	Store carrots at 32°F and 98-100% RH. Can be stored 5-9 months. Potential storage time increases with higher RH.	May be stored washed or unwashed. Washing immediately after harvest may reduce disease incidence in storage. Storing with ethylene-producers (like apples), and wounding and bruising during washing, can cause bitterness.	HIGH (causes bitterness)
Garlic	Store at 32°F and 65-70% RH. Seed garlic should be stored at 50°F. Garlic should keep for 6 to 7 months at 32°F.	High temperatures (>65°F) cause dehydration, intermediate temperatures (40-65°F) promote sprouting, and high RH promotes root growth and molding.	LOW
Onion	Store at 32°F and 65-70% RH. Avoid condensation by cooling gradually and maintaining steady temperature. Storage potential depends on variety.	As onions mature, their dry matter content and pungency increase. Onions produced from seeds store longer than those from sets. High temperature increases sprouting, high RH stimulates root growth, and the combination increases likelihood of rotting.	LOW
Parsnip	Store at 32°F and 90-95% RH with greens removed. Parsnips will keep for 2-6 months at optimum conditions.	Starches in parsnip roots convert to sugars at cold temperatures. Early fall dug parsnips can be induced to sweeten with a short (2-3 weeks) cold storage treatment.	HIGH (causes bitterness)

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Potato	Lower temperature gradually to 40-45°F for tablestock or seed. Store at 50°F for chip stock varieties. Maintain RH at 90%. Store 5-8 months.	Curing and storage environments must be dark to prevent greening. At colder temperatures, starches convert to sugar.	LOW
Sweet potato	Store at 55-60°F at 90% RH. Well-cured roots can store for up to a year in optimal conditions.	Starches in roots convert to sugars for the first 30 days postharvest; wait until 3 weeks after harvest for best flavor. Avoid chilling injury by keeping roots above 50°F. Chilling injury promotes root decay and decreases storage potential.	MODERATE (causes discoloration)
Winter Squash	Store at 55-60°F and 50-75% RH. Storage potential varies with variety, from 2-6 months.	Avoid chilling injury in field or storage, which occurs when temperatures are below 50°F. Injury increases as temperature decreases and/or length of chilling time increases. Decay accelerates after chilling. High temperatures decrease flesh quality, and high RH promotes decay.	MODERATE (causes discoloration)
*Crops that produce significant amounts of ethylene during storage include: apple, pear , peach, plum, cantaloupe, tomato, plus several tropical fruits.			

--Written October 2011 by A. Brown, A. Cavanagh, R. Hazzard, University of Massachusetts, and B. Sideman, University of New Hampshire. Funded by Northeast SARE Winter Vegetable Project UMass – UNH – CISA – SEL. Updated January 2018 by G. Higgins, University of Massachusetts.