

Harvesting and Storing Fresh Produce

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EXTENSION PROGRAM

Methods of Storage

Method #1:

Cold, Moist Storage - 32-40°F, 90-95% relative humidity. The colder part of a refrigerator generally provides this range of temperatures. To maintain a high relative humidity, place vegetables in plastic bags or place them un-bagged in the crisper, which should be half full or more. With all moist storage methods, if vegetables need to be washed, drain them before storing them. Remove excess water or allow it to evaporate.

To achieve humidity at a high level, place plastic sheeting over vegetables in a warm area. If possible, plastic bags are even better. This should hold enough moisture to be close to 90-95%.

Method #2:

Cool, Moist Storage - 45-50°F, 80-90% relative humidity. A special refrigerator kept at these warmer temperatures may be warranted for storing large amounts of vegetables. Vegetables needing this type of storage are sensitive to chilling injury at temperatures below 45°F. Storing certain immature vegetables under these conditions will allow ripening that would not occur at a lower temperature. Vegetables should be in plastic bags or in the crisper (as in method 1) to maintain the humidity of the surrounding air.

Method # 3:

Cool, Dry Storage - 35-55°F, 50-60% relative humidity. Use cool rooms and buildings. Pack vegetables in something other than plastic to maintain reduced humidity levels, such as in mesh or brown paper bags or in cardboard boxes. If you wash the vegetables before storing them, dry them thoroughly before placing them in storage. A little dry dirt is not a storage problem, however, and you can clean the produce just before use.

Method #4:

Warm, Moist Storage - 55-60°F, 80-85% relative humidity. Basement areas, garages, and semi-heated outbuildings, combined with plastic bags or damp soil, sand, or sawdust often satisfy these conditions.

Method 5:

Warm, Dry Storage - 55-60°F, 60-70% relative humidity. Store in basement areas, garages, and semi-heated outbuildings in packaging other than plastic to maintain reduced humidity levels, such as in mesh or brown paper bags, or in cardboard boxes.

Methods of Harvest

Asparagus - Wait until the third year after planting crowns to harvest, then limit your picking to no longer than 1 month. In following years, extend the harvest but stop when spears become less than ½" in diameter. Harvest in early spring by cutting just below ground level or snapping the spears when they are 5-8" in length. Spear diameter is not related to tenderness, so harvest when they are the diameter of your little finger or greater, but before the scales on the tips have opened. To "snap" a spear, bend it from the top toward the ground. The spear will break at the point where it is free of fiber. Cut spears will have to

have the fibrous ends removed before cooking. Packing the stem ends in moist towels or resting the ends in a little water will restore or maintain freshness. Asparagus is still growing when harvested, so spears must be placed in an upright position to keep them from growing crooked.

Asparagus spears are good fresh, frozen, or canned. The average storage life is 1-3 weeks in cold using Storage Method #1.

Beans, Dried (lima and other shell beans) - Shell beans are grown for their seeds. They are at their best quality when young, and will become mealy and tough skinned if they remain on the plant. Harvest when the pods are plump and firm, and before they turn yellow. The end of the pod should be spongy. Pods of different cultivars will differ in external appearance as the beans are developing. Test pick a few pods to be sure that the beans are at a desirable stage of maturity. Pick pods regularly to keep plants flowering and fruiting. Shelling beans immediately after harvest and before the pods wilt is easiest. Towards the end of the season, the last of your crop can be allowed to remain on the plant until dry for use as dry beans. Use Storage Method #1 to store fresh beans. Beans will store for 5-7 days.

To protect against seed insects, place dried beans in the freezer, at 0° F (or below) for 3-4 days before storage. Dried beans will keep well for one year using Storage Method #3. Dry beans may be canned if reconstituted first.

Beans, Snap - Harvest when pods “snap” readily when broken, but tips are still pliable. Pencil size pods or slightly larger in circumference are the optimal size for picking. Pods become more fibrous as the beans mature. The inside seed will be ¼th normal size and not yet causing pods to bulge. Frequent picking, every 3-4 days will produce new pods, creating a longer harvest.

Snap beans are not suitable for storage, so must be eaten fresh, frozen or canned. Fresh beans keep best if stored using Storage Method #1. Fresh beans will store for 5-7 days.

Beets - Beets may be harvested over a lengthy period, depending on the purpose. They do become tough and stringy in hot, dry weather so harvest them at an earlier stage of maturity. Late summer planting can be harvested long into the fall. Begin to harvest the greens when leaves are 4-6” long. Greens with roots attached are best when harvested before the roots grow to be 1” in diameter. Beet greens are delicious when fresh, and can be used raw in salads or cooked as greens. Beet greens may also be frozen or canned. Beet greens or greens with roots attached will keep for 10-14 days using Storage Method #1.

Depending on the cultivar, harvest beet roots when they have grown to 1½ to 3” in diameter. Fresh beets may be stored, pickled, canned, or frozen. For storage, wash roots and trim top to ½”. Beet roots prefer Storage Method #1.

Broccoli - The edible parts of broccoli are the compact clusters of unopened flower buds and the attached stem. Young tender leaves are also edible. Harvest when the central head is firm to hand pressure, compact, and all the buds are still closed. When yellow flower petals appear, the prime harvest period has passed. Cut the central head with 5-6” of stem and any smaller side shoots that may be ready for harvest. Removing the central head generally stimulates the side shoots in the axils of the lower leaves to develop for later harvest. Continue to harvest broccoli for several weeks. Broccoli develops best in cooler temperatures, so it can be planted in the spring for summer harvest, and in fall for winter harvest. When stored in the colder part of the refrigerator using Storage Method #1, broccoli will keep for 10-14 days. Freeze any surplus broccoli.

Brussels Sprouts - Brussels sprouts form 1-2" diameter heads along the main stalk of the plant. The lower sprouts mature first and may be picked or cut off the stem when they are firm, about 1 inch in diameter, and before the outer leaves on the heads split. Remove the lowermost leaves as you harvest. Harvest before the leaves turn yellow. To maximize fall harvests, break the growing tip of the plant in mid-August to force the remaining sprouts to mature.

Brussels sprouts are hardy to 0°F, and their flavor is improved by frost. They can be left in the garden for winter use. Alternatively, cut or pull plants and store them in cold, moist conditions, cutting off the sprouts as needed. Brussels sprouts may be used fresh or frozen.

Brussels sprouts have a storage life of 3-5 weeks when stored using Storage Method #1.

Cabbage - Harvest when heads are compact and heavy for their size, but before they split. Mature cabbage heads will keep longer in the garden if their roots are either cut with a shovel or broken by twisting the plant. A crop of small heads will form at the base of the leaves remaining after the harvest of spring-planted varieties. This can be encouraged by cutting the stem as close to the head as possible, leaving the leaves at the base of the stem intact. Harvest sprouts when they are firm and 2-4" in diameter.

Plant cabbages in late summer for fall harvest. Cabbage can be stored short term in the refrigerator in a covered container. For long term storage a root cellar is best, as the odor will permeate the house if stored in the basement. Another way to store cabbage is upright in a trench that is framed with stakes and covered with straw. Cabbage keeps well at temperatures as close to 32°F as possible and may be stored using Storage Method #1. Early cabbages store for 3-6 weeks, while late types will keep 3-4 months.

Carrots - Carrots may be used any time they are ½" or more in diameter. Carrots will reach a minimum diameter of ¾"-1" about 60-70 days after planting. Harvest them over a 3-4 week period. Sugar content is higher in mature roots, but younger carrots are more tender for eating fresh or canning. Very large carrots may be woody or tough and have lower sugar content. Carrots may also be frozen, or left in the ground and covered with mulch. Use Storage Method #1 and remove tops before storage. Carrots will keep for 4-6 months.

Cauliflower - Tie the inner leaves over the young curds when they are about 2-3" in diameter to shade them from the sun and keep them a bright white color. (This is called blanching.) Heads will ultimately grow to 6-8", however harvest can begin within 3-4 days after tying the leaves, or when heads are white and compact. The head is over-mature when it is soft or when plant leaves are yellow. Chill cauliflower immediately after harvest. Cauliflower may be eaten fresh or frozen. Cauliflower will store for 2-4 weeks using Storage Method #1.

Corn, Sweet - Sweet corn is ready to pick when the juice from a kernel punctured with a fingernail appears to be opaque rather than clear (juice should not be thick). Kernels reach this stage about 20 days after the appearance of the first silk strands, and the stage lasts a week or less, depending on the cultivar. At harvest, the kernels should be smooth and plump completely to the tip of the ear. The husk on the ear will be tight and green, and pollination silks will be dry and dark colored. Ears on the lower stalk will ripen first. To harvest, snap off the ears by hand with a quick, firm, downward push, twist, and pull. Monitor plants closely to prevent over ripening. Ears should be eaten, processed, or chilled as soon as possible after harvesting to prevent the sugars in the kernels from turning to starch, thus losing their sweet taste. The newer sugar-enhanced and super sweet cultivars will keep their sweetness longer after harvest under proper storage conditions. Use Storage Method #1 for sweet corn. Average storage time is 2-10 days after harvest. Freeze or can surplus.

Cucumbers - The size of cucumbers at harvest depends on the variety and intended use, but they should always be picked before the seeds fully enlarge and harden. They may be picked when they are 2" long or shorter for tiny pickles, 4-6" long for larger pickles or pickle slices, and up to 6-8" long for some of the slicing cultivars. Slicer type cucumbers pickle poorly so be sure the cucumber type matches your use. Cucumbers are of the highest quality when the fruit is firm, bright, and green in color, with no dullness or yellowing to the skin. Pick cucumbers daily or every other day to keep vines producing. Use Storage Method #2 for slicer type cucumbers. Cucumbers will keep 10-14 days.

Garlic - When garlic bulbs are mature the green tops yellow and can begin to dry. Dig bulbs when the tops are still about one-half green and one-half yellow. Dry bulbs in the garden for several days with their tops attached and out of direct sun. After drying, clean off the loose dirt and trim the root close to the bulb. Braid the tops of types that have pliable leaves. Alternatively, remove the tops to 1-1 ½" above the bulb. Cure garlic in warm, dry conditions for 3-6 weeks using Storage Method #5. This drying treatment will prolong storage life. Using Storage Method #3, garlic will keep for 6-7 months.

Greens, New Zealand Spinach - Pick only young leaves or tips of older ones. Harvest when leaves reach 8-10" in length. Cut or snap off branches 3-4" from the tips. Harvesting can continue throughout the growing season as new branches form. New Zealand spinach will not form a seed stalk in response to warmer weather, so it can be harvested throughout the season. Use Storage Method #1 for New Zealand spinach. It will keep for 10-14 days.

Greens, Spinach - Spinach leaves can be harvested when they are quite small. Cutting the leaves off without damaging the growing point of the plant will provide a continuous harvest, as new leaves will continue to form and grow. Avoid eating older or yellowing leaves. Seed stalk development begins with warmer days in early summer, and quality begins to deteriorate after this stage of growth. Planting another crop in early fall will provide spinach until frost kills the plant. Use Storage Method #1. Wash spinach well and store it immediately using Storage Method #1. Spinach will keep 10-14 days.

Greens, Swiss Chard - Swiss chard is related to garden beets, but it does not produce a usable root. It is grown primarily for its leaves and stems, which can be harvested all season, providing you do not damage the terminal bud located near the ground and in the center of the plant. Harvest by cutting individual outer leaves close to the ground. Even large leaves are good, but the younger leaves 6-8" will have a milder flavor. Use Storage Method#2. Chard will keep for 7-10 days.

Melons, Cantaloupe (muskmelon) - Rind usually changes to a golden or yellow color as the melon ripens. The netting on the fruit's surface will be raised and well formed. Usually the skin between the netting turns from green to tan when ripe. Cantaloupes tend to develop a stronger aroma when ready to harvest. When the stem slips from the melon with a light pressure, it is ready for harvest. Use Storage Method #1 for fully ripe cantaloupe. They will store for 5-14 days. When cantaloupe is not fully ripe, use Storage Method #2.

Melons, Crenshaw and Honeydew (Some varieties have short times to maturity and are worth trying to grow in northern Idaho.) - The entire melon, including the portion resting on the ground, will change to the color characteristic of the variety when ripe (green, yellow, orange, or gold). These melons also have a sweet aroma when ripe, but the stems do not slip as they do on cantaloupe. They must be cut from the plant. Use Storage Method #2. Crenshaw will store for 2 weeks, and honeydew for 3-4 weeks.

Watermelon - Look for these signs of ripeness: (1) the light green, curly tendrils on the stem near the point of attachment of the melon turn brown and dry, (2) the surface color of the fruit turns from smooth and glossy to rough and dull, (3) the skin becomes resistant to penetration by the thumbnail, and (4) the

bottom of the melon (where it lies on the soil) turns from a light green to yellowish. These indicators are more reliable than “thumping” the melon with a knuckle. Many watermelons do not emit the proverbial “dull thud” when ripe. Watermelon will hold good ripe quality on the vine for 7-10 days. Use Storage Method #2. Watermelon will keep for 2-3 weeks.

Onions - Onions for fresh use can be harvested any time during their growth. Onions for dry storage should be left in the ground until 20-50% of the tops have fallen over. To cure, dig the onions out of the ground, leave green tops attached and lay out of direct sunlight (to prevent sunburn) to dry and cure for 3-7 day at 60-80°F and 40-50% relative humidity. Before storing, cut or remove dried tops 1-3” above the onion, remove any loose dirt, and trim the roots. Do not remove any of the protective, dry skin from the onion. Use Storage Method #3 after onions have been cured. Cured onions will store for 1-8 months.

Parsnips - Leave parsnips in the ground until their tops freeze in late fall, as their flavor becomes sweeter when the roots are exposed to temperatures below 40°F. Un-harvested roots can be left in the garden for winter use. Small to medium width roots have the best texture and flavor. Large roots and over-wintered roots forming seed stalks become woody. Use Storage Method #1. Parsnips will keep 2-6 months.

Peas - Harvest shelling peas when the pods are round, plump, and firm, and peas are not too large and still sweet and tender. Shell peas immediately or just prior to use.

Pick edible-pod sugar or snow peas as soon as the seeds are barely perceptible in the pod. These peas have flat pods that are eaten before the pea seeds mature. Larger, mature pods will be tough and stringy, and not tender when cooked.

Edible snap pea pods are rounded and the seeds partially to fully fill the pod when ready to harvest. For the sweetest flavor, seeds should be about one-half of their largest potential size. Eat or process all types of peas quickly, as their quality deteriorates rapidly. Wash and chill immediately after harvest. Use Storage Method #1. Peas will keep 1-3 weeks.

Peppers - Peppers come in many shapes, sizes, colors, and flavors. Bell types are usually picked when they reach full size, 3-4” long, and are glossy, firm, and green. At this stage they will break easily from the plant. Peppers may be cut or picked from plant. Peppers may be left on the plant to ripen to their mature color, usually red, orange, or yellow. At that stage, flavors are more developed.

Hot peppers (chilies or chili peppers) are harvested and dried after they turn red. Jalapeno peppers, however, are traditionally used green.

Harvest peppers or whole plants in the fall before frost. Peppers will continue to color in storage as long as they are full size at harvest. Use Storage Method #2 for fresh peppers. They will store 8-10 days. Use Storage Method #3 for dried peppers. They will store for 6 months to a year.

Potatoes - Harvest potatoes when they are large enough to eat. Very small potatoes are often called “new” potatoes. Immature potatoes continue developing in the soil, so dig only what you need for immediate use. Make the final harvest before the first heavy freeze, after the tops have died naturally. Use Storage Method #2 to store potatoes after they have been cured.

To cure the skin on tubers, dig potatoes 1-2 weeks after the tops have died. Alternatively, dig potatoes immediately after tops die and hold them for 1-2 weeks at 60-75°F and 80-90% relative humidity. The latter treatment allows wounds to heal. Remove dirt but do not wash potatoes before storing them.

Minimize their exposure to light as light turns the tubers green and stimulates the production of dangerous alkaloids. Potatoes will keep well for 2-9 months, depending on the cultivar and storage conditions.

Pumpkins - Allow pumpkins to fully ripen on the vine. The rind will be hard, and seeds will be mature at harvest. The stem will turn from green to tan and be “corky” looking. The part of the fruit touching the soil will be cream to orange. Leave a short stem attached, as pumpkins do not store well without stems. Harvest before first heavy frost. Cure pumpkins at 80-85°F and 80-95% relative humidity for 10 days before placing them into long term storage. Use Storage Method #5 to store pumpkins after they have been cured. Pumpkins will keep well for 2-3 months, depending on the cultivar.

Squash, Summer - Harvest before the seeds enlarge and harden. Fruit will be small, tender, and sweet with a skin that can be punctured with a fingernail. Zucchini and other cylindrical summer squash should be 6-8” long when picked. Scallops should be 3-4” in diameter. Summer squash develop quickly, and should be harvested daily or every other day. Remove all over-mature fruit to encourage flowering and fruit production. Use Storage Method #2. Summer squash keeps 5-14 days.

Squash, Winter - Allow winter squash to ripen fully on the vine. The rind will be hard and cannot be pierced by a fingernail. The skin will lose its luster and appear dull. The bottom touching the soil will be cream to orange. The stem will turn from green to brown and be “corky” looking. Leave a short stem on the harvested fruit to prolong its storage life. Harvest before the first heavy freeze. Cure winter squash at 80-85°F and 90-95% relative humidity for 10 days. Use Storage Method #5 after fruit has been cured. Scatter the squash rather than storing them in a pile. Winter squash will store for 2-6 months.

Do not cure acorn squash, as curing will toughen them. Use Storage Method #3 for acorn squash. They will only keep 1-2 months in storage.

Tomatoes - Tomatoes will continue to ripen off the vine once they have reached the “green-mature” stage. This is when green tomatoes start to take on a whitish-yellow appearance. The cavities inside green-mature fruit are filled with a thick, jelly-like material, and the seeds have turned from white to tan. Very green tomatoes often shrivel before maturing. Tomatoes are ripe when the color is uniform all over. Size is not an indicator of maturity. All ripe tomatoes have well-developed seeds that are not sliced when the fruit is cut. At the end of the season, harvest green-mature tomatoes before they are damaged by frost. Fruit picked from vigorous vines are better tasting, and better keepers than those picked from nearly spent vines.

Wash tomatoes and let them dry off before storing. Wiping off the soil is not recommended as it can cause scarring that can lead to decay. Use Storage Method #4 for green-mature tomatoes. They will keep 1-6 weeks depending on their maturity when harvested*. Move green-mature tomatoes to 68-72°F as needed to ripen. Then store as fully ripe tomatoes. Use Storage Method #2 for fully ripe tomatoes. Fully ripe tomatoes will keep 4-10 days in storage.

**Green-mature tomatoes reach eating ripe stage in about 14 days when stored at 65-70 °F. At 55 °F, they will ripen in approximately 25-28 days. Green-mature tomatoes can be packed one or two layers deep in a shallow box or tray for ripening. Store tomatoes that show red in separate containers and monitor all tomatoes for ripeness at 7 to 10-day intervals.*

Apples - Apples are ripe when the background color (the portion of skin that doesn’t turn red or yellow as the apples ripens) changes from bright green to a lighter green or yellow. Inside a ripening apple, the color of the flesh changes from a greenish white to a yellowish or softer white. The seeds turn brown

when apples are ready to harvest. Before the apple is completely ripe, the seeds are white. Apples store best at about 32°F with a relative humidity of 90%.

Pears - Pears are picked when mature but not fully ripe. Yellow varieties will change to a lighter shade of green when mature. Pears should be harvested when they are two inches in diameter at the widest part of the fruit (except for Seckel). Asian pears can be tree ripened. Ideal storage temperatures are between 30-32°F.

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