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VEGETABLE STORAGE
by

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Horticulturist (Vegetable Crops)

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VEGETABLE STORAGE

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Some fifteen or more vegetable crops can be kept successfully in storage and methods of storing several of the more important crops are discussed in the following paragraphs.

Material that is put into storage should be sound, in the proper stage of development and free from blemishes, such as cracks, cuts, bruises, or injuries of one kind or another. For these reasons, crops which are put into storage should be carefully inspected in order that diseased or injured specimens may be eliminated.

Storage Places. Vegetables can be stored in the cellar or basement, in outdoor pits or banks of soil, special houses built for storage, such as onion houses, or in outdoor cellars. A cellar or basement containing a furnace is usually too warm and dry for vegetable storage unless a room is partitioned off, and at least one screened inlet of cold air provided for ventilation and regulation of temperature.

The construction of outdoor earth pits is discussed briefly in the paragraphs concerning root crops. Special houses are built for onions, squash, potatoes, etc., when they are grown on a commercial scale.

Shelves or racks are useful for holding squash and pumpkins as well as boxes of peppers, tomatoes, eggplant and onions. Bins are oftentimes used for holding potatoes and should be made so as to be raised a few inches from the floor to permit free circulation of air.

Beans and Peas. As soon as dry seed is threshed, it should be fumigated with carbon bisulphide to kill weevils. The dosage is from five to eight pounds to 100 bushels of seed or for small lots use a half gallon jar of threshed seed and pour one tablespoon of carbon bisulphide over the seeds and tightly close, leaving it for 48 hours. Dried peas or beans for table use should be aerated after fumigation before used for food.

Beets, Carrots, Parsnips, Salsify, Turnips and Rutabagas. Because of the readiness with which roots shrivel after they are dug from the ground and, therefore, the undesirability of storing them in a bin such as potatoes, it is best to leave them in the ground as long as there is no seriously cold weather. Outdoor pits are often used for root crops. They are constructed by digging a trench from eight to twelve inches deep and of suitable size to hold the amount of roots stored. The pit should be in a well-drained place and is usually lined with straw with the roots heaped up into a cone-shaped pile. The covering material is the same as used to line the pit, and

a few inches of soil should be put over the roots according to the severity of the weather. Ventilation may be obtained in small pits by extending a hollow tile, pipe, or flue of rough lumber through the middle of the pile of vegetables. This flue should start a few inches above the bottom of the pit and extend several inches above the surface of the pit covering, being capped to keep out rain.

Parsnips are the hardiest of all roots and may often be satisfactorily stored by being left in the ground all winter. There will be considerable shrinkage of roots unless they are surrounded by moist earth or sand.

Cabbage. There are various ways of storing cabbage through the late fall and winter. It keeps best at temperatures approaching 32° to 40° F. In the field, the heads can be protected as they stand in the rows by putting a few of the large, thick outer leaves over the top of the heads. Where it is desirable to store cabbage through the winter to keep it from being frozen or to remove it from low ground that may be overflowed, the heads may be put in a trench plowed out sufficiently deep to cover both stems and heads. The entire plant is taken up from the row and placed in a trench with the head inverted or right side up, taking particular care to cover the stem of the plant which is the most susceptible to freezing. In this manner of storage, the heads should be solid and the outer leaves left on as the heads are placed in the furrow.

Celery. Protection of this vegetable from cold weather can be obtained by having the plants banked with boards, soil, or both. Celery will freeze in the field with a temperature of about 28° or 29° F. If one has a frost-proof cellar or outhouse, plants which are not fully matured or blanched could be dug up with the roots on and placed in moist sand or soil. Water should be provided to keep the plants turgid and growing slightly. Celery boards should not be up against the plants for longer than three weeks; otherwise, there is liable to be a breakdown of the celery.

Onions. Previous to putting onions in storage, the bulbs should be well cured. In a commercial onion storage house, they are piled on racks from eight to twelve inches deep with their tops on. The average freezing point of onions is about 30° F., so a temperature of 36° to 45° F. is desirable to keep the onions from shriveling and to prevent early sprouting. There should preferably be a good circulation of cool, dry air in any place where onions are stored. They should not be handled in storage while frozen, but should be allowed to thaw out gradually if they have been subjected to temperatures below 30° F. In the basement storage room of a house, onions will be kept satisfactorily in a slatted or open crate.

Peppers. Green or red peppers may be stored for several weeks without much shrinkage, provided the temperature is at 50° or below. The thick meated peppers, such as the California Wonder, which are unblemished by bruises, are most suitable for storage. The fruits can be harvested from the plants in the field for a longer season in the fall if the plants are covered with burlap during nights of possible light frost.

Potatoes. The best storage temperature for table or seed potatoes is one high enough for the first few days to permit of a slight drying of the tubers or a drying of wound injuries which may have been incurred in digging. After such temperatures of 50° to 60° F., the tubers are best kept at 34° or 44° or so. It is best to exclude light in potato storage. While a fairly high degree of humidity is desirable, there should be an ample supply of circulating air. Potatoes should be dried off before storing and following digging should be sorted carefully before the tubers are stored permanently. Those tubers which are damaged in digging are unlikely to keep as long as the sound tubers. Types of potato storage houses are fully discussed in Farmers Bulletin No. 847 on "Potato Storage and Storage Houses."

Pumpkin and Squash. There is often considerable decay of these two vegetables in storage, but it may be largely prevented if the specimens are fully matured in the field, are carefully handled when being harvested and brought into the storage place, and are not subjected to any freezing temperatures before they are brought in to be stored. Skin bruises must be avoided if the squash are to be kept for any length of time. After the squash have been cut from the vines with the stems on, they may be left in groups but not piles for a couple of weeks or so if the weather is favorable, being protected if necessary by the squash vines if light frosts should occur. The fruit should be stored one deep on racks or shelves in a well-ventilated, dry storehouse where the humidity is relatively low and the temperature is between 50° and 60° F. A slightly higher temperature may be maintained during the early part of the storage so as to dry off some of the excess moisture in the squash when they are first brought in. A cool, moist storage place for squash induces mold, especially if there has not been much care used in preventing exterior abrasions or bruises.

Tomatoes. Fruits that are in the green mature stage, or beginning to show a very slight amount of color when picked, will ripen normally when stored at 55° to 60° F. The lowest temperature at which full ripening with good color and flavor will develop is about 55° F. At this point, the rate of ripening is comparatively slow, but there is no decay nor breakdown. It is not necessary to wrap tomatoes when they are being put into the storage room, nor is it necessary that they be kept in the dark. If the fruits are chilled down to 36° to 40° F., they may be expected to break down rather readily when brought up to higher temperature. All tomatoes for storage should be carefully handled without bruises and the fruit itself should be sound.