

Storing Garden Vegetables in Michigan

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Storing vegetables is perhaps the easiest and least expensive of all methods of food preparation. Many families prefer to store such things as carrots, beets and pumpkins rather than can them. Some vegetables such as turnips, rutabagas, salsify, parsnips, potatoes and onions are kept best by storing. For good results, you must have good storage conditions, whether you store in the basement or outdoors.

Although each family's needs vary the amounts listed in Table 1 are about those needed by the average family of 5 people. The amount of each kind of vegetable to store will depend on your family's tastes and on the amount of canning you do.

Table 1*

Beets	1/2 to 1 bushel	Onions	1 to 2 bushels
Carrots	2 to 3 bushels	Cabbage	25 to 35 heads
Turnips and Rutabagas	1 to 2 bushels	Squash and Pumpkins	20 to 25 fruits
Salsify and parsnips	1 to 2 bushels	Dry Beans	8 to 12 quarts
Potatoes	12 to 20 bushels	Tomatoes (green - mature)	1 to 2 bushels
Chinese cabbage, celery and Brussels sprouts	Enough for a short time only.	* Amounts to be stored for a family of five	

Stored vegetables vary in their temperature and humidity needs. Carrots, beets, parsnips, salsify, rutabagas and turnips must be kept cool and moist. A humidity of 90 to 95% and temperature of 32° to 40°F are best. Naturally, this high humidity is very hard to achieve in an open basement storage room. Therefore, these vegetables are usually stored in moist sand or leaves so that the humidity can be kept high. If you store carrots in the basement, you can pack them in cans or similar containers with leaves or sand, to keep a high humidity. Parsnips and salsify are often left in the ground over winter. With a mulch of straw or leaves over them, they will keep very well.

Potatoes, cabbage, cauliflower and Chinese cabbage need to be kept in cool and moderately moist air. A humidity of 80 to 90%, and a temperature of 32° to 40°F are suggested. These need not be stored in sand, since you can keep this humidity in the average basement storage room. Cabbage stored in the basement tends to "scent up" the house, so you may prefer to store it outdoors by one of the methods suggested later.

Onions, beans, peas and soybeans need a cool, dry storage. Do not pull onions until the tops have dried. Then spread them out in a well-ventilated place to dry for a week or 10 days before placing them in storage. A moist root cellar or basement storage room is not a good place to store onions. The attic or a cold dry room in the basement is best. Do not let them freeze. You can store them in slatted crates, coarse mesh bags, or on shelves in thin layers. Do not place them in deep layers or closed containers, or they may heat up and spoil. Store dry beans, soybeans and peas in closed containers, such as glass jars.

Pumpkins and squash need to be stored in a dry, warm place. Store them at about 40° to 50° F in a dry room. They keep best if placed on shelves so that they do not touch each other.

BASEMENT STORAGE CONSTRUCTION

If you are thinking of building a well-constructed basement vegetable storage. If you are using wood, build double walls and use insulating materials such as rock wool or redwood bark between them.

For storage room, pick a corner of the basement with a window. Make a framework of 2x2's or 2x4's to enclose the area, and cover the framework with waterproof building paper. Then sheet up the walls with lumber or wallboard. Fill the space between the ceiling, and place 2 or 3" of the insulating material between the ceiling and the floor above. The door should fit well and should be insulated.

Next, remove one pane of glass from the window and build a ventilating flue into the space. This flue should extend almost to the floor to serve as a cold air intake. Fix it so you can close it in very cold weather. Fix one pane of glass in the window so it can be opened to let warm air out. Darken this and the other panes so you can keep the basement dark at all times. Cover both openings with wire screen or hardware cloth to keep mice out.

Build a slatted floor over 2 layers of about 3" of sand placed on the concrete basement floor; if you moisten the sand, this will help to maintain proper humidity in the storage room. You can build shelves in the storage room to make more storage space. If your shelves are wide, you can place the sand on the floor under the shelves and pack your vegetables in it. Then you would not need a slatted floor. Storage bins for various kinds of vegetables are a big help.

OUTDOOR STORAGE

Probably many home gardeners do not have suitable basement storage rooms, or they find it convenient to build them. In that case, you can store most vegetables outdoors by one of several methods. In any type of vegetable storage, remember that there is one physical and chemical breakdown in the plant tissues, especially during the early storage period. This creates heat and causes some gases to be given off. Remember also that stored vegetables are merely dormant - not dead - and that they take in certain gases from the air and give off others. For this reason, you must provide some sort of ventilation.

In a very small storage pit (less than 1 bushel), dry straw or leaves lining the pit will probably provide all the ventilation needed. Add the straw or leaf covering gradually as the outdoor temperature drops. This gives better ventilation early in the storage period and avoids heating at that time. Always be sure to have plenty of covering to avoid freezing. In large pits, use a ventilator.

Crate Storage

Of all the methods of outdoor storage, crate storage is probably the best. You can place an assortment of vegetables in each of several slatted potato crates. Then take one crate into the house at a time during the winter.

Place the crates in a well-drained spot outdoors. They should have a layer of 3 to 4" of straw or leaves under them. Space them a few inches apart; that way, you can put enough straw between the crates so that when you remove one, the rest will not be exposed to the cold.

Then make intake ventilators from two pieces of lath. Nail them together and place them horizontally on top of the soil. Place one end in each crate and let other extend beyond the area to be covered with straw. Nail together the outlet ventilators, each made of four pieces of lath. Run the bottom ends of those ventilators, each made of four pieces of lath, as shown. Run the bottom ends of those ventilators to the center of each crate and let the tops stick up above the area to be covered with straw.

Then, cover the crates with a heavy layer of straw or leaves, as much as 2 or 3 feet. Cover this with a layer of 4 to 6" of soil. Protect the outer ends of the ventilator against rain, snow and mice.

This type of storage is better than others because as the temperature of the vegetables rises in early winter (from their slight and unavoidable breakdown or deterioration in the early storage period) they draw in more cold air through the horizontal lath vent on top of the ground. This forces the warm air and gases out through the vertical ventilator at the top. When the outdoor temperature drops below the freezing point, you must plug the ventilators with straw or similar material.

Other types of Storage

There are several other methods of outdoor storage that are easy and satisfactory. You can use and pack a barrel with vegetables. It is better to arrange several layers of vegetables divided with straw or leaf partitions. Pack a layer of assorted vegetables in the bottom, then a layer of straw, another layer of vegetables, etc. When you open the barrel during the winter and take out all of the vegetables in one layer, the straw below it protects the other vegetables from the cold.

Cover the barrel first with a good layer of straw, then with soil. Such a barrel should be ventilated to let gases escape, especially during the early storage periods. You can ventilate by running a piece of perforated downspout into the center of the barrel. Protect the outer end of the ventilator pipes from rain, snow and mice and plug it during very cold weather.

Cabbage and Celery Storage

Cabbage, Chinese cabbage and celery keep best if stored so air can move around. To store these crops, make a frame by driving four stakes into the ground. Leave about 18" of the stakes above the soil. Then, fasten sideboards to the outside of the stakes to enclose the area. Pull up the cabbage and celery plants with the roots and replant very close together inside the frame. Place boards or cornstalks over the top and use a heavy layer of straw or leaves to prevent freezing. You can ventilate them with a piece of downspout or a wooden ventilator. Protect the exposed end from rain, snow and mice. Plug it in very cold weather. Cauliflower and Brussels sprouts can also be stored by this method.

