

THE EDIBLE GARDEN

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COLD STORAGE

*Mary Ann Van Berlo
Master Gardener of Ottawa Carleton*



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Growing up in an old farm house, I remember having to fetch potatoes from the cool, damp, spider-web laden cellar (usually after losing a decisive 'rock, papers, scissors' battle with my sister). The cellar 'adventure' was compounded by dim lighting and a VERY low ceiling. It wasn't until I visited my cousins, in their modern 1960's bungalow, that I learned that cold storage didn't have to be dark and scary – an unheated basement room with shelves also did the job.

Fast forward to today and housing construction standards have changed greatly. Basements are damp-proofed to prevent moisture from getting in and insulated to keep heat from escaping. However, it is still possible to create a space for cold storage. An unfinished room in the basement, preferably a corner with two unfinished exterior walls, is the ideal location. If there is a window in this area, it would be good to cover it with paper or a thick blind to cut out as much light as possible. If there is a heating duct there, redirect it outside of the proposed cold storage area. Frame interior walls (with a doorway) to section off the area. Insulate the interior walls and install an insulated door to keep the cold from getting into the rest of the basement. Drill through the foundation to install two vents to the exterior (well above the soil line) keeping them as far apart as possible to increase air circulation. Add flexible ventilation piping to one of the vents, with enough piping to reach the floor – this vent will bring the cold air to the ground and the other will allow the warmer air to escape – also improving air circulation. Make sure the exterior vents have screening that keeps rodents out! Then add shelving and you've got a functional cold storage room.

Monitor the temperature in your cold storage by setting up a thermometer and checking it regularly. In the dead of winter, it may be necessary to block the vents with insulation to keep frigid air out. Ideally the cold storage area will stay at around 4-10 degrees Celsius.

In my previous home, the only spot I had available for cold storage was under the front landing of a split entry house. The sump pump was also in the crawl space which added to the coolness of the space. The crawl space was small so storage was rationed out to bulbs that ranked high on the favourites and/or costliness list.

A cold storage room was incorporated into the design of my current home. Instead of the cement foundation of the front porch being back-filled with sand as is the normal construction process, the space was left empty. Forms were built to hold the cement and re-bar that would become the porch floor/cold storage ceiling. Vents were added to the exterior walls. An insulated door allows access to the cold storage from the basement.

I learnt a few things about my cold storage space the first year. 1) Water seeped through the expansion joints that the cement mason had cut into the porch floor – someone forgot to caulk the cuts. 2) The house was constructed by insulated concrete form (ICF), so while the walls of the cold storage area had insulation, the ceiling did

Outdoor Cold Storage *Gerda Franssen Master Gardener of Lanark County*

You have harvested your root crops but have no cold cellar in which to store them for the winter. This could be the solution to your problem. All you require is:-

- a galvanized garbage can with a lid,
- 1 metre of landscape cloth,
- 1 metre of garden hose,
- straw or dry leaves
- and a shovel.

Choose a location near your home where snow collects, so you can take advantage of the extra insulation. Dig a hole to fit the can with the top 2 centimetres exposed allowing for easy removal of the lid. Use the excavated soil to back fill around the can. By doing this the earth keeps the temperature 0°C to 5°C inside your container.



Now place 2 inches of straw in the bottom of the can. Put your root vegetables in recycled onion bags and place in the storage unit.

Carrots, beets, parsnips, kohlrabi and turnips can be stored until early April. Because of the cool moist environment the vegetables will not dehydrate. Slide the garden hose down the side of the can and over the edge. This creates an air flow to remove some of

not. The first winter the temperature in the cold storage dipped below freezing and I had to add a small heater during cold snaps. The addition of high density sheets of styrofoam insulation to the ceiling corrected that problem. The second winter, the cold storage area was dry and the temperature was constant throughout the winter.



Photo: Mary Ann Van Berlo

Vegetables from your garden, preserves and tender bulbs will all appreciate cold storage conditions.

Root vegetables (potatoes, rutabaga, carrots, etc.) are usually the best candidates for cold storage, although squash and onions will also keep well. Vegetables will need to be checked regularly to ensure there is no rot setting in as that could quickly spread to the whole storage area – especially if the temperature is too high. Preserves don't need any special care – just make sure the temperature doesn't dip below freezing. Of course you will still need to make sure the seal on the jar is not compromised before consumption.

Bulbs should be dry (garden soil shaken off) and stored in peat moss or wrapped in newspaper.

Again, it is important to check them regularly to ensure that rot has not set in or that they are not desiccating. The peat moss should be kept damp but not wet.

The cold storage area is even good for overwintering some tropical plants. Leave them outdoors as long as possible without actually having them freeze. When they start to drop their leaves with the cooler weather and shorter days it is time to put them into cold storage (leave them in their pots). They will be forced into dormancy by the cool temperatures and low light but won't freeze. Make sure the soil doesn't dry out completely. In March, bring the plants out of cold storage; water and give them as much light as possible. New growth should emerge and they should be ready for another season outdoors.

One final cold storage use – storing wine and beer (if you are so inclined). The temperature and dark is suited to their storage also.

The cold storage area should be emptied and disinfected each spring to ensure there are no mould or fungal spores left behind to contaminate this coming season's harvest. A cold storage area offers possibilities – it can extend your enjoyment of the fall harvest and save money on bulbs and tender plants that can be kept from year-to-year. If you have the space, consider adding cold storage to your home.

COLD STORAGE TIPS

- Choose only undamaged disease free fruit and vegetables for storage.
- Leave 2.5cm of stem to reduce water loss.
- Brush dirt off but do not wash vegetables before placing in cold storage—many vegetables have a naturally occurring protective coating.
- Store fruits and vegetables separately—fruits give off ethylene which hastens ripening.
- Packing materials include clean straw, sawdust, sphagnum moss, peat moss, dry leaves, sand.
- Alternate packing and vegetables where moist storage is required.
- Wrapping individual fruit or vegetables with newspaper prevents the transfer of odors and disease and retains moisture.

the moisture created by the produce.



By mid-December the hose can be removed. Place the lid on the can and cover with landscape cloth, 2-3 cm of leaves or straw. As the weather gets colder place an additional 3 cm of straw on the cloth for extra insulation—hopefully there is also lots of snow.



As you use your vegetables replace with straw. Now you have root veggies to enjoy all winter long.

Note: Opened the larder February 8th after a week of minus 20°C outside, the vegetables were holding up well.

Photos by Gerda Franssen

STORING GARLIC

*Dale Odorizzi
Master Gardener of Lanark
County*

Some people are adamant that the only way to store garlic is in a cold storage. Others believe as strongly that garlic must be stored in a cool closet.

Who is right?

They both are. Garlic survives as well in a Cold Storage or in a cool dark closet. Storing it in darkness and away from moisture is important. Do not change your method half way through the winter. If you store it in a closet, do not move it to a cold storage and vice versa. It will sprout.

LADYBUGS

*Julianne Labreche
Master Gardener of Ottawa Carleton*

Who doesn't love the ladybug? Many of us have memories of lying on our backs as kids watching a ladybug crawl up a long blade of grass. Or watching it move slowly on a finger, then fly away in a flash. Those long sunny days of childhood and ladybugs just seem to go together.

As adults, especially if our passion is gardening, the love affair with the ladybug continues. What isn't there to like about them? Their red spotted coats are easily recognizable, and cute enough to have launched a range of children's clothes and toys.

More practically, with its voracious appetite, this insect is our ally. Over the course of its lifetime, the ladybug may consume as many as 5,000 aphids. They also eat other pesky leaf-eaters, including scale insects, white flies and mites. They are beneficial predators that eat many soft-bodied insects that harm plants.

In Europe, they're sometimes known as "ladybirds", even though they're not birds at all. In North America, we call them "ladybugs" even though they're not bugs either—they're beetles.

Ladybugs, which belong to the family Coccinellidae, can be found many places in the world. They vary in color and size, depending in what part of the world they live. There are about 5,000 species.

Their lifespan is about two to three years in the wild. During spring and summer, a single female can lay close to a thousand eggs. Typically, these eggs are laid on plants infested with aphids. About ten to fifty eggs on each plant are deposited, with suitable prey nearby for her offspring to eat.

Hatchlings will progress through a four-stage life cycle, a complete metamorphosis. The newly emerged larvae, which hatch about four days after being laid, resemble tiny alligators with their elongated bodies and bumpy skin. The hungry larvae feed and grow for about a month, consuming hundreds of prey. It feeds until it literally becomes too big for its skin, at which time it will molt. This begins the second phase, or 'in-star'.

During the third stage, the ladybug becomes a pupa, attaching itself to a leaf and remaining there for three to twelve days. When the adults emerge, their shells are soft, making them easy prey to predators. At first, they are pale yellow. Only later do they develop their bright, deep, recognizable colors.

Fortunately for ladybugs (and gardeners), they have strong defenses as adults against predators. Their bright colors suggest they are poisonous, even though they are not. They also secrete a foul smelling liquid when attacked, warding off predators. The smell has been compared to rancid peanut butter. Anyone who has ever tried to squish a ladybug will recognize the odor. They also are masters at playing dead when attacked, until the danger passes.

In recent decades, the multicolored Asian lady beetle has multiplied, to the loss of native species. This Asian invader has spread to many states and provinces, including Ontario. Their reputation as home invaders during the fall when they hibernate is well known. The foreign insect can be a nuisance, hibernating in large numbers inside and around buildings, searching for warmth.

*"Never hurt a lady bug
We need them in the garden
Ladybugs help flowers grow
So we must give them pardon!"*

Author Unknown



LadyBug

Photo: Mary Ann Van Berlo

As for its name, the 'lady' in ladybug refers to the Christian belief in the Virgin Mary who is believed to have replied to the prayers of farmers during the Middle Ages. Farmers prayed to her when their fields were plagued with insects. When the red-spotted insects descended upon the fields, the crops were miraculously saved.

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