

MARCH 2023

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MARCH MENU:
**CONTAINER
GARDENING
& MUCH MORE**

GARDENING FOR SENIORS

BY JULIANNE LABRECHE

[This article originally appeared in the Lee Valley newsletter under the title "Gardening for the Aged Gardener." Reprinted with permission of the author.]

PHOTOS BY JULIANNE LABRECHE

Getting old, my 93-year-old mother often comments, is no picnic. My mom can't do the heavy lifting anymore – her balance is iffy, her skin is frail and, most importantly, she gave up driving about a year ago. That said, she still likes to garden. So, when she sold her home in Saskatchewan and crossed the country a few months ago to live in a retirement home nearby, we decided a fun mother-daughter project would be to create a balcony garden.

Daresay the joint project was fun and sometimes a little frustrating. No matter that I had years of experience as a Master Gardener and had worked professionally in adult rehabilitation for nearly three decades. My mom didn't give a fig. What really mattered was that I had a working vehicle with a trunk,

a strong back and took direction well. She was determined to design her own garden in her own way in her new gardening space. In the end, we both compromised a little and learned a lot along the way. When it was finished, we took stock and decided to share these tips on gardening for the aging gardener.

1. BE SAFE - We agreed that safety was top priority for the senior gardener, given changes in vision, strength, balance and energy. In my mom's space, her small concrete balcony is seven stories up, overlooking a large water-filled ravine surrounded by woodland – a lovely view. Fortunately, her glass and metal railings are sturdy and strong. It is a peaceful place, especially in the summer with the sound of birds. To guarantee her safety, seating needed

to be firm, steady and secure. Eventually, we decided on two identical sturdy balcony chairs with strong, reliable armrests and legs, high solid seats and supportive backs. Living alone as an independent senior in the residence, getting up or sitting down needed to be safe for her. Already, she is enjoying summer evenings there looking out onto the nature trails.

2. SHOP FROM HOME - My mom used to be a big shopper. She still enjoys it but shopping trips can be a challenge. Even with a dependable walker and frequent rests, her endurance is limited. Pacing and energy conservation are high priorities at this stage in her life. So when we designed her balcony garden, it was just easier oftentimes to shop at home using the computer. We found some dependable online garden websites and made most purchases that way.

3. KEEP ON THE LIGHT SIDE - Lightweight pots are best, we agreed. The upper-end plastic pots we purchased had removable liners so they could easily be lifted out for planting. We planted them on the grass near the front parking lot close to her retirement home. It was also less messy this way, rather than trying to garden in her living room. We filled the bottom of the liners with chunks of Styrofoam packaging left over from shipping to reduce the weight load and then used a lightweight potting mix to ensure they'd be easily moveable back upstairs to her balcony. Even so, one pot was a little too big and required a small cart and an extra pair of hands. Lesson learned for next year.

4. GROW PLANTS UP - Balconies in retirement homes are usually small so we decided to grow up. One large, bare wall that divided her unit from her neighbour's space was ideal for growing a vertical wall of morning glories. With bamboo and sturdy twine, one evening we fashioned a trellis that would let the plants climb. Every day she steps outside to see how



Ornamental ceramic teapots made by the Grandmothers to Grandmothers Campaign, helping African orphans

tall the seedlings have grown, eagerly looking forward to their large blue flowers. Growing up also has practical advantages with less bending needed.

5. PLANT FOR THE RIGHT SPOT - Selecting the right plants for the right spot was almost a deal-breaker between us. Her balcony faces north in deep shade. Her heart meanwhile was set on tomatoes and cucumbers, both sun-loving and demanding of space. At last, she had a change of heart when she discovered some colourful displays of tuberous begonias and impatiens at the local garden centre. She also learned in talking to another resident, a former occupational therapy colleague of mine and now our mutual friend, that she could grow herbs and maybe even tomatoes with other seniors in the raised planters located outside the residence.

6. MAKE ROOM FOR NEW FRIENDS - There's no doubt that this garden project became a big talking point during her dinners with the other residents. "Everyone was very anxious to see it. It was an icebreaker," she told me afterwards. When the project was finished, she proudly invited several residents one evening for a visit, some for the first time. The hope is that like seeds, these new friendships will grow into healthy and strong relationships. She left many dear friends behind by moving here.

7. CHERISH THE MEMORIES - Gardening is one of the best kinds of therapy. Being in the garden seems to make worries melt away and rejuvenates a tired spirit. My mom said that watching her balcony garden grow brought back a lot of good memories of her own prairie gardens. She spoke about the beauty of her elegant tea roses, lovingly cared for by herself and admired by many neighbours during those years in Saskatchewan. She and my dad carefully covered them in straw every fall to protect them from severe Canadian winters.

8. A SPACE FOR THE SENSES - The smell of soil, the richness of the colours and the feel of the sun made my mom seem happy at last after a long, lonely winter far away from familiar spaces. Many gardeners are happiest when they are in their garden, even if it is just to pull weeds. The aging gardener is no exception. At its best, gardening is an awakening and a spiritual journey for the senses.

9. MAKE SOME MAGIC - It was a good cognitive exercise for my mom as she shared in designing, planning and organizing her small balcony garden space. It was a useful exercise in new learning, even with its challenges. It was also fun to make some magic together by creating something small and beautiful.

10. PACK UP SIMPLY - Practically, there isn't much room in a retirement home suite. So,



Our finished balcony with safe, sturdy seating

we decided that most pots and furniture would be stored safely outside over the winter months. That was one of the key factors in the balcony design.

Finally, my mom and I agreed that, like gardens, every aging gardener is different. Some residents with wheelchairs or walkers wouldn't find her balcony space suitable. Some will require adapted tools, ergonomic solutions and gardening spaces better suited to their needs. Some will just prefer to spend time outside without any work involved.

No matter how we age as gardeners, our gardens will continue to nurture the soul and quiet the turmoil within and surrounding us.

THE ROAD TO MY BALCONY PARADISE

BY BILL STAUBI



July 1, 2000, I relocated from Barrhaven to a seventh-floor apartment in downtown Ottawa. Due to a tight housing market at the time, the plan was to stay a year while I searched for a new home. What I regretted leaving behind was my large backyard garden. The apartment balcony was a pale substitute. Its south-facing view was largely blocked by a nine-story hotel. Unaccustomed to the urban noise and dust, I found being out of the apartment winning over being on the balcony.

For a variety of reasons, 22 years and a pandemic later I'm still there and staying home much more. I've tried a variety of ways to make the balcony into a garden, in search of that sweet spot where lifestyle intersects with aspiration tempered by reality. It's not always been pretty.

WHAT WORKS

The balcony is a good size. Sixteen feet long, it is 3.5 feet wide at its two ends and 6 feet wide at its chevron centre. Most of the year, the balcony gets some side-on direct light in the morning and again in the evening. The hotel across the street is high enough to block mid-day direct sun in winter but is low enough that, at the height of summer, I get direct sun on the upper half of the balcony.

WHAT DOESN'T WORK

In the downtown core a lot of streets form hot dry wind tunnels as east-west winds pick up velocity bouncing off high-rise buildings with little chance to escape. Vines flail about and break. Delicate blooms confetti down on passers-by. Stately trees topple over and crush their neighbours. Designer pots, so attractive in the shops, hold too little moisture to survive a forgotten watering, leaving roses to wither on the stem. Imported scented geraniums become expensive potpourri.

One year, I foolishly left a nesting pair of pigeons to breed and they return annually, trying to claim

their space. Traffic, garbage collection, hotel bus arrivals and departures, and numerous marathons, protests, and the scents from nearby restaurants conspire to push you back indoors. The hotel balconies across the street mean you are always on display.

WHERE I'VE ENDED UP

I conquered the pigeon problem through the good grace of a previous tenant who had the genius idea to secure a curtain track on the ceiling of the balcony. With a black plastic mesh curtain the length of the balcony, birds are out but bees and wasps get in.

The curtain track also allows me to hang a roll-up bamboo panel at the east end of the balcony. This provides a small enclave with a degree of privacy and shade but allows the free flow of air. I can slide my chaise longue into the nook and have my morning coffee, read, be online, enjoy my plants, and watch the decline of the sun at the west end of the balcony.

I discarded my decorator pots and replaced several with big deep pots that could hold enough water for a weekend's absence or even a few more days away. The loss of some visual variety was replaced with a more sophisticated coherence, throwing the attention to what was in the pot rather than on it. A variety of pillars and plinths made for an evolving display as passing days revealed which plant needed moving to a better position.

Another tenant of the building plants morning glories at the base of the lilac trees in front of our building. I delight all summer in their vibrant colour and ephemeral existence. Taking a page from his book, I planted morning glories in two large pots and trained them up the plastic



mesh curtain wall. Through much of the summer I can leave my balcony door open. What a delight to come into the living room each morning and see through the door to the morning glory blooms radiating colour, popping off the green vines like little neon lights.

The real gem of 2022's balcony was the addition of light. I found a small clip light that I could thread through the window at the east end of the balcony giving me reading light as late as I wanted to stay out. I threaded a string of LED lights out the other end of the balcony, in and around pots and the base of pillars, up-lighting some blooms, creating interesting shadows, and adding an ethereal glow to a boring concrete floor.

SO WHAT'S IN STORE FOR 2023

I'm resigned to using inexpensive annuals. I buy plants in whatever colours appeal to me on the day I am shopping. I'll buy one big green leafy fern of one type or another. Some generic geraniums and petunias and the rest will revolve around what will look good with them. I've tried bringing some plants indoors in the fall but for all the sun the balcony gets, little of it makes its way inside in winter.

It was a mistake last year to plant the morning glories in the same pots as some of the other plants. I was economizing on floor space. But I underestimated how shaded the other plants would be when the morning glory vines grew faster and thicker than expected. So separate pots this year. I'll look for a biodegradable mesh too. I couldn't remove all the vines from the plastic mesh and so had to take it all down when the vines were done. I can re-use the plastic each winter.

It's not perfect but it works, it fits my budget, my schedule, and it gives me a little slice of low-stress paradise.

The Book Nook

18 TITLES SUGGESTED BY THE OTTAWA PUBLIC LIBRARY FOR OHS MEMBERS



The Collection Development staff at the Ottawa Public Library have specially selected a list of recently added titles to the OPL's collections.

Among the titles for this issue are materials relating to:

- ✓ The science of gardening
- ✓ The language of flowers
- ✓ Groundcovers
- ✓ Orchids
- ✓ Wild flowers
- ✓ Ranunculus
- ✓ Floral arrangements
- ✓ Pressed flowers
- ✓ A garden's purpose
- ✓ Gardeners' plants
- ✓ Women and plants in nineteenth century Canada
- ✓ Home farm
- ✓ Gardening masterclass on Hoopla

Click on the link below to see the complete list from the Library. This also allows you to view availability and place a hold from the link.

https://ottawa.bibliocommons.com/list/share/354296247_collection_development/2248228089_ottawa_horticultural_society_spring_titles

THE DIRT ON CONTAINER VEGETABLE GARDENING

BY BARBARA LONG

PHOTOS BY BARBARA LONG

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After three decades of gardening, I left my in-the-dirt garden behind and began life in high-rise buildings. Since then, I have been adapting my green thumb to container gardening.

This article focuses on practical ideas for vegetable gardeners who have no access to a plot of land or an outside water source.

Original artwork by Elaine Cox



WHAT TO GROW?

Begin by looking in your fridge or reviewing this week's grocery list to help you make a list of vegetables to grow. Start with a few favourites and, when you have some success, expand your horizons.

You can purchase small pots of vegetable plants or packets of seeds – lettuce, beans and peas, for instance, grow readily from seeds. I enjoy salads so my favourites include: cherry tomatoes, spinach, leaf lettuce varieties, green onions, cucumbers, red peppers, and snap peas.

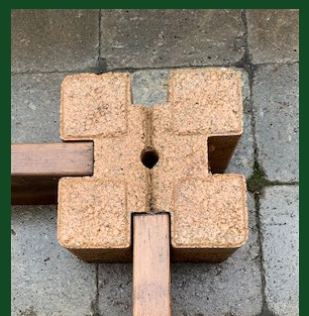
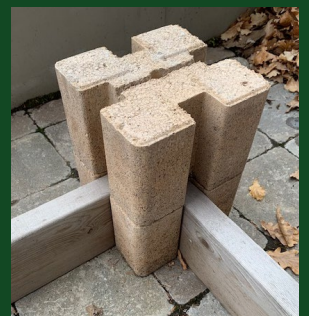
CONTAINERS

As a general rule, larger containers of all types retain moisture longer than smaller ones. Consider shopping at agriculture and pond supply stores for economical choices.

Plastic containers break down over time, especially in the sun and with continuous contact with water and fertilizers. This is a concern for uptake into your edible plants. If you choose plastic, look for HDPE (high density polyethylene #2). Avoid PVC and BPA. Plastics labelled #1, #2, #4, and #5 are FDA-approved for storing food.

Wood is a renewable resource for a sturdy planter. Cedar and pine boards are options but avoid using pressure-treated lumber which may leach chemicals into the soil. I built a raised garden bed with 2 inch by 6 inch cedar boards and planter blocks. No tools were needed. I lined it with garden cloth before adding soil. You can raise the height by adding more boards and footings.

Cloth planter bags are lightweight, inexpensive and readily available either for setting on the ground or hanging from a hook.



SELF-WICKING CONTAINERS

These are DIY planters with a water reservoir in the bottom. They use the upward capillary movement of water through the soil to reach plant roots. A web search for "self-wicking containers" brings up lots

of details and videos. The benefit is that water and fertilizer don't drain out the bottom so you don't water as often and you save money on fertilizer.

SUN & WIND

In general, vegetables need lots of sun (minimum of 6 hours per day); southern and western exposures are sunnier than northern and eastern exposures. Assess your outdoor space to determine how much sun it receives. Try drawing a grid of the space and record where and how long the sunlight falls. Another option: buy or borrow a sun tester.

In a high-rise building, wind will be a factor because it dries out soil quickly. Try filling your pots two inches below the top and use mulch to retain moisture.

Using row cover cloth on your plants reduces moisture loss while allowing up to 95% of the sunlight and rain to penetrate. It also keeps out pests. Using a row cover means you can extend your growing season by warming up the soil in the spring and keeping it warm into fall.



WATER SOURCE

One time-consuming chore is watering your container garden. An apartment balcony usually doesn't have an outdoor water faucet so you will be hauling water from inside. However, you can adapt your kitchen or bathroom faucet and attach a standard garden hose to it. Remove the aerator and take it to the hardware store so you get the right sized adaptor.



GROWING MEDIUM & NUTRIENTS

If you are just getting started, purchase soil specifically made for container vegetable gardening. It has the right fertilizers and drainage texture. Your vegetables will use up these nutrients over the growing season so add compost or fertilizer to replenish them. You can use a balanced

fertilizer (20-20-20) at the beginning of the season. Once flowering starts, switch to a high potassium fertilizer (9-15-30), especially for tomatoes. A liquid fertilizer is convenient for urban gardens because it can be added when watering and requires less storage space.

THINK VERTICAL

Vegetables with a twining habit (pole beans) or tendrils (cucumbers) will attach themselves to structures like poles or trellises and grow upwards

to maximize the space you have available. Vining plants (tomatoes and sweet potatoes) will continue to grow in height if supported by stakes or cages.



CONTAINER GROWING FOR THE KITCHEN — CULINARY HERBS

BY NANCY McDONALD

I would describe culinary herbs as miracles of flavour and scent. Leaves, stems, flowers and seeds add both pleasure and nutrition to our diet. If you are new to gardening, herbs are great starter plants as they are easy to grow and relatively pest-free. They can be grown in herb, vegetable or flower gardens. They are excellent as container-grown plants, the focus of this article, which makes herbs ideal for many spaces.

I always suggest, when deciding on which herbs to grow, to first look at herb jars in your cupboard. What are your go-to recipe herbs? Start with your favourite herbs and every year add something new to experiment with additional flavours. If you have been checking the increasing price of herbs at the grocery store, this may be incentive enough to increase herb growing in 2023. One plant is often enough for your culinary needs. Gayla Trail in *Grow Great Grub* (2010) informs us that “one 15-inch (38 cm) container of mixed culinary herbs can provide the flavour foundation for a year’s worth of meals.”

Like real estate, where location matters, so does the placement of your herb container. Most herbs require six hours of sun per day for success. “Wait,” you are saying; “my patio or balcony does not get that amount of sun.” Before disappointment sets in and you stop reading this article, I have added suggestions for those part-sun locations. It would be good if you have at least four hours of sun for these partial-sun herbs, but I suggest you try these even if you are receiving less: chervil, cilantro, lemon balm, chives, lemon verbena, parsley, mint and tarragon. Just a reminder, herbs growing in part sun or shade conditions will tend to be leggier as they stretch to reach the sun. To counter that stretching tendency, harvest frequently. Indeed, that is my suggestion for all herbs: harvest frequently and the plant will reward you with abundant growth over the season.

Containers can be anywhere, like this large pot of parsley in my herb bed, elevated on a stand to give presence.

Soil for container-grown herbs should be a soilless mix labelled as container or potting soil. I choose an organic one and spend the extra dollars for a reliable brand, as I reuse my potting soil for several years and add compost to my containers at planting time. I just add a handful or two when I am planting with a new bag of potting soil. When I am reusing potting soil, I will fluff it up and add a ratio of 25% compost to the mix. Container-grown plants with frequent watering will require fertilization. I use an organic fish emulsion fertilizer and apply at half strength as I do not want to encourage an abundance of green growth with resulting decreased flavour.

Growing and preparing meals with herbs leads to lovely culinary experiences but additionally, for you and your family, health benefits. The University of Michigan State reminds us “herbs are physically, biochemically and nutritionally quite similar to leafy greens such as lettuce, spinach and kale.” They contain vitamins A, C, and K and minerals such as calcium, phosphorus, iron, potassium and phytochemicals. When we add herbs to our recipes, they introduce flavours, reducing the need for less healthy ingredients such as salt, sugar and fats. In Canada, we can experience foods from many cultures and find both new herbs and new ways to use familiar ones. I started making my own tabbouleh after a friend from Lebanon shared her recipe. Grow your own Thai basil and lemongrass for Thai and Vietnamese recipes. The possibilities are endless.

Herb tags and seed packets give information on whether the herb is an annual, biennial or perennial. Information also includes preferred growing conditions, size and, on seed packages, the best time to grow relative

to frost date. I direct sow seeds like basil, dill, summer savory, cilantro, and calendula directly into containers. These are all herbs I use in abundance, so a large pot makes sense.



A simple herbal tisane with rosemary

Herbs like lemon verbena and mint varieties, where one plant is enough for my needs, I will purchase as seedlings. If you live in a condominium or have little outdoor space, then perennial herbs grown from cuttings/ transplants or seedlings in a container should provide a good harvest. Frankie Flowers in *Pot it Up* (2012), gives splendid examples of container combinations and is a book I recommend for container growing enthusiasts. An edible combination he names “Posh Spice” contains both traditional and tri-colour sage and Italian flat-leaved parsley as fillers, creeping thyme as a spiller and a tall flowering basil as the thriller. Gardeners often grow tomatoes and basil in the same container. Basil dislikes cold spring weather and will sulk and not grow well for you if it catches a chill. So, planting it out with your tomatoes once warmer weather arrives makes sense. It also is an herb which likes extra fertility, so will not mind the fertilization a tomato plant receives, and it will be happy to shelter under the canopy out of a hot afternoon sun.

GOOD HERB COMBINATIONS FOR CONTAINERS

MEDITERRANEAN HERBS - sage, rosemary, thyme, oregano, lavender

HERBS WHICH LIKE MORE CONSISTENT MOISTURE - tarragon, cilantro, basil, parsley

FOR A CITRUS AROMATIC PLANTER - lemon verbena and lemon thyme

Both thyme and mint lend themselves to planters containing many varieties of one herb



I named this jelly Scarborough Fair jelly as it's made with parsley, sage, rosemary and thyme with the addition of nasturtiums to give the colour.

You can have so much fun choosing containers for your herbs. Traditional terracotta is always an option and a viable choice for herbs like rosemary and thyme which do not like wet roots. Smaller containers will dry out more quickly, requiring more frequent watering, so take that into consideration. I like to upcycle and reuse items in unusual ways. A three-dollar purchase of a small stand at a Grandmothers-to-Grandmothers sale was spray painted and gives colour and presence to a pot of parsley. I have found pots at flea markets, garage sales and craft markets. And I have shared pots I'm no longer using to local Buy Nothing, Sell Nothing groups on Facebook. I am always on the hunt for an old, galvanized washtub and marvel at what people have done with recycled teapots, woks and colanders. Just remember if planting in a found container, there needs to be drainage holes and you want to ensure the material is safe. If using plastic, I would ensure it is food grade; terracotta pots should be unglazed; and, if a vintage container with paint, I would question whether there might be lead in the paint.

There are quite easy herbs for the beginning gardener such as parsley, bay, pot marigold (calendula), chives, sage, rosemary, thyme, mint, basil and oregano. I overwinter indoors and continue to harvest from my bay tree and rosemary. When planting herbs, I consider it to be growing with an intention or purpose, just like growing vegetables or fruits. You are

growing something you will utilize in your kitchen to both delight your taste buds and to provide nutrition. If you are like me and enjoy herbal teas, why not grow your own and dry the leaves throughout the season for winter use? I grow and dry different mints, lemon verbena, lemon balm, rosemary and lemon winter savory (*Satureja montana* var. *citriodora*) for teas. Chamomile, lavender, hyssop and beebalm are other herbal tea ideas.

Let us not forget the importance of watering in care of your herb container. Watering will be more challenging if you are gardening in a high-rise building where winds can dry out a pot more quickly and if your location has an overhang preventing any rainfall reaching your pots. One of our Master Gardeners has added a hose adaptor to an indoor sink faucet and, during the season, attaches a coiled/expandable hose to do the watering; afterwards, it neatly stores away on her balcony. Self-watering planters may also be useful. And if you enjoy taking your time with the daily watering, pinching and pruning chores, then a good watering can will suit your routine. If the soil appears dry 2.5-5 cm below the surface, it is time to do a thorough watering until you see water flowing from the container's holes. Pinching faded flowers and pruning any leggy stems will lead to continued growth.

Harvesting herbs is possible throughout the growing season whenever you have more



than what you need for immediate use. That is a good thing as you are not harvesting all at once and have the time to experiment with new recipes. I have learned that almost any herb or combination of herbs can be a flavourful pesto for winter's flat breads and pasta. Last summer, I used a combination of herbs to make a Quebec-style herbes salées. I store the salted herbs in the fridge, and it has become a particularly useful addition to soups, sauces and stews. This farm girl from PEI never thought she would be adding thyme to a lemon loaf recipe; lavender to shortbread; sweet cicely to stewed rhubarb; rosemary to infuse oil as the base of a honey butter, and dried calendula petals to winter soups and frittatas. I hope I have piqued your interest and you will consider purposefully growing herbs this year. I guarantee the pestos, teas, infused vinegars, jellies, tisanes, butters, along with a well stocked herb cupboard and freezer will bring kitchen culinary joy to you!

SOME RECIPE IDEAS

HERBAL VINEGARS:

There are many ideas online for simple vinegar infusions: as an example, add chive flowers to get a pink colour; or two of my favourites, one made with nasturtium flowers, rosemary and peppercorns, and the second with lemon verbena leaves and calendula.

PASTE RECIPE:

2 cups (500 ml) of packed herb leaves with ½ cup of olive or vegetable oil (adding garlic cloves is optional). Purée together & spoon into ice cube trays to freeze.

HERB BUTTER:

Soften unsalted butter, use 4 parts butter, 2 parts herb and ½ part lemon juice. Freezes nicely.

GOOD HERBS FOR SALTS:

Chives, oregano, rosemary, tarragon, thyme

SCARBOROUGH FAIR SEASONED SALT:

4 Tbsp. parsley, 3 Tbsp. sage, 2 Tbsp. rosemary, 1 Tbsp. thyme to one cup of salt.

BRINGING THE EAST INTO WESTERN GARDENS: PHILIPP FRANZ VON SIEBOLD

BY TUULA TALVILA

Have you ever wondered about the people whose names appear in plant names? Maybe they were the 'discoverer' of the plant species, and first described it for Western botanical science, earning the honour of appearing in its Latin binomial. Or they could have been a wealthy and important patron, with a plant named after them in tribute. Or perhaps the namer was memorializing a beloved, now immortalized forever as a flower.

In my backyard garden I have two trees featuring the name 'Siebold': a Korean maple, *Acer x pseudosieboldianum*, and a Siebold's magnolia, *Magnolia sieboldii*, the first tree I ever planted. After noticing the Siebold name elsewhere too, I was curious to know who this Siebold was. I discovered an interesting history centred around a Bavarian chief medical officer of the Dutch Army, posted in Japan at a time when foreigners were prohibited.

EARLY CAREER

Philipp Franz Balthasar von Siebold was born in 1796 in the Bavarian city of Würzburg. Following in the footsteps of his father, two uncles, and grandfather before him, he studied medicine at the local university, graduating in 1820, after which he began to practise medicine. Soon



TOP: Signed portrait of Philipp Franz von Siebold, 1875. BOTTOM: Young Philipp Franz von Siebold.

Silk painting of Japanese and Dutch trade on Dejima, 1820.



after, though, he was in Holland, wishing to see something of the wider world. There, he applied to join the Dutch military and, once accepted as a physician, he had the opportunity to travel to the far-off Dutch colonies. In 1822 he set sail for the Dutch East Indies (modern-day Indonesia) and was stationed in the capital, Batavia (today, Jakarta), as the chief medical officer. During the long sea journey, he collected specimens of marine fauna, a foreshadowing of his future pursuits.

Siebold's time in Batavia was short, however. His knowledge and intelligence made a favourable impression on both the Governor General and the head of the Batavia botanical garden. This earned him a promotion of sorts, with the Governor General deciding to send him on a posting to Japan at the Dutch trading post there. At the time, Japan was an extremely closed country and outside trade, other than with the Chinese, was limited to the trading post at Dejima, an artificial island in Nagasaki bay. While Siebold's title may have been resident physician and scientist, his assignment was also to gain insight into Japanese politics and social structures, with a view to increasing trade. Foreigners were not permitted outside the trading post, but in his capacity as a physician Siebold managed to circumvent the tight restrictions. In fact, after successfully curing a prominent Japanese government official, he was allowed to open a small medical clinic outside the confines of the trading post and he began to make house calls on local patients.

WORK IN DEJIMA AND BEYOND

Because the Japanese had decided the only contact with Western science and medicine would be through the Dutch alone, Siebold was able to make many connections with Japanese physicians and scientists. His house became a meeting place for lectures and conversation (a small group of Japanese were encouraged to learn Dutch) and he was regarded as an expert on European science. In 1824 he created a medical school in Nagasaki, with about 50 students.

In his work as a physician, Siebold was not permitted to accept payment. Thus began his side pursuit as an ethnographic collector: many of his patients paid for his services with gifts. He collected household objects, tools, woodblock prints, and handicrafts but also began to collect seeds and specimens of local plants and animals. While visiting



ABOVE: Japanese hand-tinted postcard with a portrait of Siebold and the site of his residence in Nagasaki.

patients, he continued to collect as much material as he could and his medical students also brought him many specimens.

At his small house on Dejima, he started a garden, eventually growing upward of 1000 native Japanese plants. He had assistance with his collecting of both plants and native fauna, and hired Japanese artists to illustrate the various species. Collecting really became his focus and laid the foundation for what would eventually be his legacy.

A NEAR MISS AND "THE SIEBOLD INCIDENT"

Despite his evident good rapport and connections with the Japanese, Siebold's Dutch superiors decided to recall him to Batavia in 1827; apparently they considered him arrogant. The ship he was to sail on was, however, hit by a typhoon and wrecked before he was aboard. After its repair, it set sail for Batavia with nearly 100 crates of his botanical specimens – but he managed to stay behind.

The following year, Siebold made the long journey with the Dutch trading delegation to the court of the Shogun in Edo (now Tokyo), collecting much plant material along the way. While there, he illegally obtained some maps of Japan and Korea, in an exchange of scientific information. Later, when the maps were discovered by the Japanese, Siebold was accused of high treason (as a spy for Russia) and placed under house arrest. He was soon expelled from the country and barred from returning. He arrived back in Holland, via Batavia, in 1830, eight years after his original departure.

SIEBOLD'S LEGACY

The materials Siebold had been collecting – both biological and ethnographic – were eventually brought back to Europe and helped introduce Japanese culture, knowledge, flora and fauna to the Western world. In addition to the crates of specimens that sailed without him in 1827 and were waiting in Batavia, he had already sent three shipments of herbarium specimens to Europe. When he was expelled, he brought with him to Batavia yet more plant specimens and the collection there grew to around 2000 living plants. He also smuggled some tea plant seeds out of Japan with him and these he planted in the garden



FROM TOP: Painting showing Siebold (with telescope), Dutch personnel, and Siebold's Japanese wife, Kusumoto Taki (they were not allowed to marry) and baby daughter, Kusumoto Ine, watching an incoming Dutch sailing ship at Dejima.

Illustration from the 'Flora Japonica' of *Hydrangea otaksa* (later renamed *H. macrophylla* 'Otaksa'), named by Siebold after his Japanese wife, Kusumoto Taki (lower right). His wife and daughter were not permitted to leave Japan with Siebold but he provided for them before and after his expulsion.

His daughter, Kusumoto Ine (bottom left), became the first Japanese woman trained in western medicine.



The Von Siebold Memorial Garden at Leiden's Hortus botanicus.

Photo ©Henk Feunekes, Leiden, Netherlands. Used with permission. <https://www.flickr.com/photos/fnks/49755741221>

at his residence in Batavia, thereby initiating tea cultivation on the island of Java. Further shipments of his collections were sent to him after his expulsion.

After returning to Europe, Siebold settled in Leiden, in south Holland. His collections were immensely valuable to ethnography and biology and formed the basis of several museum collections. His living plants were established at the University of Ghent (Belgium), helping to establish its renown as a horticultural site. His 12,000 herbarium specimens were housed in the Dutch national herbarium. The collected fauna went to the natural history museum in Leiden and zoologists using his collection produced a comprehensive "Fauna Japonica." The ethnographic collection was on public display as early as 1831, later housed in a museum Siebold established in his home (today re-opened as the Japan Museum SieboldHuis). Siebold himself co-authored the bulk of the 30-part "Flora Japonica."

Perhaps most importantly for gardeners and horticulturists, Siebold planted many of his live specimens at the Botanic Garden in Leiden. From those plants, he introduced Europe to

species such as magnolia, hosta, hydrangea, azalea, among many others that we grow and love today. (Unfortunately he also introduced us to Japanese knotweed!) Today, the Von Siebold Memorial Garden in Leiden is laid out in the shade of a *Zelkova serrata* tree that dates from his original collection.

Since his death in 1866, Siebold has been relatively little-remembered in Europe, despite his significant contributions to biology, horticulture, ethnographic studies of Japan, and the inclusion of his collections in various museums. In Japan, however, he has remained well known and commemorated.



Siebold Memorial Museum, Nagasaki (note the Dutch architectural style)



Siebold statue at The Von Siebold Memorial Garden
at Leiden's Hortus botanicus.

Photo ©Henk Feunekes, Leiden, Netherlands. Used with permission.
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Clematis florida 'Sieboldii'

Numerous taxonomists have honoured Siebold in their choice of plant species names, using the specific epithets *sieboldii*, which means "Siebold's," and *sieboldianus/sieboldiana/sieboldianum*, which denotes "Sieboldean." Some of the many examples:

Magnolia sieboldii
Tsuga sieboldii
Clematis sieboldii
Primula sieboldii
Sedum sieboldii

Eleutherococcus sieboldianus

Alnus sieboldiana
Corylus sieboldiana
Euonymus sieboldiana
Euphorbia sieboldiana
Hosta sieboldiana

Acer sieboldianum

A more complete list can be found at:
<https://davesgarden.com/guides/articles/view/2706>.

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- Hydrangea otaksa: Flora Japonica, Sectio Prima (Tafelband) (1870) <http://www.biolib.de/siebold/flora3/index.html>
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REFERENCES

- Japan Museum SieboldHuis <https://www.sieboldhuis.org/en/>
- Japanese and Von Siebold Garden. Hortus Botanicus, Leiden. <https://www.hortusleiden.nl/en/the-hortus/gardens/japanese-and-von-siebold-garden>
- Plant names tell their stories: Magnolia sieboldii honors the swashbuckling Siebold. By Katherine Wagner-Reiss for Morris Arboretum, University of Pennsylvania. <https://cms.business-services.upenn.edu/morrisarboretum-blog/401-plant-names-tell-their-stories-magnolia-sieboldii-honors-the-swashbuckling-siebold-2.html>
- Siebold, Philipp Franz (Balthasar) von (1796-1866). JSTOR Global Plants. <https://plants.jstor.org/stable/10.5555/al.ap.person.bm000007805>
- Who in the world is Philipp Franz Balthasar von Siebold? By Larry Reiff for Dave's Garden. <https://davesgarden.com/guides/articles/view/2706>

PLANTING NATIVE POLLINATOR GARDENS AT GOLDENROD COMMUNITY GARDEN

BY SUSAN McCLELLAND

The September 2022 issue of the OHS Newsletter contained a series of articles about pollinator gardens, including "The OHS Partners with Just Food Ottawa to Build Pollinator Gardens," by Rob Brandon and Rebecca Last. One of the gardens that OHS members had discussions with and provided assistance to was the Goldenrod Community Garden.

Goldenrod Community Garden (GCG) was established in 2021 after many years of lobbying by a dedicated group of volunteers. The garden, located along the Western Parkway, is owned by the National Capital Commission (NCC). While the primary purpose of GCG is to allow community members to grow food, developing a pollinator garden on-site was identified as a key objective early on.

The benefits of pollinators are well known. Thousands of species of plants rely on animals to help them reproduce by carrying pollen from one flower to another. Pollinators provide essential services to farmers, gardeners, and natural ecosystems. Locally, our native pollinators include hundreds of species of bees, flies, butterflies and moths, beetles, ants and even some birds, and many of them are in decline. GCG members recognized that establishing a pollinator garden within the garden's boundaries would not only provide a reliable quality food source and habitat for local pollinator populations, but also provide pollinator services to our gardeners and adjacent ecosystems.

Like people, pollinators have different tastes and do not all eat the same plants. Therefore, it is important that a pollinator garden includes a variety of both flowering and non-flowering plant species which are attractive to various native pollinators. Unlike people, many pollinators can't easily change their

diets. Many of the popular flowers that are sold in garden centres and nurseries originate in Europe and other countries and are not a useful food source for native pollinators. Native plants provide food but also habitat where native pollinator populations can lay their eggs, thus ensuring survival.

Early in 2022, a small group of volunteers began planning GCG's pollinator garden. The first step was identifying a suitable site that would be visible and allow vehicle access for deliveries (water, soil, etc.). The location also had to be acceptable to the NCC. Several potential sites were submitted to the NCC for consideration as part of a build plan to expand the number of plots from 80 to 120.

In planning the garden, the volunteers focused on plants local to the Ottawa area. However, it was also important to identify which plants would attract different pollinators and to stagger bloom times of the various plants to provide a steady source of pollen food over the growing season. The pollinator garden also had to be visually attractive to members and other visitors. The volunteers made the decision to buy the plants from local sources, rather than seek donations. Some native plants are aggressive/invasive, and it was important to avoid introducing these plants into the pollinator garden.

The NCC approved building a pollinator

garden close to the entrance of the garden off Goldenrod Avenue. At the same time, they requested that GCG construct a second garden on the outer perimeter, facing the Parkway. Since mowing was restricted to the immediate site until August 28, 2022, in consideration of nesting birds, the second garden was postponed until the fall.

Pollinator Garden #1 was constructed in early May 2022. Since it was located between two birch trees, the volunteers decided to cover the area with cardboard, rather than planting in-ground and potentially disturbing the roots of the trees. The cardboard would also help suppress weeds. The perimeter was created using donated birch logs. Final dimensions were approximately 11 feet by 16 feet and approximately 3 feet at the highest point. A few flat rocks were added strategically to allow easy access for watering and maintenance.

Planting the pollinator garden took place later in May. Given the location, 15 types of plants that could tolerate part shade were selected. Over ninety individual plants were installed in groupings, as much as possible, to maximize visual interest. This approach gives pollinators easy access to the pollen, while minimizing the amount of energy they need to expend to collect it. Mulched pine was added in order help keep the soil moist and keep weeds down. Shortly after the garden was planted, Ottawa experienced a series of heavy rainfalls, which gave the young plants a boost.

The pollinator garden grew quickly and became a point of interest for members and visitors.

Red columbine (*Aquilegia canadensis*) was the first to bloom in mid-June, followed by evening primrose (*Oenothera biennis*) later in the month, and the others in succession. The brilliant cardinal flower (*Lobelia cardinalis*) added colour, in contrast with the delicate flat-topped aster (*Doellingeria umbellata*).

A dedicated team of volunteers watered and weeded the garden throughout the summer. It is hard to know how many pollinators were attracted to the garden, but many were



1. GCG's first Pollinator Garden in progress (photo: S. McClelland). 2. Newly planted GCG Pollinator Garden, June 2022 (photo: S. McClelland). 3. Early summer in the Pollinator Garden (photo: S. McClelland). 4. Late fall in the Pollinator Garden (photo: S. McClelland).

observed over the summer and into the fall. The plant remains were left in the garden for the winter to provide habitat and food throughout the fall and early next spring.

The second pollinator garden, approximately 6 feet by 25 feet, was laid out in late October and covered with cardboard and an initial layer of soil, with more to be added in the spring.

A preliminary plant list has been developed but final selection will depend on what is available from local growers. Given the large number of plants that will be required for a garden of this size, the pollinator garden volunteers are planning on growing from seed over the winter and accepting donations of plants specified on the list.



5. Flat-topped aster, GCG, July 2022 (photo: S. McClelland). 6. Cardinal flower, GCG, July 2022 (photo: S. McClelland). 7. Bee on Joe Pye weed in GCG's Pollinator Garden, July 2022 (photo: Ryan Billard). 8. View of second Pollinator Garden from the Western Parkway (photo: S. McClelland).



GARDENING AT LAST: SCIENCE NEWS GARDENERS CAN USE

BY REBECCA LAST

[BIODIVERSITY](#) [CLIMATE CHANGE](#) [CONSERVATION](#)

2023 January Biodiversity: COP15 and other news

📅 January 18, 2023 💬 No Comments

Does the world really need another gardening blog? There are a bazillion already out there. What could I possibly contribute?

For over a decade, I wrote a long-winded, nerdy email that I sent to several hundred friends. Working at Natural Resources Canada, I was privy to a daily news feed that included a lot of science related to Canada's natural resources sectors. Plus, part of my work entailed writing about the work of my scientist colleagues in ways that would resonate with the public.

Beyond the newsfeeds at work, I sought other sources of garden-related science. Networking with other Master Gardeners, I discovered resources like The Garden Professors™ blog (<https://gardenprofessors.com/>). The posts of these dedicated scientists delve in detail into one aspect of gardening at a time and offer authoritative myth-busting for common gardening fallacies.

My interests were always more eclectic. In my early days as a Master Gardener, I subscribed to a lengthy email called HortIdeas (<http://users.mikrotec.com/~gwill/hi-index.htm>). The authors collected science news from diverse sources and distilled it so it was useful and understandable by non-scientist gardeners like me. When they ceased publication in 2013, I was bereft.

As a volunteer with Master Gardeners of Ottawa-Carleton, I wanted to stay up to date on the science behind gardening. Indeed, Master Gardeners are required to complete continuing education units each year. So the email newsletter grew as did my mailing list. I even managed to make it part of my paid work by developing a "gardening for wellness" program.

When I retired in 2021, my newsletters started being rejected by government firewalls, and the email format had other limitations. It was visually unappealing and cumbersome to accommodate a growing number of subscribers after it was recommended by luminaries such as the Laidback Gardener (<https://laidbackgardener.blog/>).

So, in late summer 2022, I hired a blog developer and by November 30 I was ready to launch. I now post on "Gardening at Last" three to four times weekly, with each post focusing on a category, such as climate change, invasive species, pollinators, etc. Posts might include one or several articles and usually contain links to additional information for readers who want to explore more. Images make the posts more visually appealing and readers can search both categories and tags if they are researching a specific topic.

I'm still working out what information and format will be most useful to readers, so please check it out (<https://gardeningatlast.ca/>) and let me know what you think.



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A savoy cabbage (left) and red cabbage (right) seedling - well mulched with grass clippings.

NO DIG: GARDENING SIMPLICITY

BY ALEX EPP

I am not a good gardener. I don't have good aesthetic instincts, I am not a good planner, I am slightly lazy, and I love starting projects, but I don't have very good follow-through. Despite all of these challenges: I love gardening! However, I do have a strong bias towards making gardening as simple as possible.

This year, I was starting a new garden, in a new (to us) yard, at a new (to us) house. As you might have guessed from the title, I opted to start a no-dig garden, and I opted for the simplest possible structure, set-up and execution in this first year. I wanted to write this article about what I did and why I did it, to demonstrate how much gardening can be overcomplicated, when really all you need is some ground to put your plants in.

HERE ARE THE TECHNICAL SPECIFICATIONS OF THE SPACE I WAS WORKING WITH:

- **DIMENSIONS:** 50 feet by 50 feet, decent southwestern exposure, recently removed cedar hedges but very sheltered overall. Our house faces East-West and on the south side we actually have a narrow strip of about 100 linear feet of full sun conditions.
- **SOIL STRUCTURE:** In April we gutted the backyard, removing everything (hedges, deck, buried interlock patios) except one tree. The yard was completely scraped and re-graded in

early spring. By late May the soil quality was extremely compact Ottawa clay covered by two inches of topsoil with recently seeded lawn.

- **OTHER PLANS:** We wanted to put in a new patio, a shed (eventually) and maintain a large area of lawn for croquet and other lawn games.

Within these restrictions, I opted for the easiest and simplest layout: about 4 feet of garden around the east and south borders of our yard. I wanted to spend as little money as possible on it, and I knew that we might change the layout in the future, so I opted to not invest in raised beds. Finally, I was not going to be able to dig into that compacted Ottawa clay base, which is why I opted for no-dig.

The back wall of my no-dig garden, early on in the season with plenty of fresh grass mulch to maintain moisture around the little seedlings. Also pictured (but blurry) are the tomato vines climbing up the chain-link fence!



For those of you who haven't heard of no-dig, I'll provide a quick overview here – but I would highly recommend going to check out some good YouTube experts like Charles Dowding.

No-Dig is the idea that you will be disturbing your soil as little as possible, starting from the creation of your garden bed. The theory goes that if you layer good, nutritious compost on top of your garden, life forms such as fungi, microbes, insects and earthworms will digest it, carry it around and improve the soil quality over time. The philosophy is that you are building a soil ecosystem that maintains nutrients and organic matter that feed your plants. The more organic matter you can put into your soil, the better! For example: instead of pulling your plants out at the end of the season, cut them off at the base, and let the roots decompose *in situ*. Another example: plant your beds densely to maintain good root activity. When plants form roots, those roots exude chemicals to attract and breed beneficial bacteria and fungi. The more this happens, the more active and alive your soil will be. The key factor here is no digging (obviously) and no tilling. Any soil disturbance will disrupt the tiny pathways created by beneficial organisms that also create a good soil structure for water and roots. Instead of double-digging or roto-tilling, just layer compost on top of your garden, and plant it up.

In an ideal world, you should have high-quality, finished, homemade compost that is coffee-coloured, crumbly, and teeming with microbes. When I started my garden, I had no such material available to me.

In an effort to simplify the process as much as possible, I created and planted my garden beds in four simple steps:

- 1. SET THE LINE OF THE GARDEN BED.** I set the line with twine and cut along the twine with a square shovel. I pushed some soil towards the future garden beds to make a good delineation.
- 2. LAYER NEWSPAPER ON TOP.** In an ideal world, one would use cardboard, but I had

newspaper available. Note: I did not remove any grass before laying down my newspaper. Tip: Wetting the newspaper with the hose helps to stop it from blowing away.

- 3. COVER THE NEWSPAPER WITH ANY DIRT I COULD FIND.** In the best spots this included leftover topsoil from our backyard renovation. In the worst spots, it included compacted clay that we had dug out of our side yard as we were lowering the grade. I mounded this dirt up in the centre of the garden bed strip and let it taper down towards the edge – there was no barrier holding it back. Over time, the structure of roots in the garden bed will keep it in place, but for now I made sure the edge trench was nice and deep.

- 4. PLANT IN MY SEEDLINGS.** I had relatively mature seedlings that I had started much earlier in the spring. In some cases, I was able to plant them on top of the newspaper. In others, I had to cut a hole in the newspaper to plant them deeply enough.



The no-dig bed on the south side of our backyard, planted up with fresh seedlings, covered in grass mulch that is a few days old. Notice how quickly the grass mulch turns brown and begins to decay - this bed is ready for another batch!

In total, for about 110 feet by 4 feet of garden space, it took me about three days of 3-4 hours a day to cut, cover and plant these garden beds. Throughout the course of the season, I weeded these beds once. The only regular maintenance that I performed was to collect the grass clippings from my husband (he mows the lawns of several folks in our neighbourhood) and mulch our beds thickly and regularly with these grass clippings. As they break down, they provide organic material for the plants – and in the meantime they provide good insulation for moisture retention, and a boost of microbial activity in the soil.

I planted hundreds of seedlings that year – over 7 varieties of tomatoes, several varieties of peppers, eggplant, cucumbers, zucchini, herbs, beets, rutabagas, cabbages, and more. They took to the garden with surprisingly little transplant shock, and I had decent harvests throughout the season. I purchased no trellising supplies: all vertical plants were tied to our chain-link fence, which also gave us some privacy at the height of summer. We used all of our garden clippings, extra grass clippings and newspapers to build a hot compost heap, and we were able to layer that onto our garden beds in the fall, along with a thick layer of shredded leaves.

This year, I am looking forward to even better soil structure, and soil life. I plan on tracking my harvests so I can see how productive my plants are year over year. I may purchase some actual trellising supplies in an effort to make the space more organized.

My no-dig experiment was so rewarding because it was so simple, and so intuitive – and I really want to emphasize the value of growing in the ground. I see a huge trend towards complicated or expensive gardening: waist-high raised beds, hydroponic towers, expensive trellises, and more. If I could share one message it would be that the soil at ground level has everything our plants need – and I would encourage gardeners get as close to it as possible. Yes – even our compact Ottawa clay has excellent nutrition and *cation exchange capacity* (if you want to get

scientific about it), and, with proper planting density, and good organic mulches (like grass clippings), the structure will loosen up. Let the plants and soil life do that work for you though, and you can focus your efforts on planting, harvesting and eating!



TOP: Fresh cucamelons harvested from vigorous vines that trained themselves on to my chain-link fence!

BOTTOM: A freshly harvested (and trimmed) savoy cabbage from my no-dig garden. Dense heads were produced without purchasing extra soil, lumber or material - just the nutrition and structure of our very own Ottawa clay and grass clippings!

BRIEF BEGINNERS' GUIDE ON PROPOGATING AROID

BY ARDEN WELLS

WHAT IS AN AROID

When discussing which popular indoor house plants stand out in the market currently, aside from cacti and succulents, aroids occupy a substantial percentage of indoor plant varieties to decorate a home. This family of flora - the Arum family or *Araceae* - is widely known as "aroids." Aroids are distinguished from other families by their flowering habits, with an inflorescence called a spadix.

This family has 140 genera and is comprised of over four thousand species. Popular aroid genera you may have heard of are the *Anthurium* (e.g. *A. regale*, *A. crystallinum*, *A. pallidiflorum*), *Alocasia* (e.g. *A. micholitziana* 'Frydek', *A. amazonica* 'Polly', *A. bagindas* 'Dragon Scale'), *Dieffenbachia* (e.g. *D. maculata* 'Camille', *D. maculata* 'Exotica', *D. 'Compacta'*), *Monstera* (e.g. *M. adansonii*, *M. deliciosa*, *M. standleyana*), *Philodendron* (e.g. *P. hederacium*, *P. gloriosum*, *P. micans*), *Raphidophora* (e.g. *R. tetrasperma*, *R. decursiva*, *R. pachyphylla*), *Scindapsus* (e.g. *S. pictus* 'Exotica', *S. truebii* 'Moonlight', *S. pictus* 'Argyraeus'), and *Syngonium* (e.g. *S. podophyllum* 'Confetti', 'Batik', 'Pink Splash'). However, the topic today is not a deep dive into the classification of the *Araceae* versus others, but instead a basic understanding of how to propagate aroids based on stem and node structure.

STEM AND NODE ANATOMY

To "cut below the node" is a rule-of-thumb saying amongst the plant community for propagation methods. A node cutting is an area of the main stem where new growth and branching occur. A common misconception is believing the node itself is where new growth forms; this is simply used to describe the area. When you cut below the node, you are segmenting an area of the stem away from the mother plant which should include a node, a petiole (and sometimes its leaf), sometimes aerial roots, and an axillary bud. Where important growth actually occurs is from the axillary bud. A healthy axillary bud is absolutely crucial to establish a new plant from a cutting. This is the only anatomical part that is capable of growing vital parts, such as stem systems, petioles, and roots, of an adult plant to prosper.



Typical aroid inflorescence

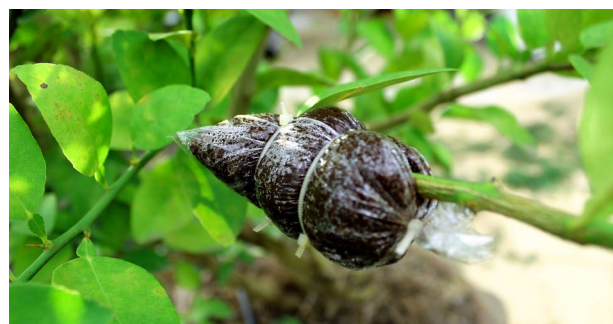
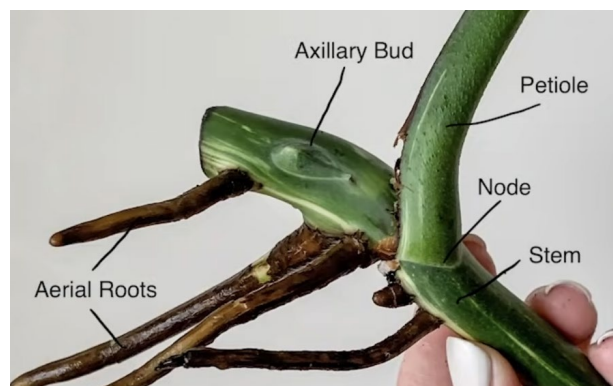


From the cutting, along the segment, new roots will form into either terrestrial roots or aerial roots for the promotion of growth and stabilization of the plant. A beneficial guideline is to leave approximately one to two inches of space above and below the node of an intact, healthy, stem to ensure adequate space for adventitious roots and axillary buds to form. Although it does not commonly occur, some node cuttings may thrive enough to sustain more than one axillary bud growth from a singular cutting.

To promote a better chance at successful node cuttings, plant enthusiasts can air-layer the segment they wish to eventually split from the mother plant. Air-layering involves enclosing a node segment inside plastic with a moisture-retaining medium such as sphagnum moss. While air-layering, you will need to keep the moisture level inside the bag damp to promote adventitious root and axillary bud growth. However, there may be times when you receive a node cutting that refuses to activate any new growth. This may be a case of a spent node.

SPENT NODE

"Spent node" describes a node that can no longer produce new growth from axillary buds. This can occur when you have, for example, established a previous cutting which grew a new plant from its axillary bud but then you decide to cut off that new growth in the wrong section. The incorrect section cutting results in only including the previous node and the



new growth without its newest node. Therefore, you are left with a spent node of the original cutting. Though there are some exceptions to the spent node, they are rare and incredibly lucky. Always be cognizant of potentially spent nodes when purchasing aroids. Roots may form and the existing leaf structures may continue to thrive, but new growth will either be stunted, malformed, or simply not exist from these spent nodes. Just because the node cutting has root growth or a petiole with an existing leaf does not mean it will become a new fully established plant.

PROPAGATION ENVIRONMENTS

When you propagate, the best start you can offer yourself is to do so after the plant has been watered or maintained in accordance with your plant regime. For example, if you watered your aroid, I would recommend waiting a couple of days before cutting the stems of your mother plant. Once you obtain your cutting, I recommend letting the wound callous by drying out for a few hours. This helps promote a safer transition to the propagation medium, limiting the risk of infection in the plant's otherwise open, moist, wound.

In all propagation mediums, it is crucial to always provide adequate light, airflow, and humidity. New cuttings will thrive in humidity. At least 45% humidity can be achieved using a clear cloche or cabinet-closed environment. If this is not attainable, Tupperware or transparent plastic bags are acceptable alternatives. With humidity, it is important to balance airflow or you run the risk of common issues such as bacteria buildup, infection, or fungus. Those with larger cabinet environments tend to use mini-fans while those using plastic bags or Tupperware simply ensure there is a small gap for air to exchange through. Light will depend on your living environment and the individual plant's light threshold requirements. There are many propagation station products available but do not feel you need an elaborate set-up.

Root formation will be the first sign of positive change, though this may take a minimum of two to three weeks for most aroids to begin. I recommend leaving the cutting inside its propagation medium until the roots are at least two inches long and/or the primary roots have formed secondary branching roots.

It is important to note that not all cuttings will live. Thirty to forty percent of cuttings will often die before they can root and establish themselves. Death can occur due to infection or shock from an abrupt change of environment. It is important to always sanitize your tools before and after you operate on plants. Like every living organism, plants can be carriers of disease and infection that can

be transferred from one specimen to another. Disinfectants such as rubbing alcohol can be used to wipe down tools such as gardening shears and clippers. Once you have your cutting, the next step is to ensure it is housed in an environment with conditions suitable for your young plant to thrive and grow. While these tips will help increase cutting survival, it is important to know nothing will happen when you have accidentally segmented a spent node.



IMAGE SOURCES

- iCon0. (n.d.). Agricultural Technique Tree Graft.jpg [Photograph]. PublicDomainPictures. <https://www.publicdomainpictures.net/en/view-image.php?image=333108&picture=agricultural-technique-tree-graft>
- Jones, D. (2021). Njoy Pothos Tropical Houseplant Water Propagation.jpg [Photograph]. Flickr. <https://www.flickr.com/photos/193012305@N04/51615877230>
- Jones, D. (2021). Scindapsus Pictus 'Argyraeus' (Satin Pothos) Tropical Houseplant.jpg [Photograph]. Flickr. <https://www.flickr.com/photos/193012305@N04/51615437373>
- Pak, T. (2020). Raphidaphora Tetrasperma.jpg [Photograph]. Pexels. <https://www.pexels.com/photo/art-summer-bedroom-garden-4350843/>
- Phan, H. (2020). Exotic Philodendron.jpg [Photograph]. Pexels. <https://www.pexels.com/photo/exotic-philodendron-flowering-plant-with-green-and-pink-leaves-4530723/>
- Raul. (2005). Monstera deliciosa3.jpg [Photograph]. Wikipedia Commons. https://commons.wikimedia.org/wiki/File:Monstera_deliciosa3.jpg
- Spurekar. (2019). Monstera Adansonii.jpg [Photograph]. Flickr. <https://www.flickr.com/photos/spurekar/49254665343>

CREATING A TEMPERATURE-CONTROLLED ROOT CELLAR IN OUR GARAGE

BY PHIL REILLY



SOME BACKGROUND

In 2020 we hired a contractor to replace the back wall of our garage. This was necessitated by mice which had created a fire hazard for the building by chewing on electrical wires in the wall. The mice had gained access to the exterior wall as a result of moisture seeping under the wooden baseplate. My attention to this need was noted by a loss of electricity to a second-story outlet and an exterior light for the stairs to the garage's second story.

After disassembling the back wall of the garage, re-grading of the soil next to the garage was undertaken. Diverting rainfall and snow-melt runoff away from the foundation of the garage was needed to not have a repeat of the problem in later years. Then replacement of the wall and building a new staircase and second story deck began.

Around the same time as this project was progressing, I was also involved in a West Carleton group, Deep Roots Food Hub (DRFH),



TOP: Garage staircase ABOVE: Garage wall exterior partial rebuild

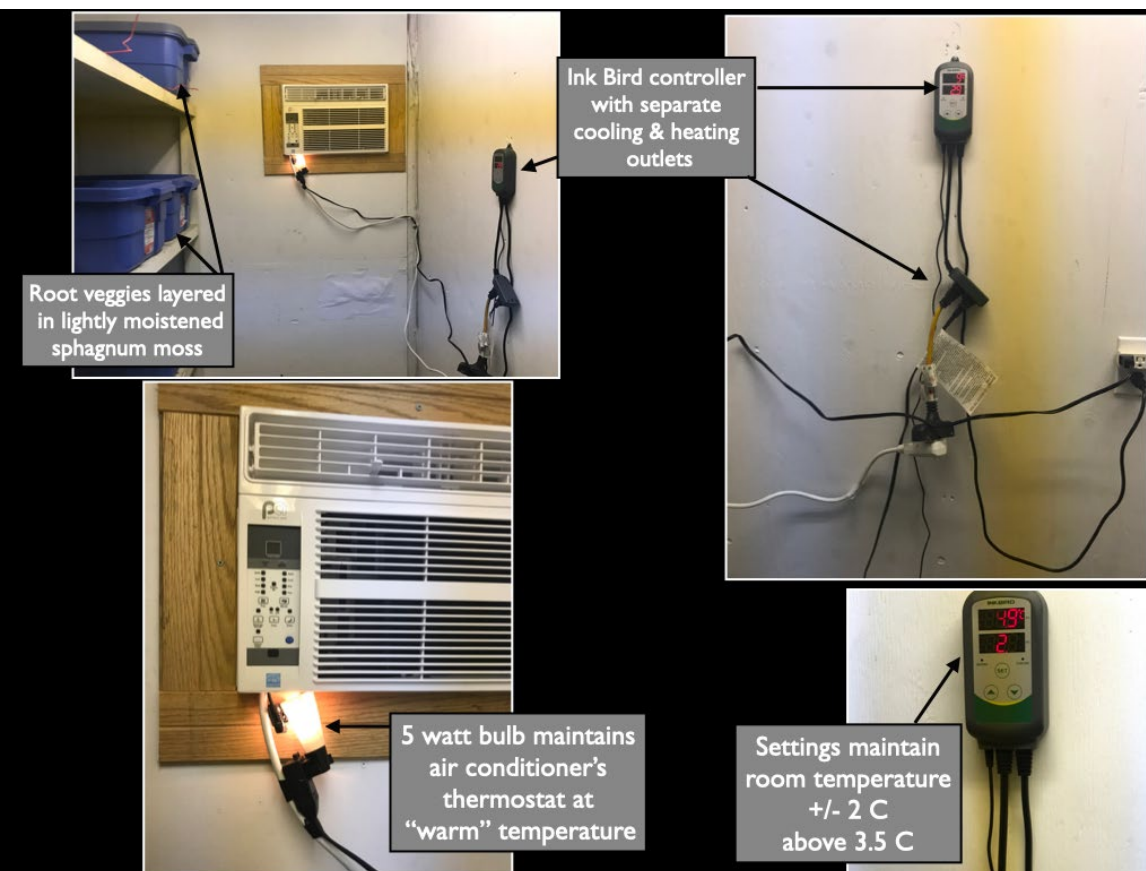
focused on building an off-grid, above-ground, Quonset hut building to store root vegetables for after-harvest community distribution. With my horticultural background (Owner/operator of Reilly's Country Gardens nursery), I focused on the thermal and moisture needs of root vegetables from harvesting to storage. The building was super-insulated with foam

insulation and an interior wooden floor was installed, 8 inches above the ground, so that the storage room's cooled air could circulate above the ground which would continually have temperatures above the root vegetables' storage needs. ([Here is a link to YouTube presentation on Deep Roots Food Hub's project.](#) More up-to-date information on the activities of [DRFH is available on their website.](#))

either a heater or window air conditioner. An optimum setting of 3.5 degrees C, with a range of +/- 2 degrees C, is now set. I had on hand a small electric heater but needed to purchase the appropriate size window air conditioner ... a 6,000 BTU unit.

One creative step needed to be undertaken. I needed to over-ride the temperature sensor

on the air conditioner ... it is factory-set to turn off the air conditioner once the room temperature reaches 18 degrees C. To do this I had to remove the front panel of the air conditioner and gently straighten the metal sensor so that it was ultimately outside of the air conditioner. Then I had to secure a five-watt light bulb next to the sensor in such a way that there was a "heated space" in which the sensor constantly sat. It took a bit of creative thinking (using a bulb shield and tape) to create the needed confined environment.



ABOVE: Root cellar's air conditioner setup

REILLY'S ROOT CELLAR

Once the reconstruction of the back wall was completed, constructing the root cellar room (7 feet wide by 10 feet long) in the garage began. Painting newly-applied plywood walls and ceiling with oil-based paint (to ease removal of any fungal growth) was step #1. Next was installing a plywood floor on two-by-fours. Four inches of Styrofoam sheet insulation were placed between the two-by-fours. Conquering the challenge of temperature control was the next step. I purchased (online) an [Inkbird temperature regulator](#) which has the ability to switch back and forth from powering

For this project I had on hand the required wood and insulation (left-overs from previous building projects). The Inkbird controller cost me about \$60 and the air conditioner about \$300.

For storing the root vegetables, I gently remove attached soil and then place them in layers in slightly-moistened sphagnum peat moss. The peat moss is said to be quite sterile. Having the veggies separated by the moss keeps decay organisms from quickly spreading to adjacent specimens.

ABOUT US

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