

CROSS POLLINATION

Halton Master Gardeners Monthly Newsletter
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Halton Region
Master Gardeners



Image: Sundaura Alford-Purvis

Meet Scruffy–My Giant Purple Hyssop!

By Isabel Belanger, Halton Master Gardener

You may remember *Sarah Plain and Tall* from our September newsletter? Meet Scruffy, Sarah's cousin and this month's feature plant. Scruffy's official name is *Agastache scrophulariifolia*, which comes from his similarity to Figwort (*Scrophularia* spp.). Like Sarah, he is a giant hyssop, but purple instead of yellow. Like his hyssop cousin Sarah (*A. nepoides*), Scruffy grows to about 6' - 8' tall and has the same scruffy, rangy appearance, although he can also be quite statuesque. He makes a solid back of the border plant or even focal point. To keep Scruffy shorter he can be cut back by about half in early-mid June.

Agastaches are members of the mint family, *Lamiaceae*, and all have the characteristic square stems. The stems are hollow and provide shelter for overwintering cavity dwelling pollinators. Scruffy will spread throughout the garden mainly by seed, but the seedlings are easy to pull. They continue to attract wildlife even during the seeding stage and some birds love to eat the seeds.



Photo: Sundaura Alford-Purvis

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AGASTACHE SCROPHULARIIFOLIA, GIANT PURPLE HYSSOP (CONT'D)

By Isabel Belanger, Halton Master Gardener

Flowers

Scruffy’s flowers range from pale mauve to pink to whitish rather than the yellowish green of his cousin Sarah. The flowers are on spikes that range from 1 to 6 inches (2.54 cm to 15.24 cm) long and consist of ¼ inch (.66 cm) long small tubular flowers, each with 4 long stamens.

The upper lip of the flower has 2 lobes, and the lower lip curves downwards with 3 lobes; the center one is widest. One plant usually has several spikes, and not all flowers open at the same time. It flowers from mid to late summer (July – early September) Scruffy is a late season bee magnet and produces plenty of nectar as well as pollen



for bees, butterflies and hummingbirds. Scruffy has another relative, Anise hyssop (*Agastache foeniculum*), whose flowers tend to be more purple and whose leaves have a lovely anise scent when crushed.

Native Range and Growing Conditions

Purple giant hyssop was thought to be extirpated from the wild in Ontario. It prefers disturbed sites and cannot compete with the encroachment from other plants because the seeds need light to germinate. Historically, the taxon ranged from New England

south to Georgia, west to Kansas and north into Ontario’. ‘The few extant occurrences in New England show [Agastache scrophulariifolia](#) favouring the mesic, sandy soils in upland edge areas along floodplains where competition from other plants is limited’.

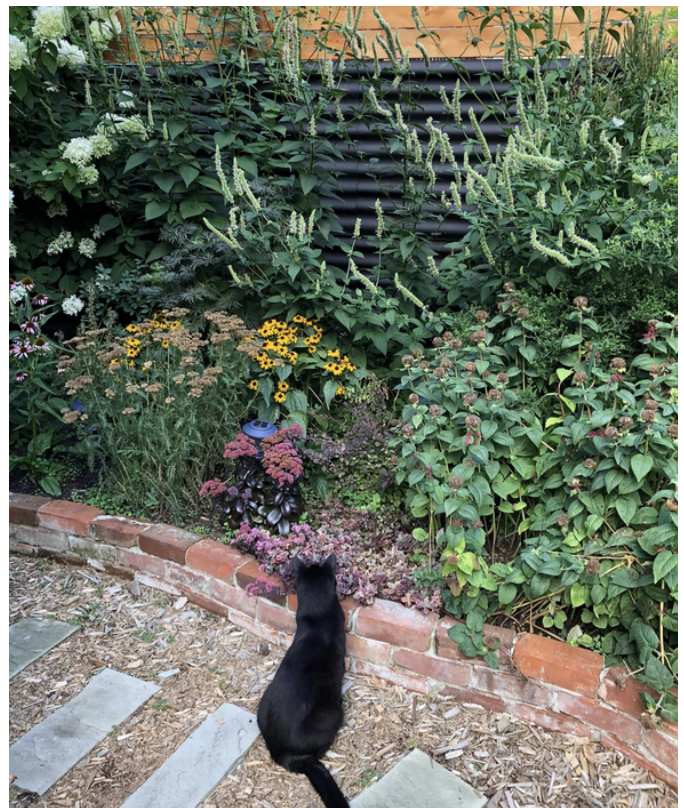


Photo: Lyndsey Marie FB

Even cats admire Scruffy’s statuesque presence in the back border.

For more information

- [Purple Giant Hyssop](#) Minnesota Wildflowers
- [Anise Hyssop](#) - Illinois Wildflowers
- [Agastache scrophulariifolia \(Willd.\) Kuntze](#) [Purple Giant Hyssop](#) Pg. 4



NOVEMBER GARDEN 'TO DO' LIST

By Claudette Sims, Halton Master Gardener

- Stems & Seedheads** – Refrain from cutting back perennials. Stems offer shelter for cavity dwelling native bees & beneficial insects and also collect snow to insulate and protect plants. Seedheads provide food for birds and winter interest for everyone.
- Bulbs** – Plant spring flowering bulbs such as crocus, tulip, hyacinth & daffodil as long as the soil is workable. Water bulbs after planting. You may also have time to divide & replant overcrowded spring bulbs and [fall crocus](#) which have finished blooming.
- Bare Soil** – Protect bare soil from erosion and winter sun with a layer of organic matter, e.g., compost, leaves, straw, mulch or manure. [Avoid tilling](#) which destroys soil structure & soil organisms and encourages weeds to germinate. .
- General Garden Care** – Empty & store or cover pots & watering cans in a dry place to avoid damage from freezing. Turn off outside water connections & remove hoses. Hang garden hoses to drain before storage.
- Houseplants** – Decrease watering as the days become shorter. Increase humidity by misting plants. Check for pests weekly & treat with commercial insecticidal soap if needed. Increase lighting with [grow lights](#) or reflective surfaces.
- See our [October newsletter](#) for any garden jobs that you may have missed!

“What do you think the mystery object was from October?”

Mutant potato?
Some weird fungus?
Oak gall?

Answer is at the bottom of this page!

- Trees** – Deciduous trees can be planted now until freeze up of the soil. Watch this [great video](#) on planting trees. Find native tree suggestions for our south-western area at this [Tree Atlas](#) link.
- Lawn & Weeds** – Rake or “mow” leaves and remove to garden beds. Leave [some leaves uncut for beneficial insects](#) and pollinators who overwinter in leaf litter. Keep on weeding as long as the soil is workable. When mowing is done for the season, clean the mower and sharpen the blades.
- Invasive Plants** – Remove any [common buckthorn](#) and [garlic mustard](#) seedlings. Continue to hand pull, rake or cut off weeds at ground level with a sharp spade or garden tool. Remove seedheads to reduce the seed bank in your soil.

Mystery Object Revealed

Did you figure out what the mystery object was? At first I was convinced that it was an [oak gall](#) because of the weird horns. But it was nowhere near my oak. Then I thought it was a strange fungus, but after a month it was still there, so unlikely. I found more of these mystery objects in the same garden bed and cut one of the smaller ones in half. To my surprise I saw that there were tiny leaves at the top and now realized it was a bulb. After that it was easy to figure out that they were corms of [Jack-in-the-pulpit](#). This bed happens to be full of them, but I had never noticed them in the fall. I’m still not sure why they were half out of the ground? That’s a mystery for another day!



Gardening in the Dry Shade of Norway Maples

by Janet Mackey, Halton Master Gardener

The Problem

There's no dispute about the many negative impacts of Norway maples (*Acer platanoides*). A [highly invasive](#) tree species in most of eastern North America, it affects my entire garden. Each spring I pluck out millions of seedlings and I face the incredible challenge of growing plants in dry shade. Fecundity and greedy roots are just the start. Norway maple's bad reputation is backed by a long and distressing list of vices.

Adaptable: Norway maples thrive in a wide range of growing conditions including dry, compacted soil environments and low light.

Dense canopy: Big, thick, sunlight-blocking leaves are good at capturing sunlight but they also prevent light from reaching the soil below. This makes it difficult for other plant species to grow.

Prolific Seed Production: Norway maples produce a significant number of seeds, helping them spread into and dominate areas where they are introduced. Their samaras carry two viable seeds, unlike most maples which have only a single seed. The wings form a wide angle—almost 180 degrees—so the wind carries them further than those of native maples.

Competition with Native

Species: Norway maples displace native species, such as the red maple (*Acer rubrum*).

Soil Nitrogen Reduction: [Studies](#) have shown that the soil around Norway maples often has lower nitrogen levels compared to the soil around red maples. This can affect the growth of other plant species.

Shallow Roots and Storm

Damage: Norway maples have an extensive root system which q



Samaras from *A. platanoides*. The wind carries them further than those of our native maples due to the wide spread of the wings.

quickly absorbs rain and deprives nearby plants of moisture. They are also shallow rooted, making them less stable and vulnerable to storm damage.

Impact on Biodiversity: Norway maple seedlings easily invade and then damage [forest ecosystems](#).

Few native plants or trees can exist under their dark and dry canopy. Norway maple easily outcompetes them resulting in biodiversity loss in both plant and animal species.

Why are there so many?

Municipalities began planting Norway maples in great numbers following WWII after [Dutch elm disease](#) devastated the urban tree canopy. Currently, in the City of Hamilton, Norway maples make up [16% of the street tree population](#). This number does not include the many trees planted on private properties and those which have spread to natural areas. In the past, plant nurseries embraced this species and developed a [multitude of cultivars](#) appealing to homeowners. If you see a maple tree with red leaves in summer, it is most likely a Norway maple cultivar.

Norway maple (<i>Acer platanoides</i>)	
Leaves	<ul style="list-style-type: none"> • 5-7 lobes, smooth leaf edge • Leaf leaf petiole and bud scales exude a milky white sap when broken
Flowers	<ul style="list-style-type: none"> • Greenish-yellow, erect in terminal clusters, 5 petals and 5 sepals
Fruit	<ul style="list-style-type: none"> • Green to brown pair of samaras divergent at almost 180°, each samara is 3.5 – 5 cm long

Identification of Norway Maple (A. platanoides) Image: [ONT Invasive Plant Council](#)

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GARDENING IN THE DRY SHADE OF NORWAY MAPLES (CONT'D)

But aren't all trees good? It's true that all trees [sequester carbon](#). And Norway maples are particularly good at cooling homes—at my house the A/C is rarely on, even in a heat wave. In a [European study](#), a canopy of *Acer platanoides* lowered the surface temperature by 13.5C. This significant local cooling contributes to similar, wider effects in ['urban heat islands'](#). But the overall negative impacts of Norway maples far outweigh their cooling benefits.

The Succession Plan

Over 25 years we've removed only three of the original six trees on our property. I've tried growing various ground covers—from turf grass to (*gasp!*) periwinkle. Over the years as my gardening priorities shifted toward sustainability, biodiversity, and ecosystem support, out went the periwinkle and in came *the plan*.



Leaves of the Norway maple are raked into garden areas each fall to improve the soil texture. The depth can often reach 45 cm in the fall, but by June, there's little to no leaf litter left on the soil.

Image: J. Mackey

We began the transition to a new landscape made up largely of native species. While some homeowners might have removed all six trees at once, we chose a more gradual approach. Here's a brief summary of some of the steps we took over a period of about five years.

Native Plants for Full Shade with Dry Soil

TREES	
<i>Celtis occidentalis</i>	common hackberry
<i>Cercis canadensis</i>	eastern redbud ☀️
<i>Hamamelis virginiana</i>	witch hazel ☀️
<i>Ostrya virginiana</i>	American hophornbeam
SHRUBS	
<i>Cornus racemosa</i>	grey dogwood 🍃
<i>Corylus americana</i>	American hazelnut
<i>Diervilla lonicera</i>	northern bush honeysuckle 🍃
<i>Lindera benzoin</i>	spicebush
<i>Rhus aromatica</i>	fragrant sumac 🍃
<i>Rubus odoratus</i>	purple flowering raspberry
<i>Symphoricarpos albus</i>	snowberry
<i>Viburnum acerifolium</i>	maple-leaf viburnum
<i>Viburnum lentago</i>	nannyberry ☀️
GROUNDCOVERS	
<i>Asarum canadense</i>	wild ginger
<i>Waldsteinia fragarioides</i>	barren strawberry
<i>Fragaria vesca</i>	woodland strawberry
<i>Carex pensylvanica</i>	oak sedge
<i>Carex plantaginea</i>	plantain-leaf sedge
<i>Deschampsia cespitosa</i>	tufted hairgrass

VINES	
<i>Clematis virginiana</i>	Virgin's Bower
<i>Parthenocissus quinquefolia</i>	Virginia Creeper or Woodbine 🍃
HERBACEOUS PERENNIALS	
<i>Ageratina altissima</i>	white snakeroot
<i>Anemone canadensis</i>	Canada anemone 🍃
<i>Aquilegia canadensis</i>	Canada columbine
<i>Arisaema triphyllum</i>	Jack-in-the-pulpit
<i>Athyrium filix-femina</i>	lady fern
<i>Dennstaedtia punctilobula</i>	hay-scented fern
<i>Dryopteris marginalis</i>	marginal wood fern
<i>Eurybia divaricatus</i>	white wood aster ☀️
<i>Eurybia macrophylla</i>	large-leaf aster
<i>Geranium maculatum</i>	spotted geranium ☀️
<i>Lobelia syphilitica</i>	great blue lobelia ☀️
<i>Maianthemum racemosa</i>	false Solomon's seal
<i>Polygonatum biflorum</i>	Solomon's seal
<i>Polystichum acrostichoides</i>	christmas fern ☀️
<i>Sanguinaria canadensis</i>	bloodroot
<i>Solidago caesia</i>	blue-stem goldenrod 🍃
<i>Solidago flexicaulis</i>	zigzag goldenrod 🍃

🍃 more 'assertive' nature in most dry soils. Plant accordingly.
 ☀️ plant near the edge of the canopy to allow more light & moisture

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GARDENING IN THE DRY SHADE OF NORWAY MAPLES (CONT'D)

Preparing the Planting Area:

- Consider calling a trusted, certified arborist to have the canopy of mature Norway maples raised and thinned to allow light and precipitation to reach the soil below.
- Work to improve the soil by adding arborist woodchips. We had two loads dumped over a period of three years, creating a layer almost 20 cm thick in some spots. To add plants before these layers break down, simply move the wood chips aside.
- Allow fallen leaves to improve the soil by raking them into garden areas to break down. You can speed up the process by shredding them using a mower, but this step is unnecessary as the leaves will break down by early June, even when left whole in garden areas. Plants will emerge in spite of the thick layer of leaves.



*Oak sedge (Carex pensylvanica) is a slow spreading groundcover perfect for dry shady conditions.
Image: J. Mackey*

access. To enjoy the shade, add a sitting area and a small water feature. Containers of bright annuals will add colour during the heat of summer.

Planting and Maintenance:

Planting in early to mid-fall is ideal for trees and shrubs. It gives them two seasons of cooler temperatures and moisture before the drought and heat of summer arrive. Seedlings from perennials begun the previous year through [winter sowing](#) can also settle into the garden more easily in the fall. No soil amendments are necessary as these plants need to adapt to the

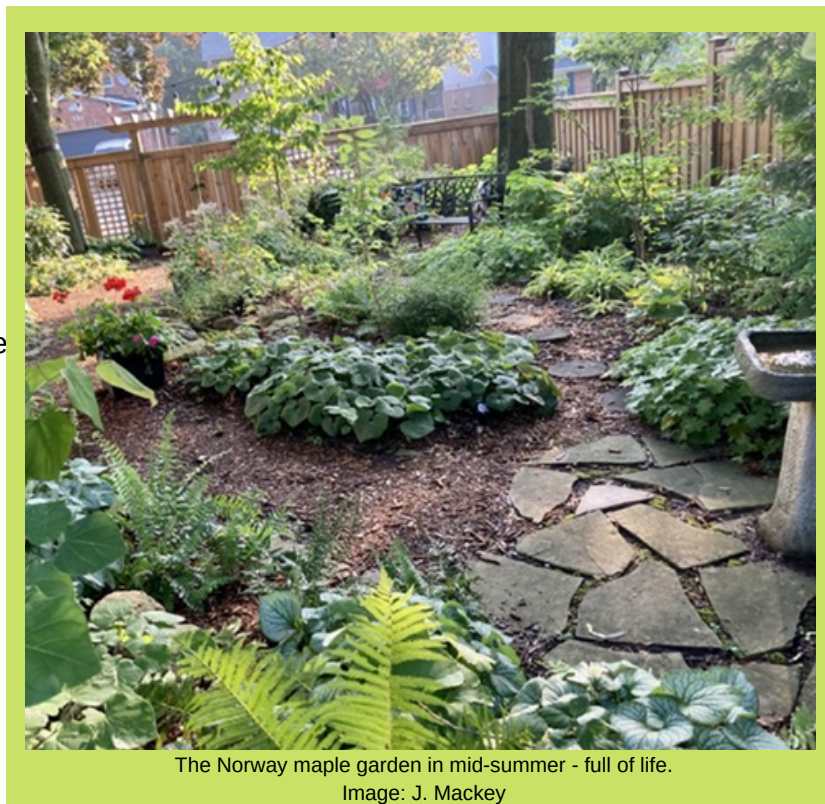
local soil conditions. Finally, it's important to get the plants off to a good start by watering them thoroughly throughout the first (and often the second) growing season. As the garden becomes established, continue with supplemental watering for understory trees and shrubs during periods of

Start Replanting

- Begin by planting only the most tolerant species below the tree canopy (see chart p. 5).

Plants for Dry Shade: Plants that are tolerant of very low light and dry conditions (better known as “dry shade”) can also be problematic in gardens. Some—periwinkle, English ivy, lily-of-the-valley for example—are invasive and should not be planted. Luckily, there are a variety of native species suitable for dry-shade planting that will support ecosystems and biodiversity. Some of these plants can be aggressive but, in my experience, if they're close to the base of a Norway maple, the tendency to grow unchecked is often restrained.

Further Suggestions: Be sure to include pathways for garden maintenance and



*The Norway maple garden in mid-summer - full of life.
Image: J. Mackey*

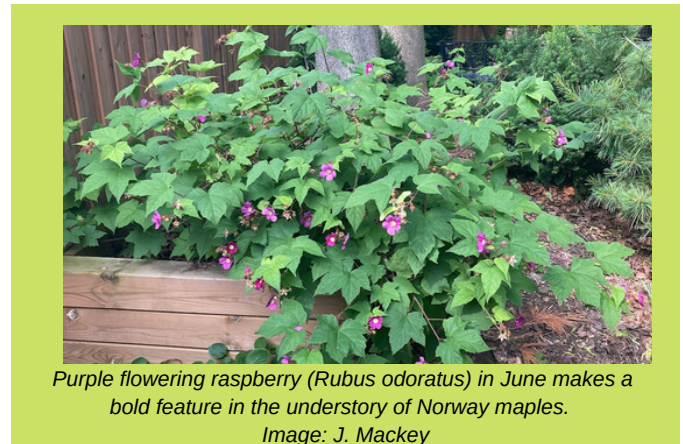
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GARDENING IN THE DRY SHADE OF NORWAY MAPLES (CONT'D)

drought. Setting the hose to dribble slowly near the base of woody plants is an effective method to gradually soak the soil in the root zone.

Planning: Plants are placed carefully, according to their tolerance for tougher conditions. The outer edge of the tree canopy offers more light and a little more moisture whereas areas near the trunk are extraordinarily dry. This is where I place plants with the most “assertive” personalities (a.k.a. aggressive root systems). Canada anemone, grey dogwood, purple flowering raspberry and northern bush honeysuckle may fall into this category. Look carefully at your tree canopy and evaluate the growing conditions for the species you’ve selected. Plant asters and other perennials in larger masses for a bigger impact.

Carefully consider these layers: groundcovers, perennials, shrubs, and trees. In one particularly dry area, oak sedge (*Carex pensylvanica*) is gradually spreading amongst the ostrich ferns, woodland strawberry (*Fragaria vesca*) and remaining hostas. Above the groundcovers, the snowberry is forming a small colony down a slope, while nearby the hophornbeam (*Ostrya virginiana*) is off to a great start. I’ve managed to include witch hazel (*Hamamelis virginiana*), pagoda dogwood (*Cornus alternifolia*) and even a white pine (*Pinus strobus*) near the perimeter. Yes, they’re growing more slowly than if they were



*Purple flowering raspberry (Rubus odoratus) in June makes a bold feature in the understory of Norway maples.
Image: J. Mackey*

beneath a red maple, but they’re growing. I urge you to keep exploring as you get to know the various conditions in and around your trees.

Going Forward: The remaining three trees will eventually be removed, but in the meantime I will enjoy our shade and emerging forest. I’ve found real joy in the various spring ephemerals, goldenrods, and fall blooming asters. The textures and smaller flowers are sometimes more delicate and definitely can be appreciated in their own right.

Further Information:

- [Dry Shade in the Temperate Garden, Giulio Veronese](#)
- [Seeking Citizenship: The Norway Maple](#)
- [Woodland Plants - Credit Valley Conservation](#)
- [21 Native Plants for Dry Shade](#)



*Slow watering of trees and shrubs using the hose set at a slow trickle
Image: [Nashville Tree](#)*



*All maple trees with red leaves in **summer** will be either invasive Norway maples or Japanese maples.
Image: Landscape Ontario*



Overwintering Your Plants

Allyn Walsh, Halton Master Gardeners

When the garden begins its winter slumber, we often say goodbye to the annuals and tender perennials which complement our trees, shrubs and perennials. This doesn't have to be the case, as there are plants which can do quite well when brought inside for the winter, and others that can stay outside if they are given appropriate protection. And of course, we can propagate some of our favourites through both vegetative propagation techniques and by sowing seeds.

While our preference is to grow native plants because of the importance of supporting biodiversity and ecologically sound horticultural practices, it is still quite reasonable to grow a few non-native plants in our garden as long as they aren't invasive and a threat to our natural lands. Commonly, these sorts of plants are annuals, which live and die in one season, and generally flower for extended periods of time. Others are tender perennials – plants which will survive many seasons when grown in frost-free climates. These tender plants are commonly treated as annuals in our growing zones. The Canadian hardiness zone map is helpful in determining which plants will survive your climate conditions.

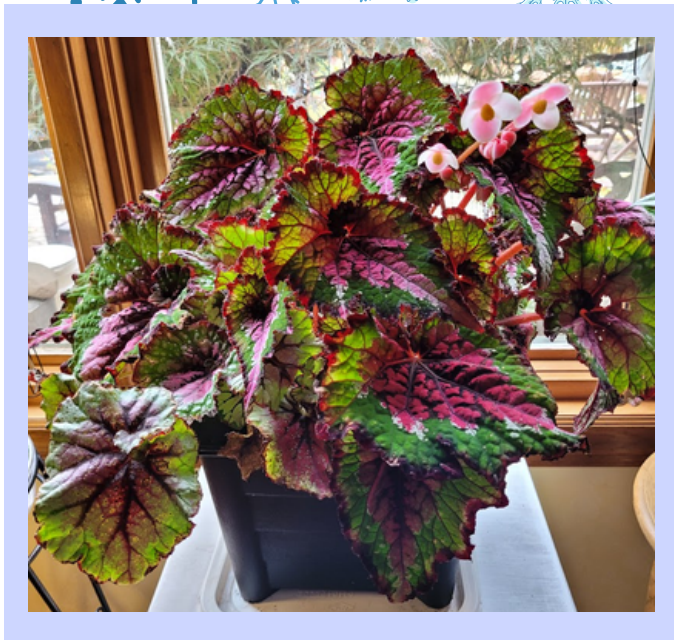
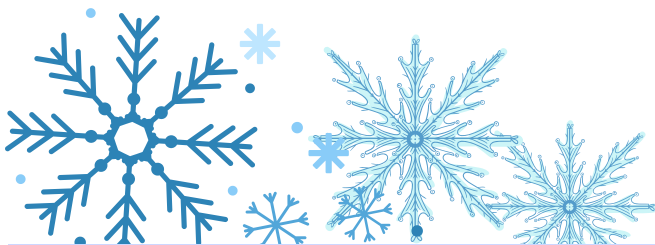
- [Ontario Plant Hardiness Zone Map](#)

The good news is that you can keep many of these plants from year to year, whether by sheltering them through the winter or by using propagation techniques.

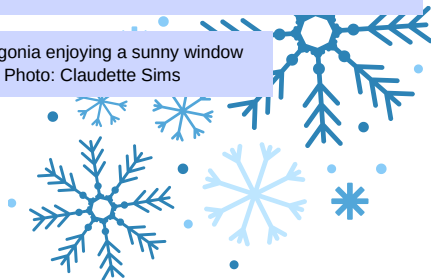
Bringing Tender Plants Indoors for the Winter

(Examples: *Pelargonium*, *begonia*, *coleus*, *rosemary*)

Plants that generally survive and may even bloom indoors include *Pelargonium* (geranium), *Solenostemon scutellarioides* (coleus) and begonia. Although not typically considered houseplants, these plants will survive the winter indoors with proper preparation. For other plants, the aim is plant survival until spring rather than active growth and flowering indoors. Bringing plants in for the winter requires some planning. Start by potting up those plants that are planted in the garden or larger containers.



Rex begonia enjoying a sunny window
Photo: Claudette Sims



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WINTER SURVIVAL STRATEGIES FOR GARDENS (CONT'D)

Allyn Walsh, Halton Master Gardener

Consider using fresh indoor potting soil to reduce the number of "critters" (sow bugs, centipedes, earwigs) in the soil. Get plants ready for lower light conditions by gradually moving them to a shadier location. You may also need to bring the plant indoors at night if temperatures dip too low.

Bringing plants in for the winter requires some planning.

Some plants may require pruning to reduce their size or to tidy them up. Before bringing plants in to the house, inspect both the plants and soil for pests and disease. Remove any yellowed or damaged leaves. A gentle spray with water will dislodge many pests. You can also spray the tops and bottoms of the leaves with a commercial insecticidal soap spray. Your plants are now ready for their indoor holiday before the first frost.



Even your sunniest window has considerably less light than the outdoors. Plants which enjoyed full sun outside are not likely to thrive indoors without supplemental light. Grow lights can help make up the light deficit if this is practical. Plants have different light requirements, and the wise gardener will investigate each plant's needs to ensure the right conditions can be provided indoors.



Our homes are very dry in the winter, and many plants will benefit from occasional misting. One of the most common causes of indoor plant death is over or under watering. Test the soil **before** watering. If the soil feels moist, wait a while. If the soil is hard or dry, water well. Make sure your plant has good drainage and don't leave water in the bottom of the pot. Most plants will not need any fertilizer as they are not actively growing in winter.

Inspect for pests weekly and remove any dead leaves or stems. When all danger of frost is past, your plants can be gradually acclimatized to the outdoors, in a reverse of the autumn process. Move outdoors to a shady sheltered spot during the day, initially bringing them in at night for a few days. Gradually increase the amount of sun the plant receives until it is ready to be planted in its permanent outdoor location.

MORE INFO:

- [Bringing Plants Indoors - Halton Master Gardeners](#)
- [Lighting for Indoor Plants & Starting Seeds, Univ. of Minnesota Extension](#)
- [The Great Plant Escape - Growing Plants Indoors, Univ. of Illinois Extension](#)



But where do all the bees go?

by Kirsten McCarthy, Halton Master Gardener

On October 10, I sat in the Shawn & Ed Brew Co. in Dundas with over 100 others eager to hear Lorraine Johnson speak. She spoke about the need for us to reconcile with the earth and become positive forces of change through land stewardship. She reminded us of all the ways that we can help our native pollinators by creating biodiversity in our gardens with a variety of native flowers, grasses and sedges. In her book, *A Garden for the Rusty-Patched Bumblebee*, she explains the importance of not only creating pollinator friendly habitat during the growing season, but also of creating bee nesting habitat in the colder months.

In the fall, once all the flowers stop producing pollen and nectar, native bees go into hibernation for the colder months. But where do they go? Depending on the species, they either choose a cozy flower stem, or a pre-lived burrow in the ground, or sometimes a previously lived-in beetle burrow. In other words, their winter homes are species specific, and they use these shelters not only for protection from predators, but also to lay eggs and rear their young.



Fall active bees love fueling up on New England aster (*Symphotrichum novae-angliae*) before winter. From left to right: *Agapostemon* sp., *Halictus ligatus*, *Bombus impatiens*.



Photo courtesy of: People's Trust for Endangered Species

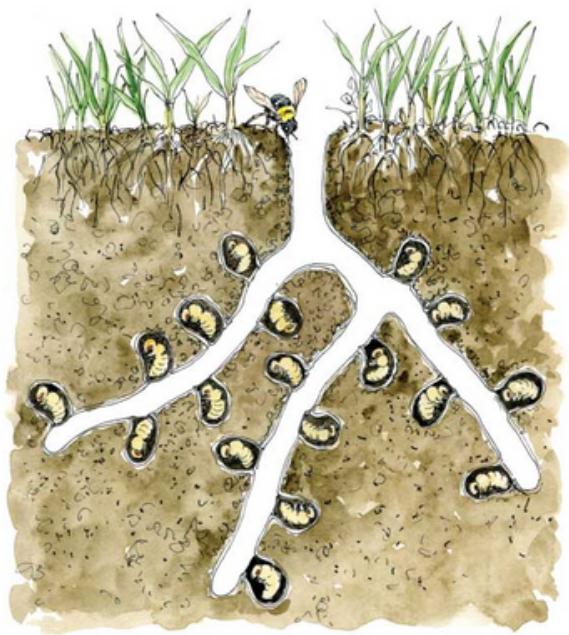
Ground Nesting Solitary Bees

Ground nesting bees, also known as miner bees, mining bees or digger bees, make up about 70% of our solitary native bees. They include some bumblebee species, sweat bees, and leafcutter bees. In the early spring, males emerge from their natal nest one or two weeks before the females, patrolling the nest area or hanging around flowering plants waiting to mate. After mating, the male plays no other part in the female's life cycle, and the female starts the process of finding a suitable place to dig her nest. It usually consists of one long tunnel and four or five side tunnels. After digging the nest, she waterproofs it by secreting a substance from her [Dufour's Gland](#) that soaks into the soil and protects the nest from microbes and environmental conditions. Once waterproofed, the female collects nectar and pollen from early blooming spring flowers and creates small pollen balls, called "bee bread", where she lays her eggs. One pollen ball is placed in each side tunnel before she seals it for protection. This "bee nursery", also called a brood chamber, is the home where most species will spend the next year, developing from an egg into an adult bee. Once they reach maturity, they only live a few weeks as adults. In that time, they need to mate, dig a nest, collect pollen and nectar (to feed their young), and lay their eggs. Upon their death, the cycle starts all over again with the bees hatching and growing underground.

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BUT WHERE DO ALL THE BEES GO? (CON'T)

Providing nesting habitat for ground nesting bees is fairly simple. Keep sunny patches or a small area of your yard bare or sparsely vegetated. Also provide sandy soil. A south facing slope or flat area can be a good location. Different ground conditions will attract different ground nesting bee species so create nesting habitats in different areas to maximize visitors. Try not to mulch or dig in these areas so as not to disturb the tunnels. If you don't have access to a yard you can also create habitat in a raised garden bed or even a large planter by mixing together sand and loam to construct a suitable nesting site for the winter.



Chambers of a ground nesting bee

Illustration: Motherearthnews.com

Cavity Nesting Solitary Bees

About 30% of our native solitary bee species make nesting sites in dead trees (snags), large dead branches or hollow stems. Some species of leafcutter bees, mason bees, large carpenter bees and sweat bees will often find their overwintering home in old dead wood previously occupied by beetles (no excavation required) to make their nests. Similar to the species of ground nesting bees, the females find a suitable cavity after mating, collect pollen and nectar and build their nest before laying their eggs.

Just like ground nesting bees, they lay their eggs on each "bee bread" of pollen, but instead of building separate rooms underground, they build chambers (or cells) separating each egg in the tunnel. Species of mason bees use mud to build their walls between the eggs while leafcutter bees divide the eggs with leaves cut and collected from nearby trees and shrubs. They continue this process until they fill the tunnel with a row of separate chambers. Sealing the nests on the outside provides protection from possible predators.



Photo courtesy of: Xerces Society for Invertebrate Conservation

Creating habitat for cavity nesting bees requires placing old logs or stumps (ideally with beetle tunnels) in a sunny area. Placing some of the deadwood upright ensures the habitat stays dry. If there isn't a beetle tunnel, drill 6 mm (¼") diameter holes that measure 13-15 cm (5-6") deep on the southeast side of the deadwood. Bees that nest in deadwood will often have multiple nests. You can also attract cavity nesting bees to your garden by cutting down hollow or pithy stems from flowers such as Joe Pye weed, wild bergamot, mountain mint and swamp milkweed in the spring at heights ranging from 20-60 cm (8"-24") and a variety of stem diameters from 3 mm (1/8") to 8 mm (5/16") around.

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BUT WHERE DO ALL THE BEES GO (CON'T)

In Hamilton, recognizing the importance of creating nesting habitat for native bees became a reality this past summer at McMaster University's new nesting garden located behind Alumni Memorial Hall on the main campus.



This photo shows a cross-section of a hollow reed used by cavity nesting carpenter bees. The hollow stem has been divided into brood chambers by walls of chewed up plant material. Courtesy of Xerces Society.

As part of their [Native Bees of McMaster Project](#), Arts, Sciences and Interdisciplinary Minor in Sustainability students worked together to create this special nesting garden that will hopefully see the increase of native bees to the area. Planting native species near the garden ensures the bees will have pollen and nectar close by to feed their young after they hatch. The students hope the new garden will help bring awareness of the importance of increasing our native bee population and help take care of them in the face of habitat destruction, climate change and loss of biodiversity.



The garden can be found behind Alumni Memorial Hall. Photo courtesy of [dailynews.mcmaster.ca](#)

How to Create Habitat for Stem-nesting Bees



WINTER

Leave dead flower stalks in-tact over the winter.

SPRING

Cut back dead flower stalks leaving stem stubble of varying height, 8 to 24 inches, to provide nest cavities.



Female bees find cut or naturally-occurring open stems, start a nest, then lay an egg on the pollen balls. Larvae eat the pollen.



SUMMER

New growth of the perennial hides the stem stubble.



Bee larvae develop in cut dead stems during the growing season.



FALL



WINTER



Bees hibernate in stems during the winter.



SPRING

Cut back dead flower stalks. Old stem stubble will naturally decompose.



Adult bees emerge and start nests in newly cut dead stems or in naturally-occurring open stems.



[Graphics and content](#) Colleen Satyshur, Elaine Evans, Heather Holm, Sarah Foltz-Jordan

Learn more:

- [Where do all the pollinators go?](#)
- [Leave stems for native bees](#)
- [New nesting garden to help boost population of native bees](#)





By Patty King, Halton Master Gardener

Reflect Back

Now that we are in October, it is a good time to look back over the growing season to determine if a lack of nutrients is the sole cause of a low vegetable yield. Overtime nutrients in the soil get used up by the crops you are growing. The quick and easy answer is yes, it is always beneficial to amend the soil with good compost to help improve the nutrients in your soil. However, let's back up a minute and consider a few other variables first for a declining yield.



*photo Credit: Johnbraid/Shutterstock

[Crop Rotation 101- Farmers Almanac](#)

Let's look at your environment. Do you still have as much sunshine available as you did years before? Unless you are growing your vegetables in a sun-filled open meadow chances are you get some shade during the day. Consider the size of neighboring trees, new buildings, fencing, or encroaching shrubs and plants that could cast shade on the veggie patch. Another environmental issue is the weather you experienced this season/year. A cooler, rainier growing season will slow down the growth of crops and can also reduce their size. Conversely, a hot dry summer means you may be watering more frequently, perhaps irregularly. Some vegetables such as cucumbers do not do as well in hot dry conditions; others like herbs are loving those conditions.

“ I've noticed the yields of my vegetable garden have lessened over the last couple of years. I'm suspecting my soil is less nutrient dense. Any suggestions for what to amend the soil with? ”

Next to consider is whether you had pest problems. Like the weather, pest problems tend to be different in severity from year to year. If this was a bad cabbage fly season for you then your [brassicas](#) probably underperformed.

Consider rotating your vegetables from year to year. What is crop rotation? It is the practice of not planting the same crop in the same place in back-to-back years. Growing (for example) potatoes in the same place year after year brings in pests and fungal diseases that hurt your potato crops. By rotating different vegetable families (potatoes are in the nightshade family) you greatly reduce pests and diseases. Get to know what family your veggies belong to and learn to rotate them yearly.

Now that you have considered other possibilities you can look at adding compost to your garden beds. Compost improves soil structure and provides some plant nutrients; it is organic matter made of plant material, and animal material in the form of composted manure. The best compost is the one you make yourself. However, animal manures are also great composts to add. If you are buying animal manures directly from a farm, it is important that the manure be well rotted. If it is too fresh the manure can burn the plants. Mushroom compost is also available, and those who live closer to the ocean can find seaweed made into compost. A yearly amendment of 2 inches of compost of any kind is usually sufficient to supply the nutrients your garden may need.

Sources

- [Organic Matter and Soil Amendments | University of Maryland Extension](#)



Garden Inspiration!

Benefits of Leaving the Leaves!

1. Winter cover for invertebrates and pollinators
2. Replenishes nutrients in your soil
3. Builds healthy soil structure
4. Reduces carbon footprint of garbage disposal
5. Reduces the amount of methane generated
6. Trees need leaves as part of a natural cycle
7. Provides insulation for plants
8. Protects new plants from frost heaving
9. Prevents erosion of the soil in winter
10. Free mulch and less work!



Posters - [Xerces Society](#)

Seriously, Leave the Leaves-and Invasive Jumping Worms!



We've had numerous reports of invasive jumping worms spreading this year. They can arrive via leaves, compost and soil. There is currently NO effective treatment for jumping worms-they damage plants and will devastate our forests, reducing biodiversity.

We are recommending that you NOT collect leaves from other gardens. You may be saving insects, but you may be spreading something much worse.

For more information about invasive jumping worms:

- [Invasive Jumping Worms – Information for Home Gardeners](#)
- [Invasive Jumping Worms - Poster and ID](#)

What's Growing On?

By Trish Moraghan, Halton Master Gardener

GREEN VENTURE PROGRAMS



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Learn more [here](#)

MINI FOREST TREE PLANTING

Windermere Basin Park
Sat. Nov. 4

Shift 2: 12:00 PM - 2:00 PM




Learn more [here](#)



Horticultural Society Meetings



Learn more [here](#)



Burlington Horticultural Society

Learn more [here](#)



Learn more [here](#)



Georgetown Horticultural Society

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About Our Newsletter

Cross Pollination is published monthly from February to December and is written and prepared by our dedicated volunteers. Halton Master Gardeners are experienced gardeners who have studied horticulture extensively and continue to upgrade their skills through technical training. We strive to provide science-based, sustainable gardening information to the general public. The information in our newsletter has been verified by our volunteers to the best of our abilities, but given the scope of horticulture and science some concepts may not reflect current knowledge. The content displayed in our newsletter is the intellectual property of Halton Region Master Gardeners and their authors. It can be shared in its entirety, but specific content should not be reused, republished or reprinted without the author's consent.

Copy Editor: Isabel Belanger

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