

CROSS POLLINATION

Halton Master Gardeners Monthly Newsletter DECEMBER 2024 | VOL. 17 ISSUE 11

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Green for the Holiday: Christmas Fern, A Seasonal Wonder

By Janet Mackey, Halton Master Gardener

We've officially entered the season of muted tones in our gardens and nearby natural areas. Hopefully there will be some glistening snow in our region in the coming weeks, but, if it's like last year, it will indeed be the season of browns and greys. Beautiful in structure and textures, but still --- brown. But, wait!

When, what to my wondering eyes should appear, But, multiple fronds spreading hope and good cheer! (even in January)

Yes, Christmas Fern, *Polystichum acrostichoides*, is a delight in the shaded garden, lending its dark, leathery green fronds and coarse texture, contrasting beautifully with nearby Wild Ginger, *Asarum canadense* or as a groundcover to nearby understory shrubs and trees (i.e. *Cercis canadensis* or *Cornus alternifolia*). And while suited



Image: Fine Gardening

to the role of 'groundcover', it will NOT spread by rhizomes. In time, the clumps can be lifted in spring or fall and gently separated into smaller individual plants. It is a slow process to fill an area using this method, but you will be rewarded with a tough and interesting texture in the garden. Speaking of tough, Christmas Ferns are amazingly tolerant of cold.

Continued on next page

GREEN FOR THE HOLIDAY (CONT'D)

These ferns can sustain conditions hardy to zone 3! I can also attest to their durability in dry shade as they grow successfully near the established and dreaded Norway Maples, *Acer platanoides*. The key to their

success is owed to regular watering the first two seasons, a load of wood chips and the annual drop of leaves which are left in place around the ferns each fall.

Be sure NOT to place this plant in consistently moist or poorly drained soil. It's well-suited to being planted in the shade, near rocks in the landscape, along slopes, or as previously mentioned, near the base of trees and shrubs.

The common name of Christmas Fern likely came about since the fronds were routinely used as cheerful decor around the holidays.



A beautiful textural plant in the shaded garden. Image: NVK



Note the 'stocking shape' of the grouping of sori on fertile fronds of Christmas fern. Image: Master Gardeners of N. V.



Emerging fronds in spring (not edible) Image: Master Gardeners of N. V.

One more highlight of Christmas Fern that is delightful is the emergence in spring of the <u>crosier</u> or fiddlehead. It somehow resembles a small, furry creature which I find really pleasing. Don't consider eating these fiddleheads though. They are viewed as NOT edible due to possible toxicity from carcinogens and can cause other adverse health effects. Be safe and know your ferns.

Finally, Christmas Fern is a part of the shield fern plant family <u>Dryopteraceae</u> (which is sometimes referred to as the family of wood ferns). One common feature is the rounded shape of individual <u>sori</u> which is helpful in identification.



Plant Type (Family): Perennial

(Dryopteridaceae)

Height/Width: (H)30-60 cm (1-2') (W) 30-60

cm(1-2')

Flowers: non-flowering

Faunal Value: An aphid may visit to enjoy the juices. It is the host plant of Serpentine Webworm. White-tailed deer visit infrequently. Ruffed grouse and Wild turkey may consume the

fronds. Some birds (Veery, Ovenbirds) reportedly use the fronds as nesting sites in the spring.

Companion Plants: Wild Ginger (*Asarum canadense*), Ivory Sedge (*Carex eburnea*), Coral Bells (*Heuchera*)

Tolerates: rabbits, deer, dry shade once established, rocky soil, drought

Growing Advice: Plant on slopes, in full or dappled shade. Avoid planting in poorly drained soil due to a tendency to develop crown rot.

Native Range: Mid to Eastern North America, from Georgia to Ontario, Quebec and Nova Scotia

Notes: While the emerging fronds resemble fiddleheads consumed for their fresh spring flavour...Christmas Fern fiddleheads are **NOT** edible. Historically, Indigenous Peoples have made use of the evergreen fronds for a variety of medicinal treatments (See <u>Adirondack Nature</u>).

Wishing You a Frond-erful Holiday Season!

For More Information/Reading/References

• Adirondacks Nature: Christmas Ferns

• Illinois Wildflowers: Christmas Fern

• Go Botany: <u>Dryopteridacae</u>



DECEMBER GARDEN 'TO DO' LIST

By Claudette Sims, Halton Master Gardener

Final Garden Check – Last chance to put away watering cans, garden equipment and hoses.

Trees – Make sure young trees and shrubs are protected from rabbits. Use tree wraps or wire baskets placed over smaller plants. Plan major tree or shrub pruning now while branches are bare.

Houseplants – Check weekly for disease or pests. Remove dead or dying foliage. Make sure you check the soil before watering.

Amaryllis – pot up your amaryllis. Choose a pot 1-2 inches larger in diameter than the bulb and at least 5 inches deep with good drainage holes. Add a light indoor potting mix and then place the bulb (roots down & pointy side up) in the pot. Add soil to within an inch of the top so that about ½ to 2/3 of the bulb is showing. Water well, avoiding water on the neck of the bulb.

Stems & Seedheads – Leave seedheads and stalks intact over the winter.





Create a Brush Pile Habitat!

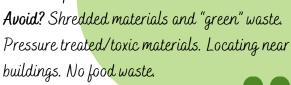
Why? Year-long shelter for insects and wildlife. Protects birds from predators.



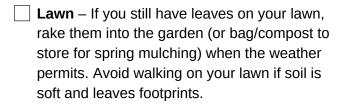
How? Start with a base of larger branches or stones. What to use? Woody twigs, prunings and logs. Rocks and concrete blocks are good for basking and shelter

or as a base.

Where? Discretely located at the back of the garden, behind/around shrubs or perennials.



Learn more at Nurture Native Nature!



Food Crops – Cover carrots, parsnips and newly planted garlic with straw to harvest in the spring. Collect rose hips and hawthorns for jelly or tea.

■ **Bulbs** – Get those bulbs in the ground before it freezes solid!

Live Christmas Trees – Donate your tree to a local organization such as the <u>RBG</u>, cut it up and return branches and logs to your garden or use it to start your new brush pile! Remember to remove all decorations and tinsel.

Winter Sowing – Get your equipment ready to start your native plant seeds! Halton Master Gardener Bev Wagar will show you how!

Happy New Year! A reminder that there is NO Cross Pollination newsletter in January.

YOU SAY TOMATO AND I SAY "SOLANUM LYCOPERSICUM": USING SCIENTIFIC NAMES

By Allyn Walsh, Halton Master Gardener

One of the first problems confronting gardeners who are getting serious about their plants is what to call them. Growing up, most of us heard plants called by names that were often descriptive and that used familiar and easily pronounced words. We see similar terms used in the horticultural trade, for the most part. These "common names" are easy and handy, so why should we use any other terms when we are gardening?

A rose by any other name....

Common names generally reflect specific cultures and local areas. Take Caltha palustris — a plant commonly called Marsh Marigold in our region. In the UK, it is called a Primrose — although it is not related to the Primula family any more than it is part of the Marigold or Tagetes family. Same plant, different names in different regions.



If you go to a nursery and ask for a Red Maple, there are several cultivars of *Acer rubrum* and *Acer platanoides* which share that common name – and they are very different trees. There are interminable examples of this sort of thing. Determining a unique name for each living organism prevents endless confusion and frequent errors as well as clarifying the relationship plants have to one another. When you need a specific plant for your garden site, you want to be sure that is what you are getting. And when you want information about a plant, you want to be sure that you are getting details about the right plant.

Aren't binomials something to do with math?

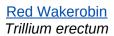
Well, yes, the term binomial is used in algebra, but it has a different meaning there, so let's not confuse ourselves! Almost 300 years ago Carl Linnaeus developed the Binomial System of naming living organisms, still in use today.



Portrait by Alexander Roslin, 1775 wikipedia.org

Binomial means "two names". These binomial names are referred to as the botanical, scientific or Latin name. (Anyone else see the irony in having several different interchangeable terms for this type of naming? We humans struggle to be consistent.) For living organisms, the binomial system refers to the "two names" given to each. The first or Genus name is always capitalized and the second name is the specific epithet or species, and is not. Both components are either italicized (usually when typing, or underlined, usually when handwriting). Thus, Ontario's provincial flower, the White Trillium, is Trillium grandiflorum. Red Wakerobin is a closely related plant – *Trillium* erectum. The fact that they are closely related but different species is evident from their scientific naming.

Great White Trillium Trillium grandiflorum





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USING SCIENTIFIC NAMES (CONT'D)

How about the quotation marks?

When selecting plants from the horticultural trade, you will often see plants with three names: the genus, the specific epithet, and a third name in single quotation marks, reflecting a cultivar name. The term cultivar is derived from "cultivated variety" and reflects that the plant has been intentionally bred (a cultivar can occur in nature as a mutation of a single plant, but that is rare). A variation is the term "nativar" which refers to a cultivar originally derived from a plant native to a particular region. Plant breeding programs tend to focus on appearance or hardiness and the biodiversity benefit of the plant may be diluted or entirely lost in the process. Cultivar/nativar names are not italicized and are capitalized. Here is an example using the dwarf version of the plant commonly known as Joe Pye weed.

Genus	Specific epithet	Cultivar
Eutrochium	dubium	'Little Joe'

Spotted Joe-Pye Weed, Eutrochium maculatum



Image: Jennifer Benner, Fine Gardening

Joe-Pye Weed 'Little Joe' Eupatorium dubium,



Image: High Country Gardens

When we are discussing different plants from the same genus, their genus name can be indicated by the first letter alone when listing other species. For example, when writing about a selection of Goldenrod, Solidago species, we might include Solidago canadensis, S. caesia, and S. flexicaulis.

There are other naming conventions to indicate plant varieties and hybrids - but let's leave that for another time. The plant nerds among us might enjoy this more detailed article: Writing Botanical Names.

The scientific name is very helpful when we are searching for native plants in their original form rather than a cultivated variety which is bred (usually) in the trade for appearance rather than function in supporting biodiversity. Echinacea purpurea has become a popular plant because of its hardiness and long bloom period; breeders have produced a plethora of cultivars based on the bloom shape and colour.

These cultivars include the genus name, usually but not always with the specific epithet, and a variety name in single quotation marks. An example is *Echinacea purpurea* 'Pink Double Delight'. The knowledgeable native plant gardener would prefer the straight species to best attract pollinators and support seed eating wildlife.

Purple Coneflower, Echinacea purpurea



'Pink Double Delight', Echinacea purpurea



Image: Gardenia

But how do I say those tongue-twisting names?

Let's face it – nobody likes sounding foolish, and botanical names are composed mostly of Latin roots with a bit of Greek thrown in, words we don't routinely say. But carefully saying a name, whether the pronunciation is correct or not, is the most helpful way of remembering it. We really shouldn't care if the emphasis is on the wrong syllable or if we use the wrong vowel form.

Continued on Next Page

USING SCIENTIFIC NAMES (CONT'D)

Remember, the "correct" pronunciation is different in different countries - even between the U.K. and North America – so there really isn't one correct way to say these names. That said, one can look up a plant on Missouri Botanical Garden Plant Finder, click on the speaker icon at the top of the page, and hear the American pronunciation of the name.

What's in a name?

The Binomial System is not only unique for each plant, but also generally quite descriptive. While most of us haven't studied Latin, with usage we soon begin to recognize the meanings behind many plant names. The specific epithet or species name may describe the plant, give information about its origins, or indicate its preferred conditions. Over time, as we become familiar with the terms, we learn something about the plant. Here are just a few examples in the next column.

Species Name	Meaning
trifolata	three lobed leaf
alba	white
rubra	red
canadensis	Canada
maritima	seaside
palustris	marsh, swamp
sylvestris	woodlands
virginiana	State of Virginia

You can see a more extensive list at this link: The meaning of Latin plant names.

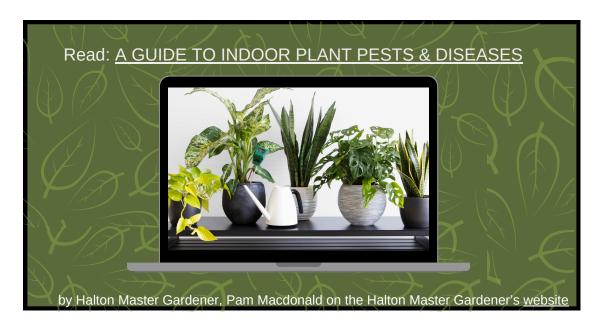
Learning to use scientific names for our plants does take some work – but like every effortful thing, it becomes easier and easier with practice. It is worth the effort to better understand and know our plants!

Further Information:

- What's in a Name: Wisconsin Master Gardeners
 Landscape Plants- Oregon State
- About Plant Names: Horticulture Magazine
- Plants & Gardening FAQ LuEsther T Mertz Library







Planning Your 2025 Garden? Keep Bumblebees Buzzing!

Science Sp&tlight

Nikolina Radulovich, Halton Master Gardeners

If you've ever been enchanted by the gentle hum of bumblebees flitting from flower to flower, you understand the joy these pollinators bring to our gardens. However, creating a bumblebee-friendly garden goes beyond merely selecting any flower marketed as "pollinator-friendly". New studies show that not all flowers equally support bumblebees. So, how can you transform your garden into a vibrant haven for these buzzing creatures? It starts with understanding their preferences and planning for their needs year-round.

Diversity is key to attracting bumblebees. Research by <u>Pfeiffer and colleagues</u> highlights that urban gardens with a wide variety of flowers, particularly native species, are hotspots for bumblebee activity. As generalist pollinators, bumblebees visit many types of flowers to collect nectar and pollen, unlike specialist bees which depend on a specific plant species for survival. However, bumblebees still have their preferences. Plants like Goldenrod, Bee Balm, and Purple Coneflower are among their top picks, offering abundant nectar and pollen while blooming at various times throughout the season. A pollinator conservationist, <u>Heather Holm</u> also recommends native species for bumblebees including Wild Bergamot, Wild White Indigo, Smooth Beardtongue, Hoary Vervain, Wild Columbine, Smooth Solomon Seal, Spotted Joe Pve Weed, and Virginia Mountain Mint.

While it might seem any flower will suffice, a <u>recent study</u> suggests otherwise. Different plant cultivars (varieties of the same species) can significantly vary in their appeal to pollinators. What sets these cultivators apart? Nectar production is the key factor - some flowers yield ten times more nectar than others, making them more attractive to pollinators.

Annuals are a favourite for brightening up gardens each season, but did you know some are much better for attracting bumblebees than others? Certain annual varieties like Zinnia 'Zahara Sunburst' and Marigold 'Alumia Vanilla Cream' are buzzing with pollinator activity, far outperforming less appealing options like Begonias, Impatiens or Petunias. By selecting the right blooms, you can create a garden that's not just colourful but also a magnet for bumblebees!



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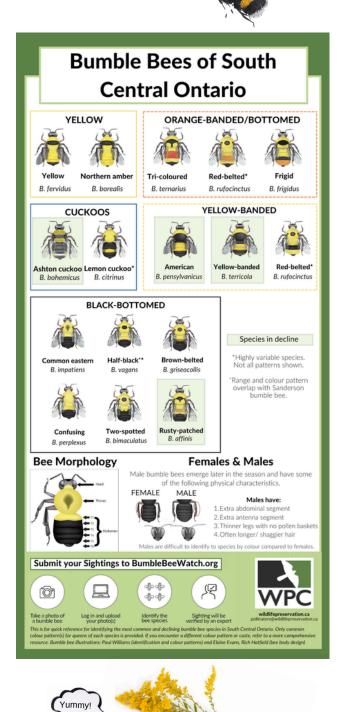
KEEP BUMBLEBEES BUZZING (CONT'D)

To keep bumblebees active and thriving, your garden needs a steady supply of blooms from spring to fall. Bumblebees depend on consistent food sources throughout the season. Gardens featuring plants with staggered bloom times see significantly more bumblebee activity. Early bloomers like Spirea, Beardtongue, and Solomon Seal help jumpstart the season, while late bloomers such as Joe Pye Weed, Bee Balm and Purple Coneflower ensure the buzz continues well into autumn. By planting a diverse range of flowers, you can create a garden that supports bumblebees from spring to fall.

Did you know that bumblebee populations in Southern Ontario are rapidly declining due to habitat loss and changes in the landscape? Ontario's current policies regarding landscape dedication to support bumblebees are not as robust as recommended by recent research. While the province has made strides in promoting pollinator health through programs such as the Pollinator Health Action Plan, the province's existing conservation efforts are not sufficient to halt the decline of bumblebees, and more targeted actions such as the recommended 11.6–16.7% of the landscape dedicated to suitable habitats are necessary to make a significant impact.

You have the power to make a real difference in helping reverse the decline of bumblebee populations by creating pollinator-friendly spaces in your own garden. Whether in an urban or rural setting, these habitats provide essential resources and nesting sites that support bumblebee survival and reproduction. As you plan your 2025 garden, be sure to keep these vital pollinators in mind. Adapt your garden to be pesticide-free or use ecological alternatives to ensure a safe environment for them.

With thoughtful planning and the right plant selections, you can cultivate a beautiful, buzzing ecosystem that not only supports bumblebees but also enriches your garden for years to come.



Useful Websites:

- Canadian Seed Catalogue Index (CSCI)
- Native plants
- About Native Bumblebee Species (see page 2)
- GTA bumblebee conservation efforts



success after much trial and error. I would like a

recommendation on types of vegetables and fruits

appropriate for small systems. I'm also looking for a

Canadian source of organic seeds. 99



By Hariette Henry, Halton Master Gardener

Congratulations on producing some nice-looking leafy greens. As you may already be aware hydroponic gardening offers some advantages over traditional gardening such as: efficiency of space; less water used; no weeds; less pesticide use; faster crop maturity; and year long crop production using artificial lighting.



Image: Nandita Colbear

It's difficult to tell from your photo but I'm wondering if you have one of the commercially manufactured ready-made units such as the AeroGarden*. These systems are popular choices for first time hydroponic gardeners as everything you need is included in the package. Plants are grown in containers, often called pods, with their roots submerged in nutrient-rich water. A small pump circulates the nutrients and oxygen keeping the plants healthy.

These systems can also be constructed using general supplies from a local home centre or hardware store (click for a DIY how-to video). In hydroponic systems plant nutrients are delivered by dissolving fertilizers in the water. Home hydroponic growers have many options for providing nutrients. Your supplier should be able to help you find the right approach for you and the crops you plan to grow. EC (electrical conductivity) refers to the concentration of nutrients in the solution and pH is a unit of measurement that indicates how acidic or basic the solution is. EC and pH requirements vary somewhat depending on the crops you are growing. Their levels should be tested regularly to make sure they remain within the recommended range.

Meters for measuring EC and pH are available either online or from a local gardening supplier. Plants take up water and release it through transpiration so water levels will drop and must be replenished. You probably want to replace the nutrient solution and clean out your system every 2 to 3 weeks or between plantings.

Common plants for smaller systems include various types of lettuce, spinach, kale, Swiss chard, arugula, basil, parsley, cilantro, dill, mint, cherry tomatoes, strawberries, peppers and micro greens. Small systems are limited in what they can grow by the size and space available in the unit. If you'd like to grow a standard tomato in a small system, consider the size of the canopy of a mature tomato plant.

Seeds labeled organic are available through various catalogues like William Dam Seeds, West Coast Seeds and Hawthorn Farms in Mount Forest, ON and can be purchased through their websites. The organic label means the seed crop is not exposed to any prohibited chemicals while it is growing in the field, being harvested, or processed.

*Note: This product is still available at retail hardware stores and big box stores, and it is available on Amazon.ca and Wayfair.ca, but on the website it appears that in 2025 they will no longer be supporting the product in Canada.





GARDEN INSPIRATION







SCAN FOR WINTER SOWING DETAILS

GATHER SUPPLIES



FROM NATIVE PLANTS

THAT REQUIRE

COLD/MOIST



SOIL

POTTING SOIL IS BEST



RECYCLED CONTAINERS

CLEAR PLASTIC, OR CLEAR PLASTIC LID

PREPARE CONTAINERS

TYPE 1



LID OFF ADD VENTING HOLES OR FLAPS FOR MOISTURE AND AIR CIRCULATION

ADD PLANT LABEL **CUT BOTTLE NEAR** THE BOTTOM LEAVING **ABOUT 5 CM TO FORM** A "HINGE"

ADD MOIST POTTING MIX LABEL

ADD DRAINAGE HOLES TO BOTTOM BEFORE ADDING SOIL

TYPE 2 SAME AS ABOVE BUT:

- ADD VENTING HOLES ON LID
- INDIVIDUAL POTS RECOMMENDED
- PLACE LID ON AFTER PLANTING!
- ADD DRAINAGE HOLES то воттом

PLANT

- 1 GATHER NATIVE SEED IN THE FALL (CHECK COMMUNITY GROUPS, SEED LIBRARIES AND GARDENS).
- **2** BEFORE PLANTING, CHECK THE **GERMINATION REQUIREMENTS OF** YOUR SEEDS.
- 3 PLANT SEEDS AT A DEPTH THAT IS TWICE THE SIZE OF THE SEED. **COVER LIGHTLY WITH SOIL.**
- 4 USE TAPE TO SEAL TOP TO **BOTTOM IF NEEDED.**







PLACE OUTSIDE



- * PLACE CONTAINERS OUTSIDE ANYTIME FROM MID DECEMBER TO END OF JANUARY.
- CHOOSE A PROTECTED, PARTLY SHADED SITE.
- ★ CONTAINERS CAN BE GROUPED OR PLACED IN BINS (THAT HAVE DRAINAGE) TO KEEP THEM FROM FALLING OVER.
- ★ IT'S OK IF THEY'RE COVERED WITH SNOW. PROVIDE WATER IF DRY.

WATCH FOR GERMINATION



- * CHECK ON PLANTS FOR GROWTH.
- * THEY MAY BEGIN TO GROW LATER THAN YOU EXPECT - BE PATIENT! GROWTH **DEPENDS ON TEMPERATURES AND SEED** TYPE.
- ☼ OPEN THE LIDS TO FULLY VENT ONCE THE FIRST TRUE LEAVES DEVELOP.
- * TRANSPLANT SEEDLINGS TO INDIVIDUAL POTS. CONTINUE TO GROW THEM IN PARTIAL SHADE AND WATER AS NEEDED UNTIL THEY ARE LARGE ENOUGH TO PLANT IN THE GARDEN.

What's Growing On ? By Trish Moraghan, Halton Master Gardener





Register for virtual workshops in January 2025











Starting Plants From Seed



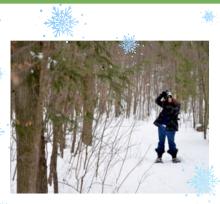


Halton Hills

Explore Outdoors This Winter



Royal Botanical Gardens



Conservation Halton

What's Growing On?







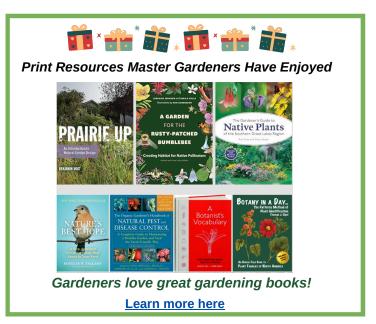


Winter Wonders



RBG Express





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.

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