

Cross Pollination

Newsletter of the Halton Master Gardeners



August Garden To Do List

- ❑ **Tomatoes**- Continue removing side shoots. Cut top growing end of tomatoes in mid-August to send energy into fruit making. Rinse out plastic milk bags and pour around base of tomatoes to add calcium to the soil - this *may* help prevent blossom end rot.
- ❑ **Cabbage looper control** (cabbages, radishes, kale, broccoli) - Hand pick caterpillars and remove eggs from the underside of leaves. You can also dust plants with all-purpose flour in the morning when leaves are dewy (helps flour stick to leaves) to control this caterpillar of the [white cabbage butterfly](#).
- ❑ **Lawn** - Check your local municipality for [watering restrictions](#). Water dormant grass when the blades don't spring back upright when you walk on it and when the blades fold to show their lighter bluish green underside; yellow lawns should bounce back in the fall when there is more rain. Late in the month, over-seed with drought resistant grass – perennial rye grass or red fescue.
- ❑ **Seeds** - directly seed carrots, beets and lettuce until the end of summer for later harvest.
- ❑ **Dwarf Alberta Spruce** - check for spider mite damage - see photo above; spider mites thrive in dry conditions; start with a strong spray from your garden hose to dislodge them, then mist or spray foliage more often to control
- ❑ **Harvest** - cut rather than tear veggies when harvesting to prevent disease and pests from attacking open, ragged stems; when you pull root vegetables like radishes and beets, don't refill the hole because the hole left by the root and root hairs helps to aerate your soil.
- ❑ **Cut back chives** that have “flopped” to encourage new growth
- ❑ **Visit & Read** - [Dogs in a Garden](#): a garden blog started by Jennifer Cornell who shares her passion for both flower & vegetable gardening in Southern Ontario.



Spider mite damage on Dwarf Alberta Spruce-
image from Purdue.edu

August
2018



According to **L.E.A.F.** (*Local Enhancement & Appreciation of Forests*), **young trees** should be watered twice per week (using approximately 22 liters or 6 gallons) right up until a hard frost. This can be done by using either of the following:

- 3 full watering cans twice per week
- a hose with *no nozzle*, using a very slow trickle for approximately 15 minutes, twice per week

Likewise, trees that have been planted for 3 or more years, should be watered as needed from spring to fall, especially during periods of drought.

Note: Always monitor the soil moisture level by probing into the soil surrounding the tree to determine whether watering is needed. If there has been a significant rainfall, watering may be postponed. It is not recommended to use a sprinkler to water trees as wet leaves can be prone to fungal diseases.

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Getting to Know Ferns

Cathy Kavassalis - Halton Master Gardener

Ferns are extraordinary plants. From deserts to the arctic, ferns grow around the globe, with some 12,000 species in 45 families. They share a truly ancient lineage tracing back more than 400 million years. Over that expanse of time, great diversity has evolved. From the miniscule pond plants to towering trees, ferns come in a huge range of shapes and sizes. While most ferns are terrestrial, some live on rock cliffs, others on trees and still others underwater. Some may live for decades underground, like the Adder's tongue *Ophioglossum reticulatum*. That outstanding fern has the highest chromosome count of any known living organism - up to 1,260 chromosomes (compare that to 46 in people). With such extraordinary variety, the fascinating lives of ferns are worth getting to know.

The feathery fern that comes to mind when we picture a fern, belongs to the plant in its spore-producing phase. This **sporophyte** is only half the story. Unlike most plants, ferns can live two quite distinct lives. A fern in the sporophyte phase can reproduce vegetatively (clones) or it can release spores. Unlike seeds, spores have just one set of chromosomes. These **haploid** spores can still transform into small plants. But these plantlets, called **gametophytes**, look nothing like their parents. They are small, easily overlooked, and often resemble little green hearts. Though a few ferns will stay in this phase indefinitely (like the Weft Fern - *Trichomanes intricatum* in Ohio), most will grow sex organs that produce ova (eggs) and sperm. Those flagellated sperm need the right conditions to swim to an egg on a different gametophyte. Only once an egg is fertilized can a new sporophyte develop. It is really quite remarkable.

For those living in Ontario, there are about 140 species of fern. Ninety of those species belonging to 26 genera are represented in Southern Ontario where I live. If I had to choose one fern to grow, it would be a **royal fern** (*Osmundaceae*). Why? Fossils of royal ferns dating back over 200 million years show that these ferns have changed little over time and were underfoot while dinosaurs trotted about the land. How cool to grow a **Cinnamon fern** (*Osmundastrum cinnamomeum*) and watch little ruby throated hummingbirds collect the downy wool (indument) to line their nests knowing that Jurassic birds may once have flown above this same flowering fern.

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Very
"punny"!



With "fronds" like these, who
needs "anemones"?
Author Unknown



August
2018

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The underside of a Barnes Narrow Male Fern, *Dryopteris filix-mas* 'Barnesii'

Alas, I have trouble growing Cinnamon fern in my dry sandy yard. Like most of our 140 native [Ontario ferns](#), it prefers moist soil in shade or part shade. I am able to grow its beautiful cousin, Royal fern, *Osmunda regalis* in a manufactured bog (pond liner under ground) with the prehistoric looking [Equisetum hyemale](#). Horesetails are easy to grow in any water holding container and make very attractive displays on decks in full sun or tucked into perennial borders. Consider adding four leaf clover ferns (*Marsilea* sp.) or one of the lovely aquatics like *Salvinia molesta* or *Azolla filiculoides*. BUT KEEP THESE AWAY FROM WATERWAYS THEY ARE HIGHLY INVASIVE!!!



August
2018

Ferns add wonderful texture to the tapestry of your garden. Weave them in amongst your perennials or give them special places to showcase their grace and elegance. Begin with one of our easy to grow Ontario native species like: Lady fern [Athyrium filix-femina](#), the evergreen Christmas fern [Polystichum acrostichoides](#), one of our many Wood ferns like the stately [Dryopteris goldiana](#), the pretty Bulblet fern [Cystopteris bulbifera](#), or one of our flowering ferns like the Royal fern [Osmunda regalis](#). With dozens and dozens of choices, the possible compositions with your other plants are endless.

While most native ferns prefer woodland conditions (e.g. part shade), they are adaptable. The rule of thumb is: *more sun* → *more moisture*. Thus something like our Sensitive fern, [Onoclea sensibilis](#), is happiest dancing along riverbanks in dappled sun, playing peasant beside the aptly named Royal fern, *Osmunda regalis*. In drier conditions, they need shade. *Onoclea* will cope with my fast draining sandy soil only in full shade with some supplemental watering.

Both Sensitive and Royal fern are [dimorphic](#), having fertile fronds that are very different in appearance. They are sometimes called 'flowering' ferns. While *Onoclea* produces beautiful black beads on its fertile fronds, *Osmunda* sends up architecturally beautiful stems bearing wrinkled golden brown [sori](#). Related to *Onoclea*, our tall Ostrich fern, [Matteuccia struthiopteris](#), also produces 'blooms' of dimorphic fronds that can provide a wonderful vertical backdrop to a perennial bed. It can enchant a dark corner but also withstand full sun, if moisture is sufficient.

In my very dry garden, the extraordinary Northern maidenhair fern [Adiantum pedatum](#) spp. *pedatum* is the most admired by visitors. Though she would grow best in a moist woodland, a slowly spreading clump has established in my [xeriscape](#) that is visually stunning. In early spring, she unfurls her deep black rachis (stems) with lime pinnules (leaflets) in front of the purple shoots of blue cohosh ([Caulophyllum thalictroides](#)) and it only gets more sublime as the season progresses. While she was at first in full shade, a neighbor removed a tree. She has continued to thrive in part sun with supplemental water during the hottest parts of summer.

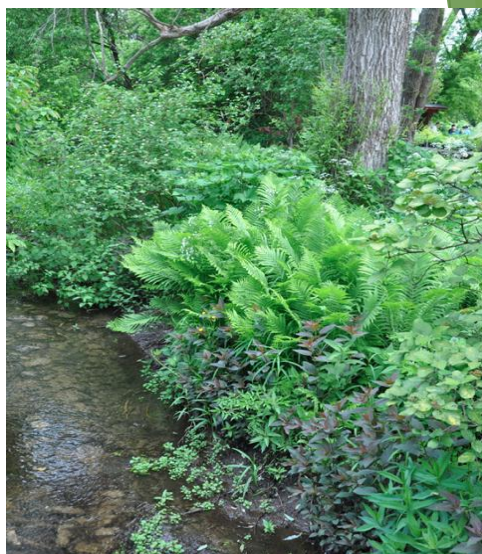
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Animals and birds, such as the snowshoe hare, white-tailed deer, grouse and wild turkey, also find some ferns tasty. Ferns also offer great shelter for small animals and birds to safely rest, feed or hide. Cdn Wildlife Federation



Royal Fern *Osmunda regalis*



August
2018

The little Bulblet fern, *Cystopteris bulbifera*, has tried to rival the maidenhair by popping up next to a display of daylilies and geraniums. In full afternoon sun, this pretty fern has created a picturesque landscape that draws the eye. The more observant will crouch down to observe the treasure the Bulblet fern bears. Curled up on the backs of fertile fronds are little gems - adorable baby ferns that can be shared with friends or used to create new drifts in the garden.

Drifts of ferns can be lovely. Landscape artist, [Roy Diblik](#), created a beautiful design using two of my favourite evergreen ferns, *Polystichum acrostichoides* and *Dryopteris marginalis*. He recommends planting these in drifts with sedges: *Carex pensylvanica*, *C. brevior* and *C. grisea*. *Geranium maculatum*, *Mertensia virginica* and *Caulophyllum thalictroides* are suggested as accents along with a few inter-planted bulbs of *Narcissus* 'February Gold' and 'Thalia' to create a striking low maintenance fernery. Pure genius.

If you are limited on space, a pretty Lady Fern, *Athyrium filix-femina* takes up little room but adds effortless beauty. From the native to the many cultivars, like 'Lady-in-Red' or 'Frizelliae' there are many variants to enjoy. Lady-in-red with its splendid red rachis can be used as a vivid accent to bring out the reds in neighbouring Red barrenwort, *Epimedium x rubrum*. Or you can go exotic and use an Asian *Athyrium niponicum* var. *pictum* cultivar with a matching *Heuchera*, and a contrasting *Hosta* for simple perfection in the shade. There are now many other easy care foreign ferns on the market, like Autumn Fern, *Dryopteris erythrosora*, that will make you weep for more garden space. Begin with a few and soon you will be adding more and more. Ferns are simply fabulous.

For more on cultural conditions of ferns, visit the authoritative Hardy Fern Foundation hardyferns.org

Photos printed with permission from the blog:

[Three Dogs in a Garden](#) by Jennifer Connell

Only spread a fern-frond over a man's head and worldly cares are cast out and freedom and beauty and peace come in.

John Muir; naturalist, author, environmental philosopher, co-founder of the Sierra Club.



Photo from: Pet Photography Tips with Elke Vogelsang - Nov. 20, 2012, goo.gl/tQfZXC

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What's Growing On?

Farmers' Markets

Visit Halton MGs in person to ask questions!

Burlington Mall Farmers' Market

Saturday August 4th & 18th
9 a.m. to 12 p.m.

Dundas Farmers' Market

Thursday
August 2nd, 16th & 30th
3 p.m. to 7 p.m.

Halton MGs Online Chats with CBC Radio

We continue to be blown away by all the questions that we get during our online chats. Send your own questions to us by Tweet to [@CBCHamilton](https://twitter.com/CBCHamilton) or via email to hamilton@cbc.ca

Tuesday, August 7th
Monday, August 13th, 20th, 27th
12:30 to 1:30 p.m.



radio

August
2018

Events in Our Community

Farm Crawl Hamilton

August 18th
10 am to 4 pm

Family run farms - up close & personal

Farm Crawl is an opportunity to get an inside look at the operations of many of our farms in Hamilton and the surrounding area.



Historic Garden Tours City of Hamilton Dundurn & Whitehern

Saturdays & Sundays in August
Check the [website](#) for details
This is a free event.



Prominently situated in a walled garden, Whitehern is an outstanding example of a mid-nineteenth-century urban estate originally owned by a wealthy industrialist.

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Our question of the month is from *Milton*!

“Why are my zucchini squash only producing male flowers?”

Zucchini's are monecious - producing male and female flowers separately on the same plant.

- o The flowers look similar, but the female flowers have small, immature fruits at their base.
- o The first flowers to appear on healthy plants are the male flowers.

Under the right growing conditions, squash will always produce more male flowers, compared to female flowers

- o As a result, fruit production appears poor early in the season.
- o As the number of flowers increases, fruit production should also increase.

Poor weather, including cloudy, rainy or extremely hot weather, the plant may only produce male flowers.

- o The optimum temperature for squash to grow is between 18 & 24 degrees C
- o Both mean daytime temperature and nighttime temperature affect sex selection of flowers
- o Cool conditions, especially cool nights are detrimental to male flower formation
- o In other words, if the temperature is cooler than normal there will be less production of male flowers; in fact, the female flowers will be produced first.

If you have a lack of female flowers:

- o Wait it out; healthy plants will eventually produce female flowers

TIPS - It can be helpful to mix the seed of your cultivar with an early forming cultivar.
Strip petals off male flowers and use them as a “brush” to pollinate female flowers!



What's bugging YOU in the garden?

Let us know if you are struggling with a plant, disease or pest issue in your garden and we'll include some possible solutions in our newsletter for others who may have the same problem.

Email haltonmastergardeners@gmail.com with your garden concerns.



Follow us on Twitter @HaltonMGs



I think that one's art is a growth inside one. I do not think one can explain growth. It is silent and subtle. One does not keep digging up a plant to see how it grows.

— Emily Carr, artist

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