CROSS POLLINATION

Halton Master Gardeners Monthly Newsletter
JULY 2022 | VOL 15 ISSUE 6

In this issue:

Halton Region Master Gardeners

New Jersey Tea - A Favourite of Mine & the Pollinators!

(Ceanothus americanus)

By Janet Mackey, Halton Master Gardener

New Jersey tea (*Ceanothus americanus*) is the most popular plant for pollinators in my garden and also has attracted some pretty unusual insects through the years. The first winter they were planted, rabbits feasted on all three shrubs, chewing them right to the ground however they bounced back producing new branches and some blooms. Again this year (5 years on), they looked a mess in the early spring from browsing, but with a little tidy up, they've bounced back and are more full of blooms than I ever remember. That's the only maintenance I do - a gentle pruning to shape & remove deadwood.

Cultural Requirements

New Jersey Tea is a low, upright deciduous shrub that grows to only three feet tall and wide. It's perfect to plant along a sunny or partly shady pathway as a low hedge. They're extremely adaptable and tough, withstanding drought and poor soil conditions because of their massive deep roots. Because of this taproot, they also don't like to be moved, so make sure you choose the perfect spot for them. They prefer well-drained, dry to moist soil, but have high drought tolerance once established. They will grow in sun to part-shade, but will produce more flowers in sunnier areas of the garden.

Continued on next page

Photo of Blue or Spring Azure on NJT: Janet Mackey

NEW JERSEY TEA (CONT'D)

The tiny white flower clusters usually last about 2 weeks and open in early summer. In the fall, the leaves change to vibrant orange and red. They are quite cold tolerant and hardy to Zone 4.

Like many native plants, NJT has a number of wildlife benefits. First of all it's a pollinator magnet that attracts many insects who seek out its sweet nectar. It's also the larval host for the Spring Azure, Summer Azure and Mottled Duskywing butterflies.

Virginia Ctenucha Moth Image: J. Mackey

This means when you grow NJT, you're actually growing butterflies as well! Keep in mind this may mean tolerating a certain amount of leaf damage as the caterpillars will consume the leaves. NJT is of great benefit to butterflies as well as our native bees. You'll marvel at the variety and size of bees and insects who visit it for its sweet nectar. I was especially happy to see a Virginia Ctenucha moth on it one day! Finally, many birds consume the seeds, including turkeys and quail.

Aptly Named!

The dried leaves of this nitrogen-fixing shrub make an excellent tea that was very popular during the Revolutionary War period- hence the common name "New Jersey Tea".

NJT can be propagated from seeds. Collect seeds in late summer and early fall. Because dry capsules disperse their seed abruptly with a sudden ejection (which I've observed on a hot, sunny day), it may be necessary to tie cloth bags around the clusters of capsules to catch the seeds. Before planting you need to treat the seeds. Bring water to a boil and pour over the seeds. Soak for 24 hours.

In adding native plants to our garden over the past 5 years, it's hard to say I have a favourite. They all have features I admire, however, if I had to choose a favourite…New Jersey Tea would be it. ✽

Learn More!

- Wildflower Farms Seed Germinating Information
- Virginia Ctenucha Moth
- Ladybird Johnson Wildlife Center
- Video of Pollinators visiting New Jersey Tea in Janet's Garden

NJT is a larval host for the Mottled Duskywing Butterfly
Image: LJW Center

JULY GARDEN 'TO-DO' LIST

by Claudette Sims, Halton Master Gardener

- [ ] **Keep Blooming** - Cut back early blooming perennials, e.g., hardy geraniums and delphiniums after the first flush of flowers to encourage new growth and blooms. Shorten stems of fall flowering plants like asters, mums, Joe-Pye weed and goldenrod to keep them sturdy and compact. Trim just above a set of leaves. Deadhead annuals by pinching or cutting with scissors to encourage blooming. More details here.
- [ ] **Common Milkweed –** Trim back **some** of your milkweed (*Asclepias syriaca*) plant stems the 2nd or 3rd week of July to stimulate new, young growth which is more attractive to monarchs. Read this article for details.
- [ ] **Lawn** – Mow high (3"/7.5 cm) to shade out weeds. Leave the clippings on the grass to return nutrients & water to the soil. WATER LESS and let the lawn go dormant in dry hot spells (turn brown). Water dormant grass when: the blades don't spring back upright when you walk on it & when the blades fold to show their lighter blueish green underside. More info here.
- [ ] **Lilacs –** Remove the old flower clusters as soon after flowering as possible. Prune just above the two new shoots that angle out from the stem that ended with the old flowers.
- [ ] **Wisteria** – Throughout the summer, remove the whippy side-shoots from the main branch framework to about 20 cm from their base (about five leaves from the main stem). Wisteria didn't bloom? Read our wisteria factsheet for help.
- [ ] **Veggies –** Water during dry or hot weather to avoid stressing plants. Do not over fertilize tomatoes as it can lead to blossom end rot.
- [ ] **Compost –** Keep adding a mix of 'browns' and 'greens' to your compost pile.

> *Get an accurate bug ID **before** taking action. This four-lined plant bug only has one generation a year and the damage is usually cosmetic. No action is really needed.*

Fourlined Plant Bug

- [ ] **Water –** spring planted trees/shrubs regularly, avoiding the hottest part of the day. Water existing trees less frequently, but deeply. Water at the base of plants, not foliage, or use soaker hoses. Stop watering garlic 2-3 weeks before harvest. Harvest when tops turn brown (about mid-July).
- [ ] **Pests –** Identify the 'pest' before taking action. That pest may be a butterfly caterpillar or a beneficial insect which keeps your garden in balance. For problem pests, start with a strong spray from your garden hose to knock them off.
- [ ] **Spongy Moth** (LDD Moth) – Wrap affected trees and destroy caterpillars daily. Watch this 1 minute video to learn how.
- [ ] **Invasive plants** – Inspect your garden for invasive plants such as Garlic Mustard or Canada Thistle.
- [ ] **Weeds** – Target removal of seedheads to reduce the seed bank for next year. Watch for bindweed and Creeping Charlie in lawns and gardens.
- [ ] **Enjoy & Assess** - Take a minute to sit and enjoy your garden. Are there any plants that are underperforming, diseased or who no longer work in your garden conditions? Consider replacing them with an ecologically productive native plant which will bring your garden to life.

Why do fungi have to pay double bus fares?

Because they take up too mushroom!

LICHEN THE 'FUN-GUYS': PART II LICHEN

By Kathleen Terry, Halton Master Gardener

Why is Lichen so interesting? What exactly is it? Is it an "it"? Why should I care? As we dirty knees people have learned an integral aspect of gardening is careful observation.

Observe Lichens

They are not the oldest living things, but they've been around for about 250 million years. It is believed that they arrived long after plants, and in my opinion, they are elegant in their sophistication. There are at least 20,000 species worldwide and they are a keystone species in many ecosystems. Lichens are an indication of air quality, a means of converting carbon dioxide to oxygen, and are an important food source for invertebrates, web spinners, deer, birds, rodents, and even the larvae of some moths like this Green Lichen Moth (*Leuconycta lepidula*) as seen in this photo taken in Guelph.

Photo: Wikimedia Commons

What is a lichen?

For a long time, people thought that lichens were plants but they are not!

When you see a lichen what you are actually looking at is a symbiotic association of several living things from two or three different kingdoms of living organisms, and all of them are functioning together as a single unit.

What makes up the "it": The sum makes the substance! Each lichen is composed of a fungus and a single cell photosynthetic organism, such as an alga or cynobacterium or both, and sometimes a yeast. Often several combinations will be found on one host (note "host" because, oh yes, lichens will often have a symbiotic relationship with another living organism, such as a tree).

The fungus is the boss with benefits. It is the dominant component of a lichen, but it is completely dependant on the other two, or three, or four, members of the group. The fungus provides an anchor, a stable structure, and protection from the elements. It also captures the moisture and nutrients needed by its partners. In exchange for these advantages the fungus gets the sugars that the others produce. It is a mutualistic symbiotic relationship.

The alga component is considered to belong to the Kingdom of plants. It is a tough organism that can survive on its own. Found on fence posts, soil surface, tree trunks, rocks, just about anywhere. Since algae are so good at producing sugars, they are of great benefit to the lichen association.

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LICHEN THE FUN-GUYS - PART II (CONT'D)

The bacterium component is a cyanobacterium and used to be called blue-green alga but is actually a bacterium. It has the ability to fix atmospheric nitrogen into a nutrient available to other organisms, thus being another great benefit to the lichen association. One of these bacterium, Nostoc, is often seen as a jelly-like substance on surfaces after a rain. It is sometimes called Witch's Butter.

Photo: Kathleen Terry

How do they get where they're going?

Lichens reproduce primarily asexually. They release tiny fragments containing all elements of the association that are dispersed by wind or water. When these tiny bundles alight on a suitable surface, voilà, another body of lichen is produced; it is a clone of the parent. When lichens reproduce sexually it is the fungus only that is involved. Often seen are tiny funnel shaped structures. These cup shaped structures are actually the spore producing bodies of the fungus. When dispersed the spores must germinate in the presence of the other two living components unique to that particular lichen, a chancy business at best.

In their many forms lichens can be seen as:

- Fruticose: shrubby - *1*
- Foliose: leafy - *2*
- Crustose: crusty and flat - *3*
- Squamulos: something between foliose and crustose - *4*

1

2

3

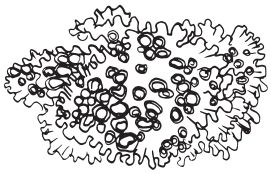
LICHEN THE FUN-GUYS - PART II (CONT'D)

4

Photos of Lichens: *Canva*

However, or wherever, they appear, they are an indication of air quality, are capable of carbon and nitrogen fixing, produce oxygen, and are habitat and sustenance for other life forms. Although they can be seen growing on living plants they are doing them no harm, they are just taking advantage of a suitable situation.

Removing them can not only destroy a valuable and biodiverse combination of organisms in the ecosystem, but it can wound the host plant. ✽



Bryoria, which is the brown lichen you see hanging from conifers in mountains around the Okanagan, has common names of horsehair lichen, bear hair, and black tree lichen. Image: Janet Mackey

Learn More:

Although we usually refer to local sources, the following links are to WoodlandsTV UK, the Edinburgh Botanic Gardens and the University of Florida; all that they say is relevant here and demonstrates the universality of lichen.

- Lichen in the City
- An Introduction to Lichen
- The Life of Lichen

MY IMMORTAL KNOTWEED

By Liza Drozdov, Halton Master Gardener

More than 30 years ago I moved into my house with the vision of creating a garden. There wasn't much here: three mature maple trees, some scrappy lawn, and an enormous patch of a mysterious plant behind the garage. Covering an area more than six meters long and three meters wide, this plant was a solid mass of roots and tall shoots. I had no idea what it was.

My neighbour called it "Inch a Day" because that's how fast it grew. She was right about that. It was in fact Japanese Knotweed. Known by the scientific names Fallopia japonica, Polygonum cuspidatum, and Reynoutria japonica—the taxonomy has wandered somewhat—knotweed is an invasive perennial listed by the worldwide International Union for Conservation of Nature (UICN) as one of the top-100 species on the Global Invasive Species Database (http://www.iucngisd.org/gisd/).

Photo credit: Steven Lamond, via INaturalist. CC-BY

I set to digging up the patch. I dug and I dug, and I dug some more. I dug for years and I managed to remove it all, I thought. But every year it pops back up, in the same spot. And every year I dig it out, making sure to get every bit of the root until I'm sure it's finally gone. Then, the next spring, there it is again!

I have to respect—and fear—this plant's resilience. After more than thirty years that single persistent stem has not managed to gain on me, but it will become a forest if I let down my guard.

Philipp Franz von Siebold, the German botanist who found knotweed growing in Japan on the slopes of active volcanoes, introduced it to Europe in the mid 19th century. Its strong stems, creamy-white flowers, and unpalatability to insects earned it an award in 1847 from the Society of Agriculture and Horticulture in Utrech, Holland: "most interesting new ornamental plant of the year." How quaint—and grim—to be so *interesting*.

Every plant in the UK is a descendant of the single plant von Siebold collected. It could have been worse, since knotweed requires both male and females to produce seed.

Like all exotic plants that were set loose in the new world, Japanese Knotweed had no evolutionary cohorts or regular deposits of volcanic ash to keep it in check. From an informed ecological perspective, lack of insect "damage" is not the compliment it used to be. Knotweed continues to colonize and destroy native landscapes worldwide.

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MY IMMORTAL KNOTWEED (CONT'D)

What is it?

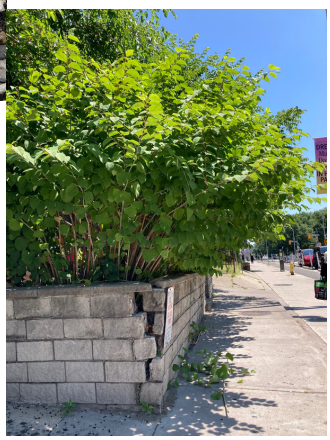
Japanese Knotweed is a perennial member of the buckwheat family (Polygonaceae). There are several very similar varieties of knotweed in North America, all of which are problematic: Japanese knotweed, from eastern Asia; Giant knotweed (*Reynoutria sachalinensis*), from northern Japan and Russia; a hybrid species known as Bohemian knotweed, and Himalayan knotweed (*Persicaria wallichii*). Many other species in the genus Persicaria are popular garden plants, and many of them can be aggressive so be careful where you plant them.

All of the knotweeds are tall, vigorous perennials that can spread both by seed and by thick rhizomes. Since it's such an aggressive and opportunistic plant it easily outcompetes indigenous flora, including shrubs and small trees. Given optimal growing conditions they can grow up to four meters tall in a few months and within a few years will create dense thickets of growth. They grow happily in full sun or in partial shade, and if given moist, rich soil they'll thrive. They're frighteningly adaptable.

Pieces of the stem or rhizome as small as one centimetre can produce new plants within six days if they are submerged in water. Buried rhizomes can regenerate from depths of up to one metre.

Knotweed growing in an Oakville neighbourhood. Photo CC0

Japanese Knotweed emerging in the spring . Photo CC0



Japanese Knotweed's aggressive growth in Toronto causing damage to a strucural wall. Photo J. Mackey

Knotweed can grow through cracks in concrete or asphalt and literally break them apart, making them dangerous to house foundations and structures. In the UK the presence of knotweed on a property can disqualify it for house insurance or financing.

Knotweed is a ruderal species--one that's quick to colonize disturbed lands and damaged ecosystems. It spreads rapidly through waste spaces, abandoned building sites, vacant lots, utility rights-of-way, and roadsides. But moving water (ditches, rivers, streams, canals, and beaches) that carry stem and root fragments are the primary means of spread. Because of the deep and persistent root system, they are sometimes mistakenly considered useful shoreline stabilizers. But the soil simply washes away around the thick rhizomes, leaving the roots exposed and more likely to break off, float downstream, and start new colonies where they land.

In Canada it's often found around old homesteads where it may have been planted as an ornamental, as well as on land that's been disturbed by natural phenomena such as landslides and volcanoes like the scree slopes and lava fields around the active volcanoes where it was originally found in Japan.

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MY IMMORTAL KNOTWEED (CONT'D)

How to recognize it

Knotweed is often mistaken for bamboo, since there is some similarity between their stems if you don't look closely. The stems are hollow and a pale grey-green, with purple or reddish mottling. The green leaves are pointed heart or spade shaped, sometimes with touches of red, and they grow on stems that have a distinctive zig-zag pattern. It flowers in late summer or early autumn, with clusters of creamy white panicles that emerge from the leaf axils and at the end of the stems.

It's herbaceous, so will die back to the ground every winter, and re-sprout in spring. Underground it forms heavy roots that can descend up to three metres and spread laterally at least ten metres or more. The roots are brown on the exterior, but the interior is an unmistakable bright orange.

Is it an issue in Japan?

Given how much of a problem Japanese Knotweed is in the UK and North America, why is it not a big deal in its native environment? A lot of research is being done to understand the control factors there. One seems to be the presence of vigorous, large plants (such as bamboo and similar tall grasses) that are able to hold their own against knotweed. There are also several pests, fungi, and diseases in Asia that help control the spread.

Knotweed is also a traditional wild food in Japan. The young stems are pickled or eaten fresh like asparagus spears, though it's unlikely enough of it is eaten to manage its spread. It also has medicinal uses and the roots have been valued as an anti-inflammatory, as a laxative, and to treat skin disorders and cardiovascular disease.

More Information:

- Japanese Knotweed Master Gardeners of Ontario
- Japanese Knotweed - Ontaro Invading Species Awareness Program
- Worldwide Knotweed Support Group - A facebook group to share experiences of knotweed removal

Methods of control

You don't have a choice. If you've got it, you need to get rid of it. In Ontario, knotweed is a restricted species under the Invasive Species Act. It is illegal to import, deposit, release, breed/grow, buy, sell, lease or trade it.

The following points summarize the main approaches for control. For detailed information, read the Halton Master Gardener Fact Sheet on Japanese Knotweed Removal. (https://haltonmastergardeners.files.wordpress.com/2020/05/japanese-knotweed.pdf)

Mechanical The shovel method is not easy, but can be effective. Dig it up, making sure you get every bit of root or it will re-sprout. Dispose of all parts of the plant carefully. Bag and tie them in heavy plastic and make sure they go to landfill, ideally a site with a soil treatment area. Do not compost.

Chemical Using chemicals like glyphosates can be effective, especially when repeated over a number of years. A professional who is licensed to apply herbicides should be consulted.

Biological The psyllid Aphalara itadori is native to Japan and at all stages of life this sap-sucking plant louse feeds on knotweed. Feeding on the leaves and stems of knotweed weakens the plant overall and reduces its vigour. This is a promising new option that's being tested around the world. Aphalara itadori was approved for limited release in Canada in 2014 and is not yet publicly available in Ontario.

Successfully dealing with knotweed requires a long-term strategy usually involving several well-timed actions per season, over many seasons. You may not end up on knotweed patrol for thirty years like me, but it will be a long haul. ✽

Q&A

By Hariette Henry, Halton Master Gardener

> I have two peony plants in my garden in a sunny location. They have been there for at least two years and this year I finally have some small buds on one plant and what looks like a couple of large bloom buds on the other. I've noticed ants on the buds. Someone mentioned to me that peonies need ants to bloom. Is this true? Am I likely to finally have more buds and blooms on my plants?

You may have more buds and blooms but not because of the ants. Ants often appear on peony plants at this time of year. The notion that ants are required for peony plants to bloom is a myth, a bit of garden folklore that we hear from time to time. The relationship between peonies and ants is actually a type of "biological mutualism". This is a process often repeated in nature, in which two organisms of different species benefit from one another's activities. Peony flowers provide food for the ants and in turn the ants protect the blossoms from other floral feeding insects.

Peonies have extrafloral nectaries (specialized nectar-secreting plant glands) that are present outside of the flower buds. These structures secrete nectar and other compounds that are a food source for ants. When a scout ant finds nectar on a peony, she emits a pheromone or odour trail which she carries back to the nest. Once back at the nest, the other ants are alerted to the food source. They then follow the odour trail back to the nectar on the peony plant.

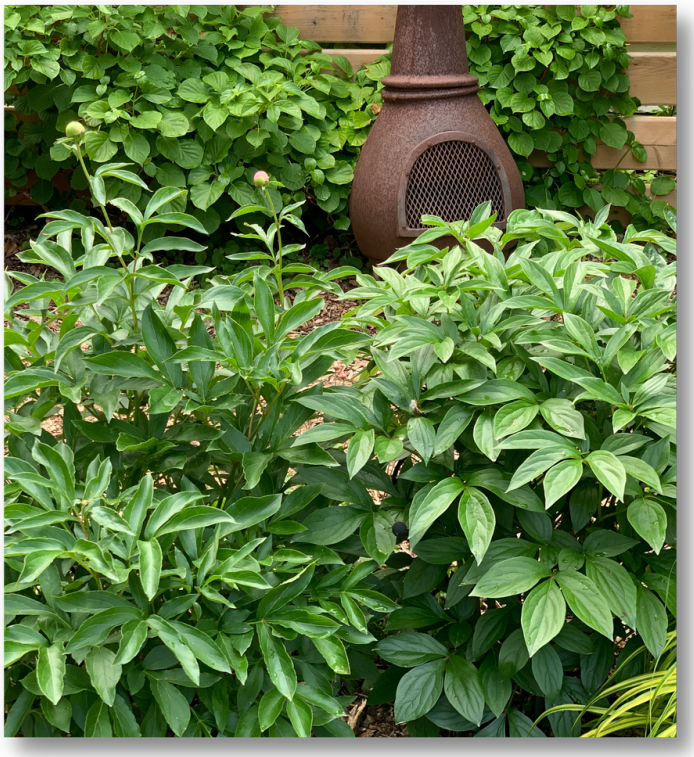
While the ants are feeding on the nectar, they protect their food from other insects. Thrips for instance can often be found feeding on peony buds. These small, slender insects pierce the flower with their mouthparts and extract liquids from the plant tissues, causing discoloured, blemished blossoms. The ants act as bodyguards attacking the thrips and preventing them from doing damage.

Ants making their way up the stem of a peony flower bud. Image: H Henry

As to why your peony plants are not yet blooming, the following are some of the most common reasons why peonies fail to bloom:

Q & A (cont'd)

- **Too much shade**- peonies need 6+ hours of sun per day in order to bloom optimally.
- **Planting depth and position**- crown buds should be positioned 1" – 2" below the soil surface. If planted 2" or more flowering can be reduced or delayed.
- **Plants recently divided or transplanted**- flowering depends on a well-developed root system therefore newly divided/planted peonies will need time to develop the root system for taking up water and nutrients as well as the large storage roots which take up carbohydrates necessary for flower bud development and growth.
- **Plants that are too old or too young**- Peony plants are long livers and a clump would likely be several decades old before it would fail to produce. This situation can be rectified by dividing the plant. Clumps divided and left with only one eye and not much root will also take some time to bloom. Plants grown from seed take 4 to 5 years to mature and ultimately bloom.
- **Too much fertilizer**, particularly Nitrogen- can lead to poor flower production. Applying several tablespoons of a complete fertilizer high in phosphorous and potassium (e.g. 6-24-24), 6" to 18" away from the crown can help.
- **Foliage removal**- foliage is essential to the development of next season's flower buds. Harvesting too many cut flowers, as well as cutting back foliage in late summer can reduce flower production.
- **Late freezes**- A hard freeze in May (-2C or lower) after growth starts in spring can damage or destroy young shoots and flower buds.
- **Disease**- foliage diseases, especially Botrytis blight occasionally attack flower buds. This will often occur during cool, wet springs. Strict sanitation including removal of spent plant debris along with proper plant spacings to increase air circulation can help. Fungicides labeled for the control of botrytis can be effective preventatives.



Young peony plants with few buds. Image: H Henry.

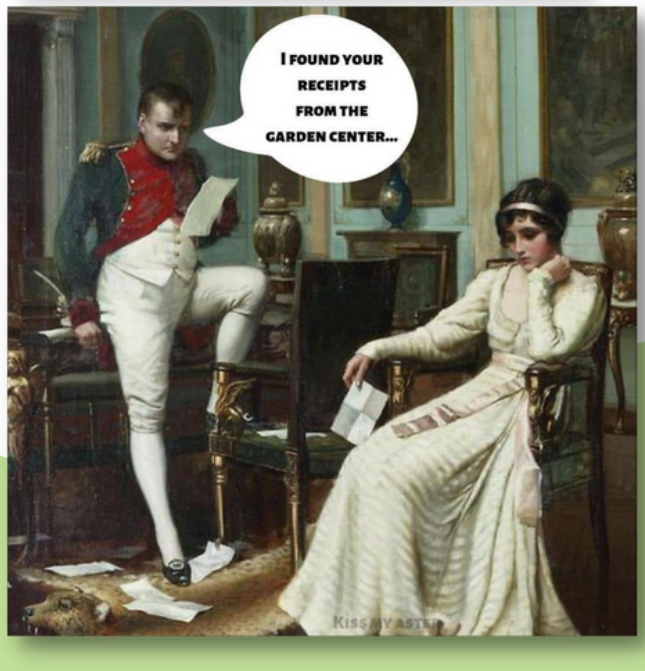
You mention that your peony plants are in a sunny location, that they have been there for a couple of years and that you are beginning to see some buds. Assuming there is no disease, use of fertilizer high in nitrogen or early foliage removal, it is likely that the root system of your plants just needs a little more time to mature and that you should see more blooms in the next few years. ✽

Take a Closer Look!

- Better Together: Mutualistic Relationships Between Plants and Insects
- Mighty Mutualisms: The Nature of Plant-pollinator Interactions
- Laidback Gardener, 9 Reasons Peonies Don't Bloom
- IOWA STATE UNIVERSITY, Reasons Why Peonies Fail to Bloom
- Plant Peonies in September, David Trinklein, Integrated Pest Management, University of Missouri

GARDEN HUMOUR!

We haven't had room for much in the way of jokes since we changed our format, so here's a whole page to brighten your day!



Images from Gardening Humour and Garden Professors FB pages

What's Growing On?

There is always lots to learn. Check the news tab on our website for information about native plants, jumping worms and more.

We're still answering your garden questions!

Send us an email. It's what we do best!

- Do you have a passion for gardening and sharing your knowledge? Learn more about joining us.
- Interested in attending a meeting? Contact us at: Halton Master Gardeners

Summer is a great time to involve children in gardening. Check here for resources for young gardeners

Check our Calendar of Events for more information.

In-Person Advice Clinics are Back!

Halton Master Gardeners will be answering your garden questions in person!

Ottawa Street Farmers Market

9:00 am to Noon

Saturdays throughout the summer

Dundas Farmers Market

Thursday, July 14 and 28th

3:00 pm to 7:00 pm

Halton MGs Hariette and Bev at the Ottawa Street Market

What's Growing On ?

Milton Horticultural Society
The Secret Gardens of Milton Tour

Sunday, July 10th 10 am - 5 pm

Register here

Grimsby Garden Club Tour

Saturday, July 16th 10 am - 4 pm

Register here

Farmers' Markets in Halton

Good things grow in Ontario!

Check locations here

Pruning your dahlia demonstration
Saturday, July 9th
1- 3:00 pm

Learn more here

THE ARBORETUM UNIVERSITY OF GUELPH

Virtual and in-person events

Tree Identification
Noon and evening walks
Animal Rehabilitation Series

Royal Botanical Gardens

SEEING THE INVISIBLE: A special event where art and nature come together .

Learn more here

So much to see naturally!

- Many special events on now
- Events for kids and families
- Beautiful summer blooms

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. Your donations support our work!

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