



Summer 2024

NEWSLETTER

# Atlantic Master Gardeners Association

Helping Others Help Themselves



## THIS ISSUE

Summer has gone by in a flash. I know everyone is incredibly busy. Hopefully you will all be able to relax when late fall lets us catch our breath. I found the first Japanese beetles in my neighbourhood yesterday when I was called over in a panic to the neighbour's garden. 'What is THAT?' Well, my heart sunk. Tonight I collected the little monsters on my roses. And so begins a new chapter in gardening brought to us by climate change. Forty years ago the only Japanese beetles in the region lived at the Hilton at the train station in Halifax. The air exchange system blew onto the garden at the side of the building and kept them warm through the winter. They couldn't survive anywhere else and so were limited to that location for decades. How times have changed!

I have written something about small trees for gardens. I hope you enjoy it. Autumn is upon us already- it's a good time to plant trees. Have a wonderful fall season.

## President's Message

As I sit writing this message I am pondering where the summer has gone. Time should not pass us by so quickly. By now our gardens have hopefully given us the rewards of food and flowers and we have had an opportunity to enjoy them.

There is nothing like fresh produce from our gardens, a fresh bouquet of flowers and watching our shrubs thrive. Our last 2 zoom sessions have given us so much information on your successes and failures and much has been learned.

Our AMGA conference in July was another great one and from your evaluations a very successful one. Thank you so much for all your evaluations. They are such a great resource for working towards next year's conference. It is never too early to start thinking of our 2025 conference so please put your thinking caps on. To me the highlight of the conference is meeting everyone in person and the opportunity to socialize and mingle.

Another fall is around the corner and the intake for the 2024-2025 courses will be starting. We have continued our zoom sessions throughout the summer and September 9<sup>th</sup> is our next one.

As fall approaches we will again be asked as AMGA members to provide education sessions throughout our communities. We have a wonderful group of members always willing to present sessions and we encourage you to provide sessions whenever possible. If you are nervous of doing an education session, please let us know and we will gladly pair you up with experienced presenters to help you get your feet wet.

As I write this, I realize this will be my last message as President as my term is up and our new executive will be elected at our annual general meeting this fall. It has been a very rewarding experience and the support I have received from everyone has been fabulous. Thank you so very much!

I do hope we have a bit more time with our gardens and I wish you all the best in your gardening endeavors.

Sandra Matchett





## Dealing with Japanese Beetles:

From the Ground, Up

By Richelle Gregg, ODH CLHT

The first time someone showed me a Japanese Beetle I was entranced: the iridescent shell glowing with hues of red, green and gold; the small tufts of white hair perfectly spaced along the edges of its shell. As a lifelong bug lover, the intricate perfection of its design amazed me.

As I commented on its beauty, my friends face crinkled up in horror and disgust. “Beautiful?” she said, waving around a bucket. “These buggers just ate my grapes. And my roses. And now they are on my Japanese Maple!”

I feigned disgust as well, trying to cover up my botanical faux pas. She went back to snatching bugs off leaves and dropping them in the bucket to reach their soapy demise.

Japanese Beetles (*Popillia japonica*) are, as the name implies, native to Japan. They first showed up in Canada in 1939, hitching a ride on a car crossing the border. They have since become one of the most destructive pests of plants, lawns and agricultural crops, destroying the leaves and fruit of more than 250 plant species.

How do we control an insect that is free to move where it pleases and will eat almost everything in site? There are pheromone traps that will lure the beetles to the area but if they don’t enter the trap, you have even more feasting pests visiting your buffet of a yard.

The key to controlling any insect is timing. You need to study the life-cycle and apply controls when they are most effective.

Japanese beetles have one life cycle per season. The adult beetle emerges from the soil in late June or early July and lives up to 45 days. They feed on hot days (21oC to 35 oC).

Their short lifetime, is spent eating, mating and, in the case of the females, laying up to 60 eggs in the soil. Small grubs emerge about two weeks later and start to feed on the roots of the grass plants above. They keep eating until cold weather sends them deeper into the soil.

In the spring the grubs move upward to continue feeding on roots. They eventually pupate and, about two weeks later, emerge from the soil in their adult form, capable of flying to find new food sources.

Based on this life cycle, the best time to apply controls is while they are in the grub stage actively feeding on roots. The birds, skunks and raccoons know this. They can cause a lot of turf damage digging for their meals in the spring and fall.



**Various life stages of the Japanese Beetle. Photo credit: [ohioline.osc.edu](http://ohioline.osc.edu)**



The usual biological control for lawn grubs has been to apply parasitic nematodes. These living organisms are applied to the lawn with a sprayer and work their way through the soil, attacking the grubs when they find them. The success of nematode applications depend on a number of variables – soil temperature and moisture, nematode viability, concentration, and movement are just a few that need to be considered. The best time for this application is in the fall, but nematodes are typically only made available in the Spring.

We do have another biological control available to us. It is a dry, granular substance that can be applied with a spreader at any time of year. The area needs to be watered after application to release the active ingredient, a bacterium called *Bacillus thuringiensis* subsp. *galleriae* strain SDS-502 (BTG). When the larvae ingest this bacterium, it produces a protein crystal that poisons the grub, causing it to stop eating and die. The process takes about a week. If damage is still occurring, a second application can be made.

Sold under the names Grub B Gon Max, grubGONE!®, and grubHALT!®, BTG targets the grubs of the Japanese Beetle, the European Chafer and the June Bug. It is also effective on the larval form of wood-borers and weevils. It will not harm any other insects such as pollinators and predatory insects and is safe to use around humans, pets and wildlife.

Japanese Beetles are a bit like those quirky, eccentric relatives: fascinating to observe, yet capable of causing a riot when they overstay their welcome. Their beauty, sometimes seen only by people like me, coexists with their potential for destruction. As much as I might admire their tiny, artful design, I understand that it's essential to use effective controls to keep them in check. After all, beauty is in the eye of the beholder—or should I say bug-holder!



## RESOURCES:

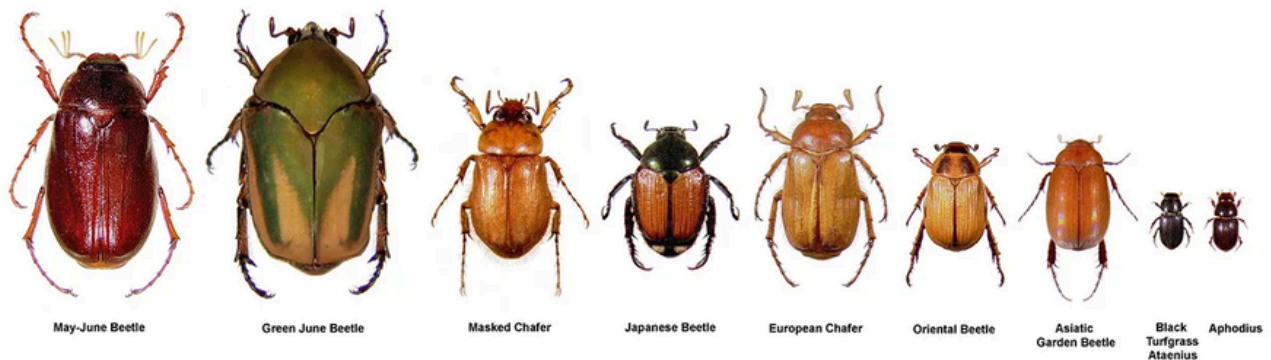
Canadian Food Inspection Agency, (2023, June 28), Popillia Japonica (Japanese Beetle) - Fact Sheet, Government of Canada,

<https://inspection.canada.ca/en/plant-health/invasive-species/insects/japanese-beetle/fact-sheet>

Hodgson, Larry (2020, May 29), New Product for White Grub Control, The Laidback Gardener, <https://laidbackgardener.blog/2020/05/29/new-product-for-white-grub-control/>

Scott's Canada, (2023), Scott's Grub B Gon Max Grub Killer – fact sheet, <https://scotts.com/en-ca/products/grubs/scotts-grub-b-gon-max-grub-killer/scotts-grub-b-gon-max-grub-killer.html>

Below - a comparison of beetles



## ENHANCING A VEGETABLE GARDEN WITH POLLINATOR FLOWERS Master Gardener Assignment Roya Murray

Fruit and vegetable gardens provide us with the opportunity to grow our own food and learn about our environment. The satisfaction derived from offering family and friends the “fruit of our labour” is undeniable. Fruits require pollination of their flowers to grow into edible food. Some fruit plants have ‘perfect flowers’ and are able to self-pollinate, others are ‘imperfect’ and require the transfer of pollen from the male flower to the female flower on the same plant. Pollinators are required for imperfect flowers, and enhance fruit size and abundance, even on perfect flower plants. Pollinator attracting flowers, in a fruit and vegetable garden, attract pollinating insects (bees, butterflies, moths, beetles and flies) and birds (primarily hummingbirds). Animals pollinate about 75% of crop plants (smithsonianmag.com) - yes, insects are animals! The pollinators may be attracted by flower colour, scent, or shape. They feed on pollen and/or nectar or pests on the plants. During their feeding, they transfer pollen from the flower stamens to the pistils. When these pollinators are attracted to their preferred flowers, they also enjoy the flowers of the surrounding fruit producing plants, especially if they have similar characteristics. This results in fertilization of the ovules and then fruit production. When designing a pollinator garden, it is very important to consider the overall environment before considering the specific plants. Pollinator animals require food, water, shelter, a safe place to reproduce, and protection from damaging environmental factors:

- Flowers provide FOOD for pollinators in the form of nectar (carbohydrates) and pollen (protein and fat), but some are carnivorous and can be great predators of garden pests on the plants.
- WATER is necessary for hydration, and needs to be included in the form of small areas with rocks, or other features for resting on while drinking.
- SHELTER can be provided in the form of tall grasses, bramble, compost piles, sand piles, garden debris, standing or fallen deadwood, and bare ground.
- PROTECTION includes protection from damaging elements such as extreme cold, heat, wind, and water. It is good to leave some garden debris in the fall for overwintering protection from the elements. Protection from pesticides is also incredibly important. Pesticides been instrumental in pollinator decline due to some garden/farming practices.

Pollinator gardens are most successful when several factors regarding plant choices are considered. Plants should be planted in larger groupings so that the pollinators can work efficiently. There should be flowers available throughout the season, from early spring until fall. There should be a variety of plant types to attract a variety of different pollinators. These plants should vary in height, flower shape, scent and colour. Flowers with “single” type blossoms are preferred and easier to access. Pollinator gardens should be close to the fruit garden, but plants can also be planted in the fruit garden. This is beautiful, but also efficient. Finally, pollinator plants do not have to be only herbaceous annuals or perennial flowering plants, they can also be flowering shrubs and trees. Pollinator plants need to be selected from plants that will thrive in the specific garden environment. Native plants are sure to be successful, others may need more care. The type of pollinator that matches with the fruit plants requiring pollination, also needs to be considered.

The following table is an example of 6 pollinators that would be beneficial to a fruit and vegetable garden in Cape Breton, Nova Scotia

POLLINATOR	CONDITIONS	FEATURES	ATTRACTING PLANTS *	BENEFITING FRUITS
<b>BUMBLE BEE</b> (order Hymenoptera)	-underground -generalists (feed on wide range of plant types -May to September	-attracted to blue, purple, yellow and white -feed on nectar and pollen -hairy bodies and legs transport pollen -are active during the day -can forage in the rain -bees are the most effective pollinators	-Catnip -Columbine -Goldenrod -Impatiens -Irises -Lavender -Phacelia -Rose -Salvia -Sunflowers -Thyme -Borage	-Apples -Cherries -Plums -Tomatoes -Blueberries -Gooseberry -Currants -Cucumbers -Squash -Eggplant
<b>2. SWEAT BEE</b> (order Hymenoptera)	-nest underground -some are solitary, others form loose colonies	-attracted to blue, purple, yellow and white -feed on nectar and pollen -hairy bodies and legs transport pollen	-Goldenrod -Milkwort -Phacelia -Rose -Saxifrages -Sunflowers -Violet	-Eggplant -Legume -Watermelon -Tomatoes -Thyme
<b>3. WASP</b> (order Hymenoptera)	-nests underground in sandy or bare soils, or in shrubs trees or bushes -enjoy sweet, ripe fruit	-wasps are predatory feeders and will feed on larvae (caterpillars and aphids) and mature insects, as well as nectar -transfer pollen on their hairy bodies (not as obvious as on bees)	Sweet Fennel -Queen Anne's Lace -Sedum -Agastache -Boneset	-Raspberries -Apples -Cherries -Blackberries -Strawberries -Peppers -Tomatoes -Onion -Leeks -Chives -Parsley -Cilantro -Carrots



<p>4. BUTTERFLY (order Lepidoptera)</p>	<ul style="list-style-type: none"> <li>-prefer open and sunny areas that provide bright flowers and host plants for their caterpillars</li> <li>-plants with a good landing platform</li> <li>-areas with dropped fruit</li> <li>-moist soils for salts and nutrients</li> </ul>	<ul style="list-style-type: none"> <li>-attracted to red, yellow, orange, pink and purple colours and sweet smelling flowers</li> <li>-feed on nectar</li> <li>-flat topped/clustered flowers with short flower tubes</li> <li>-transport pollen on their feet</li> <li>-it is important to provide plants for their caterpillars to feed on (eg milkweed, borage, lupine, nettle, thistle, dill)</li> </ul>	<ul style="list-style-type: none"> <li>-Alyssum</li> <li>-Aster</li> <li>-Bee Balm</li> <li>-Calendula</li> <li>-Cosmos</li> <li>-Daylily</li> <li>-Delphinium</li> <li>-Dianthus</li> <li>-Fennel</li> <li>-Globe thistle</li> <li>-Goldenrod</li> <li>-Hollyhock</li> <li>-Lavender</li> <li>-Liatris</li> <li>-Marigold</li> <li>-Milkweed</li> <li>-Nasturtium</li> <li>-Oregano</li> <li>-Phlox</li> <li>-Purple coneflower</li> <li>-Queen Anne's Lace</li> <li>-Sage</li> <li>-Shasta Daisy</li> <li>-Verbena</li> <li>-Yarrow</li> <li>-Zinnia</li> </ul>	<ul style="list-style-type: none"> <li>-Strawberries</li> <li>-Dill</li> <li>-Cilantro</li> <li>-Celery</li> <li>-Artichoke</li> <li>-Kale</li> <li>-Lettuce</li> <li>-Cauliflower</li> </ul>
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5. SYRPHID FLY/Hover Fly (order Diptera)	-small flowers that bloom under shade and moist habitats	-feed on nectar and pollen -transport pollen on body hair -can roam widely because they do not need to support their young -can forage earlier or later in the day than other pollinators, and in cooler temperatures and in wet or windy weather -have predatory larvae that feed on caterpillars and aphids -also may require decaying vegetation or carcasses -second most important pollinators after bees!	-wildflower meadows and mixed gardens, especially those infested with aphids -grasses -Queen Anne's Lace -Wild Mustard -Sweet Alyssum -Coriander -Dill -Coreopsis -Coneflower -Meadowfoam -American angelica -Maximilian sunflower -Wild Mock Orange -Yarrow -Gaillardia aristata -Black Eyed Susan -Sneezeweed -Blanket Flower	-Strawberries -Blueberries -Blackberrie -Apple Tree -Cherry Tree -Ribes (currants and gooseberries) -Strawberries -Carrot -Parsley -Onion -Fennel
6. HUMMINGBIRD (order Apodiformes)	-woodland edges	-most attracted to bright red and flowers with long tapered shapes and plentiful nectar -especially plants with red flowers, but also orange, pink and yellow -funnel shaped flowers -eat gnats and fruit flies -transport pollen with their 'foreheads' and can visit 1,000-3,000 flowers per day -flowers with longer blooming periods -daytime feeders	-Bee Balm - Lobelia - Zinnia - Salvia - Bleeding Heart -Butterfly bush -Trumpet Vine - Lupines - Columbine - Hosta - Petunia	-Blueberries -Squash -Cucumbers



1. Bumble Bee (genus *Bombus*)

(Photo credit: Roya Murray)

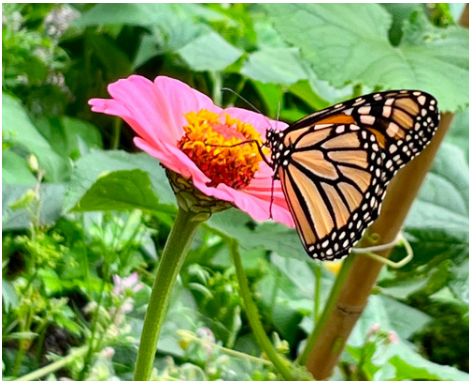


2. Sweat Bee (genus *Halitidae*) (Photo credit:<https://media.istockphoto.com/id/508970398/photo/the-metallic-green-sweat-bee.jpg>)



3. Wasp (genus *Euodynerus*)

(Photo credit: Roya Murray)



4. Monarch Butterfly (genus *Danaus*)

(Photo credit: Roya Murray)



5. Syrphid Fly (genus *Syrphidae*) (Photo Credit:

[https://content.ces.ncsu.edu/media/images/Syrphid\\_on\\_goldenrod.jpg](https://content.ces.ncsu.edu/media/images/Syrphid_on_goldenrod.jpg))



6. Ruby Throated Hummingbird (*Archilochus colubris*)

(Photocredit: <https://www.istockphoto.com/photo/ruby-throated-hummingbird-gm477577782-66764667>)

Ensuring that there are flowers available throughout the lifecycle and growing season is very important. A list of these plants, for each pollinator is beyond the scope of this paper, however, would be a very important part of planning a successful pollinator garden. One website to review would be: <https://backyardbeekeeping.iamcountryside.com/plants-pollination/successioplanting-with-the-best-plants-for-bees/>



\* Families and Botanical Names of some of the Plants visited by pollinators in this paper or in my garden:

FAMILY	COMMON NAME	BOTANICAL NAME
Apiaceae	- Fennel - Queen Anne's Lace - American Angelica	- <i>Foeniculum vulgare</i> - <i>Daucus carota</i> - <i>Angelica atropurpurea</i>
Asphodelaceae	- Daylily	- <i>Haemercocallis fulva</i>
Asteraceae	- Goldenrod - Sunflower - Boneset - Yarrow - Calendula - Cosmos - Globe Thistle - Blazing Star - Marigold - Purple Coneflower - Shasta Daisy - Zinnia - Tickseed - Black-eyed Susan - Sneezeweed - Blanketflower - Dandelion	- <i>Solidago canadensis</i> - <i>Helianthus</i> genus - <i>Eupatorium perfoliatum</i> - <i>Achillae millefolium</i> - <i>Calendula officinalis</i> - <i>Cosmos bipinnatus</i> - <i>Echinops bannaticus</i> - <i>Liatris spigata</i> - <i>Tagetes</i> spp - <i>Echinacea purpura</i> - <i>Leucanthemum x superbum</i> - <i>Zinnia elegans</i> - <i>Coreopsis lanceolata</i> - <i>Rudbeckia hirta</i> - <i>Helenium autumnale</i> - <i>Gaillardia aristata</i> - <i>Taraxacum officinale</i>
Balsaminaceae	- Impatiens	- <i>Impatiens wallerina</i>
Boraginaceae	- Phacelia - Borage	- <i>Phacelia tanacetifolia</i> - <i>Borago officinalis</i> - <i>Lonicera periclymenum</i>
Caprifoliaceae	- Honeysuckle	- <i>Dianthus caryophyllus</i>
Caryophyllaceae	- Carnation	
Cornaceae	- Dogwood	- <i>Cornus florida</i>
Crassulaceae	- Stonecrop	- <i>Sedum gems</i>
Curcubritaceae	- Squash - Cucumber	- <i>Cucurbita</i> genus - <i>Cumis sativus</i>
Ericaceae	- Blueberry	- <i>Vaccinium</i> genus
Fabaceae	- Lupine	- <i>Lupinus</i> spp

Fabaceae	- Beans - Peas	- <i>Phaseolus vulgaris</i> - <i>Pisum sativum</i>
Grossulariaceae	- Red Currant - Black Currant - Gooseberry	- <i>Ribes rubrum</i> - <i>Ribes nigrum</i> - <i>Ribes uva-crispa</i>
Hydrangeaceae	- Hydrangea - Mock Orange Shrub	- <i>Hydrangea macrophylla</i> - <i>Philadelphus pubescens</i>
Iridaceae	- Iris	- <i>Iris</i> genus
Lamiaceae	- Catnip - Lavender - Salvia/Sage - Thyme - Agastache - Bee Balm - Oregano	- <i>Nepeta cataria</i> - <i>Lavandula</i> genus - <i>Salvia officinalis</i> - <i>Thymus vulgaris</i> - <i>Agastache foeniculum</i> - <i>Monarda didyma</i> - <i>Origanum floridum</i>
Limnanthaceae	- Meadowfoam	- <i>Limnanthes alba</i>
Malvaceae	- Hollyhock	- <i>Alcea rosea</i>
Olaeceae	- Lilac Bush - Forsythia - Peony	- <i>Syringa vulgaris</i> - <i>Forsythia suspensa</i> - <i>Paeonia</i> genus
Polemoniaceae	- Phlox	- <i>Phlox</i> genus
Polygalaceae	- Milkwort	- <i>Polygala vulgaris</i>
Ranunculaceae	- Columbine - Delphinium - Rugosa Rose	- <i>Aquilegia vulgaris</i> - <i>Delphinium elatum</i>
Rosaceae	- Cherry Tree - Apple Tree - Raspberries - Strawberries - Blackberries - Serviceberry - Red Maple	- <i>Rosa rugosa</i> - <i>Prunus avium</i> - <i>Malus domestica</i> - <i>Rubus idaeus</i> - <i>Fragaria x ananassa</i> - <i>Rubus fruticosus</i> - <i>Amelanchier</i> ssp.
Sapindaceae	- Rockfoil	- <i>Acer rubrum</i>
Saxifragaceae	- Tomatoe	- <i>Saxifraga stolonifera</i>
Solanaceae	- Eggplant - Peppers	- <i>Solanum lycopersicum</i> - <i>Solanum melongena</i> - <i>Capsicum annuum</i>

	- Potato	- <i>Solanum tuberosum</i>
Tropaeolaceae	- Nasturtium	- <i>Tropaeolum majus</i>
Violaceae	- Violets	- <i>Viola</i> genus





## REFERENCES (all referred to January 14-18, 2023):

<https://www.pollinator.org/pollinator.org/assets/generalFiles/Southwest.NS.Uplands.pdf>  
<https://pollinatorpartnership.ca/en/find-your-roots>  
<https://cdn.buglife.org.uk/2019/07/Pollinator-identification-chart.pdf>  
<https://www.gardenbetty.com/tag/pollinator/> <https://miraclegro.com/en-us/gardening-101/how-to-guides/how-to-attract-pollinators.html> [https://www.fragrancex.com/fragrance-information/flower\\_fragrances\\_that\\_attract\\_bees\\_and\\_butterflies\\_to\\_your\\_garden.html](https://www.fragrancex.com/fragrance-information/flower_fragrances_that_attract_bees_and_butterflies_to_your_garden.html)  
<https://getbusygardening.com/attract-bees-to-vegetable-garden/>  
<https://www.nwf.org/Garden-for-Wildlife/Wildlife/Attracting-Butterflies>  
<https://www.smithsonianmag.com/science-nature/how-much-do-flies-help-pollination-180977177/> <https://www.ruralsprout.com/plants-to-attract-hover-flies/>  
<https://davesgarden.com/guides/articles/view/2473> <https://www.thespruce.com/top-hummingbird-flowers-386271> <https://www.gardenbetty.com/bees/>  
<https://blog.southernexposure.com/2014/07/10-tips-for-attracting-bees-and-other-pollinators-and-harvesting-great-cucumbers-squash-and-melons/>  
<https://gardenerspath.com/plants/flowers/best-flowers-for-pollinators/>  
<https://www.angi.com/articles/gardens-bees-butterflies-and-other-pollinators.htm>  
[https://bio.libretexts.org/Bookshelves/Botany/Botany\\_\(Ha\\_Morrow\\_and\\_Algiers\)/Unit\\_1%3A\\_Biodiversity\\_\(Organismal\\_Groups\)/08%3A\\_Angiosperm\\_Diversity/8.04%3A\\_Angiosperm\\_Families](https://bio.libretexts.org/Bookshelves/Botany/Botany_(Ha_Morrow_and_Algiers)/Unit_1%3A_Biodiversity_(Organismal_Groups)/08%3A_Angiosperm_Diversity/8.04%3A_Angiosperm_Families)  
[https://www2.nau.edu/lrm22/lessons/plant\\_families/plant\\_families.html](https://www2.nau.edu/lrm22/lessons/plant_families/plant_families.html)





## A Visit to the Royal Botanic Gardens, Kew

My husband and I were in London in September. One of the visits we had decided to make was to Kew. We had purchased our tickets in advance. The underground (and over ground) train trip took about 30 minutes from our lodgings near the Tower of London. Kew village and garden has its own rail stop. Kew is in the Richmond area of London, in the southwest of the city.

We entered Kew Garden through the Victoria Gate. One of the first things we saw was the iconic Palm House (built in 1844), facing the lake. The plantings in front of the Palm House were immaculate. Inside the Palm House the humidity is kept high, emulating the rain forest. Many specimens reach nearly to the roof of this glass house. Some of these plants are extinct or endangered in their native habitats. There is also a sky walk which enables one to look down on the plantings. Kew scientists use the plant collection to study plants used in medicine (like the Madagascar periwinkle). Some examples of the plants include: rubber tree, African oil palm, and cocoa tree.



The next glass house we saw was the Temperate House (first opened in 1863). Many of the plants here have been grown at Kew from seed stored in the Millenium Seed Bank, part of the Wakehurst Complex. All the plants here need temperatures above 10 degrees Celsius. The house is divided by area ie. The Americas, Asia, Africa, Australia and New Zealand. The Temperate House underwent an extensive renovation several years ago. Some examples of the plants include: the tree pincushion, protea and brugmansia.

One area I was really looking forward to was the Water Lily House (completed in 1852). The huge Victoria water lilies, originally found in Bolivia, are featured prominently in pictures of Kew. They did not disappoint. Each year in late fall the pond is drained and prepared for the next year. Early in the spring the water lily seeds are planted and then placed in the pond. The water is coloured black to highlight the water lilies and hide the workings of the display. Seeds are collected each year to begin the process again.



Another installation, placed within a wild flower meadow is The Hive. Designed by Wolfgang Buttress, it features sound and light produced by synthesizing the sounds produced by the bee hives at Kew. This installation is a huge aluminum structure, lit by a thousand LED lights in the evening. It is meant to illustrate the importance of pollinators and their plight, facing climate change and lack of biodiversity.



A further feature is the Great Pagoda, a structure about 160 feet (50 metres) tall, which you can climb for better view of the 300 acre site and the City of London.



Kew scientists are at work on the site and in the world gathering research on plants, fungi and studying events such as tropical storms to understand their impacts on plant life. There are also artists at work here and galleries of their work, some of it beautiful and detailed botanic illustrations.

There are restaurants and places for a quiet rest and a snack. The Children's play area and restaurant are inviting. There are galleries, other houses such as the Princess of Wales Conservatory, a Herbarium, temples and follies, outdoor gardens, statuary, a train to take you on a tour, an overhead tree walk and a charming gift shop and plant sales area.

For a gardener, Kew is a magical place. It is one of the premier botanic gardens on the planet. Do visit if you have the opportunity.

Heather Connors-Dunphy  
Master Gardener



## Being an Advocate for Trees

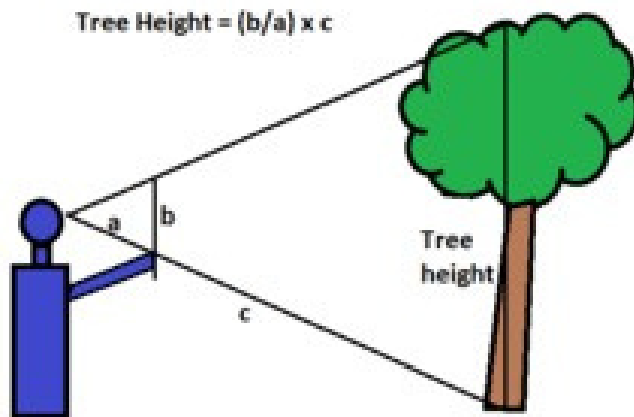
The importance of trees in landscapes can't be overstated. They are critical sources of food and shelter for wildlife and birds. They provide a rich source of organic matter for soil every autumn when they shed their leaves and lay down a natural layer of mulch that prevents erosion and keeps soils cool. Soil microorganisms depend on them for this organic material and for the relationships they forge via mycorrhizae and decomposer organisms. They pump oxygen into the atmosphere while taking in carbon and locking it away in tissue. Research has proven the presence of trees reduces stress for people in urban environments. They transpire, and in doing so provide evaporative cooling of the air. They shade buildings and surface infrastructure, lowering city temperatures and reducing the cost of cooling homes and offices. The trees we depend on for all of these services are large shade trees.

Changing weather patterns and increasing storm severity have brought on a new landscape phenomenon – fear of trees. My arborist tells me he's being called in after a storm to remove trees that came through the weather unscathed – because people fear they will fail the next time. It seems very unjust having just proved themselves storm worthy that someone would then remove them. If I want to see more trees in urban landscapes – and I do, then encouraging the planting of smaller trees seems to be the only solution. My goal is to arm you with two tools, a list of smaller trees that offer climate change resilience and the 'stick trick'. We'll start with the latter tool.

Using a stick to measure tree height is a very useful skill. You can estimate with confidence whether a tree is likely to land on the house if it goes over, and to help you decide on a location for a new tree if you are planting one. Cut a stick that when placed in the centre of your arm pit and held down the length of your outstretched arm reaches the centre of the palm of your hand. Then grasp the stick so a few centimeters protrude beyond the edge of your little finger and hold it out in front of you. Back away from the tree until the bottom of the stick is in line with the soil surface and the top lines up with the edge of the upper canopy. The distance between you and the foot of the tree is approximately equal to its height. Without moving, turn the stick horizontally with the bottom at the centre of the tree trunk at ground level. If there is any space between the top of the stick and the house, the tree isn't going to hit it.







If you want to locate tree planting spaces, measure the height of the house the same way, and without moving, turn the stick horizontally with the bottom at the edge of the foundation of the house. The top of the stick now shows you the spot to plant a tree that is equal to the height of your house at maturity. Alternatively, if you know your tree will mature at ten meters in height, just measure out ten meters from

your house in the direction of the desired planting location. (Now why haven't you done that before)?

So much for being a human clinometer. It's time to consider some trees. Following the species descriptions is a table to make it simple to choose the species you may want to consider. These trees are all deciduous, and thus fire resistant. Planting on the South to West side of the house gives the greatest energy saving benefit by shading the house.



*Acer campestre* – Hedge maple. Happy in tough urban sites or clay soils, this tree was once a popular hedge plant. Like all maples, the flowers aren't showy, but the bees know they're there! Tolerates shearing if you want to. Orange-red autumn colour. Often listed for use under power lines.

Zone 5. Ht/W 8 m/6 m. Pruning needs low. Native to Europe.



*Acer griseum* – Paperbark maple. This is the only maple with freely exfoliating bark. A lovely copper colour, the bark shines in winter. Distinctive three-lobed leaves have amazing fall colour. Elegant in outline and appearance. It does not freely self-seed.

Zone 5. Ht 8 m/5 m. Fall colour red. Soil needs - not fussy. Pruning needs low. Native to China.



*Acer pseudosieboldianum* – Korean maple. This tree performs well in full sun or bright, sun-dappled locations. Avoid hot and dry sites. Like most Asian maples, it needs a site in locations protected from strong winds. It is prone to the same Verticillium wilt issues as Japanese maples, I'm afraid, but I love them both anyway. It has the most outstanding fall colour of any maple.

Zone 4. Ht 8 m/W 8 m. Fall colour orange. Soil needs moist/well drained. Pruning needs low. Native to East Asia.



*Amelanchier canadensis* – Shadblow. This species tends to be multi-stemmed. A part of our cultural history (just look up the choice of common names and their origins) and harbinger of mid-spring. Flowers as the leaves emerge – a symphony of bronze-red and white. Pollinators are attracted to the delicate flowers and birds love the fruit, feeding up for migration flights.

Zone 4. Ht 5m/W 3 m. Fall colour orange. Soil needs variable. Pruning needs low. Native to NE North America.



*Amelanchier laevis* – Alleghany serviceberry. This tree flowers before the leaves emerge. It may be multi-stemmed but is tall and graceful. The tree provides excellent visual interest in the fall with its striking red foliage. Fruit supplies a source of energy to birds as they ready for migration. The grey bark is smooth. An elegant native tree.

Zone . Ht 8m/W5 m. Fall colour pink. Soil needs variable. Pruning needs low. Native to NE North America.



*Chionanthus virginicus* – White fringe tree. This uncommon plant is a prized large shrub or small tree with upright branches forming an oval dome. Some shaping may be desired, depending on the specimen. Soft green leaves complement magnificent clusters of fringe-like blooms with a gentle fragrance. A terrific accent in the landscape. Zone 4. Ht 4m/W 4m. Fall colour yellow/green. Soil needs moist/well drained. Pruning needs low. Native to NE North America.



*Cladrastis kentukea* – Yellowwood. This tree has an elm-like form and chains of fragrant white flowers. It doesn't flower reliably every year, more often every two or three years. An excellent pollinator plant when in bloom. Deep rooted, allowing the planting of other things below it.

Zone 4. Ht 10m/W 10m. Fall colour yellow/orange. Soil needs moist/well drained. Pruning needs low - med. Native to SE USA.



*Cornus kousa* – Kousa dogwood. Kousa dogwood is a delightful flowering tree. The nondescript flowers are surrounded by four showy bracts that are held above the foliage to create a fabulous display. The species has white bracts, but the popular cultivar 'Satomi' has pink ones. Butterflies visit the flowers. The fruits have a nice flavor, but the tough outer skin is off-putting. Birds enjoy the fruit.



Mulch the plant to retain soil moisture. Water during dry spells. Zone 5. Ht 5m/W 5m. Fall colour red/purple/scarlet. Soil needs moist/well drained. Pruning needs low. Native to Japan.





*Crataegus phaenopyrum* – Washington hawthorn. This flowers the latest of the hawthorns, producing profuse white flowers with pink anthers. It is thorny, so site it with that in mind. The red fruit persists through the winter, providing food for wildlife. Young trees must be protected from drought, but they will tolerate dry soil as they mature.

Zone 3. Ht 6m/W 6m. Fall colour orange/scarlet. Soil needs moist/well drained. Pruning needs low. Native to NE North America.



*Gleditsia triacanthos* var. *inermis* 'Sunburst' – Sunburst thornless honeylocust. This tree develops a flat-topped, open canopy that casts very light shade. The yellow summer foliage creates a real bright spot in the garden. This cultivar is fruitless, saving you from having to clean up the large seed pods. The fine textured foliage requires no raking up in autumn. Zone 4. Ht 10m/W 10m. Fall colour yellow/gold. Soil needs moist/well drained. Pruning needs low. Native to NE North America.



*Magnolia* X '*Butterflies*' – Butterflies magnolia. This cross of *Magnolia acuminata* and *M. denudata* usually forms a small tree with an upright central leader. It is sometimes a multistemmed shrub. It has yellow cup to star-shaped flowers that are fragrant and appear before the leaves in early to mid-spring. A nice change from the usual pink or white magnolia. Zone 4. Ht 8m/W 6m. Fall colour yellow/brown. Soil needs moist/well drained. Pruning needs low. Hybrid.



*Magnolia X lobneri* 'Leonard Messel' – Leonard Messel magnolia. 'Leonard Messel' has a multi-stemmed habit and beautiful two-toned flowers at an early age. The strap-like petals are similar to those of star magnolia, white on the inside and purplish-pink on the outside. The flowers are less susceptible than most magnolias to damage from late frosts. 'Leonard Messel' is a cross of *M. kobus* and *M. stellata* 'Rosea'. Zone 4. Ht 4m/W 3m. Fall colour yellow/brown. Soil needs moist/well drained. Pruning needs low. Hybrid.



*Malus* 'Dolgo' – Dolgo crabapple. This is a fantastic crabapple. The tree is ironclad – pest and disease resistant and requiring little in the way of pruning. It has been a favorite for 250 years. The apples are plum-sized and have a pleasant flavor for fresh eating. It isn't usually broad spreading unless early pruning errors send it that way. The flower buds are pink-tipped, opening to white. Zone 2. Ht 10m/W 10m. Fall colour yellow/brown. Soil needs moist/well drained. Pruning needs med. Native to Siberia.



*Malus X moerlandsii* 'Liset' – Liset crabapple. This tree has an open canopy with purple foliage. It flowers heavily with rose pink blossoms and produces darkly coloured fruits that become showy with the loss of foliage in autumn. Fruit persists well into winter. Zone 3. Ht 6m/W 5m. Fall colour yellow/brown. Soil needs moist/well drained. Pruning needs med. Native to Holland.





*Ostrya virginiana* – Hop hornbeam. This is an understory tree, so prefers a location out of full sun. It is salt sensitive and requires good drainage. The fruit resembles hops and is much loved by birds and other wildlife. Slow growing with attractive gray bark. This native tree is often overlooked but deserves more attention. Zone 3. Ht 10m/W 7m. Fall colour yellow. Soil needs variable. Pruning needs low. Native to NE North America.



*Sorbus aucuparia* 'Fastigiata' – Pyramidal mountain ash. This very slow-growing compact tree is ideal for smaller landscapes where a vertical accent is desired. Flat panicles of white flowers produce clusters of orange-red fruit. The berries attract a wide range of birds. Mountain ash has ash-like leaves, but are members of the rose family, and are not related to true ash (*Fraxinus* of the olive family). *Sorbus* are not a host plant of emerald ash borer. Zone 4b. Ht 7m/W 2m. Fall colour red/scarlet. Soil needs moist/well drained. Pruning needs low. Native to Europe.



*Stewartia pseudocamellia* – Japanese stewartia. One of the most beautiful small trees for the landscape, Japanese stewartia has delightful white flowers that sparkle on the branches in early summer. Every visitor asks about this plant. Its dark green leaves become a riot of saturated oranges and flaming brilliant reds in the autumn. As the tree matures, a beautiful patchwork of pink, red-brown and gray develop on the bark along its trunk and branches. No serious insect or disease problems bother this tree. Zone 5. Ht 5m/W 3m. Fall colour orange/yellow/pink. Soil needs moist/well drained. Pruning needs low. Native to Japan.





*Tilia cordata* 'Green Globe' – Globe little leaf linden. As a young tree, this is the classic 'lollipop on a stick'. With age the canopy loosens and becomes more open. Lindens are one of the best trees for pollinators. The leaves are dark green with golden yellow fall colour. Zone 4. Ht 3m/W 3m. Fall colour yellow. Soil needs moist/well drained. Pruning needs low. Native to North America.



**Some Final Thoughts** Fall gardening chores are bitter-sweet and the mind drifts back to

summer

highlights as you clip edges and consider perennial division. The spring peepers and grackles made themselves known later than usual. An uncomfortably hot summer, I thought. More rain than the past few summers, but could have spaced it out better... An incredible bird season. What a season for fruit! Everything is absolutely laden. It's alright so far. Lots of garden season left yet! Carol Goodwin As with every year, 2024 has been a garden season

of mixed results. I have two gardens.

My "home" garden, with shrubs, trees and perennials, has been lush and beautiful all summer. There was a brief incursion, restricted to my rose blossoms, of Japanese beetles in late July and early August, but the roses have rebounded and are covered with buds again.

The vegetable and cut flower garden, a five minute drive away, has been more of a challenge. In addition to the usual pests (Colorado potato beetles, cabbage worms and squash bugs), this year I had fungal wilt in both my watermelons and cantaloupes. Beautiful plants were reduced to shrivelled stems within a matter of days. I left the melons in place and did manage to harvest a few ripe ones. There would have been more, but the crows decided to poke holes in most of the fruit, after having destroyed a significant portion of my ripe corn cobs. Next year I will be looking for both disease-resistant melon varieties and a way of keeping the crows out of the melon and corn patches. Suggestions, please! On a positive note, the dahlias and sunflowers have been producing well and my gladioli (from L.M. Bolle and Sons in QC) were magnificent, with many of them sending up three or four flower stalks from a single corm. The local hospice has been enjoying the blooms. Janet Alsop

We would love to add your own garden reflections to the next newsletter.

Please send them to [goodwin.carol56@gmail.com](mailto:goodwin.carol56@gmail.com)

