The Garden Master News

Newsletter of the Atlantic Master Gardeners Association

ISSUE #12 VOLUME #3 FALL 2020

Inside this Issue:

CoViD Days

We've been living with Covid 19 now for 6 months! As we continue to Socially Dstance, we gardeners, have found the Garden to be the "Prescription" for dealing with many of the stresses of this Pandemic. Garden Centres and Nurseries have indicated an increase in purchases of plants and planting materials Many non-gardeners have experienced the benefits of Gardening - and hopefully will continue to do so!

Following is a poem by Childrens' author Brod Bagert that seems to sum it up!

PRESIDENT'S MESSAGE

- by **Jim Sharpe**, **AMGA President**

What a summer for gardens! Although there has been a lack of rain, the warm weather and sunshine have kept all my flowers and vegetables growing and I'm looking forward to the harvest. I've included a picture of my garden in Murray Corner, New Brunswick.

Although I could not plant until late June due to the COVID travel restrictions, and it has been a record dry summer, everything has grown very well. I hope your garden has done as well. On our Monday evening Zoom discussion sessions we have been sharing pictures of our gardens, examples of our favorite plants, and solutions to various pests and problems facing us as gardeners.

This summer, Sue Stuart asked for Master Gardener volunteers to help plant spring bulbs at a new pollinator garden started by Donna and Duff Evers in suburban Halifax. On Monday, July 13, three Master Gardeners (Carolyn Downie, Lynn Brooks and myself) joined Sue and Roslyn Duffus from the Nova Scotia Rock Garden Club in finding and digging up spring bulbs from Donna's extensive garden and planting them in the new 10,000 square foot pollinator garden. The garden is on the corner of Sime' Court and Brenda Drive in the Kingswood Subdivision off Hammond's Plains Road just west of Bedford, Nova Scotia. Thanks, Sue for organizing this AMGA support for such an important educational and horticultural initiative.

I'd also like to thank our secretary, Gigi Pelletier, for her initiative and persistence in designing, ordering and distributing AMGA promotional materials. These include AMGA name badges for identifying ourselves when doing presentations, AMGA notebooks for organizing our thoughts, plans and presentations and AMGA tote bags for our conferences and membership. With her characteristic efficiency, Gigi consulted with the executive on the design of the items, took orders from our members through e-mail and the website, worked with the supplier to ensure quality control and distributed the materials to all who ordered them. Thanks Gigi for a job well done.

I'm looking forward to our Annual General Meeting which will be held on Wednesday, September 16 at 7:00 pm by Zoom teleconferencing. Please join us for a discussion on the future initiatives for the Atlantic Master Gardeners Association. All the reports will be posted on the members section of the AMGA website so that you can view them before the meeting. Thank you to all the members of the AMGA executive for working together in such trying times. With the renewed public interest in gardening there is increasing need for the public information and education that AMGA members can provide.

- Jim

Plant Health

- by Mary Johnnson
Dalhousie Master Gardener Student
Assignment 11

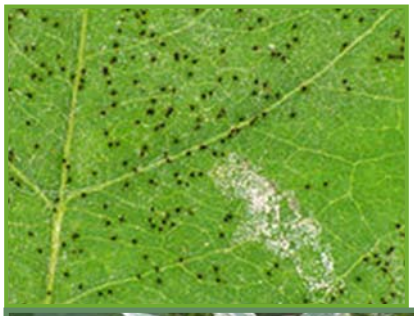
All plants, at one time or another, are affected by a disease or an insect. The impact of this influence is directly related to the comparable activity of one of three factors: the susceptibility of the host, the suitability of the environment, and the vigor of the pathogen. This is known as the disease triangle. Disease is understood as any disturbance that prevents the normal development of a plant and reduces its economical and/or aesthetic value. Disease may be caused by a biotic factor (eg. fungus, bacteria, viruses, nematodes), by an abiotic factor (eg. nutrient deficiency, water stress, temperature stress), or by a combination of both. The vast majority of plant diseases are caused by fungi.

Powdery Mildew

Powdery mildew is a common, widespread fungal disease affecting cereals, cucurbits, and woody and herbaceous perennials. Familiar hosts in the residential landscape include lilac and phlox. The specific fungus varies according to the host; it is made up of many spores that are transferred by wind to other hosts. Powdery mildew is mainly an aesthetic disease, rarely killing its host, however, it is capable of having a powerful impact on the affected plant. Powdery mildew is able to survive in warm, humid weather although it does not necessarily require moisture to thrive. It occurs first on older leaves, mainly on the upper surface, starting out as small white dots that look very much like a dusting of flour, and spreading to cover the surface. Stems and fruit may also be affected. Leaves, tips, and buds become distorted late in the growing season. Although the mildew rarely causes the death of the plant it can considerably compromise its health by robbing the plant of nutrients leaving the plant bloomless; causing increased respiration and transpiration; and reducing photosynthesis, impairing growth.

Powdery mildew is easily managed:
*choose disease resistant/tolerant plants
*rub leaves together to partially remove disease
remove and dispose of diseased plant parts
*selectively prune overcrowded areas to improve circulation and reduce humidity
*avoid overhead watering to reduce humidity and to lessen spread by water splash
*spray with fungicide (sulfur, lime-sulfur, neem oil, potassium bicarbonate)
*spray thoroughly with natural home remedy - 1 tsp. baking soda/1quart water

The disease is seldom so severe in a residential landscape that spraying is necessary as long as the gardener is tolerant of the plants' compromised aesthetic. Spraying may be necessary in a commercial or public setting where a large grouping of plants occurs and the disease has become prevalent (public garden, nursery).



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Plant Health

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Horsechestnut Leaf Blotch

Guignardia aesculi is the causal fungus of Horsechestnut Leaf Blotch affecting many Aesculus species including California, Ohio, red, and yellow buckeye, and common, red, and Japanese horsechestnuts. Bottlebrush buckeye and some varieties of Ohio buckeye may be resistant. This blotch is mainly an aesthetic disease affecting the foliage and has the appearance of severe scorch.

Horsechestnut leaf blotch usually becomes noticeable after the plant has completed most of its annual growth. It first appears on leaves as irregular wet spots, and then develops into large, reddish-brown blotches surrounded by yellow tissue. The blotches vary in size and may grow together to cover large areas of leaf tissue. Foliage may curl and brown, turning dry and brittle. In severe cases, the foliage will fall prematurely in late summer.

Guignardia aesculi overwinters on fallen Aesculus leaves. Black pinhead-sized specks are the fruiting bodies. These mature in early spring, releasing spores into the air during wet weather. Newly developing leaves that remain wet for several hours are susceptible to infection and develop blotches in 10-20 days. Petioles and immature fruit may also become infected. Infections may continue throughout the summer. Wet weather and crowding (eg. nurseries) provide ideal conditions for the growth and spread of the fungus.

The impact of horsechestnut leaf blotch can be minimized by:

*sanitation pruning: rake, remove, and dispose of all infected plant parts

*prune to improve air circulation through plant and speed the drying of the canopy

*serious damage can be treated with a fungicide: applications of fungicide containing chlorothalonil or mancozeb at bud break with repetitions every 10-14 days during wet conditions. Not for residential use.

Lilac Blight (Lilac Bacterial Blight)

Pseudomonas syringae pv. *syringae* is the causal bacterium for Lilac Blight that also affects pear, blueberry, cherry, maple, forsythia, and other woody plants. "Two common genetic traits increase the bacteria's ability to cause disease. Most produce a powerful plant toxin, syringomycin, which destroys plant tissues as bacteria multiply in a wound. Bacteria also produce a protein that acts as an ice nucleus, increasing frost wounds that bacteria easily colonize and expand" (https://pnwhandbooks.org/plantdisease/host-disease/lilac-syringa-spp-bacterial-blight). All types of lilac are susceptible although there is speculation that white flowering lilacs may be more susceptible than other varieties.

Lilac blight is similar in appearance to fire blight in fruit trees. Brown spots on young leaves and stems may enlarge, causing damage around the margins and/or along the central vein. Symptoms move from leaves to stems turning the tissue black and causing wilt. Flower buds may also become blackened. Infection of stems causes girdling resulting in death of shoots and blossoms. Leaves may die and/or drop from the stems. Infections on mature wood occur on cherry trees only.

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Plant Health

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Pseudomonas syringae pv. *syringae* overwinters in disease cankers on the plant; on healthy plant material; in plant debris; in perennial weeds; and/or in soil around the area. A wet, rainy spring especially after a late frost provide the ideal conditions for infection. The bacterium spreads to new growth of susceptible plants through an opening or wound which provides access to the plant's internal tissues. Aiding in the spread are insect vectors, infected pruning tools, wind, rain splash, and infected nursery stock. Once infected, the plant develops the symptoms mentioned.

Frost, existing wounds, soil pH, poor or improper nutrition, and infection by other pathogens all offer opportunities for infection. Control measures include:
*choose disease resistant varieties
*fertilize and irrigate accordingly
*avoid overhead watering to minimize spread by splashing bacterium onto new host
*prune affected branches 10-12" below the visible infection during dry weather; sanitize tools between cuts to minimize infection spread
*remove, destroy affected plant parts
*prune to increase air circulation through plant
*space plants properly
*do not fertilize late or overfertilize young plants: high nitrogen favors disease development

Diplodia Blight of Pines

Diplodia pinea*,** aka, ***Saphaeropsis sapinea is the causal fungus of Diplodia Blight of Pines affecting all pines having 2-3 needles per bundle. These include Austrian pine, Scot's pine, mugo pine, ponderosa pine, and red pine. Trees that are 25 years old and older are most susceptible although younger trees may become infected if compromised.

Diplodia pinea infects the trees' candles. Needles become stunted and fail to elongate, becoming brown, dying by summer's end. Fruiting bodies known as black pycnidia may be seen at the needle base.

The black pycnidia release spores any time from early spring to late autumn (March - October) during wet periods which are scattered by wind, insects, and animals. The two week period when buds begin to open and candles develop provide the ideal opportunity for infection of susceptible tissue. *Diplodia pinea* germinates and infects needles and shoots in high humidity. The fungus grows rapidly at 28°C; during a 12 hour wet period at 12-36°C symptoms will appear in 3-4 days.

Poor sites, poor drainage, compacted and/or drought soils, chemical and/or mechanical root loss, and lack of nutrition all contribute to compromising the pine's health. Insect vectos include the white pine weevil, the European pine shoot moth, the Eastern pine shoot borer, the Pine shoot borer, and the Zimmerman pine moth.

Diplodia Blight of Pines can be controlled using the following measures:
*avoid mass planting of Austrian Pine
*maintain adequate tree vigor through watering and fertilization
*improve the surrounding soil by removing competing turf, mulching, aerating
*pruning may be done on trees with only a few symptoms
*prune to improve air circulation through tree
*remove, dispose of infected plant parts during dry weather.

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Plant Health

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Blossom End Rot of Tomato

Blossom End Rot of Tomato is a physiological disorder caused by a calcium deficiency within the plant and occurs most commonly in fruit that is 1/3-1/2 developed. Rot affects tomatoes as well as peppers, eggplants, and squash.

Some rot is normal in the first fruit of the season as the plants are usually under stress during initial fruit set. If the damage is minimal it is possible to merely cut off the affected portion and eat the rest. Rot starts as small, tan, water soaked area on the blossom end of the fruit usually when the friut is green or ripening. As the spot enlarges, it becomes sunken, turning black and possibly leathery.

Wide fluctuations of moisture reduces the uptake and movement of calcium in the plant. Calcium is necessary for cell growth. When the demand for calcium exceeds calcium availability, tissue begins to break down. Deficiencies during fruit formation are usually indicative of too much nitrogen fertilizer, high salt levels in the soil, and/or damage to plant roots during cultivation.

Prevention and control of Blossom End Rot of Tomato is easily manageable:
*maintain uniform soil moisture: plants need 1" of moisture/week
*ensure good drainage; allow soil to dry out
*mulch and irrigate, especially during drought
*maintain soil pH of 6.5; lime to increase ratio of calcium ions to other competitive ions in soil; add crushed eggshells, gypsum, bone meal to transplant hole to fortify calcium uptake
*avoid cultivating near roots
*stake tomato plants
*remove affected fruit, plant may blossom again and set normal fruit
*apply liquid calcium fertilizer after fruit removal
*fertilizers should be high in superphosphate, low in nitrogen
*fertilizers should contain nitrate nitrogen NOT ammoniacal nitrogen (increases rot)
*do not overfertilize during early fruiting when rot is most likely to occur

The disease triangle is comprised of three elements: a pathogen, a host, and a suitable environment. The absence of any of these three factors precludes the existence of disease. Prevention is the key in disease management. Cultural controls such as proper bed/soil preparation; proper cultivation/tilling practices; moisture management, including muching and irrigation; drainage control; proper pruning techniques and timing; proper plant spacing; and proper fertilization practices aid in establishing a suitable environment for healthy and vigorous plants. Control mechanisms also exist to manage any problems that might otherwise manifest but it is much easier to determine, diagnose, and treat any disease that occurs when preparation has been thorough.

Rethinking the Lawn

- by Lynn Brooks
AMGA Past President

In the interest of full disclosure, for much of my gardening life I have dismissed the typical urban/ suburban lawn consisting of one or two species of grass as a waste of time and energy. You couldn't eat it and its care took too much valuable time, so why bother. I had a small part passing the local ban on the cosmetic use of pesticides back in the 90's and was thrilled when it passed. Like author Marianne Willburn, my lawn is a diverse mixture of native and non, including lots of the species that would be the object of chemical eradication: dandelions, plantains, violets, networks of wild strawberry and clover. Which I too carefully mow at the recommended height of 4 inches, and never water. This year despite a major drought, it is still looking pretty green and is alive with the hum of bees and foraging birds. Exactly what I had hoped to achieve from the day I became its custodian, and my lawn's pesticide/fertilization addiction was abruptly halted. An action which I have to say, was not terribly appreciated by my neighbour… he has since moved.

This is all pretty old hat to the environmentally conscientious. But my concern is that we may have gone too far in the opposite direction. In my neighbourhood, as older people left and a younger generation moved in I thought great! This isn't a generation interested in becoming a slave to a traditional expansive field of perfect grass. Which for my generation was almost as an obsession. So what I had been expecting was a shift towards more wild and diverse landscapes. But instead, larger and larger amounts of hard surfaces have become the norm. As the sold signs went down unpaved driveways disappeared, and the asphalt replacements covered more square feet. As did new deck additions and patios with the must have fire pit, (cough, cough), which also needed the felling of existing trees to achieve the required fire safety zone. Plus lots of new outbuildings sprang up to store all the toys.

Houses built for the 21st century thanks to changing by-laws, can now cover more square footage, So instead of trees, houses loom over tiny spots of green and block sun from their neighbours. Small trendy urban yards that you see in design magazines often use artificial turf to surround pools and sitting areas. After all, who would want grass clippings being tracked into the pool! Climate change is increasing the frequency of heavy downpours of rain, storm sewers are often overwhelmed and in the suburbs, it erodes road banks and floods basements. Duh, do we really think we will be somehow be able to live on this planet without plants?

Then came the pandemic, being locked in your home with no matter how many bathrooms, will start to feel like prison. Children especially need places to play outside and still be within their bubble. (One of the first thing to close - playgrounds.)
As a master gardener I have always promoted the role of the gardener in bringing nature into our space. So my now saying the lawn has a function is pretty radical. I think we need to do both. Flat open green spaces do have a purpose. All the games of my youth; badminton, croquet, lawn darts, etc. The kind of games you now only see at yard sales, were all played on somebody's lawn. Open mowed spaces also will discourage tick populations. This space can be versatile, permeable, comfortable to walk on and aesthetically pleasing. Without being a high-maintenance headache. What we need to work on is get the balance right.

Rethinking the Lawn

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Too large a lawn looks empty and boring. As garden designer Carol Mullet was quoted as saying in a recent article. "Design is about the interplay of mass and void, and there is a very different intensity to each. Both are needed. Mass is framed and enhanced by void."

A lawn with a healthy root system acts like a sponge capturing rainfall and storing carbon. Surrounding your home with turf can be an eye-pleasing firebreak against wildifire. (The overuse of wood mulch was considered a contributing factor to the loss of homes in both the Slave Lake and Fort MacMurray fires). Humans are creatures of the savanna, having a mown area abutting a woods or meadow makes an area feel tended and approachable.

The one thing all gardeners know is that change is a constant and what motivates us, is a love of plants. For some, maintaining a beautiful deeply rooted lawn of grasses is easy. But for the rest of us, we need to accept and embrace the diversity of our turfed spaces. I have no credible statistics on how much land we have lost in Canada to paving. But a study in the US (Hayden 2004) estimated the lower 48 states had 43,480 square miles of blacktop that is nearly 70,000 Kms. And their love and pursuit of the perfect lawn makes us look like pikers, 62,500 miles (over 100,000 Kms) (Milesi et al. 2005). I knew adding berried bushes, conifers for shelter and embracing my already tall trees was putting out the welcome mat for many bird species. 20 years
of observation has shown so has my pesticide-free, diverse lawn. Want birds? You need a large selection of insects and native plants regardless of where they are growing….

Chicory

Heal all

Wood Sorrel

Pictures:
'Weeds' that brighten my world (1) chicory (2) heal all (3) wood sorrel. all are edible.

References: Bringing Nature Home Douglas W. Tallamy
Planting in a Post-Wild World Thomas Rainer and Claudia West
In Defense of the Lawn Marianne Willburn, The American Gardener

Update on Hammonds Plains Pollinator Garden

- by Sue Stuart

The making of a *Meadow:*

June 2020: Land prepared ready for planting!

July 2020: Meadow planted and walking path installed

Master Gardeners planting bulbs for early birds ,bees & butterflies!

Build it and they will come!

August-September 2020

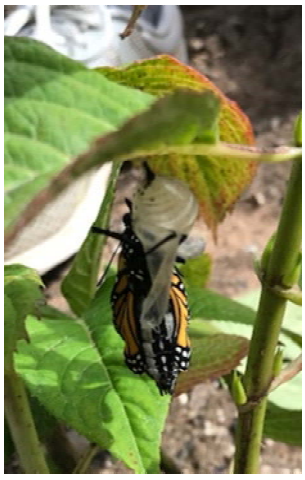
Milkweed found—time to lay eggs

Monarch Caterpillar devouring milkweed before pupating.

Jade green Chrysilis formed

2 weeks> Chrysillis becomes black.

Butterfly will emerge within a day or so



Pollinator Garden

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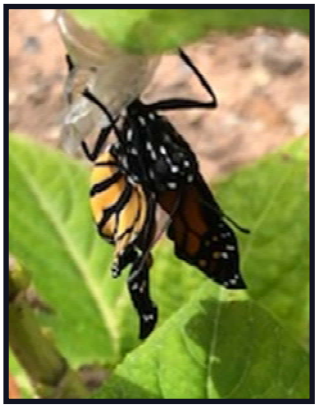
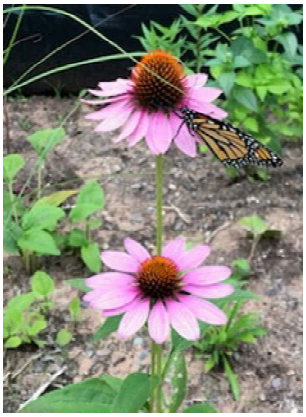
September 2020



Slowly, a crumpled, weak butterfly fills with "hemolymph, expanding body and wings

Monarch perched on Donna's hand as it gains strength to move.



Mature Monarch no longer eats but drinks nectar from flowers to prepare for it's long journey to Mexico!
Bon Voyage!

A Beautiful and Amazing spot for People and Pollinators to visit and learn!

September 2020

Master gardeners and gardenmaker, Donna Evers, planting bulbs, perennials and weeding in Pollinator Garden

AMGA REMINDERS

1) AMGA AGM—via Zoom, Wednesday, September 16 at 7:00pm

2) Continue logging volunteer hours for 2020 to be submitted in 2021. Remember that hours spent in researching and writing articles for Newsletter can be included in your Volunteer hours

3) The Winter Newsletter deadline for submission of articles is December 1, 2020. Please send articles To: suestuart@bellaliant.net

4) To contact a member of the Executive please send message to:
atlanticmastergardeners3@gmail.com

5) Please note attached email with this Newsletter "NS Horticulture for Health Network" Newsletter: " Digging In"

AMGA Executive 2020-2021

Contact executive members at:

atlanticmastergardeners3@gmail.com

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