MASTER GARDENER

Cross Pollination

February 2008 – *Volume 55*

Coordinator's Corner

Happy New Year to everyone! I'm sure we are all looking forward to the arrival of spring blooms in the garden. The past month has been a bit over whelming as I begin to familiarize myself with the binders and files that Lorne has handed over to me but I'm sure things will begin to fall into place. Lorne has offered to continue booking the room for our meetings and I'm grateful for his help.

I would like to take this opportunity to wish Karen and Patty all the best as they approach the finish line of their education later this spring and look forward to them receiving certification. Some of you have been enjoying the on-line courses and others are giving thoughts to the exemption exam. Information will be provided at the meeting for those wishing to take that route. It will be helpful if you can let me know where you are at with your education so that I can be up to date.

Fundraising is something we need to consider as we go into 2008 and I would like to see a monthly draw table like we used to do when Charlie was around. Maureen Millar has offered to take this on and do a monthly draw. So if anyone has donations for the draw table e.g. plants, seeds, bulbs, books (new or next to new), anything garden related that we could use on the table, it would be greatly appreciated.

Belinda will be our speaker in February. Her presentation will be geared towards preparing and speaking in public. Her expertise will be most welcome, particularly to the new members and those who are a bit shy about speaking. Over the next year I will be encouraging our MGIT's to prepare a presentation for our meetings. This is good practice for all of us. We are a group with diverse interests in gardening and nature so it is important that we take advantage of the knowledge within and share it with our group. What better way to learn that from each other!

Marjorie Latimer

Gypsy Moths
Submitted by William Kertyzia

June and I have been busy, walking through the woods knocking off clusters of gypsy moth sacks (apparently in a fairly futile effort). I hope this synopsis helps:

Dr. Marvin Gunderman of MacMaster and Tam Sadonoja, a Forestry Technician with the city of Hamilton, recently held a seminar on the gypsy moth. The following was taken from their text. Excuse any discrepancies since I'm kind of senile and I forgot my note pad and this is from memory ... a fading memory...

The gypsy moth was introduced into North America in 1869 in the Boston area to develop a North American silk industry. Since that time they have made a steady march across North America. They are generally cyclical, coming every seven years, but it appears that this is changing along with our more moderate winters and the last two seasons have been problematic for arborists.

The female lays clusters of eggs, usually on tree bark, covering the mass with a silk-like substance to protect the egg masses. The first instar (generation) is the first hatching of these eggs into the larvae which feed on the leaves of trees. Although the trees are damaged, deciduous trees can refoliate themselves in the same season. These larva mature until they pupate forming an adult moth. Males are brown in colour while the females are cream. The asian female species is unable to fly, which is one reason why you see infestations in certain pockets. The first and second instars feed at night, but the third to fifth instars feed both day and night. The first and second instars come down the tree to escape the heat. These groups are effectively killed by using the burlap method. Later in the season the burlap method doesn't work since the larvae don't come down the tree trunk.

Controls

Natural:

a) parisitic wasps lay their eggs in the egg mass and the growing wasps eats the egg masses.

b) ants, bees

c) rodents (shrew)

d) fungi

e) viruses

f) birds (although birds don't like them because of their coarse hairs, some birds are adapting by eating them).

g) winter - several periods of cold weather of at least three days in duration where the temperature drops to the minus 20 range will kill them, but we haven't had winters like that recently.

Together the above natural controls will only eliminate 30% of the population.

Manmade:

a) scraping the egg sacs off the tree causes the eggs to fall to the ground where they are more likely to be eaten by the predators mentioned above. The eggs are extremely hard and you can't crush them with a stick. You can collect the egg sacs in a container and either put them in bleach or burn them.

b) spraying with BTK - which is not specific so it will kill all the butterfly species. You also have to spray twice, just after eggs hatch which will be in mid-may.

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Gypsy Moths continued . . .

Concerns:

1. Instead of laying egg masses 15 feet or lower as they have in the past, they are now laying their eggs higher up in the canopy.

2. The infestations which were about every seven years are now becoming more frequent.

3. We've had drought condition so the trees are under stress which means that they are more likely to succumb after an attack.

4. In spite of being genetically developed for eating leaves, they have now evolved to the point where they are eating coniferous needles.

Fifth instar gypsy moth larva

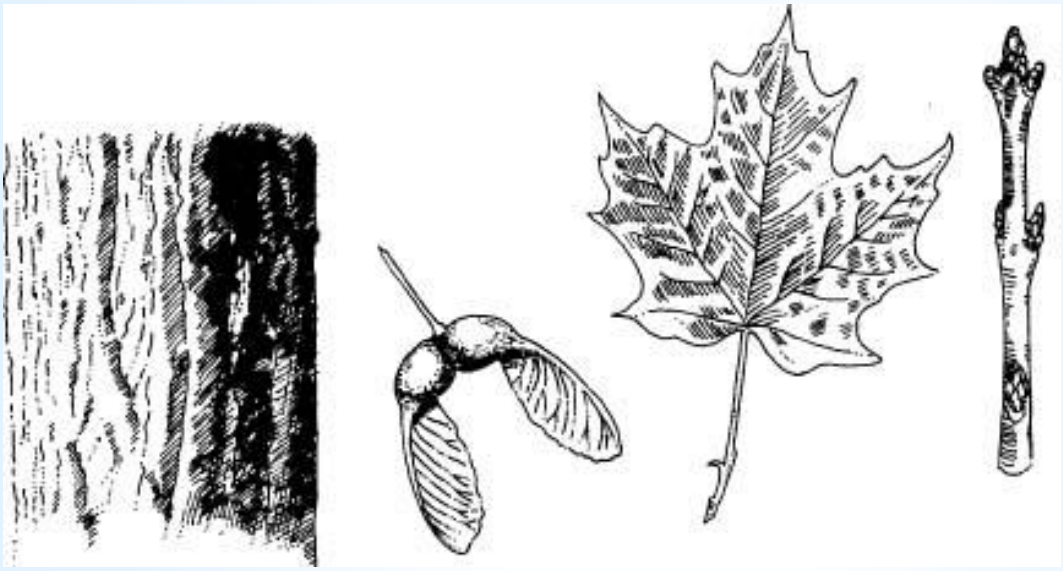
SUGAR MAPLE (Acer saccharum)
Submitted by Marg Catley

March is the time of year when the often-maligned Maple (Acer) receives some well-earned respect – if only briefly. Mentioning maples in autumn will evoke visions of leaves to rake, but in spring, maples can only mean maple syrup.

There are over 200 different species of trees in the maple family. Of these, thirteen are native to North America. Sugar maples, also known as rock or hard maple, are only found in one area of the world. This area ranges from southeastern Canada, down into the northeastern United States. Here, growing conditions are conducive for the production of maple syrup. The sugar maple has the highest concentration of sugar than other members of the maple family (averaging 2.0 – 2.5% sugar content) and can produce better flavoured and lighter syrup. Sugar maples bud later in spring which extends the season. Sugar maples can be identified by observing the 5-lobed leaves (as found on the Canadian flag), the paired opposite attachment of the leaves along the stem and the lack of teeth along the leaf margin. Young trees have smooth, gray bark. Older trees develop furrows and eventually long, irregular, thick vertical plates that appear to peal from the tree in a vertical position.
Under optimal conditions, sugar maples can reach heights in excess of 100 feet with trunk diameters greater than 30 inches. They are relatively long-lived, capable of living well beyond 200 years. Sugar maples are found in a variety of soil and site conditions but do not generally like excessively wet or dry sites and grow best in moist, deep, well-drained soils. They are shade tolerant.

Many conditions influence maple sap flow and quality; not just during the weeks trees are being tapped, but also the previous winter and, to some extent, even the previous year. Sugar is produced in the leaves during photosynthesis. It is transported into the wood and stored during the winter, mostly in the form of carbohydrates. It is then converted to sucrose and dissolved in the sap. When temperatures rise above freezing, pressure develops in the tree. This causes the sap to flow. During cooler periods, when temperatures fall below freezing, suction develops, drawing water into the tree. This replenishes the sap allowing it to flow again during the next warm period. Once temperatures no longer fluctuate between freezing at night and thawing during the day, sap will stop flowing. Factors such as temperature, cloud cover, snowfall and even snow depth affect sap production. Ideal temperature fluctuation is mid 20° F (-7° C) at night and mid 40° F (5° C) during the day. Overcast skies result in a slower run, producing less sap. Snow on the ground produces insulation. A deep layer of snow will help extend the season by keeping the ground frozen longer. The frozen ground helps to slow the development of the tree's leaf buds and delay the "buddiness" of the sap. This "buddy" flavour and odour produces unusable sap. Even the amount of rainfall the previous summer can affect sap production. Sap sweetness has been observed to be lower in years following a summer when conditions were unfavourable for photosynthesis. The average sugaring season lasts about six weeks and 10 – 20 gallons of sap are produced per tap. A single tree can have 2 – 3 taps depending on its size and health. A tree should be 10 - 12 inches in diameter (measured 4½ feet above ground level) before tapping. A healthy, undamaged tree, properly tapped will not suffer adverse health effects and can remain productive for over 100 years.

Native Americans were the first people to make maple syrup. Legend has it that a Native chief returned home late one night and stuck his tomahawk in a nearby maple tree. Early next morning, he left for another hunt, taking his tomahawk from the tree. Fortunately, there was a bowl beneath the gash to catch the sap that began to drip. Later that day, his daughter, who was preparing dinner, needed water. Seeing the bowl of liquid, she decided to save herself a trip to the creek and used the sap. As the dinner cooked the "water" boiled down to the first maple syrup. With a little experimenting, the chief and his daughter discovered how and when to make this all-natural sweetener. From that point on, maple products have become part of the North American spring traditions.



Sugar maple bark, fruit, leaf, and twig

IPM Symposium
Submitted by Maureen Millar

I attended the 43rd IPM symposium at Landscape Ontario Congress in January with my colleagues from Cudmore's Garden Centre and found it to be very interesting. It was obvious from the speakers assembled that governments at all levels and the landscape and horticulture industries are very involved in finding alternative solutions to reduce the impact on the environment and our health to combat pest and disease problems. Consumers are demanding changes but it is a slow and complicated process. There was a lot of information that I will be covering in a presentation in the future but here are the highlights of the symposium:

Nathan Helder of Jan Gelderman Landscaping commented that customers are now asking what the industry is doing for the environment and he explained that there is now a National Environmental Committee that is Canada wide. They are working within the various industries to share information, develop best practices and develop guidelines to protect the environment in the horticultural field. This includes nursery growers, maintenance, irrigation, landscape design, retail and wholesale sectors, as well as practices such as water and energy usage and waste reduction. Public education and awareness is also a critical part of the plans.

Paul Gray of the Ministry of Natural Resources made some very interesting points about the weather and how it is affected by human and natural factors. Predicting long term climate change is very dependent on how we behave- will we have more or less industry and will their practices add to air pollution or will we use existing resources in a less harmful way (energy, water, waste disposal, recycling)? Temperature and the amount of precipitation will affect not only our air and water quality but all animal species, ecosystems and land mass changes in unique ways. A plan needs to be made that will sustain all environments, now and for the future.

Dr. Gerry Stephenson of the University of Guelph, spoke more specifically about pesticides and the use of alternatives for residential and golf courses. As we become more aware of the harmful effects of earlier pesticides and herbicides to air and water quality, wildlife and even 'non-target' areas of water and soil, it has become critical to find alternatives that are easy to produce, purchase and use. Four such products being studied are acetic acid (vinegar), neem oil, corn gluten meal and sarritor (fungal organism that infects weeds). Because they are 'naturally occurring' they are regarded as biopesticides.

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Jennifer Llewellyn from OMAFRA gave an update on a number of pests that plague this area and indicated that the very warm and dry weather last year is partly responsible for the spread of pests and disease that we are finding. Again, weather (lack of precipitation, hot, dry winds, temperature) affects the increase and spread of insect pests and diseases, as well as plant's ability to recover from infestation. An online database is being developed at Guelph University for common pests on outdoor ornamentals.

Geoff Cutten of the Ministry of the Environment spoke about mosquito management not only to reduce the public health problems but also the nuisance factor and economic impacts of high populations. For residential areas, the most effective strategy is cleaning up standing water to reduce mosquito breeding grounds. Public education is critical in controlling this pest.

Bob Wilton of Clintar Groundskeeping Services and Dr. M Sears of the Department of Environmental Biology at Guelph University spoke about lawn pests. Mr. Wilton feels that pesticide usage is no longer an option and this gives us a good opportunity to change how we treat our lawns. He strongly suggests cultural methods to reduce the pests; best practices for mowing height, aeration, fertilization and watering correctly. Dr. Sears discussed a number of common turf pests and explained that by the time you see the damage it is usually too late to try and control the pest. There are some 'natural' ways to combat problems (nematodes, neem oil, Sevin) however, you must identify the pest and know the life cycle in order to effectively control it.

Oakville's New Pesticide By-Law
Submitted by Lorne Sparrow

Effective January 1, 2008, The Town of Oakville implemented a Pesticide By-Law. This By-Law regulates the types of substances a home owner can use to control insects, pests and disease within the boundaries of the Town of Oakville

Permitted substances for use: (quoted from the Oakville Pesticide By-Law Number 2007-036)

1. A product that uses pheromones to lure pests, sticky media to trap pests or "quick kill" traps for vertebrate species considered pests, such as mice and rats
2. A product that is or contains only the following active ingredients:

a) A soap
b) A mineral oil, also called "dormant or horticultural oil"
c) Silicon dioxide, also called "diatomaceous earth"
d) Biological pesticides, including Bt (Bacillus thuringiensis) and nematodes
e) Borax, also called "boric acid" or "boracic acid"
f) Ferric phosphate
g) Acetic acid
h) Pyrethrum or pyrethrins
i) Fatty acids
j) Sulphur
k) Corn gluten meal

Many towns and municipalities are slowly adopting these new regulations.

This information will be useful when giving advice to homeowners not only in the Oakville jurisdiction but in all other jurisdictions

A Gardener's Journey through China

by Donna Parker

With my North American perceptions and the fact that it was late autumn I wasn't sure what I could expect to see in the gardens of China.
What I did see during my three week visit through this vast country, was an incredible range of horticulture. Gardens were traditional, contemporary, large, small, plain, colourful, and, in some places, they defied the odds to simply grow in the worst of conditions.

Contemporary gardens blazed from the pre-Olympic displays in Tian'an Men Square. Traditionally serene gardens beckoned the visitor to the The Summer Palace, outside Beijing and the Yu Yuann Gardens in Shanghai, Simple roadside displays, springing up in recovered brown fields, gave a nod to improving the environment.

Traditional Chinese gardens grew out of the Daoist philosophy of linking scenery with serenity. In times past, wealthy citizens constructed natural-looking retreats for themselves within urban settings. In the traditional garden four main elements are contrived to improve on nature by creating a picture that looks natural but is entirely artificial. Using these four elements, the garden becomes a series of tableaux linked by paths and bridges that appear before the visitor as he moves through the garden.
Rocks are used to recall mountains and caves and often as sculptures themselves. Water provides contrast and balance with the rocks and a mirror for the plants.
Plants are used sparingly and usually for their symbolic qualities--the lotus for purity, bamboo for resolve. The buildings provide a place for contemplation, rest and a specific viewpoint. And all of the elements are held in a delicate balance. The Yu Yuann Gardens in Shanghai were a stunning example of the traditional garden at its best.

In more contemporary terms, colourful annual gardens can be found around most public and many private spaces as China moves away from the stark landscape of the Cultural Revolution days. Outside the large cities, farmers grow vegetables and cash crops on every available inch of land and display it proudly for sale in village squares. As old factories are replaced with more technologically advanced buildings, the brown fields are being recovered and planted with trees and shrubs to help mitigate the dense smog.
Of course, nowhere is this more evident than in Beijing as it prepares to put its best face forward for the Olympics. Trees are being planted everywhere and even the space between the expressway ramps is planted in a riot of colour and pattern!

China is growing rapidly. In the cities, the joke was that the biggest crop seemed to be the thousands of construction cranes apparent across the skylines. What impressed me most, perhaps, was the simple determination of people to grow something - even in the smallest of spaces and the poorest of conditions. Yes, this is necessity for most but I think that the "greening" of China also speaks of hope.

Due to technical difficulties, Donna's photos will be published in next month's newsletter.