friends of the farm
les amis de la ferme

Friends of the Central Experimental Farm

Spring 2015 Newsletter Volume 27 No. 2

Tropical Greenhouse, Garden Geometry

By Richard Hinchcliff

R. Hinchcliff

Frangipani *(Plumeria)* residing temporarily in the Ornamental Gardens

During this miserably cold February, some lucky Farm staff members took refuge in the newly upgraded Tropical Greenhouse to work on its layout design. This is the elegant octagonal structure on Maple Drive that was originally built at Major's Hill Park and moved to the Farm in 1938 to be used for horticulture research. Now a heritage building, it became a tropical garden open to the public in the 1970s. It has been closed the last few years for major renovations.

Rebuilding the collection

During the renovations, rescued and donated plants were kept in another greenhouse. For the past five summers, the Central Experimental Farm Ornamental Gardens team would move the plants out into the gardens, notably in "Same's Magical Bed" near the old Cereal Barn where visitors could enjoy seeing the papayas growing, or brugmansia, frangipani and oleander in bloom. (Same Nay was a former member of the team.) The team would then return the plants to the greenhouse in the fall.

In the last week of February, Jean-Pascal Gratton and his Agriculture and Agri-Food Canada (AAFC) team took delivery of new tropical plants to increase and diversify the collection that had been rescued from the original planting in the Tropical Greenhouse.

Several ficus, two jades and a xeric bed have been set up as the display begins to take shape. I, for one, look forward to finding warm refuge in the renewed Tropical Greenhouse. A date for the re-opening has yet to be announced.

Entering the landscape design contest

This coming summer in the Ornamental Gardens the AAFC team is again entering the All-America Selections (AAS) landscape design contest.

The AAS is an organization that tests new flowers and vegetables. The world's most prominent plant breeders submit their cultivars to the AAS, which arranges anonymous trials and then has the new plants rated by independent horticulture experts who volunteer their time as AAS judges.

Only the best garden performers are declared AAS Winners. Participating AAS display gardens, such as the Farm's Ornamental Gardens, then showcase the winning varieties of flowers, plants and vegetables that are subsequently made available at garden centres or online seed sources. The Farm has been receiving donated seed from AAS for nearly 50 years. The Royal Botanical Gardens in Hamilton and the Niagara Parks Botanical Gardens also display AAS winners.

To commemorate 80 years of AAS, the first landscape design contest was held in 2012 with 22 entries from all over North America. The Farm's Bird, Bee and Butterfly Buffet garden, which was designed by Sharon Saunders and built by her and her team at the Ornamental Gardens, placed second.

The theme for the contest this year is 'Garden Geometry', which, Sharon says, "is quite apropos for our garden. We have been practicing this form of math for years."

"There will be two beds, each with its own theme: Fractal

Continued on Page 3

President's message - Note du président

World Under our Feet

Most of us don't appreciate the value of soil. It's needed as much as we need air: for food, animal feed, fuel and natural fiber production, clean water, cycling of nutrients and conserving our planet.

The ecology of soil is a mystery in a hidden world. The Earth's soils harbour a quarter of its biodiversity, much of which has never been examined and recorded. Yet we're all destined to pass through this underworld, feeding other creatures as we go.

Unfortunately, we're losing soils. Every minute, two hectares of soil are sealed under expanding cities worldwide. Twenty-four billion tonnes of soil were lost in one year (2011). And it takes 2000 years to generate just ten centimetres of new soil.

We are living on "credit" as we deplete our soils and make no return deposits. The Food & Agriculture Organization of the United Nations has declared 2015 as the International Year of Soils in view of the need to reverse this trend.

Agriculture and Agri-Food Canada has undertaken significant research on soils over past years and will be doing more in the future (see Page 8). For example, plots on the Central Experimental Farm have been used to study effects of no-till farming, which is an important tool to help conserve soil and is used by a steadily increasing number of Canadian farmers.

The Canadian Soil Information Service (CANSIS) National Soil Database is the national archive for land resources information collected over 100 years of effort. It is a huge legacy that requires new resources to ensure it is up-to-date and germane to the needs of the present and future. Otherwise it may not provide what is needed to strengthen our soil resources in the 21st century.

Almost all plants, including the Farm's crops and trees and Ornamental Gardens, are very dependent on their soils. Roots draw water and nutrients from the soil. The root hairs release hydrogen ions that dislodge mineral ions from the surface of clay particles. Microbes crowd around the root hairs and help break down organic matter in the soil. Research at the Farm is studying the chemical language exchanged between roots and microorganisms. Plants protect and stimulate life in the soil, but they also receive much in return.

As the Friends of the Farm prepare for another growing season, let's remember that the vitality of the plants and greenspace depends on soils and the unseen network of decay, nutrients and energy.

Eric Jones

Le monde sous nos pieds

La plupart des gens n'apprécient pas le sol. Or, il est aussi nécessaire que l'air : il nous donne nourriture, provende, combustible, fibres naturelles, eau propre, et nutriments pour assurer la survie de la planète.

L'écologie des sols est un mystère dans un monde caché. Les sols de notre planète abritent un quart de sa biodiversité, dont l'essentiel n'a jamais été observé ni catalogué. Or, nous sommes tous destinés à finir enterrés, alimentant d'autres organismes au passage.

Malheureusement, les sols sont en train de se perdre. Chaque minute, deux hectares de sols sont recouverts par l'expansion des villes partout au monde. Vingt-quatre milliards de tonnes de terre ont été perdus en une seule année (2011). Et il faut 2 000 ans à la nature pour produire dix centimètres de terre nouvelle.

Nous vivons à crédit lorsque nous épuisons les sols sans les renflouer. L'Organisation des Nations Unies pour l'alimentation et l'agriculture a déclaré 2015 l'Année internationale des sols en vue de renverser la tendance.

Agriculture et Agroalimentaire Canada a entrepris de grands chantiers d'étude des sols ces dernières années, et compte poursuivre cette recherche à l'avenir (voir l'article, page 8, "Growing Layers of Research"). Par exemple, certaines parcelles de la Ferme expérimentale centrale ont été réservées pour étudier les techniques agricoles sans labour, moyen de conserver les sols qui est employé par un nombre croissant d'agriculteurs canadiens.

La Base nationale de données sur les sols (BNDS) du Service d'information sur les sols du Canada est une archive nationale d'information sur les sols compilant près de 100 ans d'efforts. Ce monumental labeur exige de nouvelles ressources pour mettre à jour la Base et faire en sorte qu'elle réponde aux besoins d'aujourd'hui et de demain, sans quoi, elle ne pourra nous donner l'information dont nous avons besoin pour bonifier les sols au 21e siècle.

Presque toutes les plantes, y compris les cultures, arbres et jardins d'ornement de la Ferme expérimentale, dépendent de la qualité du sol. Leurs racines en tirent de l'eau et des nutriments. Les racines capillaires rejettent des ions d'hydrogène qui délogent les ions minéraux de la surface de particules d'argile. Les microbes qui s'agglutinent aux racines capillaires contribuent à décomposer la matière organique présente dans le sol. Les chercheurs de la Ferme étudient le langage chimique que s'échangent les racines et micro-organismes. Les plantes protègent et stimulent la vie dans le sol tout en en retirant des bénéfices.

Alors que les Amis de la Ferme se préparent pour une autre saison de cultures, n'oublions pas que la vitalité des plantes et espaces verts dépend des sols et de leur cycle invisible de décomposition, de nutriments et d'énergie.

Eric Jones

Tropical Greenhouse, Garden Geometry *(continued from Page 1)*

forms and a Venn diagram." Sharon has long been intrigued by these geometric shapes and is interested in re-creating them in her garden designs. She will be using new and past AAS winners; the colour scheme, she says, "is still open to interpretation."

The Ornamental Gardens team also plan to revamp the Birds, Bees and Butterfly bed this season, perhaps using a Friends of the Farm volunteer team to help with the weeding. This bed is located at the southern end of the Gardens, which will certainly become another focal point now that Building 78 (the Heating Plant) nearest to the Friends of the Farm tool shed has been demolished.

"Needless to say," Sharon says, "I'm getting excited about the upcoming gardening season and hope to see new and returning volunteers."

Sharon Saunders

Newly planted bed in the Tropical Greenhouse, March 2015

R. Hinchcliff

Ornamental Garden beds ready for planting, May 2014

Edible Ornamental Plants by Telsing Andrews

Explore the world of "edimental" perennial plants with Telsing Andrews of Aster Lane Edibles. Though it is not a surprise to many that vegetables are attractive and at home in the flowerbed, the extraordinary number of delicious ornamental edibles (edimentals) that have been used traditionally have often been forgotten or under-explored.

Telsing will introduce you to some of her favourites and give you ideas on how to incorporate them into a beautiful garden.

Tuesday, July 7, from 7 to 9 pm in Building 72, Arboretum, Central Experimental Farm.
Cost: $12 FCEF members, $15 others.

www.asterlanedibles.ca

Ideas and Tips from Master Gardeners

Here are the 2015 talks by Master Gardeners, to be held from 7 to 9 pm in Building 72, Arboretum, Central Experimental Farm. You can sign up for individual talks or the entire series. Individual talks: $12 FCEF members, $15 others. Series of five talks: $40 FCEF members, $50 others.

April 7 – Plant for Incredible Edibles by David Hinks
Yes indeed, you can grow a bounty of vegetables in your urban space. Find out from this experienced vegetable grower the possibilities that could await you just outside your back door (or your front door)!

April 21 – Three lectures in one evening

- **Earthly Delights by Edythe Falconer**
  Learn all about building and maintaining your own soil. Do it Yourself Dirt!
- **Keeping the Garden Going Strong by Josie Pazdzior**
  Learn what you need to do to keep your garden looking great all season. Tips on watering, weeding, mulching, pruning, pest and disease control, dividing plants and planning for the next season.
- **Trees and Shrubs for the Urban Garden by Laura Henderson**
  Practical advice when choosing these more costly landscape plants.

May 5 – Rejuvenating a Tired Garden by Mary Reid
Is your garden looking tired and overgrown? Suggestions and discussion shared on a step-by-step approach to make your garden more pleasing to you and the job more manageable. No need to sod that weary patch over, renovate it instead.

May 19 – Plant for Continuous Garden Joy by Judith Cox
This master gardener will present ways to maintain colour and create interest in your garden throughout the season.

Upcoming Events

For more information, visit www.friendsofthefarm.ca or call 613-230-3276.

Craft and Bake Sale

- Saturday, April 18, 10 am to 3 pm.
- Take home the creations of area artisans and delicious baked goods.
- New Location: Cereal Barn, Canada Agriculture and Food Museum, CEF, 901 Prince of Wales Drive.
- Free admission at museum gate if you are attending the craft sale.

Rare and Unusual Plant Sale

- Sunday, May 10, 9 am to 2 pm, rain or shine.
- Enhance your garden with plants from the many specialty growers and nurseries gathered for this event. New this year – garden accessories vendors.
- Master Gardeners of Ottawa Carleton will be available to answer your questions.
- New service – plant "coat checking" under the Friends' canopy. Volunteers will help you carry your treasures to your vehicle.
- Location: Parking lot beside K.W. Neatby Building, Carling and Maple Drive, CEF.

Tour of the Lilac Rows

- Saturday, May 23, 2 pm.
- Enjoy a guided tour of the CEF lilac rows with the Friends of the Farm lilac team. Discover the many lilac varieties on display.
- Location: Macoun Garden, Ornamental Gardens.
- Free admission; donations gratefully accepted. No registration required.

Preston Lilac Tour

- Saturday, June 6, 2 pm.
- Take a guided tour of the Preston Heritage Lilac Collection with the Friends of the Farm lilac team. Discover the variety of lilacs that Isabella Preston created at the CEF.
- Free admission; donations gratefully accepted. No registration required.

Peony Tour

- Saturday, June 13, 9 am to noon.
- Guided tours are offered of the peony beds at the CEF. Get tips on what would work best in your garden and ways to keep your peonies happy.
- The tour begins at the peony beds in the Ornamental Gardens.
- Free admission; donations gratefully accepted. No registration required.

Rose Workshop

- Sunday, June 14, 1 to 3 pm.
- A workshop on roses, rose pests and diseases at the Heritage Rose Garden. Bring a folding chair.
- Information on the collection will be available to help with a self-guided tour of the roses.
- Free admission; donations gratefully accepted. No registration required.

"Books for Blooms" Book Sale

- Saturday, June 20 and Sunday, June 21, from 10 am to 4 pm.
- The best used book sale in Ottawa. It's a two-day sale for a reason!
- Come and check out the thousands of titles.
- Location: Building 72, Arboretum, CEF.
- Admission and parking are free.

"Three Days – Three Gardens" Bus Tour

- June 23 - 25 (see below) .

Victorian Tea

- Sunday, July 26, 2 to 4 pm. Rain date: Sunday, August 2.
- Classic tea served under the trees of the Arboretum.
- Bring a patio chair and listen to live music.
- Enter the best hat contest and don period costume (optional).
- Location: Building 72, CEF Arboretum.
- Admission and parking free; formal tea $10.

Thank You

The 2014 Fall Campaign for donations and new memberships was a big success, surpassing our expectations! Your generosity brought in over $6,000 and added over one dozen new members, half of which were families. Our total membership is now over 520. Fifty percent of donors/new members received gifts of CEF Heritage Building prints, and Rhythm and Blooms DVD sets.

Thank you for continuing to support the Friends' mission not only with your yearly membership dues but with your generous donations during the Fall Campaign and throughout the entire year.

Join us on the Bus

We're offering a delightful three-garden trip from June 23 to 25. First stop is at Canandaigua, N.Y., to visit nine formal gardens at the Victorian Sonnenberg Estate. On the second day we will motor on to the Royal Botanical Gardens in Burlington, Ontario, and on the third day we will visit the gardens of Parkwood Estate National Historic Site and Heritage Garden in Oshawa.

First come, first served on the bus! Cost is $450 per person for double occupancy; for single occupancy, add $145. Bus transportation, entrance fees to the three gardens, two nights' accommodation, two full breakfasts, lunch at the RBG, and the services of a Friends' tour guide are all included in the price. Passports are needed and travel insurance is recommended because of the U.S. visit. For more information and to register, visit www.friendsofthefarm.ca/events.htm, call 613-230-3276 or email info@friendsofthefarm.ca.

awww.images.frompo.com

Blaine Marchand: A Poet Among the Peonies

By Mary Ann Smythe

Growing up in Champlain Park - part of Kitchissippi Ward in Ottawa - Blaine Marchand often stopped to admire a garden at the end of his street, and imagined what he could create in his parents' yard.

The childhood interest blossomed into an adulthood passion. A house purchased in the same neighbourhood in 1982 was transformed from an asphalt-covered yard to a dazzling showcase of colour, texture, and scent. And as though the city garden wasn't enough to satisfy his horticultural bent, Blaine and his partner, Jamie Robertson, bought a Victorian schoolhouse near Cobden, Ontario in 1998. Thanks to hours of research and physical labour, the three acres on which the house sits are home to an orchard of Canadian heritage apple trees, Preston and Skinner lilacs, an extensive day lily collection, and a peony garden that holds 500 varieties, including an interesting collection of A.P. Saunders peonies. Many of their plants are linked to the Farm's early hybridizing/breeding program. "For us, it's an important link to Canada's horticultural history," says Blaine.

The peony collection, featuring the usual reds, pinks and whites, but also more uncommon yellows and lavenders, represents a turnaround in Blaine's initial impression of the plant. "I really didn't like them. They have such a short bloom time and are easily knocked over by wind and rain." It was a talk by Mary Pratte - former advisor to the Friends' Peony Team - on CBC radio in 2000 that prompted a change of mind. "I came away thinking 'that sounds interesting.'" Soon Blaine was more than interested; he was hooked. He is past-president of the Canadian Peony Society, editor of its quarterly newsletter, and is currently organizing the Society's National Peony Show in Ottawa, June 6-7. In 2011, he joined the Friends' Peony Team. "Just what I needed," he laughs, "another garden in my life." Blaine enjoys the camaraderie of the team, the satisfaction of helping to get the gardens in good shape. Despite his extensive knowledge of peonies, he still "learns a lot. Bill (Wegman - Team Leader) is an incredible source of information."

When Blaine speaks of gardening - the serenity of weeding, the joy of building a garden or discovering a heritage plant - he paints a vivid picture. His words have the power to persuade, to evoke a long-forgotten scent or touch, to relive a childhood memory. When Blaine speaks it's from his poet's soul.

Like gardening, Blaine discovered his love of writing in childhood - filling notebooks with short stories. He was soon to channel his creativity in a new direction, thanks to a Grade 7 teacher at St. George Elementary School who recognized Blaine's talent with the written word. "Mrs. Davis was the first person who said to me 'you could be a writer.' She also read poetry in class and I became fascinated with the imagery it evoked."

So fascinated that it became his preferred means of written expression. And, in the process, established him as an award-winning writer, proving his teacher's prediction true.

Blaine has published eight works, six of which are poetry. He has several awards to his credit, chief among them the Archibald Lampman Award, a Canadian literary award for the year's best work of poetry by a writer in the National Capital Region. Two more works are underway - one devoted to his time in Pakistan, the second about growing up in Ottawa.

Polly McColl

Blaine's writing has been fed by travel. In 1978, he joined the Canadian International Development Agency on contract. "I thought I'd be there a couple of months. Growing up in Ottawa it was almost a given that people would have government experience at some point in their lives." The contract turned into a permanent job in 1981, and in 2011, he retired after more than three decades at a dream job. "It was wonderful to travel and to be exposed to so many different cultures."

The last posting was in Pakistan where Blaine integrated himself into daily life - even joining a horticultural society in Islamabad and maintaining a small garden. "I really stood out at the meetings," he laughs at the remembrance, "and had to take a friend along to translate."

For Blaine gardening and writing poetry have much in common. "The whole thing about gardening is about discovery - what goes where, what works and what doesn't. It's like poetry: a line comes to mind and then I have to find someplace to fit it in, to build around it, just like a garden."

Mary Ann Smythe is a freelance writer/editor and active volunteer with the Friends.

Neighbours and Nature Ensemble: First of its Kind in Ottawa

By Mary Ash

Jim Norgaard

What do retired Monarch Teacher Network (MTN) teachers do when they no longer have a classroom in which to raise Monarchs? They create butterfly gardens and start educating their community. This is exactly what Mary Ash, Joan Harvey, Johanna Cutts, and Kate Harrigan did. Neighbours and Nature Ensemble (NNE), a bilingual name chosen from community suggestions, and reflective of the community spirit and involvement, is the first of its kind within the City of Ottawa whereby a private citizen's group has constructed a garden on city property.

The NNE Monarch Waystation adheres to the standards laid out by Monarch Watch www.monarchwatch.org and contains native plants, both host (milkweeds: for eggs and caterpillars to live on), as well as nectar (flowering/perching plants: for adult butterflies); the whole is a self-contained unit specific to the Monarch, but attracts other butterflies, moths, hummingbirds and pollinators, especially bees. Grants for plants, soil, and a rain barrel were obtained with the help of the local councillor, and a local nursery offered to subsidize their purchases. Neighbours, even children, pitched in to help in many ways.

The site for the garden in Terry Fox Park in Orléans was a former Boy Scout/Girl Guide campfire circle, abandoned for many years, and was the perfect spot. A bench at the entrance to the garden offers passers-by a spot to rest as they observe the goings on, take in the aroma, or listen to the hum of busy bees; and it is anticipated that teachers at nearby Terry Fox Elementary School will utilize the garden when teaching habitat, and other science units. Monarchs depend on a unique partnership between the United States, Canada and Mexico for their survival – we "share" the butterflies; a problem in any country will break the necessary chain upon which their existence is based. Pesticides, herbicides, genetically modified crops, urban expansion, deforestation in the overwintering sites in the mountains of Mexico, all have devastating effects on this tiny migratory insect whose present numbers recently showed an improvement.

Jim Norgaard

Joan Harvey, Mary Ash, Johanna Cutts and Kate Harrigan

The retired MTNers hoped that others would take the initiative to develop similar gardens in their yards. As such, a new seniors residence has shown interest in having a butterfly garden onsite; the local Lions Club is incorporating a waystation in their new garden plan; and the local councillor has requested that Mary and Joan assist him in creating such a garden in a seniors' park. Due to liability issues, Monarch Teacher Network – Ottawa Chapter adopted the part of the park containing the garden to facilitate the process.

The gals were overwhelmed with the resulting bonding of their neighbourhood during and after their garden construction: neighbours helping neighbours, moreover, neighbours *meeting* neighbours, and uniting for a local cause. One neighbour offered to be the "resident photographer;" another volunteered his water until the rain barrel could be set up in his yard; many came to spread soil, mulch, and plant. The garden became a focal point in the area, a gathering place, a destination for morning walks; and everywhere people talked about "the garden." After two summers in operation, the garden has attracted butterflies as well as hundreds of bees and other pollinators, and hummingbirds. What a superb start! It's been said that "When a butterfly flaps its wings in one part of the world, it can cause a hurricane in another;" well it's amazing how a little butterfly has certainly created a stir in this neighbourhood!

Mary Ash is a retired elementary school teacher who has always been close to nature. She joined Monarch Teacher Network in 2004 and has been a kindred spirit, inspiring others, ever since.

Nectar and Host Plants for the Monarch Butterfly Garden in the Ottawa Area

Host (caterpillar) Plants

Common milkweed (*Asclepias syriaca)*

Swamp milkweed (*Asclepias incarnata)*

Butterfly weed (*Asclepias tuberosa)*

Nectar Plants for Butterflies – Summer Blooms

Butterfly Bush *(Buddleia spp.)*

Anise Hyssop *(Hyssop foeniculum)*

Purple Coneflower (*Echinacea purpurea)*

Bee Balm (*Monarda spp.)*

Black-eyed Susan *(Rudbeckia hirta)*

Blazingstar, Gayfeather (*Liatris spp.)*

Coreopsis (*Coreopsis spp.)*

Catmint *(Nepeta spp.)*

Goldenrod *(Solidago spp.)*

Summer Phlox *(Phlox spp.)*

Joe-Pye Weed *(Eupatorium purpurea)*

Yarrow *(Achillea spp.)*

Nectar Plants for Butterflies – Fall Blooms

Sedum (*Sedum spectabile)*

Hydrangea *(Hydrangea paniculata)*

Baby Joe-Pye Weed (*Eupatorium maculatum)*

Ironweed *(Vernonia spp.)*

Meadow Blazingstar *(Liatris ligulistylis)*

New England Aster *(Symphyotrichum novae-angliae)*

Created by Monarch Teacher Network of Canada, Ottawa Chapter, 2014 www.monarchteacher.ca

Growing Layers of Research

By Eric Jones

The research undertaken by Agriculture and Agri-Food Canada in Ottawa and across the country comes in many different layers. The crops we see on the Farm represent only one layer of this work. Other layers are being worked on over a wide range of scales, studying: soil, climate, water, insects, food, livestock, and geospatial technology.

Ottawa is home to the Eastern Cereal and Oilseed Research Centre (ECORC). The Centre recently held a two-day research review in Ottawa jointly with the Agro-Climate, Geomatics and Earth Observations (ACGEO) Division, also part of AAFC. The focus was on the agricultural environment, not the crops, but both are closely linked.

The goal of the event was to better integrate the science by making sure all the scientists and managers know where the research is heading, how it all fits together and where the gaps are. From an outsider's viewpoint, it showed the broad reach of research going on both in Ottawa and the other participating centres. For example, ECORC has more than just a regional mandate and some of the work ACGEO is working on is global in reach and impact.

Raymond Roy

Research in action at the Farm

The soil layer

Soil is critical to the world's health: at least a quarter of the world's biodiversity is harboured in its soils. Agricultural research is beginning to focus more on soils, and on linkages to other areas of study.

Current examples look at what is driving the release of carbon and other gases from soil, and how pesticides dissipate in different sites and conditions. Other studies show how plants interact with fertilizers, which could lead to new "smart" fertilizers that make use of biosensors.

AAFC has maintained an important soil database for the entire country for many years. While new funding is helping to make more soil data available, more support is required to ensure this data is updated and kept relevant to research needs.

The climate layer

Climatic events are becoming much more expensive: witness the 5.8 billion-dollar effect of drought back in 2000-2001. Excess moisture effects are just as bad and may become more frequent with climate change. Data will help show whether specific kinds of climatic effects are happening more or less frequently on national, regional and local scales. Research is seeking to make agriculture better prepared for extreme effects.

This research also includes sustainability studies, like helping to find out the effects Canadian farming practices have on greenhouse gases, such as methane and nitrous oxide. It's important that this work is done in Canada and is based on local conditions, e.g. places where there is sustained snow cover for long periods of the year. AAFC is also participating in international work in this area.

More climatic data — solar radiation, windspeed, humidity data — is needed to advance this work.

The satellite layer

This area is growing in leaps and bounds as new satellites and sensors are being launched by many different countries, including Canada. Resolution is improving and new sensors are providing new insight into the condition of land and crops. Some funding from the Canadian Space Agency will prepare the ground for mining this data.

Satellite data is also being used to measure and study land cover and land use. Land use is constantly changing and crop inventories require updating on a regular basis. Crop yields can be predicted from the data that is corroborated with ground truthing. The data can also be used to study important conditions, such as soil moisture and temperature.

Geomatics data layers

AAFC is finding new ways to make agricultural data accessible to Canadians. They have created UMAP—a cloud-based platform for staff to allow collaboration and to create web maps. There is an Open Data portal on the Agriculture Canada site (see http://www.agr.gc.ca/eng/?id=1343066456961), where one can go to get data and maps on subjects like soil moisture levels on different scales.

Mapping is particularly useful to communicate crop rotation and yields. In these areas, sustainability is a major focus: research is looking at indicators of sustainability, such as:

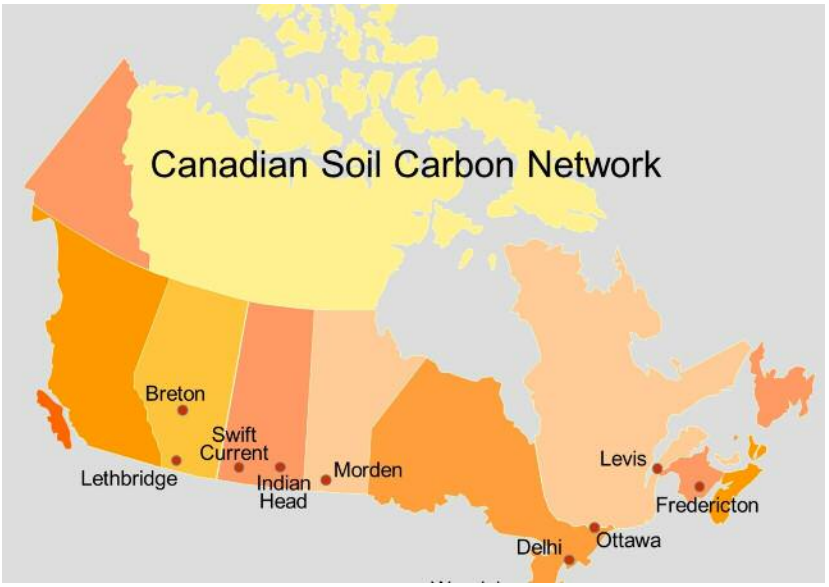
- Air quality
- Water use
- Soil quality
- Biodiversity
- Reactive nitrogen.

The geomatics research is a key aid in characterizing farm types, to help predict how they will respond to changes in environmental conditions.

Review highlights

In summary, the two days of review highlighted the importance of long-term commitment to the research that is being carried out by AAFC. Climate and soil conditions are changing with time, and the only way we can measure the effects of these changes on crops in the future is by maintaining consistency in approach, while adding new technology as it becomes available.

Eric Jones began volunteering with the Friends of the Farm on the Arboretum team, reflecting a life-long interest in trees.



Agriculture and Agri-Food Canada

Mark Your Calendars – An Extravaganza of Peonies

By Blaine Marchand

Jean Pigott Hall at Ottawa's City Hall will blaze with beauty on June 6th and 7th when the Canadian Peony Society (CPS) holds its annual show. The show and events are open to the public on Saturday from 1 to 5 pm, with more to follow on Sunday from 10 am to 4 pm. Come to see this free exhibit of hundreds of peony blooms in a magnificent range of colours.

Consider entering some of your favourite garden peony flowers in the judged competition, which, being national, will draw exhibitors from across the country. Set-up for the show begins Friday evening at 6 pm and continues Saturday morning until 10 pm, when judging begins.

Jim Watson, the event's Honorary Patron and Mayor of Ottawa, will open the show to the public on Saturday at 1 pm. Later in the day Dr. Marilyn Light and Dr. Nathalie Chaly will give talks on peonies.

Members of a horticultural society of the Ontario Horticultural Association's Districts 1, 2 and 3, are invited to participate in a floral design competition that incorporates peonies into an arrangement. For more information contact Madeline Archer at: lookformadeline@gmail.com.

Visits to the peony garden at the Central Experimental Farm and the historical Maplelawn walled garden are also planned. A silent auction of choice peony roots will also take place throughout the show.

For more information on the show or the CPS, contact Blaine Marchand at blainemarchand@hotmail.com.

friends of the farm
les amis de la ferme

The Friends of the Central Experimental Farm is a volunteer organization committed to the maintenance and protection of the Ornamental Gardens and the Arboretum of the Central Experimental Farm in Ottawa, Ontario, Canada. Membership in the Friends of the Farm costs $25 per year for an individual and $45 per year for a family, $20 Seniors/Students. Membership fees support the many projects of the Friends of the Farm.
The Newsletter (ISSN 1702-2762) is published four times a year (Winter, Spring, Summer, Fall) by Friends of the Central Experimental Farm. All members receive the newsletter and it is sent either by regular mail or e-mail. Editor: Richard Hinchcliff. Assistant Editor: Barbara Woodward. Design & Printing: Nancy Poirier Printing. Contributors: Mary Ash, Johanna Cutts, Joan Harvey, Eric Jones, Blaine Marchand, Mary Ann Smythe. Translator: Marie-Eve Racette.

Friends of the Farm
Building 72, Central Experimental Farm
Ottawa, ON K1A 0C6

Telephone: 613-230-3276
Fax: 613-230-1238
E-mail: info@friendsofthefarm.ca

www.friendsofthefarm.ca

Singular Beauty

'Carmenetta' (Rosa rubrifolia x R. rugosa)

By Blaine Marchand

Simple. How dare they! They don't understand.
These men, who want only blooms pleated,
fussy as Victorian petticoats,
and names, romantic, effusive poetry.
I prefer roses singular in beauty, iron clad,
as the will of an ordinary woman, a stenographer,
backbone of this experimental farm,
who perches by her desk and deciphers
the scrawled field notes of men
who rush off, rumpled trousers in wellingtons.
This woman's work demands precision, an eye
for exactitude. Like setting out on a morning,
barely a wind, my bag arranged just so -
tweezers, camel hairbrush, pocket lens, labels,
a notebook already annotated with particulars.
Down the long lawn, sensible low-legged stool
in hand, I search for vigorous specimens,
half-grown buds to press open, insert
fine-pointed scissors to dissect calyx, corolla and anthers.

Who would have thought I would come this far?
The memory, my father ankle deep
in muddy Lancaster, upturning potatoes,
and me running to keep up with a trug barely full.
Later, observing Professor Crow pollinating
flowers and me, confused, uncertain:
"Which is the stigmatic flower of this iris?"
Me determined never again to be deficient,
methodically reading my way through every critical
book in the library. And finally, the memory
of Macoun who hired me only when a man could not
be found, who promptly set my task -
lilies, lilacs, siberians, columbines and crabapples
- while he toured and talked. Should I have been
grateful that at least it was no longer vegetables?

Yet equally, I was resolved. Blessed with neat fingers,
with patience, endlessly testing, recording as I worked
my way through the species, dusting Rugosa pollen
on the red-leafed rose. Then waited, waited. Saved
each seed, planting each one. For years, observing
the growth until one caught my eye - robust, arching
insistent form. How it stopped my breath. Its petals
phosphorescent pink, like the flushed cheeks
of the typist bent over at her monotonous tasks.
How I admire her inner strength, her resolved
sense of duty that brings so little return, resilient
as any woman needs be to survive the harshness
of life. How like this hybrid, my chance rose.

Isabella Preston gained renown as a plant hybridizer at the Farm from 1920 to 1946. 'Carmenetta' is a rose of hers that remains on the market today. A profile of Blaine Marchand is on Page 5.

NEW MEMBER REGISTRATION FORM

NAME: _____

ADDRESS: _____

CITY: _____ POSTAL CODE: _____

PROVINCE: _____

TELEPHONE #: _____

FAX #: _____

E-MAIL: _____

INTEREST IN VOLUNTEER OPPORTUNITIES

YES ❑ **NO** ❑

TYPE OF MEMBERSHIP

FAMILY	$45/year
ADULT	$25/year
SENIOR/STUDENT	$20/year
BASIC CORPORATE	$250/year
NON PROFIT ORGANIZATION	$25/year
INDIVIDUAL LIFE	$200
SENIOR COUPLE LIFE	$250
DONATION	$_____
TOTAL	**$**_____

Please make cheque or money order payable to: "Friends of the Farm." A receipt for income tax purposes will be issued for all donations of $10 or more.
We are located at Building 72 in the Arboretum. You can visit us or mail this part of the form with your payment to:

Friends of the Central Experimental Farm
Building 72, Central Experimental Farm
Ottawa, ON K1A 0C6

Telephone: 613-230-3276
Fax: 613-230-1238
Email: info@friendsofthefarm.ca
Website: www.friendsofthefarm.ca

Your Own Monarch Butterfly Habitat Garden ... *(continued from Page 12)*

Kate Harrigan

Monarch waystation sign and Joe-Pye Weed in Joan Harvey's garden

different varieties of flowers blooming in your garden from late spring to early fall. The fall migrating monarch is dependent upon the blossoms as a food source to fuel up for the long journey south. This is why so many monarchs are seen on flowers in September.

Although adult monarch butterflies will drink nectar from milkweed flowers, they will also feed from the flowers of a wide variety of other plants. Did you know butterflies taste with the bottom of their feet? They look for a flat, colourful surface so they can perch while they nectar. They uncurl their proboscis (long tongue) to sip the nectar from the blossom.

Most urban gardens already contain many of the nectar flowers that the monarch feeds on. These include the following perennials (see chart, Page 7, for summer and fall bloomers): Butterfly Bush (*Buddleia*), Anise hyssop (*Hyssop foeniculum*), Coneflower (*Echinacea purpurea*), Bee balm (*Monarda*), Joe-Pye Weed (*Eupatorium purpureum*), Blazingstar or Gay-feather (*Liatris*), Coreopsis, Goldenrod, Catmint, Fall Sedum and New England Aster (*Symphyotrichum navae-angliae*).

Certifying your garden

You can have your garden certified as a monarch waystation by Monarch Watch, a conservation program at the University of Kansas. Go to their website www.monarchwatch.org/waystations to obtain the application form. If your garden meets the requirements, for a small fee you will receive a sign that can be displayed in your garden. The sign serves to make people aware of the plight of the monarch and of steps being taken to help establish and preserve monarch habitats.

A Canadian Certification version will be available from the Monarch Teacher Network of Canada in the near future.

The Monarch Teacher Network

The Monarch Teacher Network of Canada (MTN-C) is a network of educators who bring nature to the classroom and connect students in an authentic way to the natural world. Their professional development workshops train and certify teachers to use monarch butterflies in the classroom, and their community outreach programs assist the public in creating monarch butterfly habitats and gardens.

Fletcher Wildlife Garden and Maplelawn Gardens have created their own monarch waystations using perennial and annual flowers. Marius-Barbeau and Blossom Park elementary schools along with a dozen or more other schools in Ottawa have established monarch waystations. As well, Nature Canada is working with schools in Ottawa to develop monarch habitats.

A goal of the Ottawa branch of MTN-C, along with Nature Canada, is to create a "milkweed corridor" across Ottawa by encouraging Ottawans to plant milkweed in their gardens. This will help replace milkweed habitat lost through urbanization and changing agricultural techniques and to raise awareness of the plight of the migrating monarchs.

MTN-C and Nature Canada will be distributing milkweed seeds and plants in the Ottawa area this spring at various plant sales.

How governments and individuals can help

Similar to NAFTA, the monarch butterfly connects Mexico, the United States and Canada. The three leaders of these countries met last spring to develop a plan to promote butterfly habitat along roadsides, in open fields from Mexico, through the American Corn Belt and into Canada. Also needed are individuals and

Monarch Teacher Network of Canada
Le Réseau Canadien des Enseignants Monarques

community groups to plant milkweed and nectar plants in their gardens and to encourage governments to plant milkweed in open fields. If you plant it, the monarchs will come.

Money and Milkweed

Views and attitudes are changing on the value of milkweed and its many economic uses. François Simard, a chemist and creator of Protec-Style, recently signed a contract with Parks Canada to supply national parks with oil-spill kits. According to Simard, "Milkweed has a unique ability to repel water, which makes it perfect for oil spills on land or water."

Currently, farmers in Quebec are growing milkweed and harvesting the floss found in the pods for insulation in outdoor clothing and quilts. The first 2014 harvest was 20 hectares of milkweed. In 2015 they hope to harvest 160 hectares and to continue multiplying this hectarage each year.

If this concept works and more fields of milkweed are planted for industrial purposes in the United States and Canada, it will have a positive effect on raising the numbers of monarch butterflies. Milkweed is harvested in the fall when the seed pods and floss mature, while the monarch lays her eggs in the spring and summer.

So when you plant your garden this spring, consider adding milkweed. The elegant orange and black butterflies will be a beautiful sight to watch and enjoy. You can feel proud that you are helping a species at risk, the migrating monarch butterfly.

Johanna Cutts and Joan Harvey are both retired elementary teachers and active members of the Monarch Teacher Network-Canada.

Your Own Monarch Butterfly Habitat Garden

By Johanna Cutts and Joan Harvey

Every spring, millions of monarch butterflies that have overwintered in the Oyamel Pine trees in isolated areas of the Sierra Madre Mountains in Mexico, wake up and make their way to Texas, where they lay their eggs on milkweed plants. This is the first of several generations of monarch butterflies that gradually migrate north through the United States and southern Canada. Ottawa sees the third to fifth of these generations. In the fall, the last generation of butterflies makes the 3,000 km journey back to Mexico to begin the cycle again.

Because of changing agricultural needs, the availability of milkweed in the United States and Canada has been drastically reduced, threatening this remarkable migration. Would you like to help the migrating monarch?

You can do this by creating a monarch habitat garden that provides milkweed to feed the monarch caterpillar and nectar plants to sustain the adult butterfly.

Photos by Kate Harrigan

Nectar plant *Liatris ligulistylis* 'Meadow Blazing Star' is a monarch magnet

Creating a successful garden

Here are some helpful tips on creating such a garden:

- Start small. Even a ten foot by ten foot garden is enough. However you will need a location with at least six hours of sunlight a day. It should be in a quiet area away from noise and busy streets;
- In addition to milkweed, plan to plant a variety of annual and perennial flowers so that there will be blooms available for the adults through spring, summer and fall;
- Plant multiples of each plant, to better attract the attention of the butterflies. Grouping plants together also provides butterflies with shelter from the elements;
- Include a muddy spot for "mud puddling" so butterflies can get essential nutrients from the mud. This is particularly important for mating;
- Provide a shallow dish to catch water for the butterfly to drink. The butterfly will rest on the edge of the dish. Provide sheltered areas and rocks for protection and resting; and
- Above all, maintain a pesticide free garden.

Monarch caterpillar

Plants for your garden

You will need host plants for the caterpillars and nectar plants for the adults.

Host plants:

Milkweed is the only host plant that the monarch caterpillar can eat. Monarch caterpillars have evolved to eat only milkweed because its sap contains a chemical that is poisonous to most birds. The caterpillars store this poison in their bodies, which deters birds from eating them both as caterpillars and as adults.

There are 14 varieties of milkweed in Canada and four that grow well in Ontario.

It is helpful to have more than one variety of milkweed in the garden to ensure fresh leaves are available over the growing season. A single milkweed plant will sustain only one caterpillar, so a garden should contain several milkweed plants (a minimum of 10 is a good number).

Common milkweed (*Asclepias syriaca*) is found along roadsides and in the country. As of May 2014, this variety was taken off the noxious plant list and can now be grown in home and community gardens. This cultivar should be planted in a separate area of the garden where you won't mind it spreading.

Other less invasive, cultivated perennial varieties of milkweed such as swamp milkweed (*Asclepias incarnata*), butterfly weed (*Asclepias tuberosa*) and annual tropical milkweed (*Asclepais curassavica*) can be purchased from local nurseries.

Nectar plants:

Monarchs start arriving in Ottawa in mid-June and remain until early October. In order to provide nectar plants for the adults, you should arrange to have

Monarch chrysalis

Continued on Page 11