



Message from the President – Stephen Heard

It's hard to believe autumn is upon us. It's a lovely season, and you'll have lots to see in our Garden – for instance, the goldenrods in the NB Literature Garden are at their peak, and the Pollinator Garden is a riot of colour from one end to the other. Visit often!



It's been a busy summer for our staff and volunteers. You've seen the Rock and Crevice Garden continue to expand, and we're excited that the Wabanaki Healing Garden has been built and almost entirely planted. (Stay tuned for more about

an Opening for that latter garden.) We're also working to expand our fledgling (or should I say sapling?) Urban Orchard into a diverse Food Forest – thanks to our passionate volunteer Sima Usvyatsov and a Community Food Action Grant from the New Brunswick Department of Health.

Our Garden has grown so much over the last few years that we're facing an interesting challenge: the more we build, the more we have to do, and the more infrastructure we need to do it with. (You may have noticed our new water reservoirs and soil storage bins, but these are only a start on the infrastructure we need.)

How can you help? I'm glad you asked! We're always in need of volunteers, either to work in the Garden or to join a committee; please contact us.

And perhaps it seems crass, but if you can help us financially, that's enormous. You'll find a [“donate” link on our web site](#), or just give us a call.

We hope you'll enjoy this fall Newsletter – you'll find tips on growing plants from seed, some fruit-related Science in the Garden, and lots of news about our programs past and future. It's a real privilege serving as your President and watching our Garden grow. See you in the garden!



Bee Hotel constructed by Steve Stehouwer





Many thanks to Science East for weekly science activities for children at the Entrance Oval in July and August.

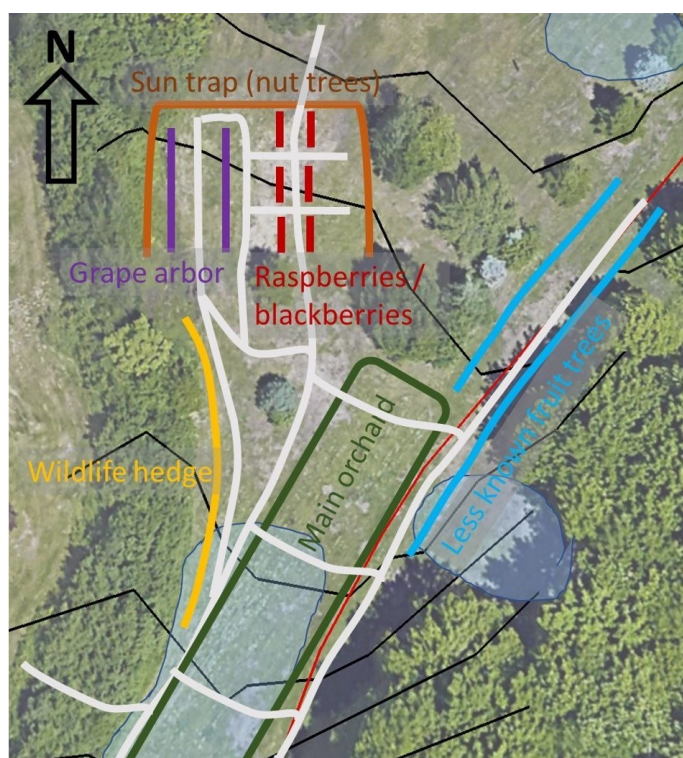
[Science East](#) will lead monthly Pop-up Play at the Botanic Garden throughout the school year beginning September 14. Watch social media to see which area of the Garden they will be in each month.



Food Forest by Sima Usvyatsov

November 17, 7 pm
 Fredericton Public Library
 12 Carleton Street

Sima Usvyatsov will be giving a talk about the Botanic Garden Food Forest, which is currently in the design stages. The talk will touch on the subjects of permaculture, urban food landscapes, and other community food forests in NB, as well as on the specific design constraints and choices used for the Botanic Garden Food Forest.



Draft Food Forest layout

Science in the Garden

Why is Fruit Delicious—but Only Sometimes?

By Steve Heard (Professor, Biology, UNB)

You've seen the news: we're building a food forest! When it's done, it will offer a cornucopia of edibles – mostly nuts and fruit. We've started it with a dozen or so fruit trees: apples, quince, and pear. By the time it's done, those they'll be joined by peaches,



cherries, rose hips, grapes, currants, saskatoons, haskap, and much more. Which might make you wonder: why do fruits taste so good? And why do they sometimes not?

I'll set aside here plant breeding, which humans have used for centuries to make things that taste good taste even better. Rather, I'm asking why some plant species produce fruits humans enjoy, while others produce fruits that are unpleasant, poisonous, or just inedible. The answer lies at the intersection of two things. One is the seeds nestled within the fruit; the other is the roots below.

Plants are, with very rare exceptions, immobile – quite literally rooted to the ground. That's fine for an individual plant's lifetime, but if the species is to outlive the individual, it brings big problems. One problem is mating (solved, as you know, by flowers and the movement of pollen; visit our Pollinator Garden for a celebration of this). The other is dispersal of offspring. Those seeds nestled inside the fruit are the next generation. How is that generation to find the places it can grow?

Enter, evolutionarily, the fruit. Fruits have two jobs: to protect the seed (think of the hard shell of a walnut), and to manage its dispersal. Some fruits disperse seeds by harnessing wind: maple keys, for instance. Those don't need to be edible, and I won't be sitting down on a hot day with a bowl of maple keys any time soon. But others achieve dispersal by harnessing hungry animals like me. And that's why (some) fruits are delicious: they're a reward, offered to an animal who will carry the seeds away from the parent plant. An apple is delicious because the apple tree has evolved to exploit mammals (horses, deer, and yes, people) who can be counted on to eat the fruit and later deposit the seeds, well away from the tree, in a tidily fertilized pile of poop.

So that's the first level: why some fruit tastes delicious. But not all fruits taste delicious to everyone: some fruits are choice for one animal but distasteful or poisonous to another. That's the next level of evolutionary sophistication, and it lets plants target *particular* animals that do a good job of the seed

dispersal they need. My favourite example? Hot peppers. (Peppers, like all seeded “vegetables”, are fruits in a botanical sense; so are tomatoes, zucchini, pumpkins, avocados, and many more.) Hot peppers are hot because their flesh contains the chemical capsaicin, which binds to and stimulates the pain receptors of mammals. Many humans enjoy that, but we're really the exception: most mammals avoid hot peppers. Birds, though, have evolved different pain receptors, to which capsaicin doesn't bind. Birds don't find hot peppers hot, in other words, and they cheerfully consume the pepper fruits and seeds. Those pepper seeds, as it turns out, pass easily through a bird's digestive tract but would be killed by the same voyage in a mammal – so the capsaicin makes sure the seeds make the right trip. You have to admire evolution's cleverness here, don't you?



Cherries. Photo credit: Couleur, CC

The next time you bite into a juicy peach or a sweet-tart gooseberry, then, think about this: millions of years of evolutionary fine-tuning have allowed a cooperation pact between eater and eaten. The eater gets a delicious meal; the eaten (or rather, the seeds inside it) get transport. At the market, at the supermarket, or in our food forest as it grows, you can enjoy both the fruits of that pact and the satisfaction of understanding how it came to be.

Is it any wonder we love plants?



Why Grow Plants From Seed?

By Steve Stehouwer

You may say, "Steve, why should I grow plants from seed when they are cheap to buy from the garden centre?" My response would be that you are correct for common annuals, herbs, and perennials. However, we want to grow so much more - unusual annuals or annuals of a specific colour, size, or shape, unusual herbs, vegetables, biennials, and especially perennials. For avid rock gardeners in particular, there are a huge variety of perennials that are hard, if not impossible, to find locally. Events like our Seedy Saturday allow you access to hundreds of unusual and interesting seeds that you would never find at local seed vendors.

In addition to the huge diversity of hard-to-get plants available from seeds, you also get more genetic diversity. There is always normal variation of plant characteristics such as hardiness, flower and leaf colour, plant size (dwarves or giants) as well as disease and insect resistance. You can then select plants from the seedlings you grow that look and do the best in your garden. Many amateur plant breeders use this strategy to produce new and interesting plant varieties.

When you grow plants from seed you also get extra seedlings which you can sell, share or trade to get more plants. This is fun and a lot cheaper than buying all the plants you want from the trade.

The chances of introducing new pests or diseases into your garden are also reduced when plants do not travel great distances.

Seed that is collected locally and is used relatively soon after collection (some seed likes dry storage for several months, but others do not), gives higher germination rates. Seeds from other sources may be older and therefore may not germinate as well.

Seedy Saturday

Saturday, **September 25 from 1 – 4 pm** we will have over 1000 different kinds of seeds – a huge selection of perennials as well as herbs, annuals, and vegetables. Next spring the selection of annuals, herbs, and vegetables will be even larger.

Seedy Saturday

Saturday September 25, 1– 4 pm

Fredericton Botanic Garden
Resource Center
10 Cameron Court off Hanwell

\$5.00 / family, Free to children/students

Covid delayed but did not cancel Seedy Saturday 2021. Many seeds can be planted in the fall or mid-winter. Everyone is invited to bring seeds to swap and take some seeds home.

FBGA members will be there to answer your seed starting and garden questions.

Photo credit: Michael and Diane Weidner, CC



What I like about a fall Seedy Saturday is that those seeds that require a cold period to germinate

can be potted up and put in a cold building or cold frame to allow for germination in the spring. This would apply to peonies, many irises and many native plants such as Swamp Milkweed (available on a regular basis in our seed mailbox at the Pollinator Garden).



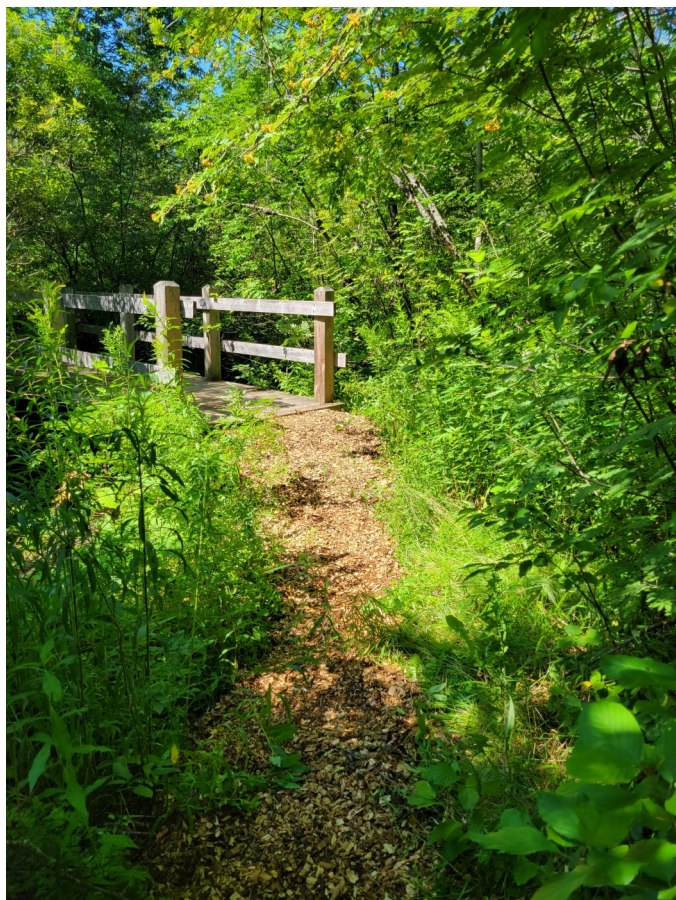
Photo credit: Joshua Lanzarini CC

At Seedy Saturday, we will provide information from the Ontario Rock Gardens and Hardy Plants Society's free database, as well as information from knowledgeable FBGA members. I look forward to seeing you at this fall's Seedy Saturday, September 25.





Seed Mailbox painted by Cat Candow



*Creekside Trail Bridge following July Work Party.
Photo credit: Jay Chapman*

FBGA Membership

A Garden membership provides ongoing support to the maintenance of the Fredericton Botanic Garden.

In addition to free admission to most FBGA events and access to our Lending Library, members receive a 10% discount at local garden centers.

Co-Op Country Store (Northside)
Corn Hill Nurseries
Curries Greenhouses
Kent Garden Center
Scott's Nursery
Wetmore's Nursery

Join or renew online at
frederictonbotanicgarden.com/membership

Paper forms are also available from the link above and at the Resource Centre.



Canada Lily, Wabanaki Healing Garden

Thank you for your support!



Artists in Residence Exhibit

Charlotte Street Arts Centre, 732 Charlotte St.

September 23-November 1

Opening: Thursday, September 23, 4-6pm

It was a pleasure to host the [City of Fredericton's Artists in Residence](#) again this summer. There will be an exhibit at the [Charlotte Street Arts Centre](#) of their work, as well as the artists who were at Killarney Lake.



Kaitlyn Hoyt and Ralph Simpson, two of the Artists in Residence



December Plant Sale

Pre order plants by October 20 online at <https://bit.ly/fbgaplants>

Plants will be available to pick up November 24 at the Resource Centre, 10 Cameron Court.

You will be contacted November 22-23 to schedule your pick up.



Poinsettias

6.5" pots

\$14 each available in red, pink and white

Cyclamen

4.5" pots

\$9 each, available in red and white



New Brunswick Plants Website

The Garden has received funding from the New Brunswick's Environmental Trust Fund to develop an online pictorial guide to the native and naturalized plants of New Brunswick.

The guide will be visual and based on digital photographs taken by scientists and naturalists. It will be designed for use by the general public, but will also be invaluable for scientists, land use managers, government officials, academics, students, conservation agencies, environmentalists and ecotourists.

The resource will depict characteristics of each species that are important for identification, including flowers, leaves, fruits and other anatomic features. It will also supply ecological information about each plant species identified.



Viola cucullata Marsh Blue Violet Photo credit: Jim Goltz

It is exciting for the Fredericton Botanic Garden to spearhead this unique resource for our province. In addition to the [Environmental Trust Fund](#), we value the in-kind support provided by the [Atlantic Canada Conservation Data Centre](#), the [Nature Trust of New Brunswick](#) and the [University of New Brunswick Department of Biology](#).

We look forward to getting our plant-loving community involved. Please take a moment to complete the user survey at <https://bit.ly/nbplantssurveyaug2021> to provide insights on the features that are important to you in an online plant guide.

Please let us know if you would like to be involved in this multi-year project.



Arisaema triphyllum Jack in the Pulpit Photo credit: Jim Goltz



Your Environmental Trust Fund at Work



Volunteer Opportunities

Seed Cleaning Parties

To prepare for Seedy Saturday, September 25, there will be two seed cleaning parties at the Resource Centre with Steve Stehouwer.

- Sunday, Sept 12, 1-3 pm
- Tuesday, Sept 14, 7-9 pm

Weeding Wednesdays

Weekly until September 29

6 – 8 pm or Dark

A weekly opportunity to garden with a group of fellow gardening enthusiasts.



Weeding, planting and invasive species removal are among the many projects that happen Wednesday evenings, rain or shine.

Wear long sleeves and bring your own gloves.

Committees

The Fredericton Botanic Garden Association has openings on the following committees.

- Communications and Programs
- Membership and Volunteers

If you are interested in joining a committee or helping in , please email fredbotanicgarden@gmail.com or call 452-9269 to connect with the Committee Chairs.

Follow and Tag Us on Social Media

Facebook @FrederictonBotanicGarden

Instagram @FredBotanicGarden

Twitter @FredBotGarden

[#frederictonbotanicgarden](https://www.instagram.com/fredbotanicgarden)



The Fredericton Botanic Garden Association Newsletter is published by the Fredericton Botanic Garden Association, Inc. The FBGA is a registered charitable organization. The objectives of the FBGA are to guide the establishment of the Fredericton Botanic Garden and to foster an awareness and appreciation of plants. For information on membership and to become involved, please contact us:

fredbotanicgarden@gmail.com

(506) 452-9269

10 Cameron Court

Fredericton, NB E3B 2R9

<http://frederictonbotanicgarden.com>

Board of Directors

President: Stephen Heard

Vice President: John Welling

Past President: Jim Goltz

Treasurer: Cynthia Stacey

Secretary: Louis-Philippe Albert

Tess Madigan

Joanna Mills

Amy Parachnowitsch

Marg Routledge

Michael Stastny

Main Parking Lot: 695 Prospect Street

