



# Friends of the Central Experimental Farm

Fall 2021 Newsletter

Volume 33 No. 4

## New Book on Farm Buildings Coming Soon!



Horse and Cattle Barn and (rear) Main Barn.

Farm, its place in the hearts of the citizens of Ottawa, and its national and international influence. Read about the mammoth cheese that caused a sensation at the 1893 World's Fair in Chicago; about how Ottawans rallied around Roseanne the cow after she survived a fire in which all of her barn mates perished; about the role of the Dominion Observatory — a surprising building to find on a farm — and the excitement surrounding Sputnik. These are just a few of the entertaining anecdotes you will enjoy.

At its core, *Building Canada's Farm* is about change. While illustrating the evolution of architectural styles, it also touches on changing mandates, priorities, and attitudes: from Canada's early days of European settlement and farming in the West, through two world wars when the Farm's contributions ranged from boosting egg production to advising on the grass for airfields, to the very gradual admission of women into its scientific ranks, to present-day efforts to

**T**he history of the Central Experimental Farm is encapsulated in its buildings.

The oldest among them were built in the late 1800s; the newest in the late 1900s. They have undergone restorations and renovations over the years, but the integrity of their original styles has for the most part been maintained. A stroll around the Farm is like a stroll through the architectural history of those years, from the elaborate decoration of grand Queen Anne style residences to the austere functionality of post-World War II laboratory and office blocks.

The buildings are situated in a pastoral landscape that was carefully planned by the founding director, William Saunders, and which has become surrounded by the growing city of Ottawa.

### Significant to Canadian Agriculture History

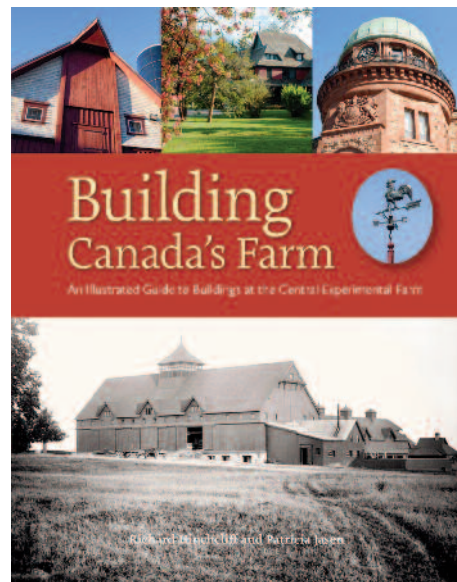
A new book published by the Friends of the Farm offers a guided tour of the

buildings and the beautiful landscape they inhabit. The book is entitled *Building Canada's Farm: An Illustrated Guide to Buildings at the Central Experimental Farm*. "We published this book," says Eric Jones, President of the Friends of the Farm, "because we wanted people to know a little more about the buildings they see when they come to the Farm. We wanted them to understand how significant the buildings are to the history of Canadian agriculture and their unique heritage value to Canadians."

The stories of the buildings are animated by the people who have worked in them and, in some cases, lived in them. The book brings many of these exceptional people to life, celebrating their accomplishments in agriculture and other scientific fields.

### Entertaining Anecdotes

Authors Richard Hinchcliff and Patricia Jasen offer fascinating tales about life on the



Continued on Page 3

## Signs of Life

The Friends of the Farm have finally managed to return to a semblance of normal life at the Farm in spite of the pandemic..

Most importantly, we've managed to resume our core business of helping to maintain the gardens at the Farm. Our teams were allowed to get back to the gardens mid-year and have been working hard to assist the overburdened staff of Agriculture and Agri-Food Canada with the peonies, roses, lilacs, irises and daylilies, hostas, the perennial and Macoun garden beds, the Merivale shelterbelt, and the shrubs in the Arboretum. This summer was made even more taxing by the extensive damage caused by the gypsy moth caterpillars and the long dry periods.

The Friends were busy elsewhere, too. Over the course of the year we delivered some valuable gifts to those who love the Central Experimental Farm:

- A new book to honour and record the buildings of the Farm, an under-appreciated asset of the site that is a vital measure of its history and significance;
- Four more Celebration benches in the Arboretum, thanks to the support of donors, to provide places of rest and enjoyment in a lovely and healthy landscape;
- A pamphlet to guide visitors to the Ornamental Gardens, with notes on this area's attractions and history;
- Attractive new cards featuring scenes of the Farm to keep images of the National Historic Site in circulation amongst the public;
- Tree tours to help people understand the phenomenal world of the Arboretum and its trees and shrubs; and,
- A new autumn event to be held this month, COVID permitting. Check our

website for the event's status.

Meanwhile, the Master Plan for the new Ottawa Hospital that will be built on the northeast corner of the Experimental Farm has been going through a review by the City of Ottawa. The Friends have submitted comments in line with their mandate to protect, maintain, and enhance the public areas of the Farm. We have also included information related to this project on our website. It is clear that the new hospital will result in significant changes to the Farm, so it's important that there be careful attention to all aspects of the design. This responsibility falls particularly on the National Capital Commission and Parks Canada.

*Eric Jones*

*President, Friends of the Farm.*



R. Hinchliff

Museum buildings, an image detail from *Building Canada's Farm*.

## Indices de vie

Les Amis de la Ferme ont enfin pu retrouver un semblant de vie normale à la Ferme en dépit de la pandémie.

En effet, il nous importait de reprendre ce qui demeure notre activité de base, l'entretien des jardins. À la mi-2021, nos équipes se sont remises à la tâche et ont travaillé d'aplomb afin de venir à la rescousse du personnel d'Agriculture et Agroalimentaire Canada, bien surchargé déjà. En plus du brise-vent Merivale et des arbustes de l'Arboretum, toutes les plantes à fleurs ont nécessité une attention immédiate : pivoines, roses, lilas, iris, hémérocailles, hostas, ainsi que les vivaces et celles du jardin commémoratif Macoun. L'été s'est avéré plus difficile en raison des ravages étendus qui ont été causés par la chenille de la spongieuse et de longues périodes de sécheresse.

Les Amis se sont également attardés à d'autres projets. Dans le cours de l'année, ils ont créé, à l'intention des personnes qui affectionnent la Ferme, de précieuses offrandes dont les suivantes :

- Un nouveau livre en hommage aux bâtiments sur le site pour conserver la mémoire de ces emblèmes bien souvent méconnus, mais qui demeurent une mesure inestimable de l'histoire de la Ferme et de son importance;
- Grâce aux donateurs, installation dans l'Arboretum de quatre bancs commémoratifs ou « symboliques de célébration », qui invitent les visiteurs au repos et à la détente dans un paysage sain et attrayant;
- Un dépliant utile sur les Jardins ornementaux indiquant leurs attraits particuliers et l'historique de leur création;
- De jolies cartes représentant des scènes de la Ferme qui font valoir aux yeux du public le lieu historique national dont elle a été investie;
- Des visites commentées qui mettent en valeur l'ampleur de l'univers grandiose des arbres et des arbustes de l'Arboretum;
- Un nouvel événement à l'automne

devant prendre l'affiche ce mois-ci, si la COVID-19 le permet. Veuillez consulter notre site Web sur la tenue de l'événement.

Entre-temps, la Ville d'Ottawa a procédé à l'étude du plan directeur du nouvel hôpital d'Ottawa devant être érigé sur le coin nord-est de la Ferme expérimentale. Les Amis ont fait part en ligne de leurs commentaires en vertu de leur mandat, soit la protection, la préservation et l'amélioration des espaces publics de la Ferme. Sur notre site Web également, on pourra trouver de l'information relative à ce projet. Le nouvel hôpital apportera de toute évidence de grands changements à la Ferme. Il s'avère donc important de bien examiner les divers aspects du concept architectural (design) proposé. Cette responsabilité incombe en particulier à la Commission de la capitale nationale et à Parcs Canada.

*Eric Jones*

*Président, Les Amis de la Ferme.*



## New Book on Farm Buildings ... (continued from Page 1)

preserve the Farm's integrity as a National Historic Site. Illustrated with both intriguing archival and stunning contemporary photographs, this book plays an important part in capturing the beauty of this beloved landmark as more change inevitably comes.

### Coming Soon

A book launch is planned for the middle of November, at which time the book will be available for purchase at the Boutique on our website. Check for details at [www.friendsofthefarm.ca](http://www.friendsofthefarm.ca), on our Facebook or Twitter pages, or call 613-230-3276.



R. Hinchcliff

This view of the Dominion Observatory from Birch Drive will be lost when the planned new hospital is built. (From the book *Building Canada's Farm*.)

## Autumn at the Arboretum - A New Family Event

We invite you to join us for our new free family fun event at the Arboretum (just north of Building 72) on October 2, 2021, between 10 am and 2 pm, called "Autumn at the Arboretum." This year's inaugural event will feature a Great Glass Pumpkin Patch, courtesy of the Ottawa Glassblowing Cooperative, along with a number of family friendly events, including activities and challenges. All activities have taken into consideration COVID-19 restrictions and precautions in terms of physical distancing, hygiene and masking. More information can be found at <https://friendsofthefarm.ca/event/2021-autumn-at-the-arboretum>.

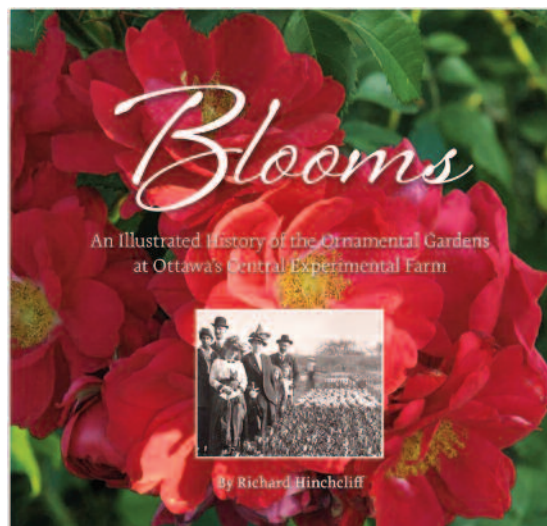
## Making Room for the New Book!

With limited storage space and a new book arriving, we would like to find homes for *Blooms*. This is the book from the Friends of the Farm that was described by the Ottawa Citizen as a "tour de force in both words and pictures," and by the *Canadian Field-Naturalist* magazine as "first and foremost, gorgeous."

*Blooms* is about the Ornamental Gardens at the Farm and how they came to be the beautiful and historic place we enjoy today. It is illustrated with many fascinating historic photos of the gardens and the unique flowers that were bred here at the Farm, along with stunning photos that capture the splendour of the present-day gardens and plants.

It tells the stories of the people and events that have influenced the way the gardens have grown from 1886 to the present day, and introduces the spectacular past and present floral collections, such as roses, peonies, lilies, lilacs, irises, crab apples, and chrysanthemums.

We are now offering *Blooms* at the reduced price of \$25 (down from \$35). A perfect gift! It can be purchased online at <https://friendsofthefarm.ca/boutique/> or call our office at 613-230-3276.



# Impact of the Planned Hospital on Farm Roads and Hedges

*(The following was an exchange between the Friends of the Farm and the City of Ottawa Planning, Infrastructure and Economic Development Department.)*

## Friends of the Farm

(Published in our Summer 2021 newsletter article "...What We Need to Know.") *The use of Maple Drive by emergency vehicles will change the way the road is used to serve the CEF. Other roads, including the NCC Driveway, Winding Lane, and the remaining portion of Birch Drive, are likely to be impacted as well. There is also concern that Prince of Wales Drive may have to be widened and could lose its appeal as a scenic driveway through the Farm. What we need to know is how traffic will be controlled to protect the integrity of the Farm.*

## City of Ottawa

Maple Drive is an important entry point to the pastoral CEF. The road itself will not change, or widen, and the first review comments submitted to The Ottawa Hospital (TOH) from staff indicate that all efforts must be made to maintain the trees along the edge of the drive to ensure this pastoral element is maintained as best as possible.

Discussions are underway about the **hedge collection**, and if hedges (which ones) can be retained and / or relocated. The details of this will not be part of this phase, as the main hospital building is expected to come forward as a site plan control application around 2024. However, master plan conditions will speak to these matters.

With respect to Prince of Wales there is no widening required as a result of this development nor planned. Being a multi-phased development there is an opportunity to require monitoring of how transportation evolves once the hospital is open (~2028). Conditions of the master plan approval will require monitoring of traffic impacts, and this would include how CEF roads are used. If transportation issues arise there will be additional Transportation Impact Assessment (TIA) studies and the requirements for mitigating adverse impacts on adjacent streets/roads.

## Friends of the Farm

*We have heard before that Prince of Wales will not be widened. It would be more helpful to know what changes will actually be made to accommodate the greatly-increased traffic in the area. It seems unusual for a plan to state that impacts will be determined once the*



R. Hinchcliff

Picturesque Maple Drive, next to the hedge collection (left). In the Master Plan, Maple Drive will be affected by hospital traffic, and the hedge collection will make way for a central utility plant and parking lot.

*development takes place. In other words, once the hospital is open, monitoring its impact on traffic may then suggest that Prince of Wales be widened? If that is not an option, then what other steps will be available to be taken if the traffic becomes problematic?*

*You also mention that discussions are underway about the **hedge collection** and whether any can be retained. When will there be any conclusion on this question? The hedges have already declined due to lack of attention over the past year, and further delay can be used to avoid taking responsibility for them in the long run.*

## City of Ottawa

The TOH master plan will be leveraging nearby Transit Facilities, including the existing high priority bus service along Carling Avenue; the linkage to the Dow's Lake Station and Trillium Line of the LRT; future bus rapid transit along Carling Avenue. In terms of vehicular traffic, the breakdown of road usage would be as follows:

- 60% of hospital traffic would use Carling Avenue at the new Carling/Champagne Ave intersection into the site at internal Road A;
- 25% of traffic will use Prince of Wales and access the site from internal Road B;
- 15% will use Prince of Wales using internal Road E, for emergency and Staff;

Only ambulances will use Maple Drive.

The TIA is not indicating that impacts will be determined later. What we are doing is being realistic in that a TIA may have some assumptions off by a margin of error, and we as the City recognize that monitoring after the hospital is open in 2028 to assess the findings of the TIA is prudent. With the various implementing phases coming forward on this master plan there will be opportunity to revisit the TIA over many phases to capture new development in the area and to capture how projected traffic (as shown above in the percentages) plays out. If there are road modifications required, signage, more aggressive Transportation Demand Management strategies needed, the City can condition future site plan phases to implement these, and /or use our tools to implement them.

With respect to the '**hedge collection**' no trees are to be cut down until we are in the final approval of each phased site plan. So, when the hospital building site plan and utility plant site plan come forward in 2023 we would have more information as to what can be replanted / transplanted. However, preliminary discussions are on-going about the hedge collection. Keep in mind the Master Plan approval does not permit a building permit - it is a high-level plan that will guide future site plan applications. Those future site plan applications will have a review process, public meeting(s), NCC and City approval and conditions.



# The Farm's Hedge Collection – A Fond Look Back

By Patricia Jasen

Patricia Jasen



The hedges (left) on the planned hospital site, looking west towards Maple Drive and the Poultry/Genetics Building. Birch Drive is on the right.

The display of hedges between Maple Drive and Birch Drive has been a feature of the Central Experimental Farm for over 130 years and, until the mid-20th century, it was the largest such collection on the continent. This historic area of the Farm's landscape will soon give way to the construction of the new Ottawa Hospital. According to the current site plan, the old hedge collection, along with the tennis courts and much of the treed area behind the William Saunders Building, will be replaced by parking lots and utility installations. Although no longer trimmed and maintained, the rows of hedges, which are an attraction for birds and other wildlife, are still worth exploring.

## The Meaning of Hedges

William T. Macoun oversaw the expanding hedge collection during its first several decades. He became William Saunders' assistant in 1889 and later served as Canada's first dominion horticulturist until 1933. The two men shared the goal of creating a picturesque landscape that would be a model for rural and city dwellers in planning their own farms and gardens. That ambition fit well with the notion that gardening was part of a civilizing mission that would soften Canada's rough edges as a so-called "young country."

Hedges played an important part in a beautiful garden, bordering walkways and providing a backdrop for perennial borders, but during the early 20th century they stood for much more. Hedges defined

and protected private property, and demonstrated the owner's commitment to material and moral progress. Like many Ontarians, Macoun idealized British horticultural practices, contrasting their lovely "hedge-bounded places" with the "poorly kept and hedgeless boundary lines in Canada." The visitor to England, he wrote in 1926, sees the landscape as "a finished picture and it is the hedges that do much to give one that impression. In

Canada, we have, as a rule, pictures without frames." In his introduction to *Hedges and Their Uses* (1931), Macoun evoked the feelings of "hominess, snugness, and contentment" that English hedges aroused. As well as creating a comforting sense of domesticity and stability, they excluded much that was undesirable, shielding owners from unpleasant sights beyond their properties and preventing intrusions from trespassers, animals, and unwelcome children.

After the war, Macoun's work was revised as *Hedges for Canadian Gardens* (1953) by horticulturist Warren Oliver, and was subsequently updated by Trevor Cole, curator of the Dominion Arboretum, in 1980. In these later editions, the idealized British landscape was no longer held up as a model, though the importance of defining boundaries was still emphasized. "Hedges should be to a garden what walls and partitions are to a house," wrote Oliver. Yet he also saw that preferences in hedge making followed changing trends in home building and landscaping, noting, for example, that very low, clipped hedges were being combined to visual advantage "with the flat horizontal buildings of modern times," and that they suited the new style of home very well "when used as approach or foundation planting."

## The Quest for Canada's Best Hedges

The testing of various species of shrub and tree for such qualities as hardiness,



R. W. Oliver, *Hedges for Canadian Gardens*, Dept. of Agriculture, 1953

The hedge collection looking east, circa 1953.



## The Farm's Hedge Collection ... *(continued from Page 5)*



R. Hinchcliff

Hedges looking east (top) and looking west (bottom) to Maple Drive and the Poultry/Genetics Building, 2021.

ease of maintenance, suitability for a range of purposes, and visual appeal throughout the seasons began at the current site in 1889, although only ten rows were planted that spring. They ranged from shrubs still familiar in Canadian gardens, such as Siberian Peashrub (Saunders is largely credited with having introduced this to Canada), to fast-growing trees, like Norway Spruce, that might serve as a windbreak. New hedges were added yearly, so that by 1900 Macoun could boast that 100 species and varieties were growing “side by side in hedges fifty feet in length and ten feet apart, which presents a fine appearance in summer when in full leaf.” The number of hedges was reduced after it was decided that 15 feet between the rows would better accommodate their growth.

Conveniently for the historian, records of the experimental hedges—when planted, how successful, if and when removed, and why—were published by Macoun, Oliver, and Cole, along with notes elaborating on their qualities and deficiencies. The latter included wintering poorly, being “too coarse” or “too open,” or falling victim to pests. But the removal of a species did not necessarily signify failure; “space needed” was a common notation. The first culling

occurred in 1911, when a number of tree varieties were taken out, including elms, maples, and the Norway Spruce, though it was deemed “excellent” where a tall hedge was needed. Several flowering species, such as Japanese Quince and Fuzzy Deutzia, were removed because they were “killed back each year,” while various kinds of rose, mock orange, and weigela were also found unsatisfactory.

The testing of hedges remained a very active program during Macoun’s tenure. A second major bout of removal and replanting took place in the years just prior to his death in 1933. Thereafter, rows were added more slowly until a burst of planting occurred before the creation of a new collection south of the gardens in 1965 (this has since been removed). Deciduous hedges that performed well included Japanese Barberry, red- and

yellow-stemmed dogwoods, hawthorns, peashrubs, lilacs, Alpine Currant, Shingle Oak, larch, and privet—this last “especially welcomed,” wrote Macoun, “by English people settling in Canada.” Among the evergreens, Koster Blue Spruce, Threadleaf False Cypress, Swiss Stone Pine, Japanese Yew, and varieties of white cedar (used extensively in hedges around the Farm) were highly recommended.

Although the collection in Ottawa was the largest by far, the testing of hedges took place at branch farms from coast to coast. Staff at Morden, Manitoba, reported on species best suited to the prairie climate and soils, while conditions on Vancouver Island allowed broad-leaved evergreens to flourish, such as English Holly, Box Honeysuckle, and Cherry Laurel.

### A Public Attraction

Early on, the collection secured its place in the itineraries of organized outings to the Farm. Groups of farmers touring the poultry yards crossed Maple Drive (then Maple Avenue) to view the “beautiful rows of hedges,” and, horticultural societies enjoyed being escorted by Macoun and other members of staff through the hedges, greenhouses and gardens. On a spring day in 1932, the Field Naturalists’ Club set off from the newly expanded Forage Crops Building at Carling Avenue, proceeded down Maple to the hedge collection, the poultry plant, and greenhouses, and carried on to the gardens and barns. In 1938 the Carleton County Home Beautification Association had practical education in mind when they arrived to learn about lawn-making, hedge-planting, and house painting. Sixteen hundred participants wrapped up the day with a garden party on the Main Lawn, where a speaker assured them that making their rural homes attractive would encourage young people to resist the lure of the city.



Hedges (foreground) next to Maple Drive, circa 1950. Beyond Maple is part of the poultry research complex. In the distance are elms on Elm Avenue (now the NCC Driveway).

Dept. of Agriculture, Neg. No. 012137



## The Farm's Hedge Collection ... *(continued from Page 6)*

For well over a century, Ottawa's garden columnists—several of them Farm staff—urged homeowners to explore the collection with the specific purpose of selecting the best hedges for their properties. Should one choose a deciduous or evergreen species? What height would be desirable? Should it be thorny enough to repel all intruders? (The highly invasive Common Buckthorn was recommended in early decades). At times, the very age of a particular hedge was touted as a selling point. Don't stint on cost, Oliver told Ottawa Citizen readers in 1960. Japanese Yew might be expensive and slow-growing, but after many decades the yew hedge at the Farm was in excellent condition.

The collection itself became a place of historical interest. Of the many varieties on display "eight were planted before the turn of the century," wrote a columnist in 1978, and some were rather unusual, such as the Douglas-fir hedge dating from 1894. This "magnificent fir hedge," he added, "the closest to Maple Drive, now stands about 10 feet high and can be walked under." It is now about 25 feet high.



The Douglas-firs next to Maple Drive

*Patricia Jasen is the co-author of Building Canada's Farm (see Page 1).*

## Celebration Benches

The Friends are pleased to announce that four new benches were recently installed in the Dominion Arboretum to join the other eight that were placed there in 2019 and 2020. We were able to inform the sponsors that despite delays at the manufacturing level caused by COVID-19, the new benches with their donor-sponsored plaques have new homes with fantastic views.

The Friends are now accepting sponsorships for benches to be installed in the Arboretum in late spring/early summer, 2022. The bench cycle will open on November 1, 2021 and, in order to allow time for the benches to be ordered and delivered, our deadline for sponsors is December 15, 2021. The Friends will be accepting a maximum of 6 bench sponsorships in this cycle. Please see the Celebration Bench webpage <https://friendsofthefarm.ca/bench-program/> for more details.



R. Hinchcliff

## Annual Non-dinner

Please join the Friends for our popular annual fundraiser. Not a single person will show up and we will be delighted. You can help the Friends of the Farm just by staying at home! By purchasing tickets to this fundraising event that will never take place, you can help sponsor numerous activities in support of the Ornamental Gardens and Arboretum on the Farm.

Individual seats \$25. Couples \$50. Family \$100. Table of Six \$250. Community \$500. Your support is greatly appreciated and your donation is tax deductible. You can contribute by using our online fillable form for cheques or PayPal at <http://friendsofthefarm.ca/donations/>.



# The Farm's Hedge Collection – Still Worth a Visit

By Robert Glendinning

The hedge collection is not only unique as an historical feature and display area, it also contains some interesting individuals. There are examples of Hawthorn (*Crataegus*), Yew (*Taxus*), and Larch (*Larix*) hedges. These tend to be more common in Europe, where the hedge tradition is much richer than in Canada.

It's fair to say that in this country, and particularly in Ottawa, Cedar (*Thuja*) is the plant that comes to most people's minds when a hedge is being considered. The Farm's hedge collection has two, but both these cedars are cultivars, one 'Wareana' and the other 'Douglasii Aurea'. The particular feature of the former is that it is pyramidal and the latter has yellow foliage.

Beech (*Fagus*) hedges are quite

common in Europe. The one in the Farm's collection is a native *Fagus grandifolia* which has larger leaves but still makes a wonderful hedge. There are two oak representatives present amidst the hedges, one being the English Oak (*Quercus robur*) and the other a North American native, the Shingle Oak (*Quercus imbricaria*). The Shingle Oak's main claim to fame is that its leaves are narrow and strappy, nothing like a traditional oak.

*Prinsepia sinensis* (the genus of which is a member of the rose family) is found in the hedge collection, and nowhere else in the Farm's woody plant collection. It actually looks better after a few years without facing the hedge pruners. It is now a larger informal hedge. This does not represent a hedge collection failure, but an

example of a plant that can be a beautiful barrier, just not a manicured one.

Willows are a fast-growing tree or shrub which accepts hard pruning. About 15 years ago we planted a Dwarf Arctic Willow (*Salix purpurea* 'Nana') that has grown into a beautiful hedge. Chermesina Willow (*Salix* × *fragilis* f. *Vitellina* 'Chermesina') is the willow star of the hedge collection. If left alone, it is a columnar tree. The young stems are a beautiful crimson in the winter changing to a warm orange in the summer. Cutting this and many other ornamental willows to the ground every two to three years (a technique called coppicing) would intensify these colours. This is another example of a plant that is unique to the hedge collection. We have taken cuttings

Patricia Jasen



Blossoms on *Malus pumila* 'Niedzwetzkyana'.



Larch (*Larix*) hedge.



*Prinsepia sinensis*, now an "informal hedge ... an example of a plant that can be a beautiful barrier, just not a manicured one."



*Malus pumila* 'Niedzwetzkyana' in the hedge collection. This is the crabapple cultivar used by Isabella Preston to create her Rosyblossoms.



## The Farm's Hedge Collection ... (continued from Page 8)

this year and it will pop up elsewhere on the Farm's property in the next few years.

There is a crabapple hedge called *Malus pumila* 'Niedzwetzkyana' that has an interesting history. It is an example of the cultivar that Isabella Preston used to create her Rosybloom crabapple trees. This is again the only specimen we have in the collection. The plant Preston used is no longer with us.

A honeysuckle (*Lonicera tataricum* 'Carleton') hedge that has pretty red and white flowers in the spring is tucked in the collection at the back and is easily missed. It was developed on the Farm and is found only in its current location. It is possible that this is the only example of the cultivar. Honeysuckles are invasive and have fallen

out of favour, but it is attractive and honeysuckles are tough plants.

One of my favourite hedges is a Witch Hazel (*Hamamelis*) hedge. I love the autumn flowers and the smooth grey bark you see in the winter. It is not commonly used as hedge material, but it would get my vote for something different.

Privet (*Ligustrum*) is or was a common hedge plant. We took cuttings of an ailing Siberian/Amur Privet, eventually removed the original, and replaced it with the cuttings. It has been exceptional. It is fast-growing and takes well to pruning. Privet that is found further south is flagged as invasive, but so far in this location it is behaving well. Unlike the common cedar it is deciduous, but still creates a barrier in the

winter.

I have only talked about some of the specimens in the hedge collection. Established to be a place where you could go and "kick the tires" of various potential hedges, this area has been left to its own devices for a few years. It is still well worth a visit. One thing I noted working on the hedges was the density of animal life they house; they are veritable condos for wildlife. Yes, there were times we disturbed some angry wasps, but we also found countless bird's nests in the hedges.

*Robert Glendinning is  
Groundskeeper/Propagator at Agriculture  
and Agri-Food Canada.*



Chermesina Willow, at the right beside the *Prinsepia* hedge, "is the willow star of the hedge collection."



The native Beech (*Fagus grandifolia*) "makes a wonderful hedge."

Photos by R. Hinchcliff

### Consider joining the Friends of the Farm!

Find our membership form on the website and pay by PayPal or send in a cheque:

[www.friendsofthefarm.ca/become-a-member/](http://www.friendsofthefarm.ca/become-a-member/)

Benefits include discounts on Master Gardener lectures hosted by the Friends, one free adult admission per visit to the Canada Agriculture and Food Museum, quarterly printed newsletters by post, and monthly Farm Notes e-newsletters.

We also accept donations to support our activities and events, which also support the garden teams that maintain the cherished Ornamental Gardens. A variety of donations can be made through our webpage:

[www.friendsofthefarm.ca/donations/](http://www.friendsofthefarm.ca/donations/)





# Food, Nutrition, and Health-beneficial Compounds, Part II

By Malcolm Morrison

(The first part of Dr. Morrison's article was published in our Summer 2021 newsletter.)

www.naturallyella.com/mixed-berry-overnight-oats



In part one, I outlined the basic building blocks of maintaining a healthy diet—eat foods which provide your body with appropriate amounts of carbohydrates, fats, proteins, and fiber. Plants also produce many other chemical compounds called secondary metabolites. These help them repel pests, assist in growth, or enable them to survive stresses like drought and cold. Consuming certain plants containing these compounds may improve aspects of our health, although their actual benefit is often clinically unproven or even controversial.

Eating cereals like oats and barley that are high in the compound  $\beta$ -glucan can reduce serum LDL cholesterol and fats. Studies have found that eating up to 3 grams of  $\beta$ -glucan per day can reduce cholesterol concentrations by 5 to 7%.  $\beta$ -glucan is a water-soluble fiber which binds to food particles, slows digestion, and may delay the absorption of sugar, which could help those with type II diabetes. The fiber is also indigestible, attaching itself to fats and sugars, which helps them pass through the digestive system. Recent studies on our gut microbiome suggest that cholesterol and perhaps even blood sugar levels may be lowered by  $\beta$ -glucan interacting with the

gut bacteria. Much of the pioneering work on  $\beta$ -glucan and oats was done in Ottawa through a partnership with plant breeding, cereal chemistry, and health medicine sciences.

Foods such as berries and fresh vegetables have anti-oxidant or free-radical-scavenging properties. But what are oxidants, and how are they harmful to us? Oxygen is “happiest” when it is bound to another oxygen. Inside our bodies, various processes or foods break apart bound oxygen freeing up a single oxygen atom, which is called a free radical or an oxidant. Oxidants bond with membranes in one of the trillion plus cells in our body and can cause oxidation, otherwise known as rusting. As our bodies age, cells lose their capacity to repair the damage from oxidation resulting in permanent injury. Free radicals have been linked to many age-related diseases such as dementia, arthritis, cardiovascular disease, and even cancer, although not all these observations have been clinically substantiated. An anti-oxidant is a compound that can donate an electron to oxygen to make it “happy” again, preventing the oxidation process from occurring. Vitamin C, carotene, lycopene, phytoestrogens, and vitamin E are some well known anti-oxidants. These can be found in berries and other fresh fruits and vegetables, and legume seeds such as peas and soybean. There has been no clinical evidence that consuming anti-oxidant supplements in pill form achieves the same benefit as consuming them in food. This indicates that it may be a synergy of these compounds with other elements in our food, such as minerals, that result in anti-oxidant powers.

Lutein in plants is a strong anti-oxidant which protects them from free radicals caused by UV radiation from the sun. In humans, lutein and another carotenoid pigment, zeaxanthin, protect the eye from high-energy UV light. A significant concentration of lutein in the eye reduces the risks of age-related eye diseases such as macular degeneration and cataracts. While lutein is present in most plants, high concentrations are to be found in leafy vegetables such as spinach, Swiss chard, and

kale and in the seeds of soybean, pea and corn. In studies at the Central Experimental Farm we found that the concentration of soybean seed lutein varied with the plant variety and the growth environment.

Soybean seed contains relatively large quantities of isoflavones. The plant uses isoflavones to initiate the symbiotic relationship with a nitrogen fixing soil bacteria, and to defend the roots from attack by other pathogenic soil bacteria and fungi. In humans, isoflavones resemble estrogen. Experimental evidence suggests that these “phytoestrogens” are associated with reducing bone loss and hot flushes in post-menopausal women. Some studies have found that consuming soy foods lowers serum LDL cholesterol, but there is little evidence that cardiac disease is prevented by isoflavones themselves. Tofu, miso, tempeh, and soymilk are some of the soy foods available containing isoflavones. At the Research Centre, we have found that isoflavone concentration in the soybean seed also varies with variety and environment.

Gamma aminobutyric acid, or GABA, is present in all life forms on the planet. Within a plant, GABA is used to relocate carbon and nitrogen atoms and it is also



Experimental oats at the Farm.



## Food, Nutrition, and Health-beneficial Compounds ...

(continued from Page 10)

produced in response to stresses. In animals, GABA inhibits the transmission of signals across the synapse of a neuron, calming the brain. Studies have not shown that the GABA we eat can get into our brains, but they have found that GABA can reduce high blood pressure by dilating blood vessels in people with mild hypertension. In a nation like Japan, where diet, lifestyle, and anxiety levels result in 43 million hypertensive people, products like soymilk fortified with GABA or fermented products like GABA tempeh are eaten to reduce mild, diet-regulated hypertension.

It would be amazing if just by eating a specific food in abundance we could stop our skin and eyes from aging, or reduce the threat of cardiovascular disease. Often, there is no clinical evidence that health beneficial compounds work and positive studies are usually countered by negative

ones. Modern medicine does not look at these compounds as having any benefit at all and will generally not recommend that you substitute a prescribed pill for a health-beneficial food compound. In many cases, the health benefit is not achieved by taking a pill with the compound in it, indicating that the real benefit lies in the combination of all of the other good things in the food as well. The health benefit may also result from a change in diet, such as eating oatmeal for breakfast rather than a pastry.

Like diet change, eating foods for their health-beneficial properties requires thorough, cautious investigation. Someday, we will get to a point where we understand the many interactions of these compounds in our bodies so that our food really can become our medicine too.



Elroy Cober

Experimental soybean crops at the Farm.

Isoflavones: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7766685/> <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7766685/>

Beta Glucan <https://www.healthline.com/health/beta-glucan-heart-healthy> <https://www.healthline.com/health/beta-glucan-heart-healthy>

Cholesterol: <https://medlineplus.gov/cholesterollevelswhatyouneedtoknow.html>

<https://medlineplus.gov/cholesterollevelswhatyouneedtoknow.html>

Anti-oxidants: <https://www.hsph.harvard.edu/nutritionsource/antioxidants/> <https://www.hsph.harvard.edu/nutritionsource/antioxidants/>

Lutein: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6164534/> <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6164534/>

*Dr Malcolm Morrison is a research scientist at the Ottawa Research and Development Centre, Agriculture and Agri-Food Canada. He has been with the department since 1984 and has worked on all major Canadian field crops during his career.*



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.

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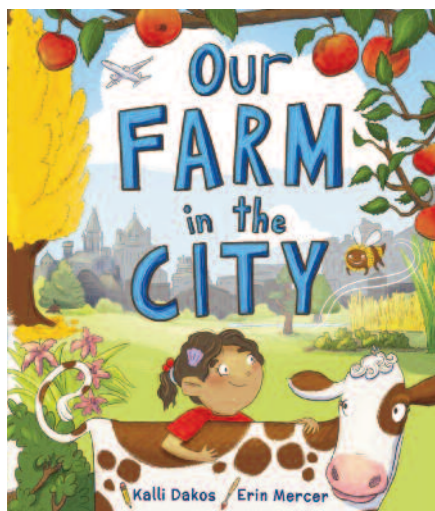
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# Our Farm in the City

Reviewed by Blaine Marchand



Text by Kalli Dakos, Illustrations  
by Erin Mercer  
DC Canada Education Publishing  
22 pages, \$16.95

The one constant comment we hear from visitors to the Central Experimental Farm is how important it had been to them as children. They speak of their memories of the animal barns, the Ornamental Gardens, and the Arboretum. In turn, they are bringing their own children to experience the beauty and wonder of the Farm.

Ottawa resident and writer Kalli Dakos has captured this beautifully in her children's book, *Our Farm in the City*. The volume features playful, bright illustrations by Erin Mercer. It's a tale of a young girl and her mother, a single parent, who can't afford a cottage in the summer or trips to Disneyworld. Instead they go to the farm in the city, which is close to their home. There they sometimes ride on a hay wagon and visit the barns to see farm animals,

including her favourites - Precious, the piglet, and Dotty, the brown polka-dot cow. She wonders - "What is it like to be a cow instead of a kid?"

As they visit the gardens, the little girl marvels at wildflowers and the daylilies that live for one day only. Strolling through the Arboretum, she admires all its different trees, including one like a monster with seven stretching arms, which she stays away from. Fall is her favourite season but winter is not too far behind, a season of tobogganing and ice sparkles on all the trees.

As the girl explains, the Farm belongs to all the people in Canada, and the scientists there work to create "better flowers, better plants, better trees, better animals, better everything." This inspires her to want to become a scientist on the Farm, to produce better vegetables. Here the young girl plans to be really creative, with a new cross between spinach and lettuce she'll call 'spinlet', between a pea and a cucumber, 'peacumber', and a tomato and corn 'tomcorn'.

Over the years, her visits to the Farm make her finally understand her mom's expression - "You can be rich even if you're not rich." At the Farm she is happy and feels so rich. This is why she invites everyone she



Illustrations by Erin Mercer



knows, and those she doesn't yet know, to visit "Our Farm in the City".

Published by DC Canada Education Publishing, here in Ottawa, the book is intended for children four and up. However, it can be enjoyed, as can the vivid, colourful illustrations, by people of any age. It is dedicated "To the people of Ottawa who work and volunteer on the farm that we all love so much" and to her sisters and brother who roamed the grounds with the author.

The Friends are pleased to offer this book for sale in our online boutique for a limited time only <https://friendsofthefarm.ca/boutique/>. It would be a perfect present to give at the holiday season or for a birthday, and an excellent way to commemorate a recent trip to the Farm or to inspire a tour of this Ottawa jewel.

*Blaine Marchand is director of gardens for the Friends of the Farm.*

