



THE LYNN VALLEY GARDEN CLUB

Established 1943

March 2020

### *President's Message - Norma Austin*

When I was thinking about taking on the job as president of our club, I never anticipated the need to talk about health issues. It's hard to avoid hearing or talking about the Coronavirus disease (COVID-19). Although we should not panic or give in to misinformation and rumours, it is prudent to make plans. There is a real possibility that our meetings and club events may be affected. We will heed government directives for public safety as to cancellations. Any decision to cancel our Club meeting will be made by the executive and announced *via* email by noon Wednesday immediately preceding the Thursday evening meeting. Believe me, I certainly do not want the dubious distinction of being the first and only president to cancel two meetings in one year! For now, members should continue to make their own decisions on attending events. If you are not feeling well please stay home and rest.

We have had a huge response to our **Bus Trip on April 18**. Rather than paraphrasing Rosemarie's information, please read her writeup in this LEAF.

We are looking for volunteers to form a committee to run the **Members' Garden Tour in June**. Possible dates to consider are Saturday, June 13 or 20. One member has volunteered his garden and two more are thinking hard on it. We welcome any suggestions... short of volunteering someone else's garden ;) Of course, if you can talk them into it, all the better!

**Congratulations to our Veggimates - Jackie and Jim Morris, Bruce Tennant, Aline Burlone, and Kathy Stubbs** - on putting on an excellent presentation at the February meeting. There was a lot of information to absorb but the panel made it fun and easy to digest. I could see that the audience was totally engrossed. A long time Master Gardener said that the calibre of the presentation surpasses any talks given on the subject that she has ever attended. We appreciate the amount of work it took to put on such a great show! Thank you!

I hope the talk has inspired you to start thinking of our **Plant Sale, set for Saturday May 16**. Veggies are always a sell-out. Read more about it from the MALs (Members at Large) in this LEAF. A reminder that our **May meeting is changed to May 14**, two days before the plant sale day.

This year, **our first day of Spring is on March 19**, the earliest day since 1896... 124 years ago! It is usually March 20 or 21. There are explanations for this so look it up if you are interested. How much difference does one or two days make? I have to assume that plants in my garden know the difference. I see buds bursting from my perennials, snow drops and miniature daffodils are at their peak, and some bulbs are making themselves known. Love this time of year! I was lucky (meaning I got there early) to snag some of the free bulbs that Tom Davis was given by GardenWorks in North Vancouver... which I planted immediately... and now they are emerging from the soil to greet the sun. Squirrels have feasted on some of them, leaving behind a dent in the soil as evidence. I guess, free for me means free for all. I'm good with that.

### LVGC MEETINGS

3rd Thursday of each month (except July and August) at

**St. Stephen's Church**  
1360 E 24<sup>th</sup> Street

*Please note that meetings start promptly at 7:15 PM*

### SPEAKERS

March 19

**JOANNE MELVILLE**

*Restoring the Gardens at Hycroft*

April 16

**CHRIS JENNINGS**

*Shade Plants*

**MAY 14**

**TARA MATTHEWS & DEANNA**

**MCTAVISH**

*Garden Restoration*

**LVGC Plant Sale May 16!!!!**

June 18

**HAYNE WAI AND BOB**

**WILMOTT**

*Dr. Sun Yat Sen Chinese Classical Garden*

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**President**

Norma Austin x

**Vice President**

Jacquie Morgan x

**Secretary**

Susan Huber x

**Treasurer**

Ginette Handfield x

**Membership**

Sue Callahan x

Doreen Marbry x

**Members at Large**

Pat Holmes x

Lori Herman x

Suzanne Mazoret x

Jackie Morris x

**Committees**

**Newsletter Editor**

Maria Issa x

**Plant Table**

Norma Buckland x

**Hospitality**

Sharon Carabetta x

Maggie Davis x

Susan Nicholls x

Daphne Page x

**Sunshine / Door Prizes**

Lorraine Robson x

**Website**

Aline Burlone x

*Executive Meetings*

**1<sup>st</sup> Wednesday of the month**

WEDNESDAY, APR 1

chez Maria Issa

x St Mary's Avenue

*Next Newsletter Deadline*

April 8

**If you have material to delight your fellow members - please submit it via the time-honoured routes or email to**

**mailto:lynnvalleygardenclubnewsletter@gmail.com**

**Thanks to all who contributed to this edition:**

*Donna Wasyluk  
Rosemarie Adams, Linda Howe  
Sharon Carabetta, Courtney Mitchell, Barb Downman, Wayne Smith, Sue Callahan*



***VP Report -Jacquie Morgan***

I am pleased to announce that we have a great line up of presenters for the Spring and Fall this year. Below is the list of presenters we will be seeing the rest of this Spring.

*April 16, 2020 - Chris Jennings - shade plants*

*May 14, 2020 - Tara Matthews, BSc Bio, BSc Eco Res and Deanna MacTavish of Echo Ecological: presentation about restoration work on the North Shore, with specific focus on invasive species and native plants.*

*June 18, 2020 - Hayne Wai and Robert Wilmott, Master Gardeners and experts on Chinese Gardens - Dr Sun Yat Sen Garden*

If you have any suggestions for presenters or subjects you would like to learn about, please make sure you let me know at the meetings.

Hope you are all staying well.

***Treasurer's Report - Ginette Handfield***

Cash on hand	\$	502.65
Bank balance	\$	10,445.09
Total	\$	10,947.74

The proceeds from the Plant Table at the February meeting were \$ 13.25.

***Membership Report for the start of 2020 - Susan Huber & Sue Callahan***

We are now at 146 paid members, so there are still 4 spots left before the club is full. With all the news with the Corona virus, it is your decision whether you feel comfortable attending the garden club meeting.

We would ask that any member who isn't feeling well, is in close contact with someone who has recently returned from an area known to be a COV-19 hotspot, or has visited a place where a known case of the Coronavirus has been detected, not attend the garden club meeting on Thursday March 19th.

We also ask that precautions be taken while attending the meetings by thoroughly washing your hands and avoiding contact such as shaking hands.

Thank you for your cooperation in helping to maintain a healthy and safe environment for all our club members.

***Plant Table - Norma Buckland***

There should be interesting spring offerings at the Plant Table at the March meeting so put your wallet next to your car keys! In case you don't read the Financial report:

***NB: If you are planning to keep any of the BIG DIG rescue plants - then please "pay" for them by donating to the Plant Table. ... and don't be too cheap about it or future opportunities will not materialize! - Maria***

***Hospitality - Susan Nicholls, Maggie Davis, Sharon Carabetta & Daphne Page***

**If you haven't picked up your forlorn and abandoned Christmas dishes by the March meeting, say "goodbye" as they will go on Craig's List!!!!... also our ever-constant reminder to try and remember to bring your own mug to meetings!!!!**

*[...and as you think of your own treats, think of something to treat the foodbank.-m]*

## MALs – Jackie Morris, Pat Holmes, Lori Herman, Suzanne Mazoret

Plans are well underway for the **Plant Sale on May 16**.

- Please **dig up, divide up and pot up plants** as weather permits, and no later than 2 weeks before the Plant Sale (to allow the plants to recover!). For a quick and easy sale and to get the best price, plants need to have leafed out nicely and be of a decent size. Anything scrawny, dormant or limp (!) will not likely sell.
- **Soil for potting up plants – has been delivered** to the parking turnout between Jackie’s house (xTempe Cres, and xTempe Cres, N Van):
  - To allow as many people as possible to have some, please take only the equivalent of ½ of a regular-size garbage can. Bring your own shovel and bags/buckets...
- We hope many of you will consider **starting plants from seed** for yourself and for the Plant Sale. Some guidelines will be posted on the club website.
- **Volunteer sign-up sheets** for the **set-up** of the Plant Sale on Friday, **May 15**, and for the Plant Sale the next day, will be circulated at both the March and the April meetings.
- **Lawn signs and posters** will be available at the April meeting. Please bring back any lawn signs you may still have by the March meeting!! We know there are still a few out there and they need updating.
- Start collecting beer flats and Costco boxes.
- **Raffle donations** are needed (Please contact Jackie M!). **Thank you to Linda Feddersen** for the first donation, a lovely, large quilt!

**T-shirts** – no one came forward to organize a group purchase...

- But you can obtain a club t-shirt from **Dog’s Ear T-Shirts**, 1493 Marine Drive, West Van. The colour is forest green. Dog’s Ear has our embroidered logo. I think it takes a couple of weeks.



**Plant Sale Sign Up** sheets will be available at the March and April meetings. If you can’t commit to a full “shift”, you are more than welcome to drop in to add your expertise to our much needed “general help” category, which can include so many jobs, such as set up changes, moving plants and finding and sorting either day, and the club’s Master Gardeners providing roving advice on Saturday.

For **Friday** set up, the Hall is available, starting at **noon**. We will close down by **7 PM**.

- Plants may be delivered **1 PM to 6:30**.
- Shifts for exterior, interior and veggie set up start at noon.
- There are shifts for plant pricing, veggie pricing and general help, starting at 12:30, with second and some third shifts to follow.
- A new sign up is for the **loan of wheelbarrows for both days**, to arrive between **noon** and **1 PM** on Friday.
- **There is no plant selection or buying at all on set up day.**

For the **Saturday Sale Day (10 AM to 1 PM)**, some of us will arrive by 8:30.

- **First shift** volunteers are from **9:30 to 11:30** and can buy 2 plants early. Those who volunteer for clean up may buy three plants early.
- First shifts jobs are cashiers, veggie tables, holding area, crowd control, general help and sherpas (a specific job moving plants by wheelbarrow from the cashier table to buyer’s cars)
- The **second shift** is from **11:30 AM to 2 PM**. The jobs are the same except for the addition of clean up. Second shift volunteers often come during the first shift to buy their plants.



“All gardens have the potential to be sensuous, poetic places feeding the soul as well as letting us spread beyond the house... There is something happening there that goes beyond horticulture just as a superb loaf of bread or bottle of wine goes beyond nutrition. In a world of terror and anxiety this is art in a million backyards. There is a real sense that in making your garden “better” according to your own taste, then you are doing more than outdoor decorating. I absolutely believe that you are making the world a better place for everyone else as well.”

– Monty Don, 1955 from “My Roots” [found by Barb Downman].

**SPEAKER**  
*Thursday, March 19, 2019*  
**JOANNE MELVILLE**  
*Restoring the Gardens at Hycroft*

Joanne Melville has been gardening for much of her life as she started at a young age by working in the family garden with her mother. She currently works in the church memorial garden and in the gardens of the strata where she now resides. For the past several years she has been co-chair of the Hycroft garden [University Women's Club, on McRae in Vancouver] which covers almost two acres in the heart of the city. It is very beautiful and particularly unique because of the number and variety of heritage trees on the property. The largest sequoia in the province grows in the garden. The Hycroft Garden Committee's recent and continuing focus has been to return the gardens to their Edwardian roots.

In her talk, Joanne will show a short video on the history of the garden and then will give a talk with a number of photographs about the updates of the past five or so years.



**THE GREAT LVGC BUS TOUR**

"Plans for our upcoming bus trip are going well. If you have signed up, but not yet paid your \$20, please ensure you get payment to us by no later than our meeting on March 19. If you cannot make the meeting and have not yet paid, but do want to go, maybe you can get a friend or neighbor club member to pay for you, if this is not possible, please call Rosemarie Adams at xxxxxxxxxxxx, Doreen Marbry at xxxxxxxxxxxx or Diane Sekora at xxxxxxxx to arrange payment to ensure that your seat is held. Likewise, if you have signed up and find you cannot now attend, please let one of us know so we can make your seat available (and refund your \$20).



Parking will not be available at St. Stephens Church on April 18 because of church events happening that day. We still plan on loading the bus in the Church parking lot, but you will have to park just south of the church on 24<sup>th</sup> Street – there is lots of street parking on 24<sup>th</sup> and you can walk through a pathway from 24<sup>th</sup> through the church parking lot. There is also parking on Viewlynn behind the church, and a pathway through Viewlynn Park which comes out at the end of St. Stephen's cul-de-sac. Obviously, if you can car-pool to the church with a friend or neighbor, that would be helpful.

This will be a fun trip – don't forget to bring your Ikea bag – with your name clearly on it – I guarantee you will not come home without any plants! *[If you are new to LVGC, plan to come, as the tour is a hoot and you get to know your fellow club members!!]*

Your Bus Trip Committee  
Rosemarie Adams, Doreen Marbry, Diane Sekora

]



"There is nothing like the smell and texture of dirt. It helps me feel like I'm a part of my planet, my universe. It connects me to the billions of people who have gone before me, tending the earth for thousands of generations. We've made ourselves crazy as a society – always pushing, pushing, pushing – and gardening offers us a life after all that craziness. It's in the fiber of our being to touch the earth, to tend its plants. After all, this is our home, this is where we belong."

- from "Tending the Earth, Mending the Spirit: The Healing Gifts of Gardening." by Connie Goldman, Richard Mahler. *[found by Barb Downman]*



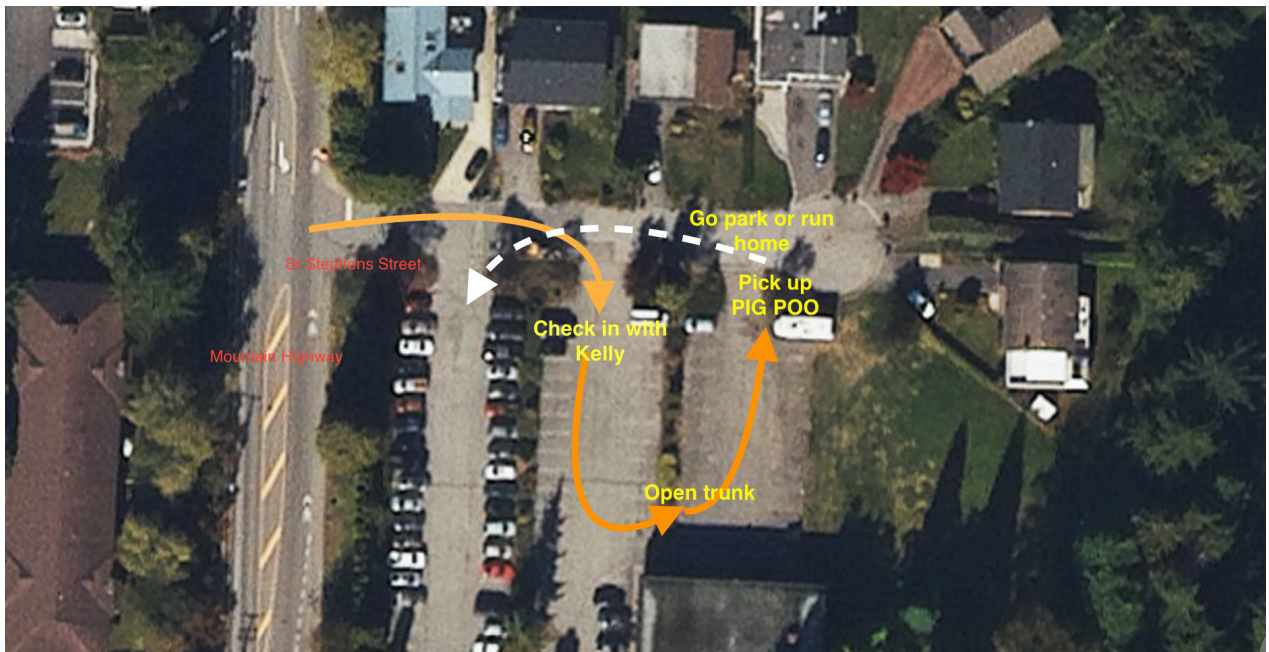


## PIG POO PICK UP PROCESSION



People who purchased prime *Pig Poo*: PICK UP @ 5:30 PM  
BEFORE THE MARCH MEETING [**>>>Hall NOT Open**]

SEE PICTURE



### The Pig Poo Procession/drive-through will go as follows:

1. Turn in to St Stephen's Street and find the 2<sup>nd</sup> driveway entrance on your right.
2. Check in with Kelly, the Pig Poo Purveyor, who will confirm your order, sort out payment *etc.*
3. Receive a number indicating the number of bags you get to take home.
4. Process around by the entrance door, pop open your trunk. [*Note to self: tarp that trunk!*]
5. Head for the 3<sup>rd</sup> exit - where the Poo truck will be parked.
6. Present your number and pack the poo in your trunk.
7. Exit, stage left - and either park via the 1<sup>st</sup> driveway, or sprint home to dump off the bags - but remember, the HALL IS NOT OPEN UNTIL THE USUAL TIME.

*"The fairest thing in nature, a flower, still has its roots in earth and manure." - D.H. Lawrence*



### SOME USEFUL ITEMS (found and shared by Sharon C.arabetta)

"Today I was at Habitat for Humanity, ReStore on Lynn Ave (near Michael's and Canadian Tire). They have a number of items for gardeners that may be of interest to LVGC members. All the items are new, in their original packaging and are half retail price.

Jiffy 4" cardboard containers	6 for \$0.98	Grow Light 2 ft. long	\$30.
Jiffy 2" cardboard containers	12 for \$0.98	18 Cell Seed Starter Kit with lid	
Jiffy pellet refills	36 for \$1.98	4" cells	\$3.98
7 pot seed station	\$2.98	72 Cell Seed Start Kit with lid	\$3.98
Tomato and Vegetable Green House		2" cells	
10" square with lid	\$3.98	Assortment of flower and	
Self-Watering Green House	\$4.98	vegetable seeds	\$0.25

The store will be bringing onto their floor many pots and other garden items that have been in their storage area over the winter."

**FOR SALE:** LVGC's enormous (100 inch), old-but-good-as-new projection **screen** with **stand** – and **carry case**. No, I don't have a picture of it (it's in my garage with the spiders) – but you probably remember it from St. Clement's. Similar items on Craig's List ask for \$200. For you, **MAKE AN OFFER...** and the \$\$ goes to a lot of good causes. If you want it – you have till mid-March to claim it, after that it goes up on Craig's list. Contact Maria at [lynnvalleygardenclubnewsletter@gmail.com](mailto:lynnvalleygardenclubnewsletter@gmail.com)

**PLANT TABLE:** If you participated in the first-ever **BIG DIG** and some of those plants have taken permanent root in your garden, please don't forget to make your appropriate **Plant Table donation** on the honour system [*and don't be cheap about it!!*].

**BIG DIG #2:** With the current weather, nobody in their right mind – not even yours truly – wants to go out and dig. However, we have been invited back for Round 2!! I will be organizing a dig for the next 2 weekends – **DETAILS AT THE MEETING** and by Email. By that time, I hope, any hidden plants may have declared themselves, there might be more soil for potting up – and more of you will have organized all those extra flowerpots that you will bring.



**POTS for potting up plants** [*amazing what people know and are kind enough to share!*] – Donna Wasylik writes “At the south end of Dykhof's parking lot are two great white recycling bags full of used plastic pots of all sizes. You can help yourself!”

**SOIL for potting up plants** – has been delivered to the parking turnout between Jackie's house at xxx Tempe Cres, N Van, and xxxx Tempe Cres. To allow as many as possible to have some, try to take only the equivalent of ½ of a regular-size garbage can. Bring your own shovel and bags/buckets. If at all possible, Jackie would like all soil to be gone by the club meeting on March 19. [*also see more on building your own soil, later in this Leaf -ed*]



## ***Perfect Pepper Potting***

***-Wayne Smith***

I read about this trick somewhere in my compost covered past: I'm getting my up-pots ready for pepper transplants later in the spring. I've added a few teaspoons of fertilizer around the top and am letting the rain soak it in for a few days.

Later when my peppers in the 6-inch pots are ready for transfer, I'll pull out the temporary plastic pots (the donut hole) and I may add a bit of compost in the bottom of the pots to get the life going; then I'll slide the 6-inch plants down the hole without disturbing the roots.



## ***Perfect Soil Production***

***- contributed by Linda Howe***

This article by Jeanette Marantos in the LA Times may help you with your composting: <https://www.latimes.com/lifestyle/story/2020-03-06/build-rich-beautiful-soil-layer-your-yard-cardboard-seriously> She writes, “Lasagna mulching is kind of a miracle, the closest thing to an easy fix for lousy garden soil, suppressing weeds and rebuilding our disappearing topsoil. Added bonus: The vital starting ingredient – cardboard – is available for free, in mass quantities, from grocery stores, dumpsters and recycling bins.”[...]

### ***“Step 1: Cardboard***

This is your first and non-negotiable ingredient – the “noodles” in your “lasagna,” crucial because it is dense enough to suppress weeds and grass while attracting the mycorrhizal fungi that will create a delicious, nutritious soil for your plants.[...]

### ***Step 2: Water thoroughly***

Getting the cardboard wet before you add the other ingredients helps start the decomposition/composting process in your new soil. Step on the cardboard as you wet it down so it conforms to the shape below, and don't be afraid to create mounds and contours in your yard. Flat yards are “an artifact of the lawn mower,”[...] “Creating a curvaceous surface is sexier, gives you more planting area and captures more rainwater because it has highs and lows.”[...]

### Step 3: Start layering

Here is where your other layers come in. Your goal is to have *at least* 8 inches of green waste/mulch covering that cardboard; [...] And remember you're basically creating a kind of large compost pile, so you want layers of carbon (such as dry leaves, shredded newspaper, straw bedding and wood chips) and nitrogen (such as grass clippings, kitchen scraps, coffee grounds and compost)." For details and pictures, just click on the link in your cover email.

### Pruning anyone?



**Rosemarie Adams** found this incredible picture somewhere, and by pure serendipity, **Barb Downman** sent a link to *Fine Gardening* about – you guessed it! – pruning!! [https://www.finegardening.com/how-to?article\\_categories=pruning](https://www.finegardening.com/how-to?article_categories=pruning) There are some really useful “How-to” articles and videos – you just have to follow the links. Some of them are locked/behind a paywall, but most of them are accessible. Just keep scrolling down as there are MANY. Keep scrolling down below the ads. If you want to filter/narrow your search, then look on the left panel. There are pages and pages.... “everything you ever wanted to know about xxx, but never dared to ask”.

"Trees are poems that the earth writes upon the sky."  
– Kahlil Gibran

"The best time to plant a tree was 20 years ago. The second best time is now."  
– Chinese proverb

And since we're on the subject of trees....

### The trees of Buenos Aires

- by Courtney Mitchell

Here are a few examples of trees we found truly beautiful in Buenos Aires, Argentina. For more information, search each tree on Wikipedia and on the following website: <https://landingpadba.com/buenos-aires-tree-guide/>

Over 10,000 jacaranda trees, (*Jacaranda mimosifolia*) line many streets in Buenos Aires. It is a sub-tropical tree native to south-central South America that has been widely planted elsewhere because of its attractive and long-lasting pale indigo flowers. They bloom in spring and the streets become a sea of purple blossoms – in the trees and then on the ground. We found this one small tree (next page) with a late bloom to inspire our imaginations.



La Tipa, *Tipuana tipu* or rosewood, is also known as the “pride of Bolivia” (no, we didn't go there). These trees line many streets and are present



in many parks and have lovely dark yellow to orange flowers and tall sinuous branches. Rumour has it, the droppings of insects that feed on the sap on leaves make walking under them in spring a bit interesting. Growing up to thirty meters in height and twenty meters wide, *Tipuana tipu* is well known for its use as a shade tree (and represents considerable amounts of insect poop).

Palo Borracho, *Ceiba speciosa*, formerly *Chorisia speciosa*, the silk floss tree, is a deciduous tree native to the tropical and subtropical forests of South America and is a relative of the baobab and kapok. This tree with huge pink blossoms was in full display. According to our local guide, it is often referred to as the “drunken stick” because the trunk swells out above the ground like a beer barrel. When water is available to store in the trunk, the trunk actually swells much larger than shown in the photo on the next page.

This rubber tree (*Ficus elastica*, below), was planted sometime before 1800 and is absolutely immense: its limbs require substantial support. This is your typical house plant... but a bit bigger. For scale, note the guy sitting on the bench.



## EVENTS:

**2020 ANNUAL GENERAL MEETING - BC Council of Garden Clubs**  
**CANCELLED**

### **THE FRASER VALLEY CONSERVANCY'S NATURE STEWARDSHIP SCHOOL**

Two introductory workshops cover:

Gardening with local native plants: native plant options; tips for success; how to help local wildlife.

Demonstration garden walk.

**Saturday, April 4 in Langley, or Saturday, April 18 in Chilliwack**

1:30-4 PM; \$5

MUST RESERVE: 604-625-0066; e-mail [outreach@fraservalleyconservancy.ca](mailto:outreach@fraservalleyconservancy.ca)

### **LYNN VALLEY PARK PROJECT**

**Saturday, April 25, 2020, 9:00 am to noon**

Lynn Valley Community Association and Lynn Valley Seniors Association NEED YOU

The 2020 community project is in Princess Park.

Basic gardening, removal of invasive plants, planting natural vegetation, laying down mulch, cleaning litter: We have work for every physical ability, so all are welcome.



Dress for the weather, as this is a rain-or-shine event  
You will need to bring your own water bottle.  
Find us at the LVCA tent next to the LV LINK kiosk by the footbridge.  
[info@lvca.ca](mailto:info@lvca.ca), [www.facebook.com/lynnvalleycommunityassociation](http://www.facebook.com/lynnvalleycommunityassociation)



## *The Compost Bin: THE VIRUS ISSUE*

- Maria Issa

Let's get a few things on the table:

*First* - PLANTS, too, HAVE VIRUSES... so anything you learn here is not a complete waste of your neurons.

*Second* - my *bona fides* - in case you're worried that I might push some conspiracy theories and blame it all on Trump. I'm truly a card-carrying microbiologist and immunologist.... so what I have stolen and summarized for you from the internet has been scientifically vetted: there is no fake news here, nor alternate facts. I'll also happily answer any questions after the meeting. This, by the way, is your pre-work for class: there will be a lab/practical at the meeting. The test will be "life".

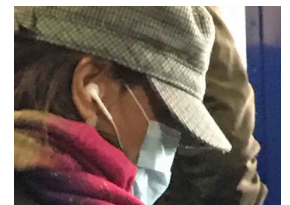
*What exactly, is a virus?* A virus is an infectious particle that reproduces by "commandeering" a host cell to use its machinery to make more viruses. Viruses reproduce by infecting their host cells and reprogramming them to become virus-making "factories": they live *inside* cells. Because they can't reproduce by themselves (without a cell as host), viruses are not considered to be "living". Viruses are not cells: they're too small, much smaller than cells of living things, and are basically just nucleic acid (=DNA, RNA) packaged in protein. Still, viruses are similar to cell-based life. For instance, they have nucleic acid genomes (think "chromosomes") based on the same genetic code that's in the cells of all living creatures (including PLANTS). Also, like cell-based life, viruses have genetic variation and thus can evolve. So, even though they don't meet all the definitions of life, they are pretty close.

*OK - so how do they get into cells (especially my cells)?* This takes several steps: first they have to find an entry point - either a natural door - such as your mucous membranes; or a break in your surface. [*note to self: as mucous membranes are in all official orifices of one's body - keep these clean and covered.*] In a nice, wet environment, viruses attach to the nearest cell using protein crampons, then send their genome (DNA or RNA) into the host cell. Once inside, the viral genome matches up with a bit of host genome - sort of lines up the zippers - and integrates into the host's genome. Imagine that the host's genome is like a filmstrip - and a bit from another, new film is spliced in. That sure messes with the original story. Needless to say, the host cell is not happy, but there is little it can do about it: it can't fight against itself. The virus then directs the cell to keep telling only the virus' short story, over and over and over. Reproduction. The poor, infected cell either just keeps making more and more virus, or breaks apart. Neither is good. Many more viruses are now running about the body and they do this again and again. The "original stories" of the infected cells don't get "told". The infected organ loses function. There are other options too, by tumour viruses, but I'll skip those as they are not immediately COV-19 relevant.

*How big - small? - are they?* Let's walk down the scale. 1 meter = 1000 mm =  $10^{-3}$  m = 0.001 m [3 zeros, indicated by a superscript of -3; or how many to the right of the decimal point] so a micrometer or micron is  $10^{-6}$  of a meter, or 0.000,001 -6 decimal places; 1 nanometer is  $10^{-9}$  or 0.000,000,001 -9 decimal places. Do have a look at the links provided in the cover note, there is much more detail there.

An ant is about 3 mm. A red blood cell is 7 micrometers; an average bacterium is 1 micrometer; a virus is about 100 nanometers, so about 1/10 the size of a bacterium and nearly 100 times smaller than an average cell. They are pretty damned small and that means they can get through very small holes.

*Trick question #1:* I took this picture on the SeaBus. Is this person, with her loose surgical mask, safe from getting airborne viruses? Don't bother answering that. A false sense of security is not a good thing.



*Can I defend myself?* Yes - at many levels. Under the heading of "know thine enemy," let's look at a typical sneeze. A sneeze spreads zillions of droplets: as you well know, if someone with the flu sneezes in your face, you're pretty much



toast. Same with COV-19. It's to do with numbers: the bigger the infectious dose you get (the more invaders) the harder it is to beat them back. Symptoms appear between 2-14 days, depending on the dose of infective virus received, and the person's ability to mount an immune response.

So, if a sick person wears the above surgical mask; and sneezes, the NUMBER of escaping droplets is reduced – less infectious material. Still, stuff moves around the edges and through a surgical mask's loose weave. As viruses are tiny, if you can breathe through the mask, the viruses can dance through it, so masks are not a fail-safe. What the masks can do is reduce the NUMBER viruses-riding-on-droplets. Sick people *should* wear masks. Thus, the people with the surgical masks are not protecting themselves from the world, but the world from them. **IF YOU ARE SICK – YOU SHOULD STAY AT HOME, YOU SHOULDN'T BE OUT WEARING A MASK.** Conversely, if 'healthy you' is wearing the mask, the air you breathe through the mask can carry the virus – the only thing the mask stops is droplets. Any droplets that land on surfaces create "fomites". Fomites are inanimate objects, surfaces, that are covered with infectious agents; and from them, the agent gets transferred to another person. For humans, skin cells, hair, clothing, and bedding are common sources of contaminating fomites. Viruses and COV-19 are able to persist on surfaces for days, the cooler and dryer, the longer they last (think refrigerator). They do die off, eventually, but why wait? Kill them. It's easy to defend against a few: harder against the many.

**FIRST LEVEL OF DEFENSE** – clean, clean, clean - to vastly reduce virus numbers: wash hands, face, gargle occasionally with Listerine, cry (watch sappy movies: the tears wash the eyes), do lots of laundry, and wipe often-used surfaces such as doorknobs, elevator buttons, light switches, TV remotes, [toilets!], work surfaces, fridge and cabinet doors, doorbells, handrails, computer keyboards, shopping carts, pens – anything that is touched by many people. Hard surfaces are the worst. The virus can persist on inanimate surfaces like metal, glass or plastic for up to 9 days, but can be efficiently inactivated by surface disinfection procedures with 62–71% ethanol, 0.5% hydrogen peroxide or 0.1% sodium hypochlorite (bleach) within 1 minute. Don't touch your face, chew your nails, rub your nose *etc* as anything on your hands will head straight to your mucous membranes. Sorry, but: wash hands *before* as well as after using the bathroom.

**SECOND LEVEL OF DEFENSE** – yup, maintain social distance, don't crowd people, hug, shake hands, slobber upon, *etc*. Skip "one-night stands";-). The new etiquette suggests Japanese-style bowing, elbow or foot bump, *namaste* with a slight bow and hands together. Maybe the curtsy will come back! Long, loving looks or blowing kisses, are OK. Watch *Pride and Prejudice* for modeling social distance.

**THIRD LEVEL OF DEFENSE** – maintain a healthy immune system: the immune system is doing its job - it recognizes viruses and kills them. The idea is to tip the balance in the defense-team's favour. Keep your immune system happy: eat healthy, get good sleep; spend time in the sunshine; exercise, garden, laugh lots and be positive. Scientific studies have shown that all of these help your immune system, yes, even and especially the laughter! Keep viral loads low as possible (that's the cleaning and distancing bit) and boost your immunity by not giving it other work.

**Oh, forgot:** don't panic, empty Costco of toilet paper, snatch the last masks out of a gasping shopper's hands, or hide out at home, living on the last of the pasta. Be thoughtful, careful and sensible – and the world will continue. But did you see the 1-hour line-ups at the Superstore? Ohmygoodness.

Looks like I'll have to save the plant virus stories for the next time.

