

# Fort Albany Gardens

June 2018

Newsletter



## Subarctic Gardening

Using customized techniques, gardening in Fort Albany can be a source of local and affordable foods. Gardening techniques that adapt to the muskeg environment of Fort Albany have been trialed since 2012 in a garden grown between willow trees. The purpose of this newsletter is to share what has been happening in the Fort Albany Gardens for the past 7 years.

### Fort Albany Garden Location

On mainland of Fort Albany. On Cemetery Road, take the first left after the Fort Albany Power Corporation. The Garden is located between the row of willow trees.



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# Fort Albany Gardens



## Gardening between willow trees

Growing between trees is a form of agroforestry. Agroforestry combines woody perennials (e.g., trees, shrubs) with crops in spatial and temporal arrangements. Agroforestry is a technique that utilizes naturally occurring ecosystem services to enhance crop production. Agroforestry is a low-input management practices that requires minimal non-local resources. For remote and subarctic communities agroforestry is a promising technique because it reduces production costs, and minimizes environmental disturbances.

## Recent findings on Fort Albany Agroforestry

- Protect crops from strong and cool winds
- Create a warmer microclimate for plants
- Growing between willows improves phosphorus content of crops.

*For more information check out:*

[www.mdpi.com/2071-1050/9/12/2294/htm](http://www.mdpi.com/2071-1050/9/12/2294/htm)

## Other techniques to create microclimates

Raised Garden Box



Black Tarp



Low Tunnels



High Tunnels

Cold Frames

Greenhouses

# Fort Albany Gardens

## What's new at the gardens for 2018

We have made many changes to the gardens this year. We have downsized to:

- Reduce labour needs
  - Focus on minimizing the need to weed the gardens
    - Experiment with garden techniques that can be used in your own backyard
- Create a learning space rather than a production space.



## Gardeners at willow tree row site

There are 2-3 people from Fort Albany who manage the garden site and one coordinator. The gardening program this year has been supported by Health Canada and is being administrated through Peetabeck Health Services. The past three years the gardening program has been about of the FAFN Work Study Student Program.

*For students interested in working in the gardens please contact the FAFN Work Study Student Program Coordinator or representative, Johnathan Sutherland, or Meaghan Wilton if interested.*

## Some crops at the site:

potatoes , beans, carrots, kale, summer squash, cantaloupe, radish, strawberries, raspberries, sun chokes, lettuce, mache greens, salsify root, buckwheat, & marigolds.



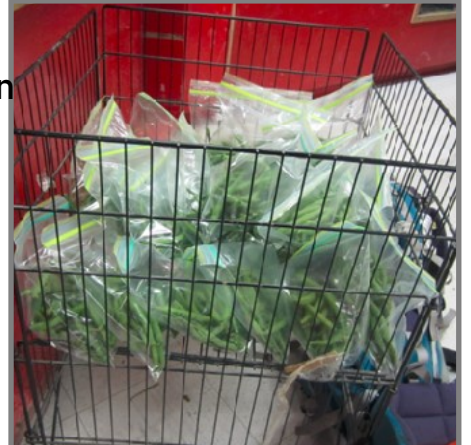
# Fort Albany Gardens

## Community Garden Functions

The most popular community functions that the garden program runs is the Potato Harvest that occurs in early October after the first frost.



During the month of June in 2013-2016 there were planting workshops and open houses. This year there will be an open house—On Wednesday July 4th planting In 2014 and 2015 green beans had a great yield! At mid-August beans were harvested and were distributed throughout the community ,



In 2015 we had class field trips to the site where students were shown around the gardens. They learned about the different plants, pollinators, composting, and different ways to create microclimates for crops. The students harvested carrots and kale and helped weighed the crops to calculate how much was produced.



# Fort Albany Gardens

## Gardening soil in Fort Albany

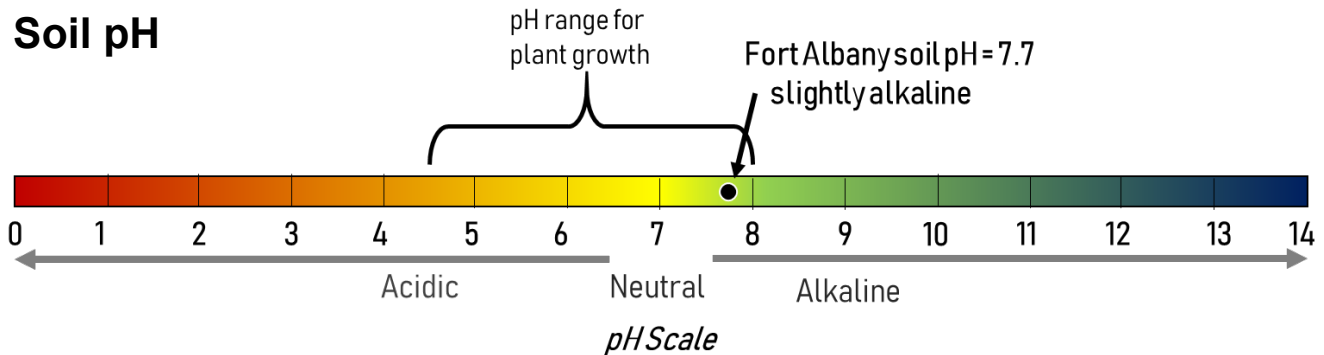
Soil used for home gardens is collected from the open field where the old school was located. Since 2014 a soil pile is provided behind the heavy equipment lot. To ensure that the soil provided to the community was safe, the soil was laboratory tested for heavy metals, pesticide residuals, and polychlorinated biphenyl, (a.k.a. PCBs) Additionally soil was assessed for fertility characteristics as shown below.

## Fort Albany Soil Characteristics

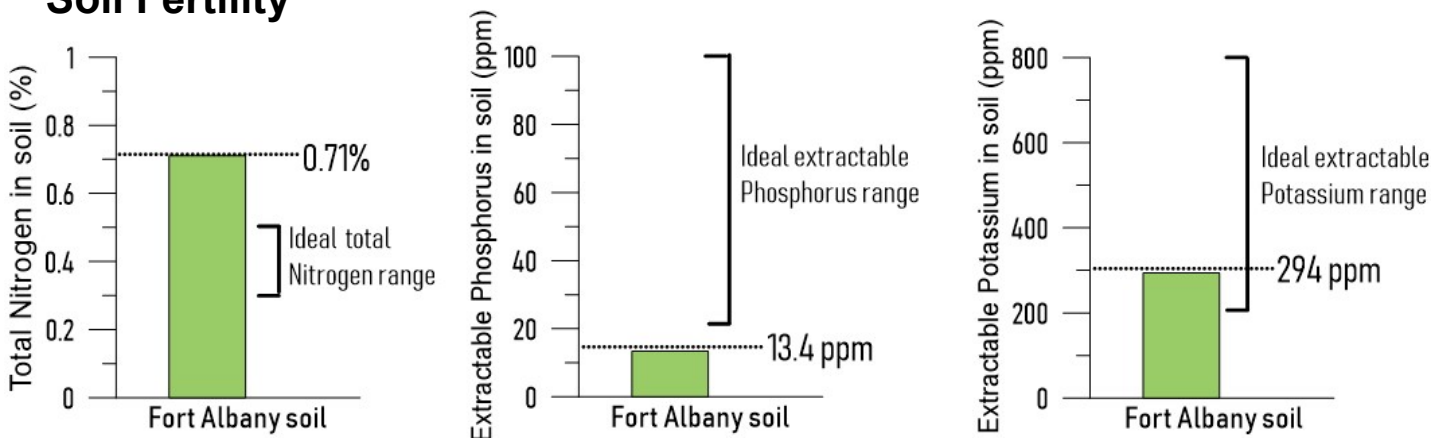
### Soil Texture

The soil is a **silty loam** texture consisting of: 18% sand, 66% silt, & 16% clay. Overall silty loam textured soils are good to grow on but can have some drainage and aeration issues.

### Soil pH



### Soil Fertility



Nitrogen, Phosphorus, and Potassium are 3 key elements for health plant growth. Fort Albany soils are have sufficient amount of nitrogen, have low amounts of potassium and deficient in phosphorus. Phosphorus is important for early growth , root development, and stem strength , and improves crop quality among other functions.

## Recommendations to increase soil fertility

Add compost / organic matter • Increase soil temperature

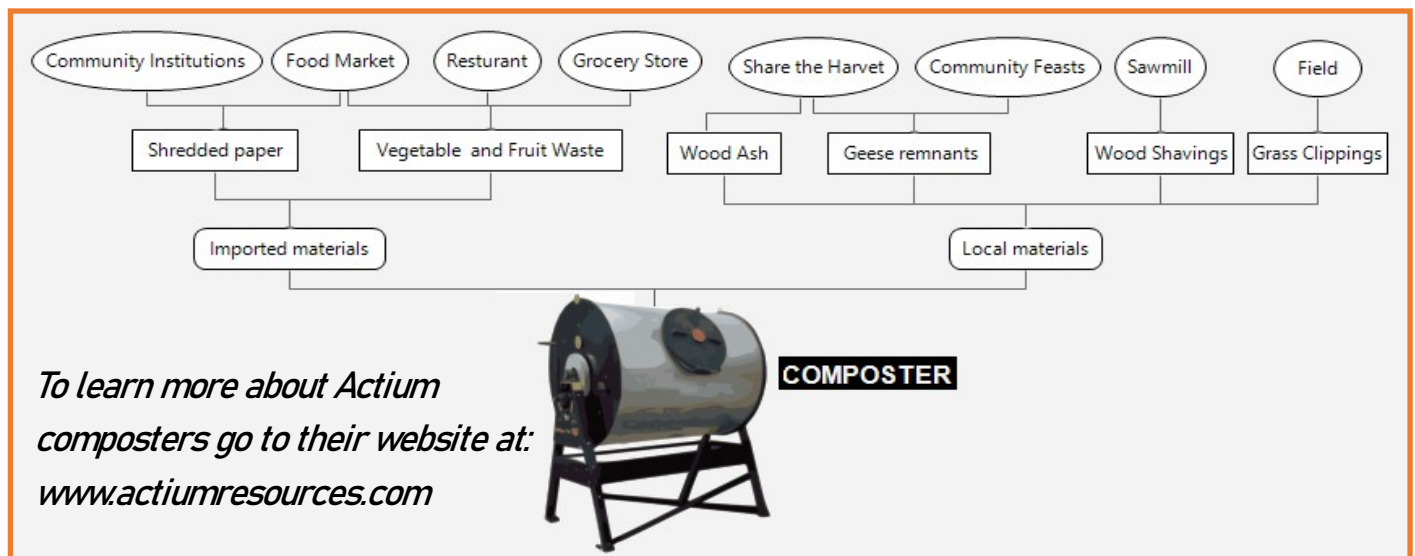
Add potassium and phosphorus fertilizers • Improve soil drainage



# Fort Albany Gardens

## Local Fertilizer

In 2015 the gardening program invested in an Actium batch composter to create local fertilizer for gardens in Fort Albany. The composter is a 4 ft diameter and 5 ft long insulated rotating drum that requires no energy inputs from electricity or fuel to run. The composter can handle 50lbs of organic material per day and can hold up to 2000 lbs of organic matter within a season. The composter was originally designed for composting poultry deadstock, however the composter can be used to compost other organic materials. The below figures displays items added to the composter in Fort Albany.



## Compost Testing

Compost used in the batch composter in Fort Albany was tested for heavy metals, pesticide residues, PCBs, infectious bacteria, results showed that compost was safe to use on gardens.

## Benefits of Composting

- Diverting food ,paper, and yard waste entering the dump.
- Adding compost to soils improves soil structure and helps retain moisture, replenishes essential nutrients (i.e. nitrogen , phosphorus, & potassium), and suppresses plant diseases and pests.

## Backyard Composting

Over the years some people in Fort Albany have successfully made and used composters in their backyards. The basics of composting can be found at: [www.canadianliving.com/home-and-garden/article/how-to-start-your-own-compost-pile](http://www.canadianliving.com/home-and-garden/article/how-to-start-your-own-compost-pile). There are many composter designs. One design that works well in Fort Albany is an underground composter, an example is outlined on the [instructables.com](http://www.instructables.com/id/DIY-Compost-Bin-1/) website: [www.instructables.com/id/DIY-Compost-Bin-1/](http://www.instructables.com/id/DIY-Compost-Bin-1/).



# Fort Albany Gardens

## Backyard Gardens

People in the community with backyard gardens and composters are essential to improving gardening techniques that work best for the Fort Albany community and environment. A BIG THANK YOU to all those who have experimented and shared their garden ideas.



## Local Gardening Resources

The gardening program has some resources for people who want to start gardening. Please come see one of the gardeners to set up an appointment and to see whether we can help you out. Even if you are too late this season for planting, you can still set up a garden for the next year.

## Contacts

Garden Program Supervisor: Meaghan Wilton email: [meaghanwilton@gmail.com](mailto:meaghanwilton@gmail.com)

Garden Program Coordinator : Greg Sutherland Jr.



## Fort Albany Gardens

# Open House

Wednesday, July 4, from 3 pm to 6 pm

Please come and check out the garden.

There will be:

- A tour around the garden
- demonstrations on how to make a variety of garden containers
- display of strategies to reduce weeding, and
- a camp fire to roast hot dogs



### **A note of appreciation:**

Thank you to all local businesses, services, programs, and individuals who have contributed and supported the garden program. Your help and advice has made the garden program evolve continually over the past 7 years.