



St. Margaret's Bay Gardening Club

Exploration of Greenhouse and soil
September 16, 2026

Coastal Grove Farm

Certified Organic Tea and Saffron



Upper Port La Tour

Shelburne County

Established 2020

Matthew Roy
Cynthia Bazinet

Coastalgrove.ca



Driving Principles of Coastal Grove Farm

Ecological

Mimic nature

Soil focused

Permaculture

Nutrient dense

Net Zero

Community





**Season extension is achieved with a single layer
Think of it as putting on a sweatshirt**

**Year round growing requires at least two layers
Think of it as wearing a jacket**

Greenhouses have two or three layers of glazing to hold heat in and keep cold out

Size does not matter!
There are basic principles to
consider

Light

Temperature

Moisture

Airflow



Day Length

Be aware of the
shadow effect
through out the year

10 hours or less

November 5 thru February 5

Plants dormant

Live storage

10 hours to 15.5 hours

February 6 thru June 21

Increasing regrowth

Typically cool temperatures

15.5 hours to 10 hours

June 22 thru November 6

Decreasing regrowth

Typically hot temperatures

Wants to set seed

Time

Use it wisely

Canopy

Plan to optimize



Temperature

Keep it below 35C and above 10C

Day Temperature

Most plants are comfortable around 25C when the sun is on them

Plants acquire nutrients, water and sunlight

Plants finish photosynthesis and grow

Night Temperature

Most plants like it cooler around 17 C when it is dark

Mulch soils to keep soil temperature consistent and low



Drip irrigation
waters the soil

Moisture Control

Humidity is a major factor
Plants transpire to cool off

Greenhouses need more water in summer less in winter

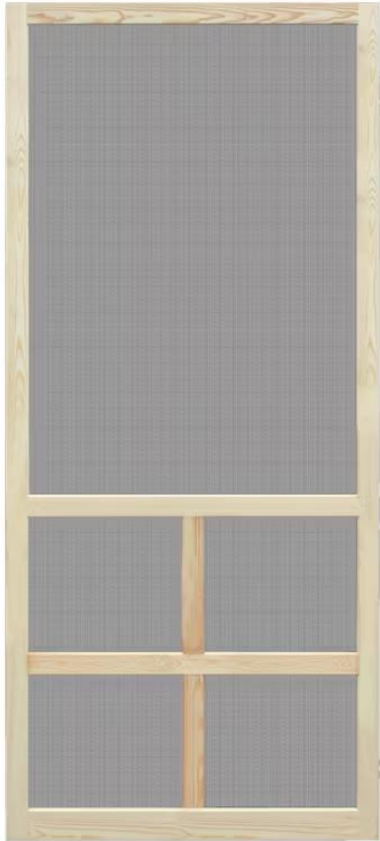
Keep plant leaves dry
for disease control





Air Flow

Cools
Dries
Replenishes



Understand Soil

- 25% water
- 25% air space
- 45% mineral
- 5% organic matter
- 6.0 to 6.7 Ph range



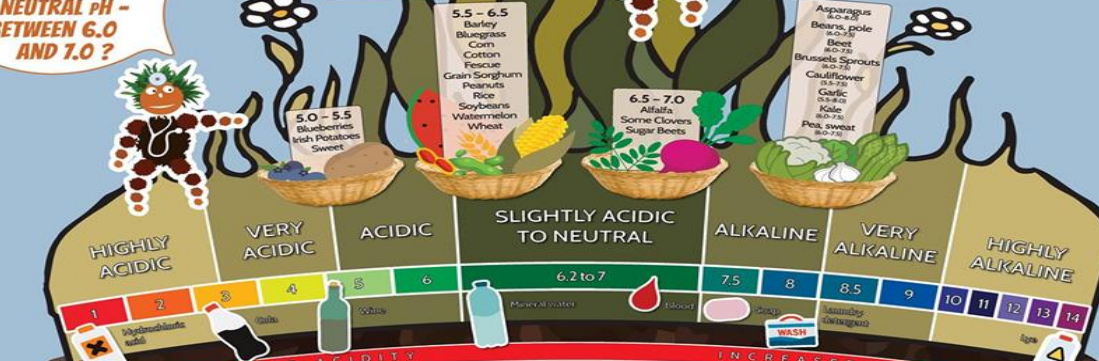


WHAT
IS

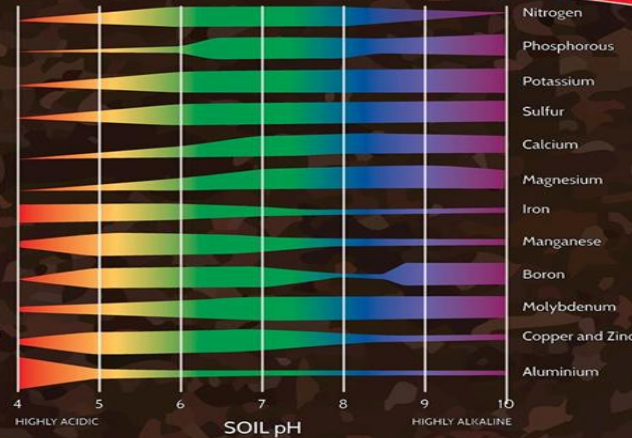
soil pH

**SOIL
pH EXPRESSES THE
ACTIVITY OF THE HYDROGEN
IONS IN THE SOIL SOLUTION.
THIS TELLS YOU WHETHER YOUR
SOIL IS ACIDIC, NEUTRAL OR
ALKALINE. SOIL pH IS AN
IMPORTANT PARAMETER THAT
INFLUENCES DIFFERENT SOIL
FACTORS, AFFECTING PLANT
GROWTH**

**DID
YOU KNOW THAT
MOST PLANTS THRIVE
IN A SLIGHTLY ACIDIC
TO NEUTRAL pH -
BETWEEN 6.0
AND 7.0 ?**



**AS YOU CAN
SEE HERE, SOIL pH
AFFECTS THE AVAILABILITY OF
MINERAL NUTRIENTS TO PLANTS AS
WELL AS MANY SOIL PROCESSES.
THIS DIAGRAM SHOWS YOU AT
WHICH pH THESE NUTRIENTS ARE
AVAILABLE FOR PLANT
UPTAKE**



**LET'S USE
THESE SIMPLE METHODS FROM OUR
TESTING METHODS MANUAL TO CHECK IF
YOUR SOIL IS ACIDIC OR ALKALINE**

IS YOUR SOIL ACIDIC?



IS YOUR SOIL ALKALINE?



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Test Your Soil

Search Google for:

“soil analysis for homeowners Nova Scotia”

Soil analysis for homeowners



Laboratory Services will conduct an analysis of your soil to let you know exactly what your soil is lacking in your garden, lawn, flowerbeds and fields.

Although soil sampling can be done any time of the year, it is recommended that soil sampling should be done in the fall, after the crop has been removed. This allows sufficient time after the analysis is completed and results are received to plan for the following season. Sampling in the early spring, when the water level is high, can cause misleading analysis, especially for pH and lime requirement. For consistency, it is best to sample soils at the same time each year.

Soil analysis and resulting recommendations can only be as accurate as your sampling technique. Samples must be representative of the entire area for which recommendations are to be made. Improperly taken samples will result in tests that are misleading, which in turn, leads to inaccurate recommendations which

How to take a vegetable garden or a flower soil sample

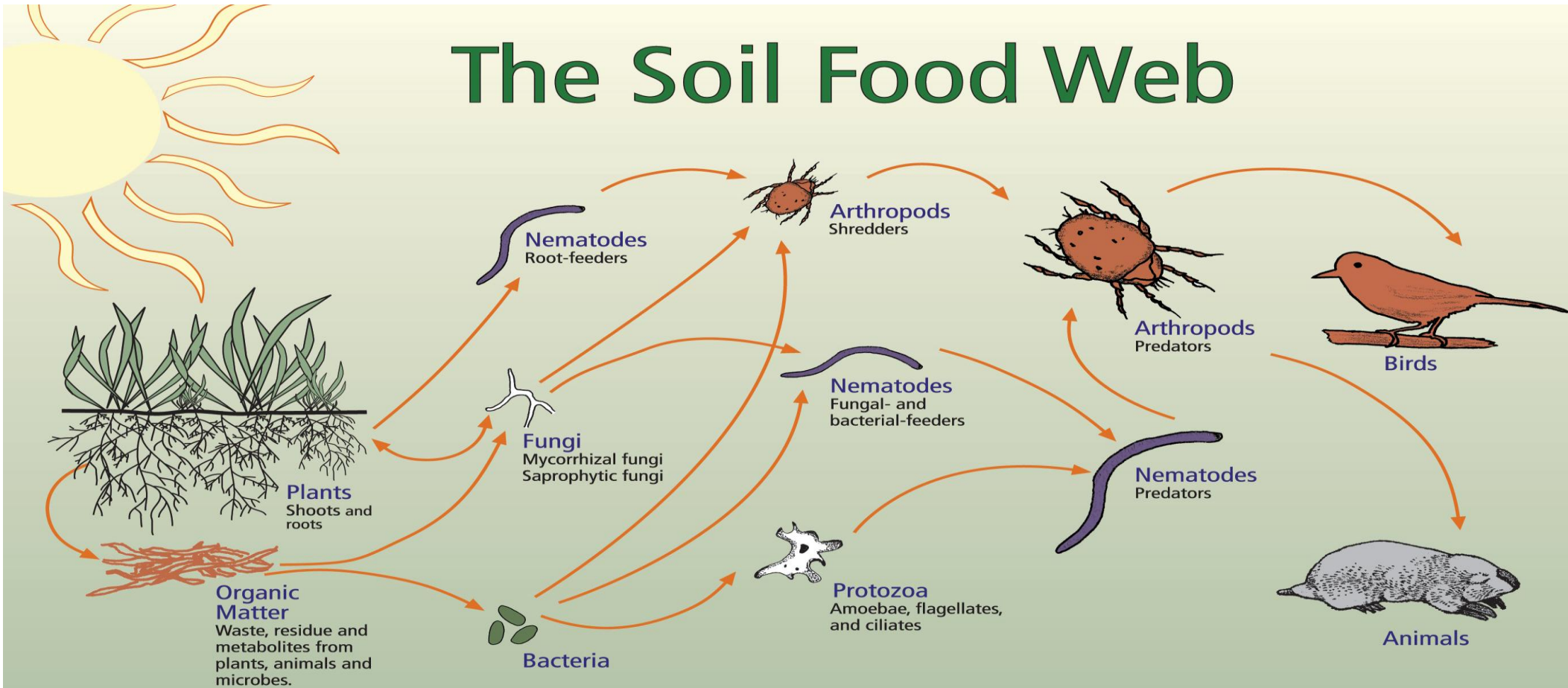
Step 1 Obtain soil sample boxes and sample submission forms from Laboratory Services in Truro. Submission forms can also be found online, and soil boxes can be sent to you by mail upon request.

Step 2 Take a garden trowel and go down 12 to 15 centimeters (5 to 6 inches) in 6 to 10 different areas of your garden or flower bed.

Step 3 In a clean bucket or pail, empty the contents of each area. Remove plant debris. After you have done this, mix the soil together.

Step 4 From this mixture, take a 500 ml (2 cup) sample. This sample will be a good representation of the garden or flower bed soil.

The Soil Food Web



First trophic level:
Photosynthesizers

Second trophic level:
Decomposers
Mutualists
Pathogens, Parasites
Root-feeders

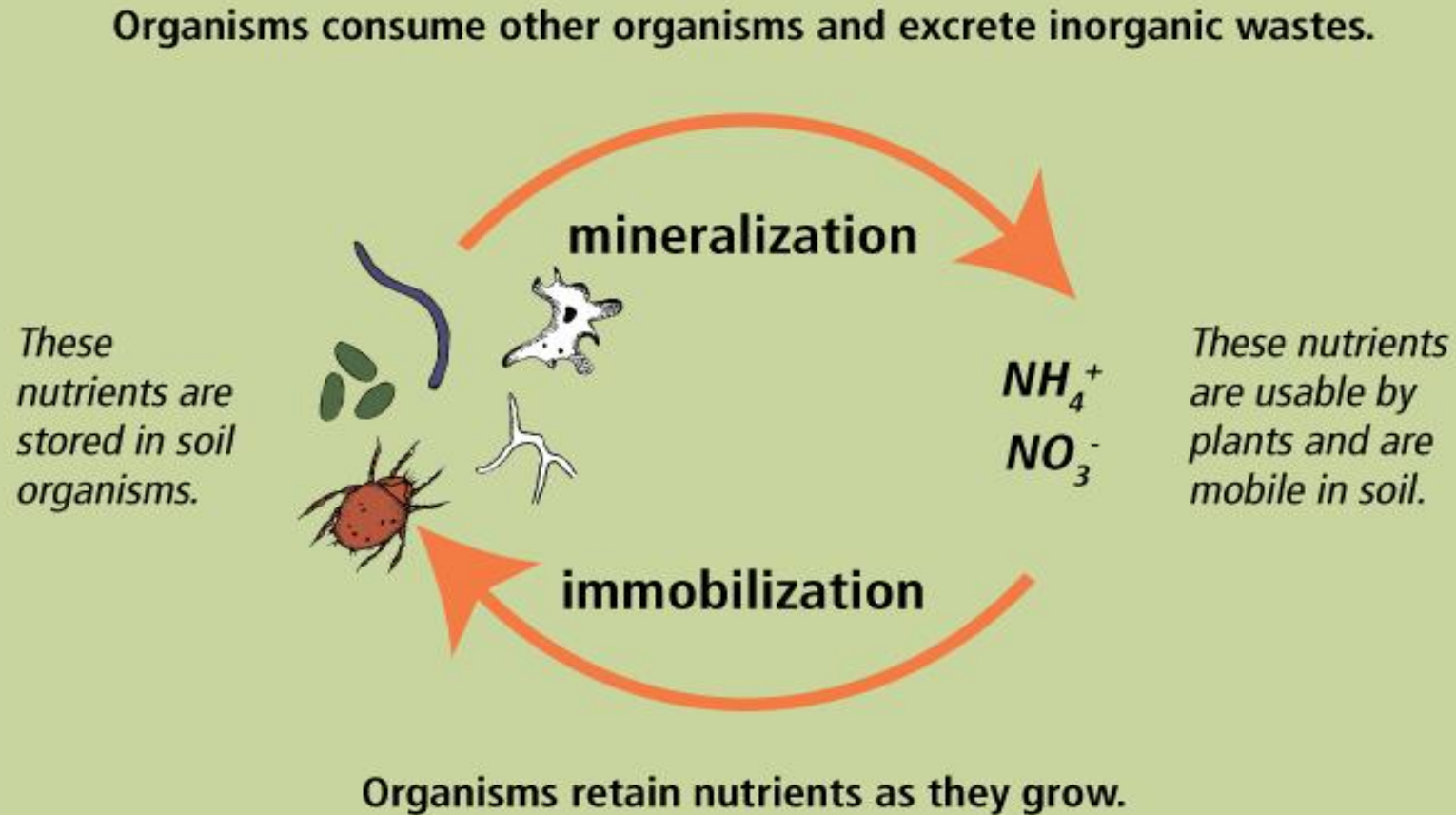
Third trophic level:
Shredders
Predators
Grazers

Fourth trophic level:
Higher level
predators

Fifth and higher trophic levels:
Higher level
predators

What Are Mineralization and Immobilization?

Soil nutrients generally occur in two forms: inorganic compounds dissolved in water or attached to minerals, and organic compounds part of living organisms and dead organic matter. Bacteria, fungi, nematodes, protozoa, and arthropods are always transforming nutrients between these two forms. When they consume inorganic compounds to construct cells, enzymes, and other organic compounds needed to grow, they are said to be “immobilizing” nutrients. When organisms excrete inorganic waste compounds, they are said to be “mineralizing” nutrients.



Add Organic Matter

- Compost
- Mulch
- Cutting versus pulling
- Feeds the Soil Food Web
- 3% to 8% organic matter



Organic Matter Increases Availability of Nutrients

Directly

As organic matter is decomposed, nutrients are converted into forms plants can use directly

CEC is produced during the decomposition process, increasing the soil's ability to retain calcium, potassium, magnesium and ammonium

Organic molecules are produced that hold and protect a number of micronutrients such as zinc and iron

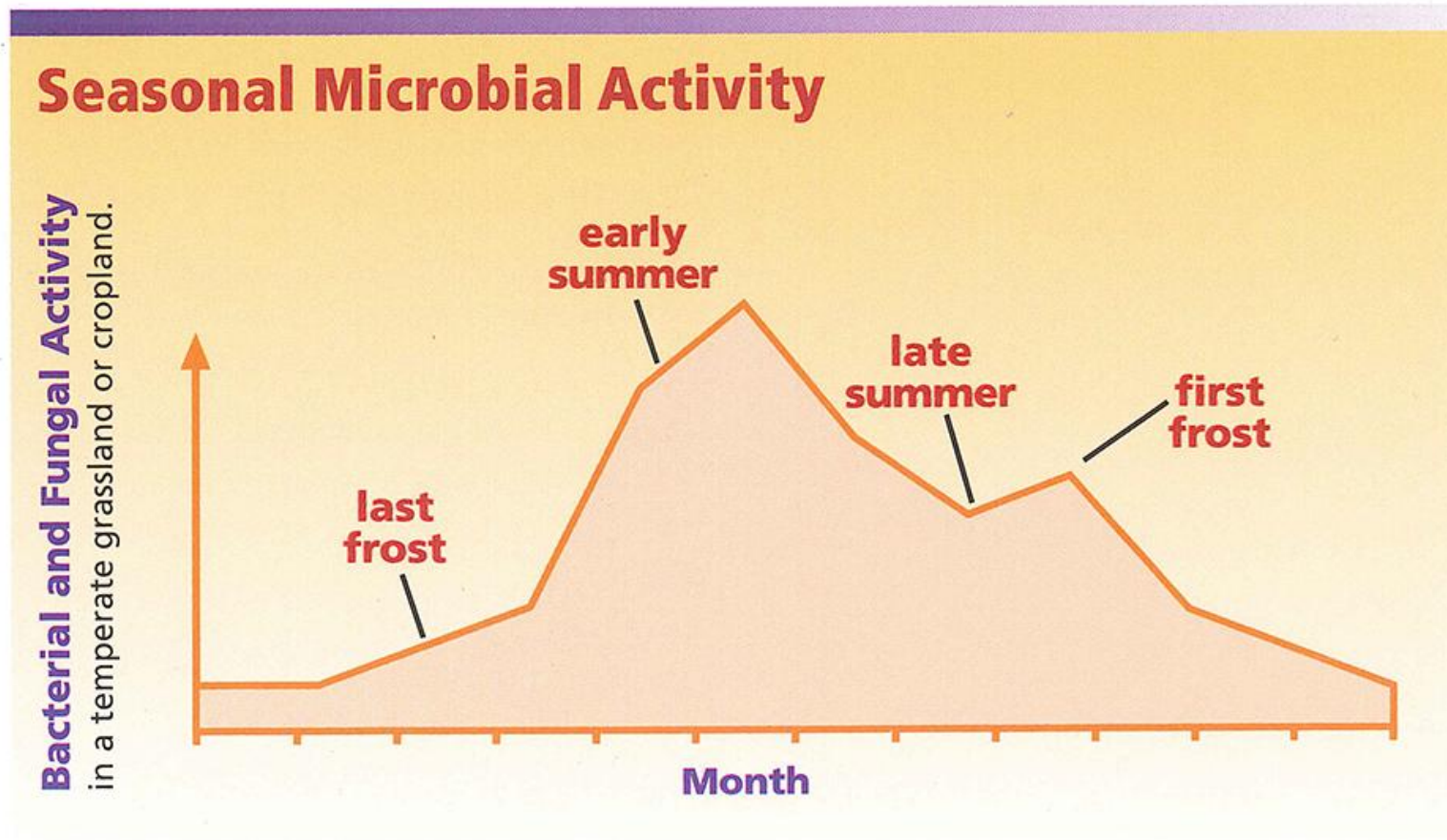
Some organisms make mineral forms of phosphorus more soluble while others fix nitrogen

Indirectly

Substances produced by microorganisms promote better root growth and healthier roots. With larger and healthier root systems, plants are able to take up nutrients more easily

Improves soil structure, which results in increased water infiltration and water holding capacity of the soil. Allows for enhances root growth into more permeable soil. This results in better plant health and allows more movement of mobile nutrients.

When to add compost



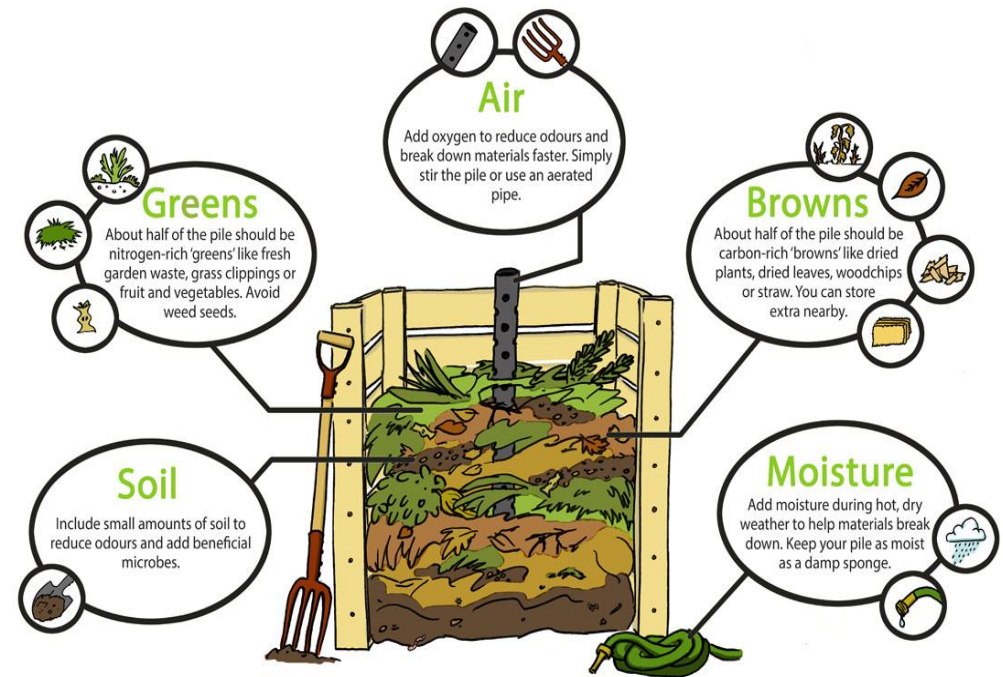
Don't Till Your Soil

- Bacteria dependent on oxygen and light levels
- Mycorrhizal strands get broken
- New weed seeds
- Creates compaction
- Reduces organic matter



Building the Pile

- Try to layer the material like a lasagna.
- Sprinkle in about a big yogurt container's worth of lime between layers.
- Sprinkle in about a cup of minerals, like azomite.
- Add water.



Transplant Mix

- ❖ 30 liters ProMix with mycorrhizal
- ❖ 15 liters compost
- ❖ 8 liters topsoil
- ❖ 4 liters worm castings
- ❖ 1 liter sand
- ❖ 1 liter azomite
- ❖ 1 liter Gaia 4-4-4 fertilizer
- ❖ 1 cup dried blood



Seed Starting Timetable

Nova Scotia’s last frost date, on average, is May 30.
Lately, however, the last frost has been occurring earlier in the year.
If you are planning on protecting plants outside, you can start your seedlings earlier for an early transplant date.

Plant Variety	My Start Date	Weeks from Sowing	Safe to Plant Out	My Plant-Out Date
Artichokes		8-10	Frost Free	
Asparagus		10-12	Frost Free	
Beans		Direct	1 Week Before	
Beets		Direct	5 Weeks Before	
Broccoli		3-5, D	2 Weeks Before +	
Brussels Sprouts		3-5	1 Week Before +	
Cabbage		3-5	4 Weeks Before +	
Carrots		Direct	5 Weeks Before	
Cauliflower		3-5	2 Weeks Before +	
Celery		10-12	1 Week Before +	
Corn		Direct	1 Week Before	
Cucumbers		2-4, D	1 Week Before	
Eggplant		8-10	2 Weeks Before	
Fennel		4-6, D	Frost Free	
Kale		3-5, D	4 Weeks Before +	
Kohlrabi		3-5, D	4 Weeks Before +	
Leeks		8-10	Frost Free	
Lettuce		3-4, D	3 Weeks Before	
Melons		2-4, D	1 Week Before	
Onions		6-8	4 Weeks Before	
Parsley		8-10	2 Weeks Before	
Peppers		8-10	2 Weeks After	
Potatoes		Direct	4 Weeks Before	
Pumpkin		2-4, D	1 Week After	
Radish		Direct	4 Weeks Before	
Spinach		Direct	5 Weeks Before	
Squash, Summer		2-4, D	2 Weeks After	
Squash, Winter		2-4, D	2 Weeks After	
Swiss Chard		2-4, D	2 Weeks Before	
Tomatoes		6-8	1 Week After	

- [1] If planning on potting up to larger pots, use greater value under ‘Weeks from Sowing.’
[2] D = May also be direct seeded in garden from last frost date onward.
[3] + = May need protection if temperatures drop below 29 degrees.

Understand the Soil Food Web

