

School Garden Guide

Guide du Potager Scolaire



TABLE OF CONTENTS

1. Introduction

2. Soil & Compost

What's in soil?

Nutrients-NPK, Intermediate Nutrients and Micronutrients

Compost

Fertilize

Organic Fertilizers

Mulch

3. Seeds

The Importance of Local and Sustainable Seed

Seed Types: GMO, Hybrid, Heirloom and Open Pollinated

What is a variety?

4. Summer Maintenance

Instructions for Summer Garden Maintenance

Garden Volunteer Letter

Summer Garden Watering Schedule

5. Local Resources Guide

Local Seed Producers

Seed Resources Community Garden Initiatives

Local Soil, Mulch and Compost Providers

Print and Internet Resources

6. Garden Resources

Plant Identification

Weed Identification

Garden Tools

Ottawa Garden Planning & Square Foot Spacing Calendar

Garden Map - Laying Out Your Garden

Vegetables & Fruit Colouring Page



SUNFLOWER
TOURNESOL



Introduction



This garden companion was created to provide gardening support for educators and learners. It is intended as a helpful resource for organic school gardens, as it covers a wide range of subjects. In it, you will find in-depth information on soils and composts, descriptions and differences of seed types, a local planting calendar, a wide range of resources for managing your school garden, and a list of local resources and relevant organizations. This friendly garden companion can also be used as a great resource for teaching about gardening and sustainability, as it outlines the environmental benefits of sustainable agricultural practices, offering perspectives on where food comes from, and how our choices are linked to sustainable and non-sustainable practices that impact the quality of the natural world we live in. In turn, this provides a rationale for growing food sustainably, choosing food consciously, and enhancing our food literacy!

You can use the information in this garden companion to support your classes in the garden, and share in the beauty of gardening and learning with your students. We hope this can become your go-to resource whenever you need to solve a problem or find answers to all of your garden questions. May this guide be your companion in the classroom and the garden, and may the garden become your classroom!

This Garden Guide was lovingly prepared, created and crafted by the team at Growing Up Organic

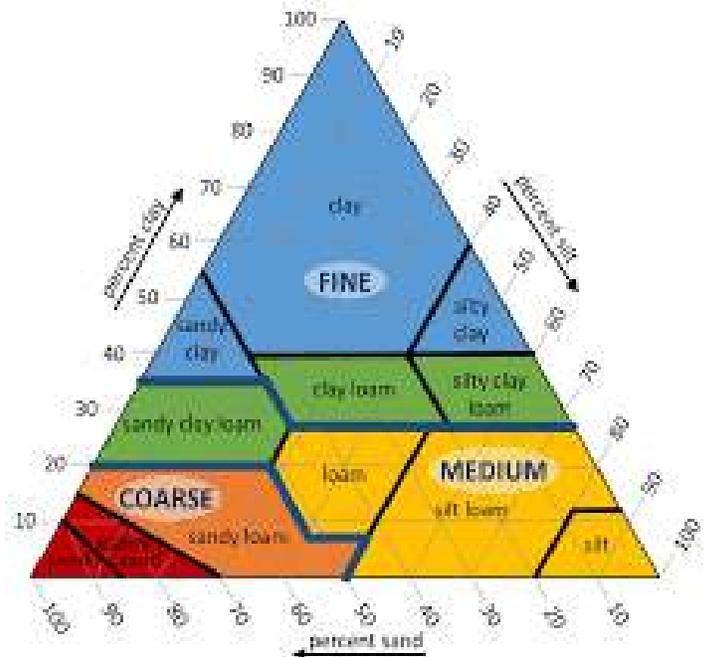




What's in Soil?

Growing a garden requires a few important ingredients: space, healthy soil, seeds, food (sun, nutrients, water), time (patience) and a little faith! Healthy soil is perhaps one of the most important factors in growing a healthy garden. Soil is the life-giving source for plants and it is the medium in which they thrive. One of the tenets of sustainable agriculture is to revitalize the land by creating a biodiverse environment. If we can preserve a healthy, living soil, we can feed and sustain all that grows in it, and upon it.

The easiest garden soil to work with is called **loam soil**, which is composed of an equal ratio of sand and silt and a slightly smaller percentage of clay. In addition to these mineral soil components, a healthy loam soil has plenty of organic material. When we squeeze a handful of loam soil, it should not be too dry or too wet, but rather, it should keep its form in your palm. Healthy soil is teeming with life – organic materials at different stages of decomposition, beneficial bugs, earthworms, microorganisms, mycelium webs, sprouting seedlings, etc. Healthy soil possesses these indicators that show that it is vibrant, and if it is alive, it will be able to sustain healthy plant growth.



**Where can I find soil?* When you are planning to install a garden, you can choose to work with the soil you have on your land and amend it, or you can import soil from local, sustainable sources. When we build gardens at schools, we build small raised beds and fill them with locally sourced, organic soil. Garden soil can be bought in bulk at most garden and landscaping centers. Please [see our resources](#) section at the end of this guide for a list of local soil providers in the Ottawa area.



Nutrients: Plant food!



What is N-P-K ?

Most compost containers and fertilizer blends showcase three numbers, representing the product's N P K ratio.

N: nitrogen

P: phosphorus

K: potassium

The letters N P K respectively represent the three nutrients necessary for **basic healthy plant growth**, and these elements are considered *macronutrients*. The N P K ratio represents the percentage of these three nutrients present in the compost or fertilizer package. Here is an example of a fertilizer breakdown that you might see on a package:

2 – 2 – 0.5

(2 % Nitrogen - 2 % Phosphorus - 0.5 % Potassium)

Plants consume these three elements in high quantities throughout the growing season. Nitrogen is most crucial for the production of shoots and leaves, while phosphorus is critical for root growth and flowering. Finally, potassium is necessary for proper fruit development. In addition to plant development, this trio of nutrients works together throughout the season to power photosynthesis, boost plant hardiness and help prevent disease.

Intermediate Nutrients and Micronutrients

While plants require these three macronutrients, it is important to note that plants require many other intermediate nutrients and micronutrients for healthy growth. Plants require a combination of the following 17 elements for healthy growth:

- Nitrogen
- Phosphorous
- Potassium
- Sulphur
- Calcium
- Magnesium
- Boron
- Chlorine
- Manganese
- Iron
- Nickel
- Copper
- Zinc
- Molybdenum
- Carbon
- Oxygen
- Hydrogen



Plants will typically exhibit **warning signs** if they are **deficient in specific nutrients**. Some of the most common signs and symptoms of nutrient deficiency are the following: irregular growth patterns, discoloration or abnormal formation of foliage/fruit/stems, and premature leaf/fruit drop.

Compost



Compost is the rich end product of fruitful decomposition. When we make a compost pile, we want to make sure that we have an adequate amount of nitrogen-rich materials (green, colourful wet ingredients), and an adequate amount of carbon-rich materials (dry matter). It is often recommended that you maintain a ratio of approximately 30:1 carbon-rich inputs to nitrogen-rich inputs. These materials should be layered or well mixed. This carbon to nitrogen ratio supports more efficient decomposition in the compost pile.



In the compost pile, we are trying to create the best environmental conditions to facilitate the decomposition of nutrients into their smaller, bioavailable nutrients. The word bioavailable is a shorthand for biologically available, meaning that plants can readily take up these nutrients. We want our compost pile to attract all of our hard-working decomposers. These microorganisms require an environment that is not too hot nor too cold, not too wet nor too dry. ***You can assess these conditions quite intuitively: a dry compost pile will feel and look dry, and a wet compost pile will often have an unpleasant smell.*** The end result of this decomposition process provides us with a rich, nutrient-dense soil-like aggregate full of organic materials. This can then be applied back into your garden to feed and sustain the plants you are growing, while also building and feeding your soil. Compost provides living and non-living matter to sustain the soil layer of your garden, in which natural decomposers live and thrive. It also provides a food source for plants in the form of complex nutrients, as well as trace elements.

Compost is full of organic matter and slow-release nutrients. The nutrients in compost are typically not in a plant-available form. Soil microbes need to consume the nutrients and convert them into plant nutrients. Another added benefit of applying an organic fertilizer or an organic soil amendment is that you are providing your plants with a more complete assortment of nutrients. It is also safer, from an environmental perspective, to apply an organic compost to your garden than a high-level N P K fertilizer, because there is a much lower chance of accidentally introducing an excessive amount of any singular nutrient into your soil.

****Where can I find compost?*** You can buy many types of compost from your local garden and hardware stores. These stores often sell a variety of composted manures, vermicompost, and composted marine life. Most



compost bags and fertilizer blends showcase three numbers, representing the N P K ratio (see section 2 b for information). You can also choose to source your compost locally, by finding a local composting facility, or by asking around at local organic farms and sustainable landscape companies. Organic composts can be bought in bags at most garden and home care centers. You can also find bulk compost from local businesses, garden and landscaping depots. Please see the resource section for a full list of compost suppliers.

Fertilize



Fertilizers

Fertilizers are plant nutrients that are applied to the soil, or on the plant directly through a foliar application. They add specific nutrients to your plants and can be considered plant food. Unfortunately, most commonly used fertilizers do not feed and support the rich web of organisms in your soil. Fertilizers can be broken down into two main categories: **organic and synthetic**. Fertilizers can be further categorized according to their nutrient percentages as either *complete* or *incomplete* fertilizers. For a fertilizer to be considered complete according to the *Canadian Fertilizer Act* it must have the three macronutrients present (N P K - see section 2 b) at 24% of the weight of the fertilizer package. Fertilizers with a lower percentage of these three nutrients, or blends that are lacking one or more of these macronutrients, are considered soil amendments or specialty fertilizers.

Organic fertilizers are the byproduct or end product of naturally occurring processes involving plants or animals (compost, manure etc.). Organic fertilizers require more time to be produced and require the activity of organisms in the soil to convert nutrients to plant-available forms. **Synthetic or inorganic fertilizers** are artificially manufactured plant nutrients that are created from extracted petroleum, natural gas, atmospheric nitrogen and mined minerals (e.g. lime and rock phosphates). The process of obtaining and extracting the raw materials to create synthetic fertilizers is resource and energy-intensive. Industrial production methods are also required to manufacture synthetic fertilizers (e.g. Haber-Bosch method).

Fertilizers are typically found in powdered, liquid or granular forms. It is important to read fertilizer labels for application instructions, as they are typically highly concentrated and need to be diluted. Highly concentrated fertilizers have the tendency to burn plants. An overabundance of any of these nutrients in the soil, due to an improper application of fertilizer, can have a detrimental impact on the health of your plants and the environment. Synthetic fertilizers provide immediately available plant nutrients. While this appears to be a more efficient method of introducing plant nutrients in the garden, these products, unfortunately, can have a negative long-term impact on our soil, groundwater and atmosphere. They can have a harmful impact on soil microorganisms populations found in your garden.



Synthetic fertilizers also cause environmental damage to our groundwater, rivers and lakes through nutrient leaching and runoff, which often results in algae blooms. The runoff enters the water source, leaving behind excess nutrients that accelerate plant growth. This results in the formation of a thick green mat of algae at the surface of the water. As a result, the mat of algae



(algae bloom) lowers the oxygen in the water to a level that no longer supports aquatic life. The heavy use of synthetic fertilizers has also been shown to increase atmospheric levels of nitrous oxide, a greenhouse gas that has contributed to climate change ([University of Berkley, 2012](#)).

In contrast, when you explore the long-term impact of using organic fertilizers in your garden you can find numerous positive benefits. The addition of organic compost to your garden not only feeds your plants, but it also feeds your soil. Organic fertilizers are slow-release fertilizers that require biological activity to break down the nutrients present in plant-available forms. The application of organic fertilizers boosts microorganism populations, promoting greater biodiversity in our soil. To produce quality and quantity, one needs high fertility. Soil organic matter, whether from composted manure or composted vegetable wastes as organic fertilizers, is what powers a healthy system.

When in doubt, choose organic fertilizers!

 Long term ecological implications of using compost: no soil degradation or nutrient runoff

Better moisture retention

Builds soil structure

Produces nutrient-dense vegetables and fruits

 Food justice and access: this nutrient-rich material can be affordably produced by farmers, growers and communities through the recycling of food and yard waste



 No requirement for the extraction of new/raw materials to produce this product



Organic Fertilizers

Organic Fertilizers Nutrient Content



Organic fertilizers are slow-release fertilizers that require biological activity to break down the nutrients present to plant-available forms. The application of organic fertilizer boosts microorganism populations, promoting greater biodiversity in our soil. To produce quality and quantity, one needs high fertility growing medium. Organic matter, whether from composted manure or composted vegetable waste used as an organic fertilizer powers a healthy growing system. See below the various organic fertilizers that can be used in the garden and their corresponding NPK values, or Nitrogen Phosphorous and Potassium values. All values are approximate. When choosing animal manure, it needs to be fully composted and matured for it do be environmentally safe.



Bone Meal

3-15-0



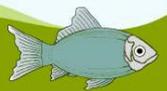
Seaweed

1.9-0.25-3.68



Fish Emulsion

5-1-1



Cottonseed Meal

6.6-2-1



Fishmeal

8.5-7.4-0



Blood Meal

13.25-1-0.6



Pig Manure

0.6-0.4-0.3



Cow Manure

0.5-0.2-.04



Chicken Manure

1-1.5-0.5



Mulching



Mulch

Mulching is a practice of covering the ground – mulch is the material used in this activity. A properly applied blanket of organic mulch can be used to help control weeds and retain moisture in the soil. Mulch also adds organic matter to the soil as it slowly decomposes. Mulch acts as an insulator, keeping the soil cool in hot



temperatures, and warm in cold temperatures. It provides a great habitat for earthworms and insects who help aerate the soil, and it can also prevent the rotting of fruiting vegetables like squash and cucumbers, by separating them from ground moisture.

Mulch is best applied in the spring after the soil has warmed. Straw is a great mulch ingredient, as it is loose and porous. When applying mulch, we should be careful not to smother our vegetable seedlings, and take the time to remove undesired weeds before application. Below are some of the most commonly used mulch materials.

Commonly Used Mulch Materials	
<ul style="list-style-type: none">● Lawn Clippings● Dried Leaves● Pine Needles● Organic Straw	<ul style="list-style-type: none">● Grain and Seed Hulls● Old Newspapers● Seaweed● Wood chips

It's important to keep in mind that ***each mulch material is best used with specific plants***. For example, pine needles work as a great mulch material for blueberries, since blueberries thrive in acidic soils, and pine needles provide acidity to the soil as it decomposes. If we live by the ocean, we might want to consider sustainably harvesting some seaweed to use as a dry mulch in our gardens. When mulching with dried leaves it is important to choose leaves that do not possess any allelopathic properties: certain leaves release chemicals that inhibit seedling and plant growth! Mulch materials can be bought at most garden and home care centers. Straw can and should be sourced directly from local (organic) farmers when possible! See the resources section for a list of mulch providers.





The importance of local and sustainable seeds

We encourage sourcing ***regionally adapted***, ***locally*** and ***sustainably grown open-pollinated*** seeds from small businesses !

Ottawa and its surrounding areas are in plant hardiness zones 4a, 4b and 5a. Plant hardiness zones (also known as Growing Zones) are determined by calculating a region's minimum winter temperatures, the length of frost-free period, the amount of rainfall, maximum temperatures, snow cover, as well as wind speed. A region's growing zone can often determine which plants will thrive in its climate. What's more, by exploring the Canadian Government's [growing zone map](#) (provided by Natural Resources Canada), you can determine the zone you are in, and source seeds adapted to a similar growing zone, even though it may be far away. By sourcing ***regionally adapted*** seeds, we are buying seeds that thrive in our climate, or that have been acclimatised. We are also supporting our local farmers and businesses.

Buying ***locally grown*** seeds can help reduce our environmental footprint, whilst supporting our local farmers. See the resources section at the end of this guide for a list of local seed growers. Most seed companies operate online and can send seeds right to your doorstep. Some seed farmers even have farm stands, which are always a delight. Next to growing your own seeds or knowing a seed keeper personally, Seedy Saturday events are a wonderful way of finding local seeds. See the community initiatives section at the end of this document for more information on Seedy Saturdays and local seed/seedling swap events.

Sustainably grown means that the gardening and farming practices positively enliven the environment.

Sustainable agriculture aims to revive the health of the land, and sustain a biodiverse and rich environment by feeding the soil. Sustainable farmers are stewards of the land, and a healthy, living soil, is the life-giving source of plants. By feeding and sustaining healthy soil, we feed and sustain all that grows in it, and upon it.



Seed types



Seed saving is an important craft, art, tradition, way of life, and knowledge base. There are many types of seed offered for purchase, and the distinctions can become quite political. We will briefly introduce a few of these types:

🌿 **Heirlooms and Open-Pollinated**

Hybrids

🌿 **Genetically Modified Organisms (GMO)**

Heirloom and Open-Pollinated Seeds can be grouped into the same section since they share basic similarities, although they are nominally different. All heirlooms are open-pollinated seeds, but not all open-pollinated seeds are heirlooms! Open-pollinated refers to the plant's natural and free reproductive methods. These plants are stabilized (they exhibit particular and expected characteristics year after year) and freely pollinate one another, without the needed assistance of a gardener. By purchasing an open-pollinated seed, you know that you are permitted to save the seed, and that, given you know the proper seed growing techniques, the saved seed will be stable. Heirloom seeds are open-pollinated, stable varieties. Much like family heirlooms, their cultural-heredity lines can be traced for generations. These are varieties that have been stable for a long time (a few decades, usually more), and often steeped in cultural histories. Given that their origins are older, heirloom seeds have greater genetic diversity than more modern seeds.



Hybrid Seeds, known and identified as F1s on seed packets, are produced by crossing two unrelated varieties of plants that exhibit different qualities. The parent plants are highly inbred (for many plant generations!), so that they strongly exhibit one specific characteristic. Hybrid plants are produced by human manipulation, but created by natural crossbreeding of varieties. Therefore, they are not genetically modified organisms, and can be organic.

Hybrid plant crossing is done by hand pollination in highly controlled environments, and the resulting offspring (F1) exhibit strongly the specific traits of both parent plants in uniform fashion. This is referred to as *hybrid vigor*, since these offspring produce very well. This said, what hybrid seeds boast in vigor, they lack entirely in genetic diversity due to their inbred parents. Genetic diversity is incredibly important for the sustained health of any living community. Also, for seed saving purposes, the problem with hybrid plants, beyond their poor genetic diversity, is that although the first generation of offspring is uniform and *very productive*, the second generation (F2) does not yield similar results. If you wish to save seeds from the hybrid plants you grew, you will notice that the following year, your plants might not look like they did before. Hybrid seeds are stable varieties in their first year of growth, but not in the following years. A 'stabilized seed' means a seed that exhibits particular and expected characteristics year after year.

GMO Seeds are seeds whose germ plasms have been genetically modified in a laboratory by use of genetic engineering techniques involving the recombination of DNA molecules. GMO seeds are modified to be resistant to certain viruses and diseases. Most GMOs have also been modified to be resistant to glyphosate (i.e. RoundUp®), a commonly used herbicide and possible carcinogen used in many parts of the world for weed control. The glyphosate applied to the fields of GMO plants kills most plants, weeds, and insects, significantly reducing biodiversity on these tracts of farmland.

The agricultural practices associated with the use of GMO seeds are not sustainable and have a number of negative long term implications. Instead of feeding the soil to better support healthy plants, industrial monoculture agriculture relies on the use of synthetic fertilizers to feed the plants. Over the years, the soil erodes and is depleted, and most of the liquid fertilizer seeps into aquifers, creating nitrogen imbalances and algal blooms.

Legal stipulations have actually made the act of saving GMO seeds illegal. If farmers (or anyone) save GMO seeds, they are legally bound to pay large royalty fees to the seed producers. The consequences therein are that farmers become dependent on repurchasing seed from these companies annually. The practice of seed saving has thus diminished, and older varieties of local cultural plants run the risk of being lost and replaced altogether. As seed culture diversity diminishes, the risk of diseases potentially wiping out certain seed varieties increases. Many common agricultural crops in Canada are now almost exclusively grown from GMO seed; these include canola, sugar beets, soybeans, and corn.



What is a variety?

Iroquois Cornbread Bean



The common bean is known scientifically as *Phaseolus vulgaris*. It is part of the greater family Fabaceae (peas are also part of the Fabaceae family). *Phaseolus* is the genus, whilst the species is *vulgaris*.

In my pantry, I have many distinct varieties of beans that are different shapes, colours, sizes, textures and flavours! I have iroquois cornbread beans, amish nuttle beans and cranberry beans. These beans are all varieties of *Phaseolus vulgaris*.

Family: Fabaceae
Genus: *Phaseolus*
Species: *vulgaris*
Variety: Iroquois cornbread

Summer Garden Maintenance



Each school will plan for summer maintenance based on the resources available in their network. This could include partnering with an on-site camp or daycare program, or linking with a nearby community group, such as a food bank or senior's residence.

Most elementary schools in Ottawa have chosen to solicit parent volunteers to help maintain their garden in the summer, asking families to sign up for one week at a time. Make sure your volunteers have access to water and consult with your custodial staff on the best way to do so. Take the time to orient your volunteers around the garden before the summer begins.

Encouraging summer volunteers to keep a garden log, either in a booklet stored in your tool chest, or online on a blog site, is a great way of keeping track of the pleasure your garden provided to families over the summer. It can help you understand challenges volunteers faced and reading it with your students is a nice way of leading into the fall harvest season.

The letter template on the following page can be edited to recruit volunteers. It includes common instructions that can help guide beginner gardeners; adjust it for your school's summer schedule and garden vegetables.

Instructions for summer garden maintenance

Watering

Water plants early in the day. This gives plants time to dry or before the cool evening sets in and will help prevent any fungus. Never water in the heat of the mid-day as the cool water can shock the plant. Water the soil, rather than leaves to reduce disease. Water plants slowly, allowing the soil to soak up a lot of water – this promotes deep root growth. Squashes and tomatoes need extra water while they are growing their fruits. Lettuces and root vegetables like carrots and beets need a steady supply of water throughout their growth cycle.

Pruning

Whenever herbs start to flower, flower buds should be removed. This ensures that the plant keeps devoting its energy to producing edible leaves, rather than putting that energy into going to seed. When plants like parsley, radish, and lettuce flower they become bitter tasting; try to harvest these vegetables before they flower.





Weeding

By using the map of the garden attached, you should be able to identify weeds (they will be plants that look different from the dominant vegetable plant in any square foot area!). Pull weeds as soon as you see them, slowly, in order to make sure the root comes out with the stem. The best time to weed is early in the morning, or in the evening, after a rainy period.

Reseeding

If the school has provided you with seeds, these can be re-planted over the summer to ensure a continuous harvest into the fall. Use the map to determine where to re-seed certain vegetables after they have been harvested (or are ready to be harvested), plant more seeds (check the log-book to make sure this has not already been done!). In one “square foot” space, you may plant 16 radishes or 4 lettuce seeds. If you are planting in rows, this is the equivalent of approximately 2” apart.

Harvesting

Ah! Now the good part! As a token of our appreciation, summer volunteers may harvest any vegetables that are ready to be eaten during the summer months. Typically, this will include green beans, peas, tomatoes, nasturtiums (edible flowers – leaves are edible too), kale, Swiss chard, zucchini, beets, radishes.

We ask that you leave carrots, winter squash, melons and pumpkins, in the garden for a fall harvest. Lettuce can be harvested with scissors, leaving the root of the plant in the soil to produce new foliage.

Many herbs may be large enough to harvest as well. Make sure to leave the bulk of the plant in the ground so that it may continue to produce – only take what you need!

Seed saving

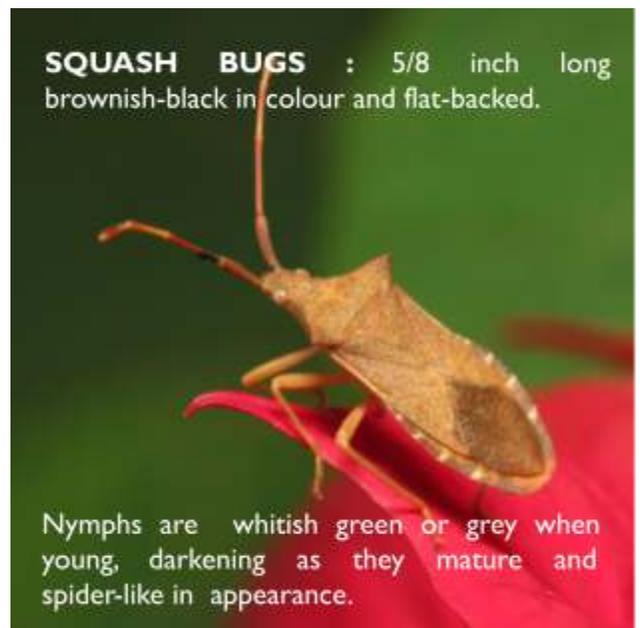
In some gardens, you will see signs indicating plants that we want to keep in the garden in order to be able to harvest seeds in the fall. These include beans, lettuce, radishes, peas and sunflowers. You are welcome to harvest some of these for your enjoyment, but please leave some plants in the garden to fully mature and produce seeds for us!



Pests



Recognizing pests can be tricky. Here are a few common pests you might see in the garden. If you do, simply pluck them off with your fingers:



Template Letter for Garden Friends

LOOKING FOR GARDENERS!

Dear Parents,

If you're not familiar with _____'s organic vegetable garden, now is your time to sign up for a week to water and weed our garden over the summer! When you sign up for a week, you commit to being the main Garden Friend for that week. We need Garden Friends to keep our garden healthy and happy throughout the summer so we can all enjoy a bountiful fall harvest. This means watering every second day if it does not rain, weeding, etc.

Our _____ garden beds are planted with _____ and much more! As a token of our appreciation for your time and dedication, **you will get to harvest vegetables that are ready when ripe (these will probably include zucchinis, beans, swiss chard, nasturtiums, and more)**.

In order to commit to a week to help our garden grow over the summer, simply fill out the bottom portion of this letter and return it to us as soon as possible.

If you are unable to commit to a week it's okay - anyone is welcome at any time to come and help out, water, weed, and enjoy the gardens. Families, students and community members are all welcome to be Garden Friends. If you know of anyone in our community who might be interested in becoming one, please forward this letter to them.

Thank you for your support!

With appreciation,

{add name}

I _____ can commit to the following week :

(Name)

- | | |
|--|--|
| <input type="checkbox"/> June 27- July 3 | <input type="checkbox"/> August 1 - 7 |
| <input type="checkbox"/> July 4-10 | <input type="checkbox"/> August 8 - 14 |
| <input type="checkbox"/> July 11- 17 | <input type="checkbox"/> August 15 - 21 |
| <input type="checkbox"/> July 18 - 24 | <input type="checkbox"/> August 22 - 28 |
| <input type="checkbox"/> July 25 - 31 | <input type="checkbox"/> August 29 - September 4 |

***ADAPT THESE DATES TO YOUR SCHOOL YEAR**



Summer Garden Watering Schedule

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Notes or Comments	Who?
MAY									
1 st week									
2 nd week									
3 rd week									
4 th week									
JUNE									
1 st week									
2 nd week									
3 rd week									
4 th week									
JULY									
1 st week									
2 nd week									
3 rd week									
4 th week									
5 th week									
AUGUST									
1 st week									
2 nd week									
3 rd week									
4 th week									
SEPTEMBER									
1 st week									
2 nd week									
3 rd week									
4 th week									



Local Resources Guide



Local Seed Growers and Providers Directory in Ottawa and the Surrounding Areas 2020

Within 100 km radius ⇓

Greta's Organics (Ottawa)	https://www.seeds-organic.com/
Gaia Organics Seeds (Ottawa)	https://www.gaiaorganics.ca/
Bird & Bee (Ottawa)	https://www.birdandbee.ca/
Northern Seeds (Farrellton)	https://fermedescollines.com/seeds
Mayo Hill Farm (Mayo)	https://www.mayohillgarlic.com/about-us/
The Ottawa Seed Library (Ottawa)	https://justfood.ca/seed-saving-projects-and-events/the-ottawa-seed-library/

Beyond 100 km radius ⇓

Terra Edibles (Foxboro, ON) 223 kms	https://www.terraedibles.ca/
TourneSol (Les Cèdres, Qc) 158 kms	https://en.boutique.fermetournesol.qc.ca/



Zombie Seedz

(Stanbridge East, QC) 280 kms

<https://zombiseedz.ca/>

Jardin de l'Écoumène

(Saint-Damien, Qc) 300 kms

<https://www.ecoumene.com/>

Kenhteke Seed Sanctuary

(Tyendinaga Mohawk Territory) 258 kms

<http://kenhtekeseedsanctuary.com/>

Kitchen Table Seed House

(Wolfe Island, ON) 208 kms

<https://kitchentableseedhouse.ca/>

Terre Promise

(Montréal, Qc) 179 kms

<https://www.terrepromise.ca/>

Les Semences du batteux

(Lévis, Qc) 443 kms

<https://lessemencesdubatteux.ca/>

Mohawk Seedkeepers

(Ohsweken, ON) 500 kms

<https://seedkeeper.ca/>



Flowering Cimmaron Lettuce



Tongue of Fire Beans



Seed Resources & Community Initiatives

Seedy Saturdays & Sundays

You will find a great variety of seeds by attending one of the many and exciting Seedy Saturday events near you. Seedy Saturdays are wonderful events hosted in late Winter and early Spring to gather the Seed communities. Here are the Seedy Saturday / Sunday events within a 200 km radius of Ottawa:

- ❖ Papineauville
- ❖ Almonte
- ❖ Montréal
- ❖ Brockville
- ❖ Ottawa
- ❖ Ottawa Valley
- ❖ Perth
- ❖ Kingston
- ❖ Peterborough
- ❖ Cornwall
- ❖ Westport

There are many more events all around the country! Visit this website for yearly dates and locations:

<https://seeds.ca/sw8/web/event>

KASSI (Kingston Area Seed System Initiative)

<https://seedsgrowfood.org/about-us/>

Seeds of Diversity

<https://seeds.ca/diversity/seed-catalogue-index>

The Bauta Family Initiative on Canadian Seed Security

<http://www.seedsecurity.ca/en/>

The Open Source Seed Initiative

<https://osseeds.org/>

The Ottawa Seed Library

<https://justfood.ca/seed-saving-projects-and-events/the-ottawa-seed-library>





Local Soil, Mulch and Organic Compost Providers

Below is a list of local businesses and organic farms where you can source various garden products and amendments.

Water and Earth Supply Co.

<http://waterandearth.ca/products.html>

Manotick Gardens & Landscaping Supplies

<https://www.manotickgardens.com/>

Ritchie's Feed & Seed

<http://www.ritchiefeed.com/services/interlock-bulk/>

Gauvreau Terre de Surface

<http://www.gauvreauterredesurface.com/produits>

Spread-X

<http://spreadx.ca/>

Le Coprin

<http://www.lecoprin.ca/index3.htm>

Savour Ottawa's Buy Local Map

<https://savourottawa.ca/buy-local-food-guide/>

(of Certified Organic Producers to find local suppliers of organic straw)

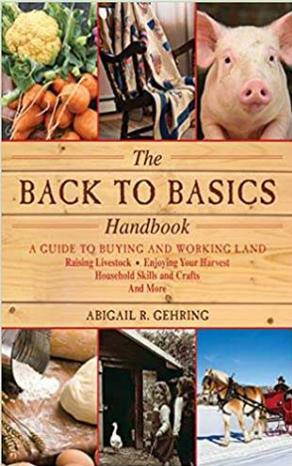
Haymow's Directory of local Organic Farms

<https://www.haymow.ca/farms/certified-organic-farms/>

(to contact a local farmer that can provide you with organic straw)



Print & Internet Resources

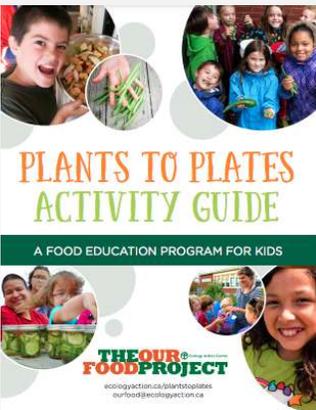


Back to Basics Handbook: A Complete Guide to Traditional Skills by Abigail Gehring



Love to Garden Program from Ottawa Public Health

<https://www.ottawapublichealth.ca/en/public-health-topics/resources/Documents/>



Plants to Plates Activity Guide: A Food Education Program for Kids from Ecology Action Centre

<https://ecologyaction.ca/sites/default/files/images-documents/>



Webinar: The Joy of Garden Based Education

A truly inspiring webinar by Cathy Law (Biology, Earth Science and Field Biology teacher). Hosted by Green Teacher.

<https://www.youtube.com/watch?v=PG9g-wNDWmc>



Local Youth Gardening, Environmental Initiatives & Partners



Ottawa Farm School - Just Food

<https://justfood.ca/ottawa-farm-school/>

Ottawa School Food Network

<http://ottawaschoolfood.ca/>



PARKDALE
FOOD CENTRE
NEIGHBOUR TO NEIGHBOUR

Parkdale Food Center

<https://parkdalefoodcentre.ca/>



OTTAWA
NETWORK FOR
EDUCATION

Classroom Gardens - Ontario Network for Education

<https://onfe-ropc.ca/our-work/classroom-gardens/>



Natural
Curiosity

Natural Curiosity

<https://www.naturalcuriosity.ca/>





Ottawa Educational Platform for
Vermicomposting - Smart as Poop
<https://smartaspoop.com/pages/smartaspoop-at-schools>



Cultivating Cooks
<http://www.cultivatingcooks.com/>



Gardening Resources

< Plant Identification

What's in your school garden and why?

< Weed Identification

What is that growing in your garden?

< Garden Tools

Useful tools for your school garden

< Garden Planning & Square Foot Spacing Calendar

Plan your garden seeds, seedlings and spacing with this useful planting and spacing calendar!

< Garden Map - Laying Out Your Garden



Map out your garden beds with your students because those wooden sticks for identifying plants eventually fade and disappear! Your summer volunteers will thank you and you'll see what we mean when you come back to your garden in September!

◁ **Vegetables & Fruit Colouring Page**

Use this page for colouring fun, or as a template to draw the vegetables and fruits in your garden!



Plant Identification

What's in your school garden and why?



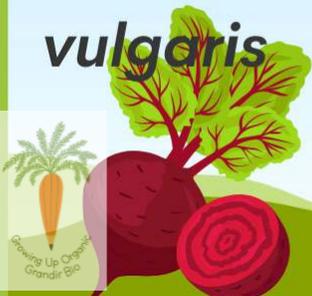
In the spring we plant cold hardy varieties to get an early start on the growing season. Cold hardy plants such as kale, lettuce, spinach and radishes flourish in spring's cooler weather. These plants actually prefer lower temperatures! If you try planting spinach in the heat of summer it will be stunted and will quickly bolt, meaning that it will start the seeding process. This is why it is difficult to find local spinach in the middle of the summer.

The remaining plants discussed in our plant identification section are typically harvested in the late summer and early fall which works well with the school calendar and summer vacation. These plants require a lot of time, and heat to produce their fruit. Plants such as squash, cucumbers, sunflowers and carrots thrive in the warm summer months and usually require a longer growing period.

Beans
Phaseolus vulgaris



Beet
Beta vulgaris



Carrot
Daucus
Carota



Cucumber
Cucumis
sativus



Kale
Brassica
oleracea



Lettuce
Lactuca
sativa



Nasturtium
Tropaeolum
majus



Peas
Pisum
sativum



Pumpkin
Cucurbita
pepo



Radish
Raphanus
sativus



Squash
Cucurbita
spp.



Sunflower
Helianthus
annuus



Turnip
Brassica
rapa



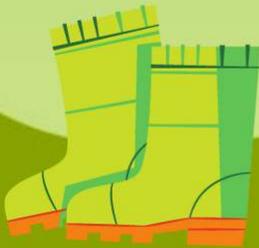
Zucchini
Cucurbita
pepo



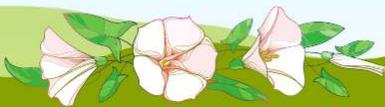
Weed Identification

What is that growing in your garden?

No plant is inherently a weed. Weeds are simply plants that are growing where they are not wanted. They come in all shapes and sizes: they can be wild medicinals, invasive species, very beautiful, poisonous, or quite tasty. What follows is a list of common weeds we find in the garden around the Ottawa area. It is best to remove weeds before they set seed, in order to control and stunt their growth for the following growing seasons.



Bindweed
Convolvulus
arvensis



Burdock
Arctium
minus



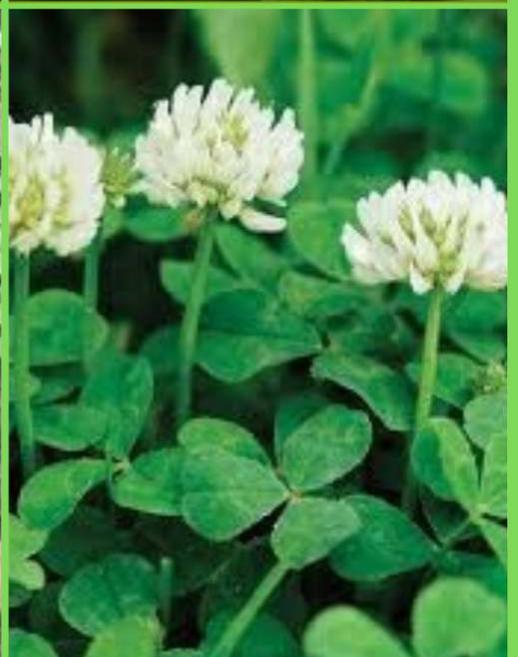
**Canada
Thistle**
*Cirsium
arvense*



Chickweed
*Stellaria
media*



Clover
*Trifolium
repens*



**Creeping
Charlie**
*Glechoma
hederacea*



Dandelion
*Taraxacum
officinale*



Horsetail
*Equisetum
arvense*



**Lamb's
Quarters**
*Chenopodium
album*



Plantain
*Plantago
major*



Purslane
*Portulaca
oleracea*



**Redroot
Pigweed**
*Amaranthus
retroflexus*



Tufted Vetch
Vicia cracca



Wood Sorrel
*Oxalis
dillenii*



Tool Identification

Useful Tools for Your School Garden

Throughout the growing season, you will need to use a variety of tools to plant, maintain and harvest your school garden. The following tools are useful when you are installing, amending, tilling, planting, weeding and harvesting. It is important to note, particularly for younger students, that some of these tools can be very dangerous and should only be used with adult supervision. Be sure to clean and maintain your tools after each use to keep them from rusting or harbouring harmful bacteria/fungi that could be transferred to your healthy plants.



HAND TROWEL

Used to transplant seedlings from pots into your garden beds



SECATEURS

Used to prune plants and harvest woodier plants such as pumpkins



CULTIVATOR

Used to loosen the soil surface



HARD RAKE (BOW RAKE)

Used to level the soil in your garden



GARDEN FORK

Used to loosen and till compacted soil, mix fresh compost into your soil, dig up deep-rooted weeds and harvest root crops like potatoes



HOE

Commonly used to weed the soil surface. Also used to dig long furrows where you can layout your seedlings for planting.



SHOVEL

Used for digging up large plants. An important tool for filling your raised beds with soil, compost and mulch.



WHEELBARROW

Used to transport plants, soil, compost and mulch



Le calendrier du potager scolaire d'Ottawa

Saison SANS gel (154 jours): 1^{er} - 10 mai au 1^{er} - 10 octobre

Sans gel: lorsqu'il n'y a plus de risque de gel

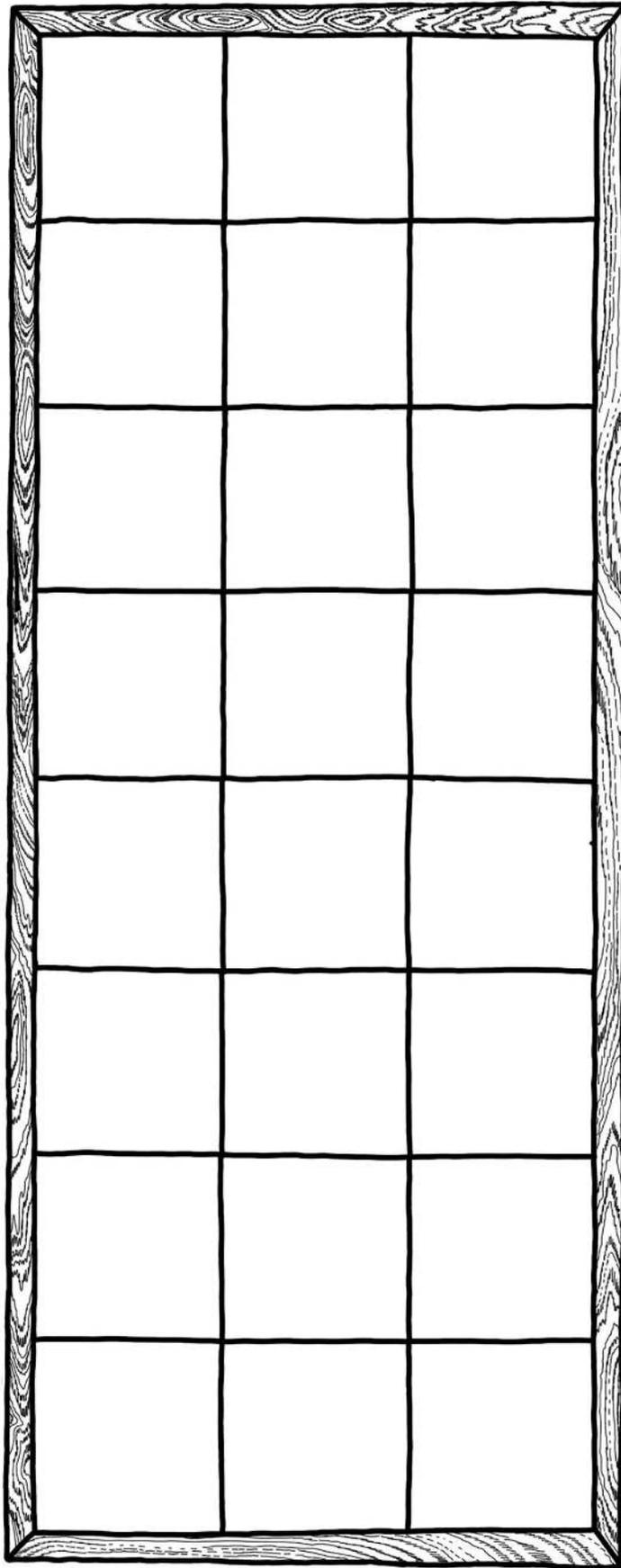
*: qui peut être planté toute l'année

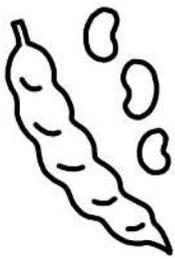


Les plantes	Commencer à l'intérieur	Transplanter à l'extérieur	Semer directement à l'extérieur	Nombre de plant par pied carré (□)
AIL			Fin sept. - début oct	9 par □
ANETH			8-22 avril	1 par □
AUBERGINE	1 ^{er} - 15 avril	27 mai - 17 juin		1 par □
BASILIC	1 ^{er} avril	1 ^{er} juin		1 par □
BETTE À CARDE	1 ^{er} - 15 avril	22-29 avril	25 mars et plus tard	4 par □
BETTERAVE*			1 ^{er} mai	9 par □
BROCOLI	1 ^{er} - 15 avril	1 ^{er} - 5 mai		1 par □
CALENDULA			15 mai (sans gel)	4 par □
CAPUCINES	1 ^{er} - 10 avril	1 ^{er} - 10 mai	Ou le 15 mai (sans gel)	4 par □
CAROTTES*			10-24 avr. Lorsque le sol est prêt	16 par □
CHOU	18 mars - 1 ^{er} avril	1 ^{er} - 5 mai		3 par □
CHOU DE BRUXELLES	1 ^{er} - 15 avril	1 ^{er} - 5 mai		2 par □
CHOU-FRISÉ	18 mars - 1 ^{er} avril	15 avril - 5 mai		1 par □
CHOU-FLEUR	1 ^{er} - 15 avril	1 - 5 mai		1 par □
CHOU-RAVE	1 ^{er} - 15 avril	1-5 mai		4 par □
CONCOMBRE	15 - 22 avril	10 juin		1 par □
CORIANDRE			13 - 27 mai	1 par □
COURGE D'HIVER	15 - 22 avril	27 mai - 17 juin		1 par 2 □
COURGETTE	15 - 22 avril	27 mai - 17 juin		1 par 2 □
ÉPINARD			10-24 avr. Lorsque le sol est prêt	9 par □
HARICOT*			20 mai - 10 juin	9 par □
LAITUE*	1 ^{er} - 15 avril	1 - 5 mai	10-24 avr. Lorsque le sol est prêt	4 par □
MAÏS	15 avril	sans gel	Ou semer directement, 13-27 mai	2 par □
MELON	15 - 22 avril	27 mai - 10 juin		1 par 2 □
NAVET			15 avril - 6 mai	9 par □
OIGNON	1 ^{er} - 15 mars	29 avril - 27 mai		9 par □
ORIGAN	3 mars - 1 ^{er} avril	13 mai - 3 juin		1 par □
PERSIL			15 - 29 avril	4 par □
PETITES CITROUILLES	15 - 22 avril	27 mai - 17 juin		1 par 2 □
POIS*			10-24 avr. Lorsque le sol est prêt	8 par □
POIVRON	1 ^{er} avril	27 mai - 17 juin		1 par □
POMME DE TERRE			6 - 27 mai	4 par □
RADIS*			10-24 avr. Lorsque le sol est prêt	16 par □
ROMARIN	3 - 18 mars	20 mai - 10 juin		1 par □
SAUGE	18 mars - 1 ^{er} avr.	13 - 27 mai		1 par □
THYM	1 ^{er} mars - 1 ^{er} avr.	13 mai - 3 juin		4 par □
TOMATE	1 ^{er} - 15 avril	20 mai - 10 juin		1 par □
TOURNESOL	16 avril	sans gel	ou 10 mai - sans gel	1 par □

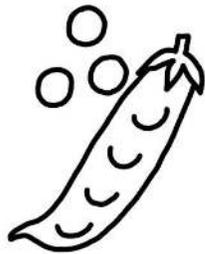


Growing Up Ottawa
Grandir Bien

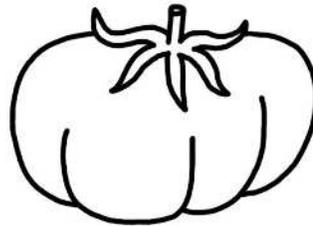




BEAN
HARICOT



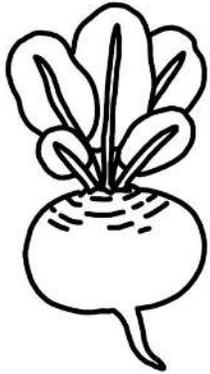
PEA
POIS



TOMATO
TOMATE



SPINACH
ÉPINARD



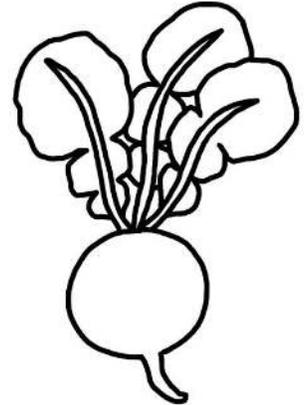
BEET
BETTERAVE



SWISS CHARD
BETTE À CARDE



KALE
CHOU-FRISÉ



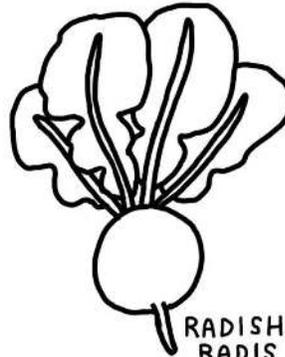
TURNIP
NAVET



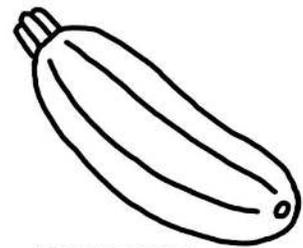
LETTUCE
LAITUE



CARROT
CAROTTE



RADISH
RADIS



ZUCCHINI
COURGETTE



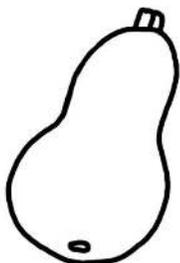
PUMPKIN
CITROUILLE



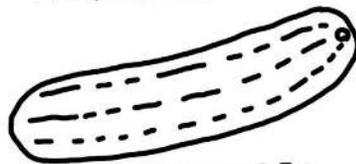
NASTURTIUM
CAPUCINE



SUNFLOWER
TOURNESOL



SQUASH
COURGE



CUCUMBER
CONCOMBRE

