



A program of  **Citizens' Greener Evanston**
Act Locally. Breathe Globally.

Getting ready to garden next spring

Edible Evanston's Vision:
Inspiring and supporting a culture
of sustainable food growing and
sharing throughout the Evanston
community

Evanston Public Library
ZOOM Presentation,
October 21, 2020

What we're covering

**Are you inspired to start growing your own food next year?
Do you want to expand your garden plot?**

The key to a successful garden next year is to plan your garden space and start building healthy soil this fall.

Expectations

Selecting your garden space

Deciding if you need a raised bed or will grow in-ground

Converting lawns to vegetable gardens

Methods to grow food on paved areas and patios

Why soil matters and what makes healthy soil

Low cost and free ways to improve your soil

You might want to do a soil test

Protecting your soil for the winter



Expectations: It will be worth it

- Gardening is a journey
- The first steps can be challenging at times
- Look for the joys in the journey, and you will find them
- These non-food joys to be a “yield” for yourself and your family
- Not everything may “work,” but that’s okay
- Experienced gardeners have failures and every year is different
- Be in it for the long-term benefits
- Be realistic:
 - start small (small enough to handle and learn)
 - grow things likely to succeed

Selecting your garden space

Permaculture Principle 1: *Observe and Interact*

- Where do you have available space?
- Study the sunlight/angles and shade for your spaces
- How big to start, and how can you expand?
- How is the access to water?
- Keep in mind any rules and regs

What are your options?

- Lawn
 - Often has best sun
 - Competing uses
- Paved area like a patio: need containers, soil, and more watering
- Existing flower bed: can mix edibles in
- Alley: underused; less protected
- Parkway: limited, very social, expect some damage

At right:
Alley raised bed made of recycled play structure
lumber and “root pouch” fabric pot



Sunlight/angles, shade

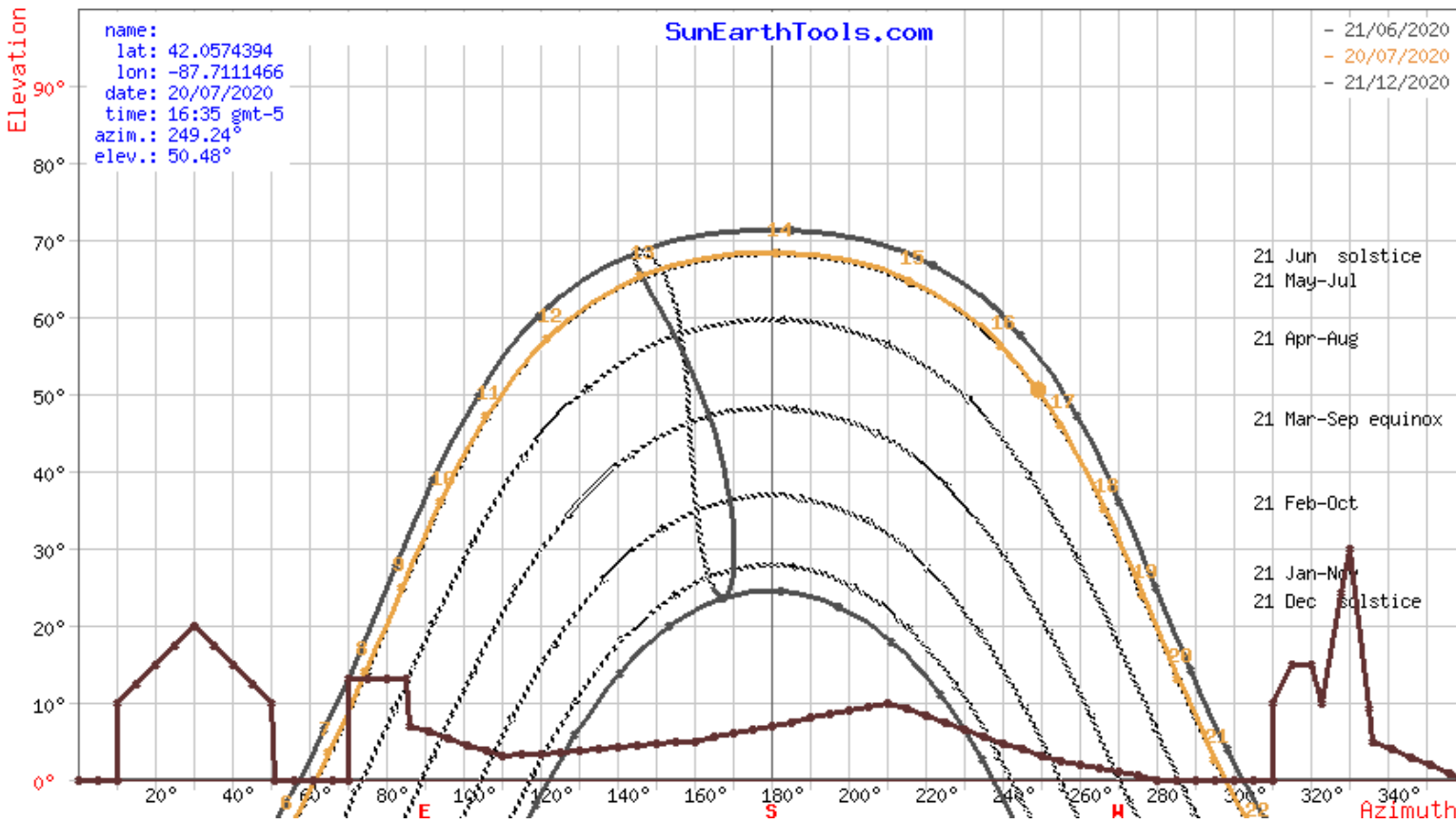
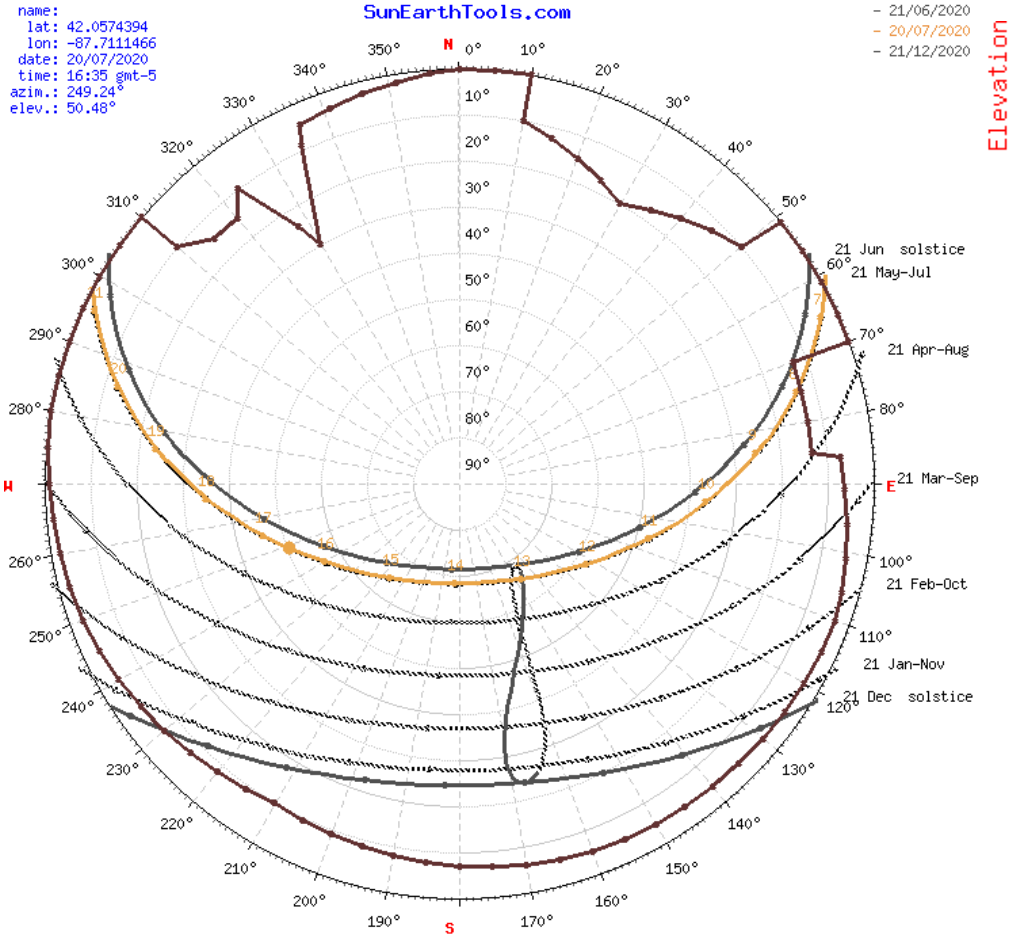
- Consider path of sun during year and objects casting shade
- 6 hours of sunshine a “minimum”

Have too much shade?




Greens need less sun than fruit, so grow kale, chard, collards, lettuce and skip tomatoes, peppers, squash

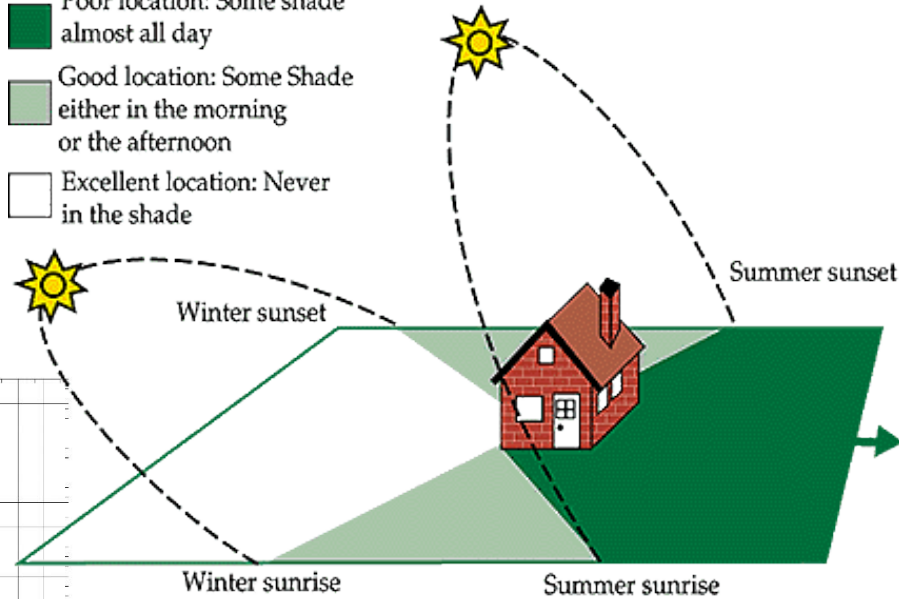


Sunlight/angles, shade

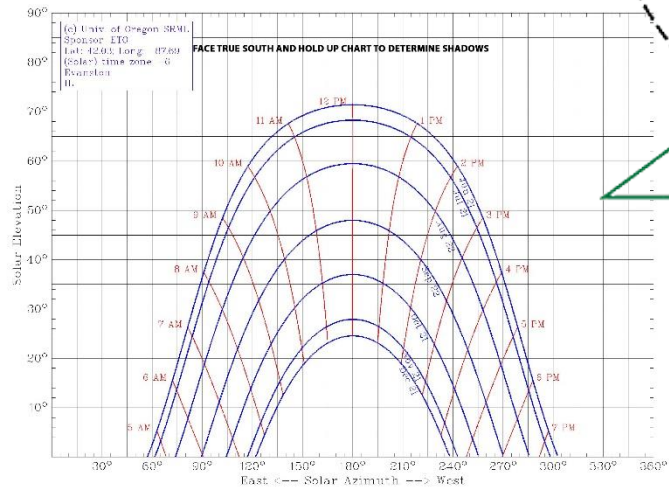


Sunlight/angles, shade

-  Poor location: Some shade almost all day
-  Good location: Some Shade either in the morning or the afternoon
-  Excellent location: Never in the shade



<http://solardat.uoregon.edu/SunChartProgram.html>



Size, water, regulations

- How big?
 - Start with at least a 4x8 area (or two 4x4s)
 - Leave room for expansion
- Access to water
 - City water, rain barrels, buckets
- City rules regarding parkways
 - 3' height
 - Officially no raised bed structures

Raised bed, container, or in-ground?

Pros

- Drains better
- Warms up faster
- Helps areas which flood
- Looks “neater”
- Deters critters and dogs—a bit
- Heavy metals/contaminants
- Possibly less bending

Cons

- Dries out faster
- Cools down farther/faster
- Can encourage slugs
- Extra expense
- Hard to source enough good soil

The best option may be a compromise:
Raised soil beds without sides



Raised bed, container, or in-ground?



Converting lawns to productive vegetable gardens

Don't dig it up or remove turf!

“Lasagna mulch” it

- Mow close
- Cover with cardboard (no plastic tape!) or newspaper and wet thoroughly
- Cover that with compost or leaf mulch or wood chips mulch

Better compost=Better, faster results

June 22, 2019:

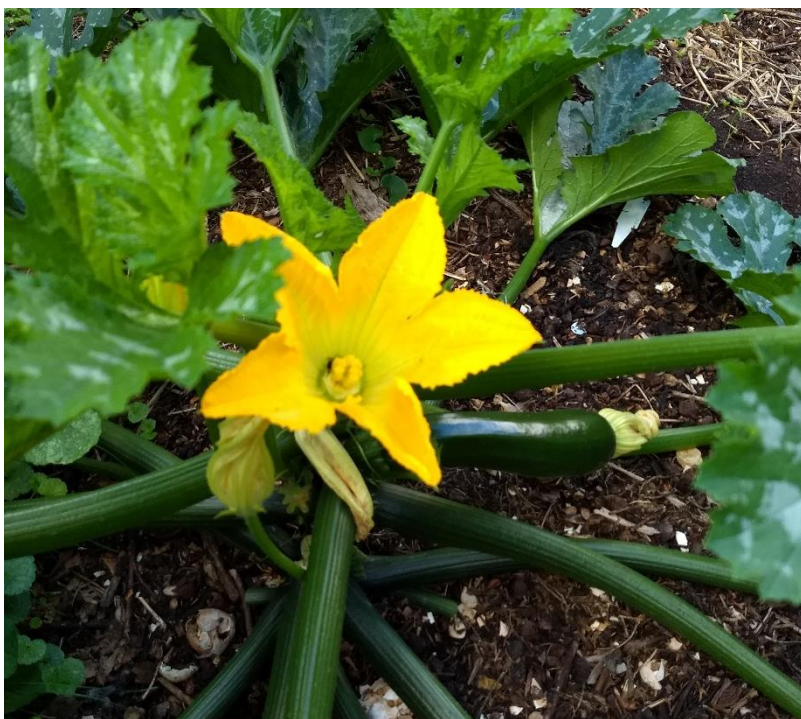


Fast results with homemade compost

- Suppress many weeds by not turning soil
- Perennial weeds are harder and take persistence

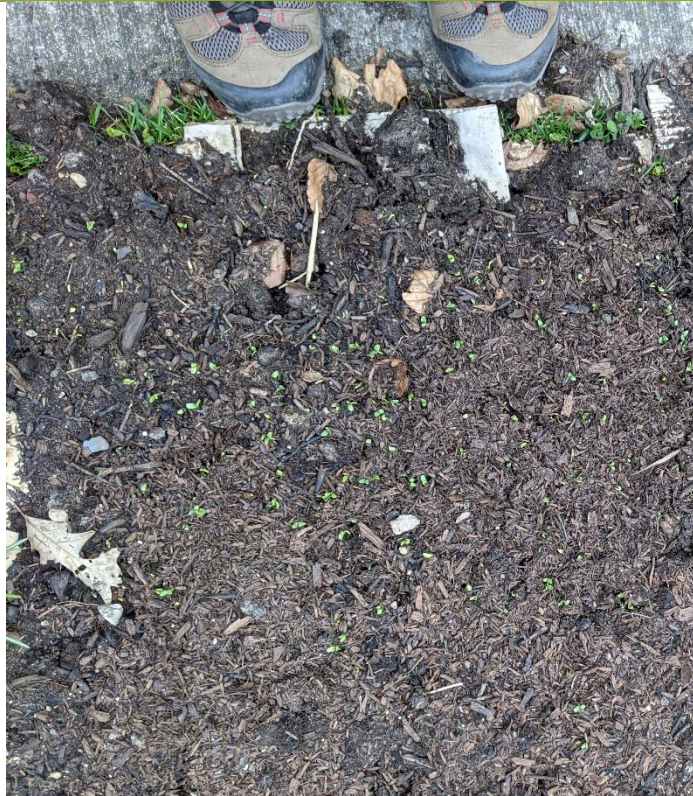
Below: August 15, 2019

at right, October 12, 2019



Bagged soil and commercial mulch results

Covered late fall/early winter with cardboard & leaves. Soil/mulch added in March/April



Cardboard, leaves, mulch, bagged soil
April 2020 with cover crop

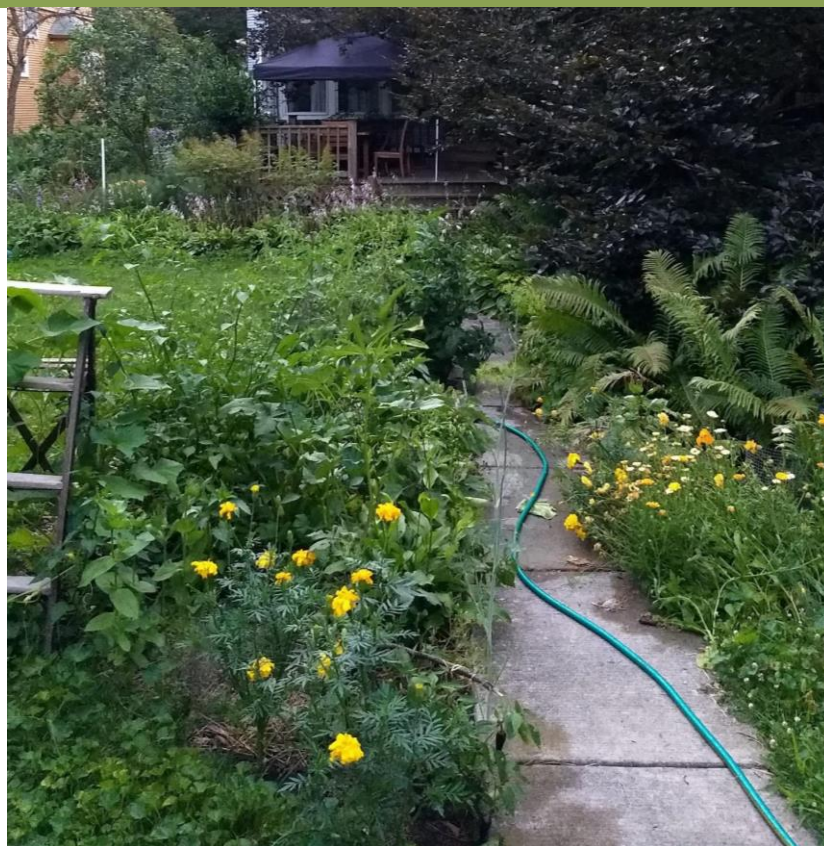


Newspaper and commercial mulch
May 2020 flowers with rabbit damage



May 2020 fenugreek edible cover crop
and radishes with eggplant seedlings

Same space in July 2020



Growing food in paved areas and on patios



- Straw bale gardens
- Fabric pots
- Self-watering pots and wicking beds
- Other pots
- Trellises



Growing food in paved areas and on patios



- Requires containers, soil, and more watering
- Fabric pots breathe, stay cooler, drain well, and allow roots to air-prune. Cost-effective, especially for large sizes.
- Wicking/self-watering containers tend not to dry out.
- Trellis allows better use of vertical space
- Grouping creates a microclimate
- Can get very hot (brick, roof, paving)
- Can be hard to get enough sunlight. But movable (to an extent).

Why good soil is critical

While the sun provides plants with all their energy, all the molecular “building blocks” come from the soil, from CO₂ in the air, and from water.

- A plant takes carbon from the air and, using energy from the sun, turns it into complex sugars, other carbohydrates, proteins and lipids. It gets these elements from the soil.
- More than just N-P-K macronutrients.
- As we will discuss, it's about biology.

What makes healthy soil?



This is harder
to achieve in
containers

- Healthy soil is alive with a variety of bacteria and fungi along with larger critters like earthworms, nematodes & protozoa.
- Microbes break down the minerals and other elements in the soil and convert them to nutrients *the plants can use*.
- Healthy soil is also soil with lots of “organic matter,” which is food for these little critters and holds water and air.
- Plants and the bacteria and fungi depend on having access to oxygen in the soil, so air spaces are critical. Organic matter allows water to infiltrate while not getting compacted or water-logged.

How to have healthy soil

- Stay away from “chemical” fertilizers, fungicides and pesticides
- Supplement with small amounts of slow-releasing organic fertilizers and amendments
- Use good compost and be pretty generous
- Try not to “turn” or disturb soil too much.
- Keep it covered with mulches or, better yet, with something growing.
- Don’t smother with plastics and landscape weed barriers.

Low cost and free ways to improve your soil

- Build a compost pile and make your own compost
 - Make your own compost from food scraps and yard waste.
 - Needs air flow and to be enclosed to keep out critters and control how wet/dry it gets.
 - Low cost containers: old trash containers, broken rain barrels, pallet walls with wire top
 - Start now!

Start a worm bin

- Vermiculture can be done indoors (if you aren't squeamish)
- Find a friend who can supply red wigglers from a successful worm bin

- Plant a cover crop
- Save leaves and get leaves from neighbors
- City of Evanston wood chips/ground chips at James Park

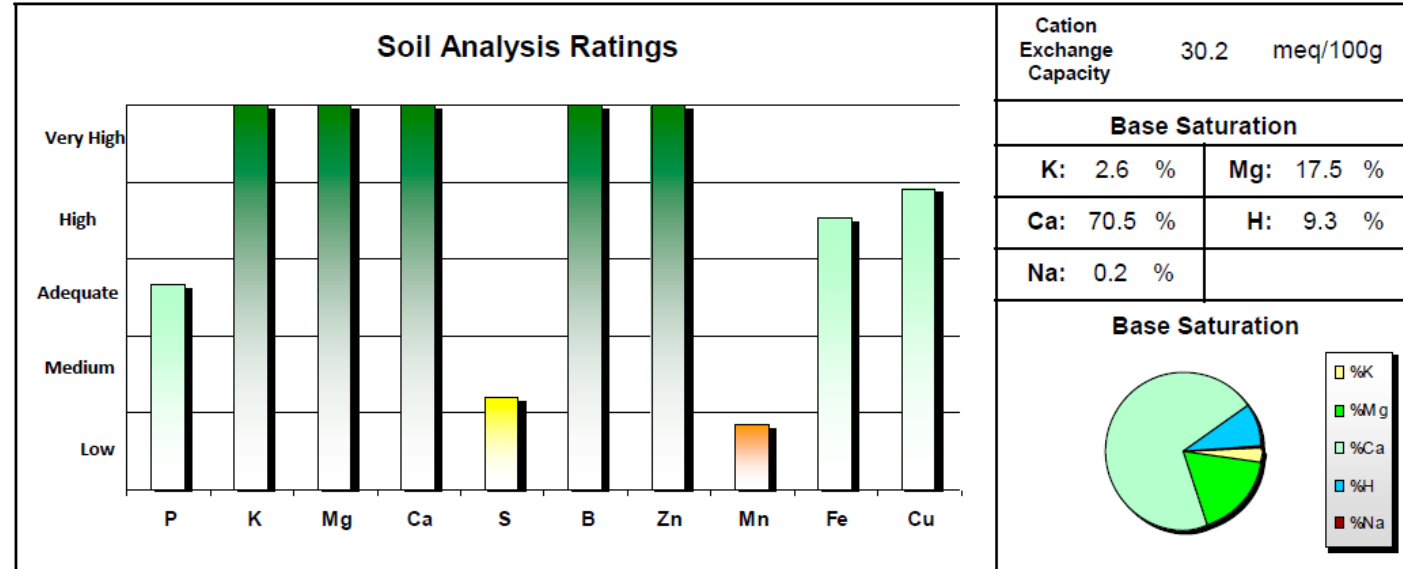
Wood chips, composts and purchased soil needs to be fully broken down or plants won't thrive. It's OK to use as mulch on the surface, but not mixed into the soil.



Why you might to a do soil test

- Evaluate pH to see if close to a 6.5 target goal
- Evaluate macronutrients
- Evaluate micronutrients
- Evaluate salinity
- Determine organic matter content
- Avoids application of too much or the wrong type of fertilizer
- Test for heavy metals

Test Method: Mehlich III				Soil Laboratory Data (lbs/a)						Target pH		6.5
P	K	Mg	Ca	Soil pH	Buffer pH	S	B	Zn	Mn	Fe	Cu	
Phosphorus	Potassium	Magnesium	Calcium		Adams-Evans	Sulfur	Boron	Zinc	Manganese	Iron	Copper	
134 A	605 VH	1269 VH	8528 VH	7.2	7.65	30 M	5 VH	78.6 VH	25 L	307 H	12 H	
Al	Na	NO3-N	NH4	Soluble Salts		Organic Matter	ENR	Mo	Ni	BiCarbs		
Aluminum	Sodium	Nitrate-N	Ammonia					Molybdenum	Nickel			
	23					8.81	176					
		ppm	ppm	mmhos/cm		%		ppm	ppm	meq/L		



Protect your soil for the winter

Keep it covered with a mulch or living plants

- Protects against erosion and compaction
- Captures and holds onto nutrients; releases them when plants need them
- Keeps microbiology alive
- Plant a cover crop
 - Winter-kill mix is best
 - Mix of legumes (peas/beans/vetch) and a grain like oats or rye
- Living roots keep feeding the microbiology in the soil, keeping it alive.

Mulch with

- straw
- leaves
- wood chips
- grass clippings

Less good options:

- sawdust and wood shavings
- Horse manure
May contain pharmaceuticals and herbicides and do more harm; only do in fall—never use hot/un-composted manure on growing crops for the sake of the plants and human health

Edible Evanston's Initiatives

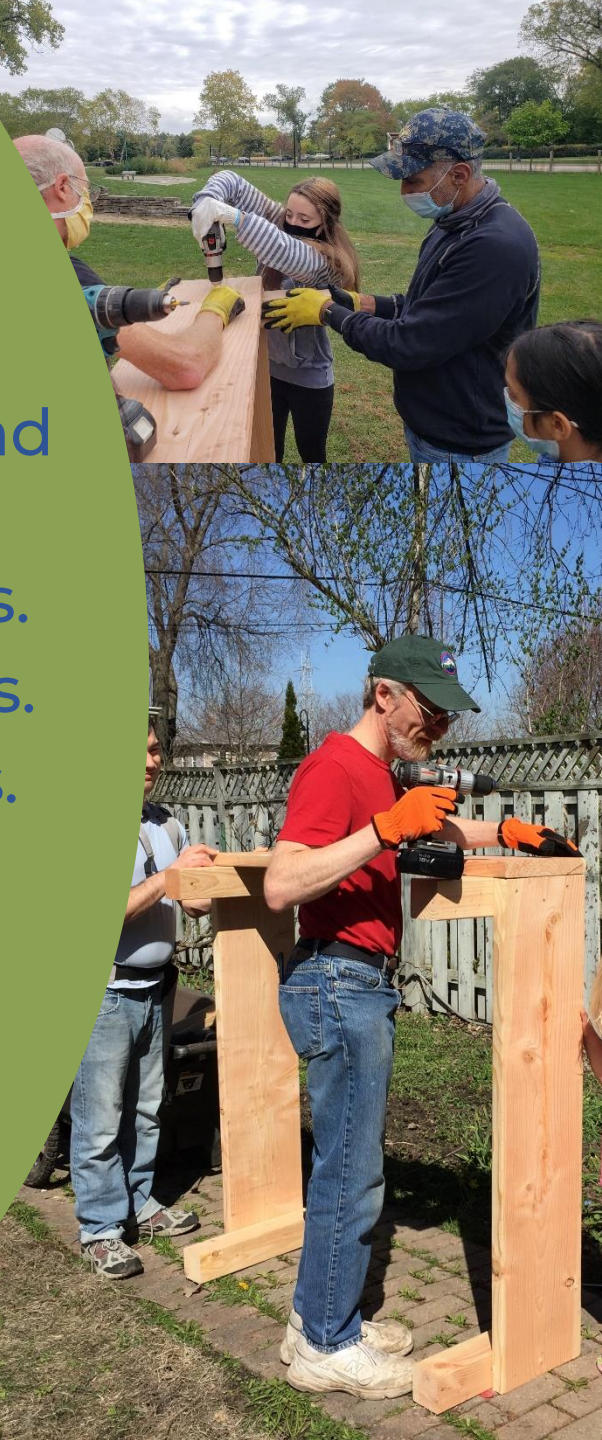
- Eggleston Park Food Forest
- Produce Sharing
- Growing New Gardeners
- Education & Outreach



Growing New Gardeners

Provides those with little or no experience the tools and knowledge to grow their food for their family

- Experienced gardeners mentor our new trainees.
- Raised beds built, if needed, at recipients' homes.
- Preference given to “underserved” communities.
- Financial aid provided to those showing need; others pay only the cost of materials. All labor is volunteer and free.
- Startup seeds and plants provided.
- Novice gardeners trained for a year+ to get them over the hump for long-term success.



Local Food Education

Teaches gardening skills with an emphasis on organic and sustainable techniques and understanding ecological systems so can care for the earth while getting a yield.

- We teach practical classes about urban agriculture and gardening all year.
- We distribute free seeds each spring and advise people about what they can grow successfully.
- A new teaching partnership with the Evanston Public Library will allow us to reach a broader audience.
- Outdoor classes in the Food Forest almost every month.



Eggleston Park Food Forest

An educational demonstration showing how to obtain a yield while caring for the earth and people.

- The food forest is a diverse, integrated planting of mostly perennial trees, shrubs and herbaceous plants—including edible fruits, vegetables, nuts and herbs.
- Designed and maintained using Permaculture Ethics & Principles.
- Completely volunteer created and managed effort.
- City-owned park converted from turf field with their cooperation.



Produce Sharing

Provides locally produced food to those in need while preventing food waste.

- Connects individual growers to food pantries to get excess produce to those in need.
- Drop-off locations at 5 parks spread throughout Evanston.
- Volunteers pick up and deliver produce June to October
- Supplies food pantries with diverse selection of greens, herbs, fruits and other vegetables
- Some gardeners grow specifically to donate, sometimes choosing crops desired by pantry patrons (e.g. callaloo amaranth greens)



Q&A

