



Northumberland Heights

Community Garden

**PREPARING
THE LAND**

Preparing the Land

- Almost any soil can be made productive for growing abundant and healthy produce.
- Findhorn – their base soil is beach sand (and they regularly have 40 lb cabbages)

Choosing a location

- TOPOGRAPHY – rocky outcroppings tend to be shallow soils – raised beds may work well
- WATER – too wet or high water table – may have limited spring planting
- LAY OF LAND – southwestern best – warms in spring and cooler nights faster
 - The more perpendicular the slope is to the sun the faster it warms up. In fact every 5 degrees of slope gives you growing conditions like 300 miles south.

Choosing a Location (continued)

- WIND – low areas not so good – little air flow stagnant – fungus diseases and pollutants settle – stays colder
 - Setting up windbreaks – goes 10 - 15' feet past the height of the windbreak i.e. 10 foot shrubs would give 100 feet of protection behind them. Winds a problem only seasonally – spring use crops you left to dry from fall – summer use corn
- SOIL – kind of soil (to be discussed further)

Blow out sales on weed & feed
fertilizers, Round Up and other
pesticide and herbicide
products!

WHY??? Because they are about to be
banned in Ontario on Earth Day, April 22.

Instead of running to the nearest hardware
store to join in the frenzy, maybe ask
yourself – “why are these products being
banned?”

Alternative ways to control Weeds

- Plastic/Tarp (kills weeds and seeds)
- Cardboard/Newspaper (weeds not able to grow through)
- Landscape Fabric (lets water in, but no weeds out)
- Straw/Grass (be careful of seeds in hay or grass)
- Mulch (tree chips – be careful of too much evergreen – changes soil ph)
- Working the Soil (tilling, etc)
- Pulling by hand

Ideal Soil = SANDY LOAM

- CLAY - holds moisture & plant nutrients well but heavy and dries hard
- SILT – fine particles - clumps
- SAND – larger particles of silicates – keeps soil aerated and warm (absorbs heat)
- HUMUS – organic matter that is decayed. Holds soil together/gives structure – breaks it up

Analyzing your soil

- Home testing kit
- Score of 0 (acid) to 14 (alkaline)
- Ideal (7) is neutral although most plants are tolerant. Herbs prefer 6.5-7.5. Fruits (blueberries) require acid (6.5-). Brassicas (cabbage, roots, turnips, etc) prefer alkaline (7.5+).

Soil Test Kits

Soil Test Kit

- Good for 40 tests
- Tests for pH, N, P, K
- Comprehensive instructions on use
- Accurate results
- Quality multi purpose case
- PLANTERS PRIDE
- **TESTER KIT, SOIL 40 USE**
- Home Hardware Item # 5059-198
- Model # RZ.TEST
- **\$ 14.99**

Other soil test kits

- Are sent away for lab testing
- Tend to be more expensive per test
- Give a more accurate reading than the previous soil tests

Tilling

WHY TILL? Loosens soil adds air, removes weeds, improves drainage, mixes nutrients

- DEEP: up to 2'
 - chisel plow works well with rocky/glacial deposits – does not mix layers of soil.
- SHALLOW: 3-4"
 - Rotary tilling – works soil uniformly, doesn't disrupt 'ecosystems'
- Double Digging (see next slide)

Downside of Tilling

- If tilled too deep, takes lower levels of soil and bring them to the surface. This puts the 'good' soil too deep for young plant roots to reach the nutrients they need.
- Kills many useful critters such as worms that are really beneficial to plant growth.
- Soil that has been tilled tends to erode with wind and water unless it has been carefully taken care of (green manure, etc)

Double Digging

- **What is double-digging?**
Loosening the soil more than 12 inches down creates conditions under which plants' roots thrive. This does not mean to mix all levels of soil, just loosen them
- **Why you should double-dig:** Carrots, potatoes, beets, and other root crops need deep, loose soil to grow well. Some say double-digging is the first step in creating the most productive garden bed possible. (John Jeavons, *How to Grow More Vegetables* (Ten Speed Press, revised 2002)).

Double Digging

- **How you double-dig:**

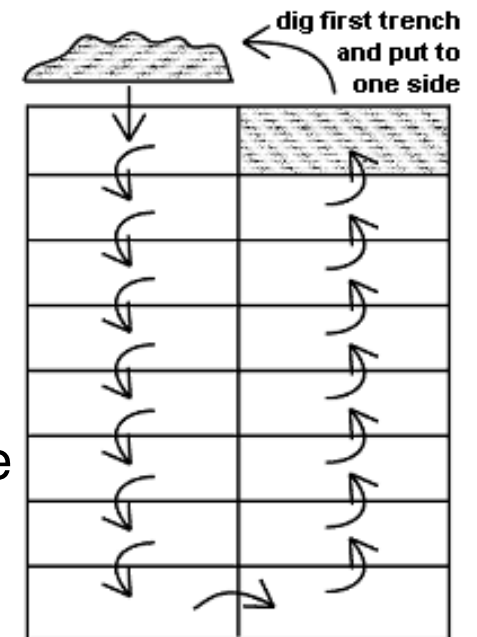
Begin at one end of the bed and dig a 1-foot-wide by 1-foot-deep trench across the bed's width, placing the excavated dirt in a wheelbarrow.

Next, work a garden fork into the floor of the trench and slowly rock it back and forth to loosen the soil. Continue until the soil in the excavated area is loosened.

Dig a second, similar-size trench next to the first, this time placing the excavated soil in the first trench. Loosen the soil at the bottom of the second trench with the garden fork.

Dig a third trench and backfill the second trench, loosen the bottom of the third trench, and continue this process until you reach the end of the bed.

Fill the last trench with the soil excavated from the first.



No Dig Garden – Raised Beds



Building up your soil

- Remember: we do not grow plants, soil grows plants. Our job is to grow soil!
- Add Organic matter (never too much)
- Compost (keep materials as chemical free (organic) as possible)
- Manure (be aware of possible antibiotics)

Making Your Own Compost

- There are many ways to make your own compost.
 - Composters available for sale at hardware stores
 - Rolling Composter (see Jeff for several different designs) – anywhere from \$20 - \$300+.
 - Build a wire bin at least 4' x 4' x 4'.
 - Large Scale – create 3 walls of straw bales. Inside this area pile materials to be composted. Turn once or twice a year. Best if left at least 1 ½ years before you use. (Straw bale walls break down, and become more compost).

What can be Composted?

- There are many things that can be composted. See <http://www.greendivamom.com/2009/01/12/1-unusual-things-you-can-compost/#more-607>
- However, my rule of thumb is that if I will not put it in my mouth, why would I put it in my garden to grow my food...

How To Build a Compost Pile

- The easiest way to make a compost pile is to alternate layers of green and brown materials in a ratio of approximately 1 to 2.
- Green materials include fresh grass clippings, and any other organic matter.
- Brown materials are dried leaves or straw.
- An easy way to measure the layers is to add one shovel full of green material and 2 shovels of brown. Mix and continue to add more layers in this manner.

Making Compost

- Add in a shovel full of garden soil or finished compost to 'kick start' the microbial action in your pile.
- The moisture level in your pile should be equal to a damp – wrung out sponge. Too moist or dry and the pile will not generate enough heat to break down (and will smell).
- Turn your compost pile every week to mix all the materials and get air into the pile.

Finished Compost

- Finishing compost will take between 2 months and 18 months – depending on the size of your pile and moisture content.
- You will know your compost is finished when your pile no longer heats up, and you can't recognize any of the original materials.
- Compost should be dark brown, moist and 'earthy' smelling – dig into your soil and watch the magic happen!