



All Things Food
Bouffe 360°
presents...

HOW TO GROW YOUR OWN FOOD! WORKSHOP

"No-Dig Gardening" May 28th, 2011

Workshop Notes

Compiled by Karen Carriere

Including:

- Why Grow a Garden?
- The No-Dig (& No Weed) System
- Recommended Varieties
- Rotation Rules
- Resources..and more!

No-Dig Summer Vegetable Garden

Presented by Karen Carriere, May 2011

Why Grow a Garden?

- tastier vegetables - ones that don't ship well - food that money can't buy!
- fresh, ultimate in nutrients (industrial food system creates significant loss)
- saves us money
- *no weird salmonella strains in tomatoes and spinach*
- *organic - free of pesticides, herbicides*
- 3 day food supply in stores, most is imported from south (floods, drought, wildfires?)
- oil depletion - when oil price \$147 a barrel, food system faltered - at \$300 a barrel?
- reduce CO² emissions - 1/3 of world's emissions are from agriculture – oil is used in farming equipment (19%), fertilizers (31%), irrigation (13%), transportation (16%), but also in processing, packaging
- connects us with nature
- connects us with family and neighbours - fun and memorable experience for children, grandchildren
- local food creates healthy, resilient communities

The No-Dig (& No-Weed) System

- also called 'sheet mulching,' related to 'lasagna' gardening
- Weedless Gardening, by Lee Reich
- tried and true – mimics how forest works (layers of organic matter rot down to enrich soil, most plant roots are in first few inches)
- preserves good soil structure generally found beneath lawns

Description:

- a wide, permanent planting bed (4 x 8ft)
- built above the ground
- intensively planted (in blocks, not rows) to maximize yield

Techniques:

- minimal labour, instantly built
- no digging or tilling, but also NO WALKING on to avoid compaction
- no chemical fertilizers – uses a compost layer, organic amendments
- no herbicides – uses barrier, plus no soil disturbance
- no weeding - uses covering of mulch materials

Other considerations:

- this 4 x 8 ft No-Dig plan provides salads/summer vegetables (feeds two?)
- requires bulk materials, e.g. compost, mulch
- wheelbarrow? garden fork? shovel, hand tools, small handharrow?
- somewhat limited list of vegetables to grow in first year
- good for sites with poor soil, or weed infested
- no delay in Spring when it's too wet to dig or till

Choosing a Site

- six hours of direct summer sunlight, eight hours better
- align bed north-south? not necessary
- too much shade? grow peas and beans, salad greens, chard, spinach and kale, broccoli and cauliflower, radishes and beets
- locate near kitchen door? accessibility, discourage critters
- not too near large tree - will lose nutrients to tree roots
- water - avoid areas that stay wet in spring, but site close to hose?
- consider front yard site? under roof overhang? future expansion?

How to Build the No-Dig Bed

- chop down vegetation close to ground, leaving chopped material
- lay out 4 x 8ft boundaries, use stakes and string?
- use garden fork to aerate soil every few inches
- optional – sprinkle greensand, rock phosphate, kelp, soy or alfalfa meal
- cover ground with at least 4-6 layers of overlapped wet newspaper (no glossy)
- newspaper smothers grass, which dies and rots along with newspaper
- pile on 4-6 inch layer of 'compost' (or well-rotted manure, mushroom compost, leaf mold)
- top with 'mulch' materials in 2-6 in layer

What is Compost?

- decomposed plant materials, rich in nutrients and 'humus' (broken-down fibres)
- critical to a healthy and productive garden:
 - feeds plants – nitrogen **N**, potassium **P**, phosphorous **K** and trace minerals
 - builds soil structure
 - increases ability of soil to retain water
 - moderates soil pH
 - encourages essential soil microorganisms and worms

Making Your Own Compost

- basic idea – 1.layers of green/nitrogen source (unsprayed grass clippings, fresh vegetation, urine, supermarket wastes, garden waste, kitchen waste, composted manures, comfrey) with 2. layers of brown/carbon source (stalks, newsprint, cardboard, dried vegetation, leaves, sawdust) in rough proportion of $\frac{1}{4}$ green to $\frac{3}{4}$ brown
- bacteria, fungi, worms and small insects eat these materials
- to avoid odours/ flies, bury kitchen waste in top of pile or cover with a light layer of leaves or other matter
- avoid animal fats, meat and bones to avoid attracting animals
- air circulation within pile speeds decomposition – can turn every few weeks to create 'hot' pile, which heat kills most weed seeds
- if not turned, slower decomposition results in 'cold' pile, weed seeds still viable
- add water only if weather is very dry

Mulch

- cover exposed areas of beds with 4 - 6 in layer of straw, hay, leaves, grass clippings (ensure it is unsprayed, dry the grass first, max 1-2 inch)
- promotes fast, healthy growth

- helps keep down weeds, retains moisture, breaks down to feed soil, adds humus, moderates soil temperatures
- keep stems of young transplants clear of mulch, to prevent stem rot

Best Vegetables for Beginners?

- snow and sugar snap peas, bush beans, tomatoes, greens (lettuce, endive, arugula, Swiss chard, spinach, mesclun etc.), radishes, carrots, beets, green onions, cucumber, zucchini, annual herbs (cilantro, parsley, basil, dill)
- but first determine - what do we like to eat?
- smaller varieties? disease resistance? days to maturity?
- varieties not available in stores? purple beans? yellow carrots?
- first year only, avoid larger root vegetables e.g. carrots/beets, until earthworms loosen soil to a greater depth

Planting

How to sow seeds into the No-Dig bed:

- open the mulch covering, but no digging!
- open small furrow, drop in seeds at a depth approximately three times diameter of seed
- plant extra seeds (thin out extras later)
- cover and carefully hand water

How to transplant seedlings into No-Dig bed:

- use plants rather than seeds for long season varieties e.g. tomatoes
- if necessary, cut or poke planting hole through newspaper
- half-fill planting 'pocket' with compost
- transplant at same level it was growing in pot
- carefully hand water, and remulch up to stem, but not touching

Garden Maintenance

Beginning of season:

- replenish compost on bed 2-3 in deep, or use (composted, not raw) sheep or horse manure
- if soil seems seriously lacking in nutrients, consider these organic amendments:
 - nitrogen **N** - soy or alfalfa meal, kelp or fish emulsion, worm castings - particularly for leaf crops
 - phosphorous **P** - rock phosphate - especially for root and fruit crops
 - potassium **K** – greensand, wood ashes (light dusting only)- especially for root and fruit crops
 - avoid bone and blood meals (antibiotics, hormones? Avian flu? BSE?)
- remulch as necessary after planting

Mid season:

- harvest crops!
- watering may not be necessary, check under mulch
- if needed, drip irrigation is best, avoid sprinkler if possible to reduce fungal diseases (water soil, not leaves)
- remove tops of plants when finished producing, leaving finer roots to rot
- occasional weeds can help improve soil, just remove tops and large roots
- keep mulch topped up

End of season:

- remove tops of vegetables and any large roots, leave finer roots to rot
- cover with fall leaves over beds (avoid Norway maple, black walnut or quack grass - allelopathic - give off harmful chemicals)
- or cover with straw, hay, grass clippings

Rotation Rules

- each plant family takes certain things from soil, depleted soil = depleted plants
- rotations reduce, or even eliminate use of extra fertilizers
- some plants (beans and peas) actually add nutrients
- rotations also minimize diseases and pests
- if/as garden becomes more complex/larger, research other rotation systems
- this No-Dig plan has 4 year rotation (cucumber trellis needed in years 2 and 3)
- a few simple rules:
 1. Don't follow tomato, peppers or eggplant with potatoes, or each other
 2. Allow 3 years before replanting same group in any given bed
 3. Onions may be planted throughout all groups
 4. Beets, carrots, radishes may be planted among any group, and replanted as early crops are removed

Vegetable Groups

Tomatoes/Potatoes

Nightshades ([Solanaceae](#)) - tomato, pepper, eggplant, potato

Legumes

Legumes ([Leguminosae](#)) - peas, beans

Greens

Leafy Greens ([Compositae](#)) - endive, escarole, lettuce

Coles ([Brassicaceae](#)) – arugula, mustards, broccoli, Brussels sprouts, cabbage, collards, cauliflower, kale, kohlrabi, radish

Squash/Corn

Vines ([Cucurbitaceae](#)) - melon, winter and summer squash, cucumber, pumpkin

Grass (Gramineae) – corn

Other

Goosefoot family ([Chenopodiaceae](#)) - beet, Swiss chard, spinach

Parsley family (Umbelliferae) - celery, carrot, dill, chervil, cilantro, parsley, fennel, parsnip

Alliums ([Amaryllidaceae](#)) - chives, garlic, leeks, onion, shallots

Resources

Books

- Weedless Gardening by Lee Reich
- From Seed to Table by Janette Haase
- The Vegetable Gardener's Bible by Edward Smith
- All New Square-Foot Gardening by Mel Bartholomew
- Lasagna Gardening by Patricia Lanza

Local Resources

- Bulk soy and alfalfa meal, greensand, rock phosphate, fish emulsion, organic seeds, cover crops – Homestead Organics, Berwick, 613-984-0480
- Plants, tools, organic seeds, fertilizers, potting soils, mushroom compost, sheep manure – Marlin's Orchards, 613- 931-1213
- Fish emulsion, seeds, plants, tools – Home Hardware
- Compost - Cornwall Landfill Site, Cornwall Centre Road, 613-933-6953

Websites

- Just Food - local planting guides and schedules
http://www.justfood.ca/downloads/CGN_Garden_Guide_2010_English.pdf
- Cornell U. website – gardeners rate vegetable varieties
<http://vegvariety.cce.cornell.edu/>
- Seeds of Diversity Canada – heritage seed sources
<http://www.seeds.ca>

Mail Order Seeds, Bulbs & Plants

Dominion Seed House	Salt Spring Seeds	U.S.A. seed sources:
Greta's Organic Gardens	West Coast Seeds	Renee's Garden
Solana Seeds	Heritage Harvest Seed	High Mowing Seeds
Terra Edibles	William Dam Seeds	Seed Savers Exchange
Cottage Gardener	Richter's Herbs	Victory Seeds

Recommended Varieties / Planting Instructions

Tomatoes

- purchase plants (or sow seeds indoors mid-late March)
- transplant outside after May 24, night temps not below 45 F (7C), 'harden off' first
- spacing – determinate 18 in (45cm) apart, caged; indeterminate 2 ft (60 cm) apart staked on 6- 7 ft poles and pruned to one stem
- mid season feeding of soybean or alfalfa meal under mulch?
- Open-pollinated: *Cherry*: Black Cherry, Yellow Pear, Tommy Toe *Slicer*: Kimberly, Stupice *Paste*: Orange Banana, San Marzano (determinate), Martino's Roma (determinate)
- Hybrid: *Cherry*: Sungold, Super Sweet 100, Juliet *Slicer*: Celebrity (determinate), Better Boy, Big Beef *Paste*: Roma (determinate), Viva Italia (determinate)

Bush Beans

- pole types are more productive, but bush types are easier to manage at first
- seed end of May, again mid and end of June for ongoing crops (partial blocks each time)
- spacing – 4 in (10cm) between seeds
- varieties – *Green*: Provider, Contender *Purple*: Royal Burgundy *Yellow*: Pencil Pod, Goldmine

Peas

- sow starting late April, again end May and end June for ongoing crops (partial blocks each time)
- research 'presprouting' indoors if temps are cold
- spacing – 3 in (7cm) between plants
- best with some support of stakes and string
- varieties: *sugar snap*: Sugar Ann, Dwarf Grey Sugar *snow*: Sugar Pod II

Lettuce and other Greens

- sow indoors in late March (or purchase plants in Spring), transplant outdoors mid May
- direct seed monthly late April to late July for ongoing supply (partial blocks)
- plant 1 ft (30cm) apart, cut off at 1 in (2.5cm) high to come again, pick outer leaves, or harvest all
- any variety (avoid iceberg), 'Jericho' Romaine recommended for summer
- broadcast mesclun seed, thin to 3 in (7cm) apart, cut off at 1 in (2.5cm) high to come again

Swiss Chard

- direct seed late April to late May
- thin to 18 in (45 cm) apart, pick outer leaves for ongoing crop, any variety

Spinach

- broadcast seed in late April to mid May, then reseed in early August for fall crop
- thin to 4 in (10cm), can cut at 1 in (2.5cm) to come again, or pick outer leaves, or harvest all
- varieties – Bloomsdale Longstanding, Bloomsdale Savoy

Zucchini

- sow indoors in early May (or purchase plants) to transplant mid June, or direct seed in early June
- spacing every 18 in (45cm), harvest when small
- varieties: Sunburst, Ronde de Nice, Wood's Prolific Scallop

Cucumber

- sow indoors in mid May (or purchase plants) to transplant mid June, or direct seed early June
- 18 in ft (45cm) apart
- varieties – Marketmore 76, Bush Crop

Carrot

- direct sow after mid June (avoids rust fly), again in summer for fall crop, thin to 3 in (8cm)

- varieties - Scarlet Nantes, Nantes Coreless, *baby*: Baby Spike, Little Finger *round*: Thumbelina

Beet

- direct sow starting late April, thin to 3 in (8cm), ongoing picking of greens as well
- varieties - Detroit Dark Red, Early Wonder, Ruby Queen, Lutz Green Leaf

Radish

- ongoing direct sowing starting late April, thin to 3 in (8cm) apart
- varieties - *spring and summer* Cherry Belle, Purple Plum *summer*: French Breakfast

Scallions

- ongoing direct sowing of onion sets starting mid April, pointy end up, at 3 in (8cm) apart

NO-DIG GARDEN PLAN
4 year rotation

