





Vegetable Gardening in Raised Beds

Tim Walsh MUN Botanical Garden

It's there waiting...





Ta da!



Vegetable growing in NL, a long tradition



Why grow your own?



- Fresher
- Cost less
- Peak of flavor
- Fresh air and exercise
- Good family activity
- Feel good activity



Lazy Beds or Drills in NL

- "Lazy beds are well suited to locales lacking warmth, deep soil, and drainage. In Newfoundland and other north Atlantic gardens, the advantage of raised beds is that they are drier and therefore warmer than the moist flat ground around them. The beds warm up more quickly in the morning and retain heat longer (Denevan and Turner 1974:27). At night they protect crops from frost by draining the denser cold air into the ditches." (Downhomer magazine)
- The ditches provide walking paths for maintenance eliminating compaction



Alternative methods





Ready to roll!















Why grow in raised beds?

- Increase soil depth in shallow areas
- Increase drainage during wet weather
- Warm soil quicker in spring
- Eliminate soil compaction
- Reduces back strain
- Encourages organized planting "Square Foot Gardening" *Mel Bartholomew*©1981
 - Less weed competition
- No loss of planting area from sloped sides
- Reduced slug/snail damage

Building Material Choices • Wood • Untreated Lumberyard Wood



- Wood
 - Untreated Lumberyard Wood
 - Locally Milled Lumber
 - Usually cheaper. More open grained. Shorter lifespan





- Wood
 - Untreated Lumberyard Wood
 - Treated wood/Railway Ties add toxins to soil
 - Locally Sourced Lumber
 - Usually cheaper. More open grained. Shorter lifespan
 - Locally Sourced Logs



Brick/Stone stacked
Difficult to protect from frost heave
Labor intensive construction
Permanent installation





- Poured Concrete
 - Labor intensive construction
 - Permanent installation without option for re-design later
 - More sturdy than dry brick/stone wall



Raised Beds at MUN Botanical Garden



Wooden Walls

- 2"X10" lumberyard sourced wood (spruce)
 - (use 2"X12" if base soil is poor)
- Butt-joined and screwed at corners
 - Use rust protected screws/nails
 - 2"X4" centre brace on beds longer than 4'
 Brace attached to bottom of frame

o Chocolate-brown water-based stain.

- Dark colors attract heat , camouflage soil stains
- Stain cut-ends before joining
- Two coats for added protection



Simple Tools Needed Here



Get it On Paper


What's Your Limit? Now's the time to decide

- How much time do I have to manage a vegetable garden
 - Spare time in evenings? weekends?
- Remember; more time is needed in spring and fall.
- Less "is" more!
 - Taking on too much can cause veggie burnout!
- You can always expand in future years

Identify Permanent Landscape Features

• Overhanging trees

- Create shade
- Roots invade rich soil
- Rock Outcrops
- What is the existing soil type
- Any Roof overhangs (Sheds/Houses)
- Fences create shade



- Sunny
- Southern exposure
- Away from large trees
- Away from buildings
- Can be seen from kitchen

•Wherever it will fit

Time to Build

• Simple tools needed here also.

- Handsaw/Circular Saw or Mitre Saw(Chop saw)
- Rust-protected screws/nails
- Paint brush/roller/paint

• Construct, paint and set aside to dry. Re-paint.



Building a Raised Bed Garden











Finally Time to Grow!

• What is your soils structure?

- How well does your soil particles cling together?
 - This will determine how well it retains moisture and nutrients
 - And how easily roots can penetrate and grow



Soil Mix



- Start with good quality topsoil or triple mix (50%topsoil-30%peat-20%compost)
- Must be well drained and organic
- Lots of organic matter, (composted manure, leafmold, home compost).
- Remove rocks.
- Apply fertilizer (6-12-12) in early May.
- Lime should be added to areas where you are going to grow crops that like a "sweeter" soil.

 Don't let poor soil stop you, everyone had poor soil to start.

Loam

Good aeration and drainageMust hold onto moisture and nutrient

•Organic Matter

Organic Matter Types

Compost from Kitchen and garden waste
Manures – must be well rotted
Kelp
Composted first or applied in fall

• Composted first or applied in fall

Black Gold



Black Gold



be loyal to your soil.

OST

International Compost Awareness Week May 3rd-9th, 2015

Calculate soil volume

• <u>https://www.gardeners.com/how-to/soil-</u> <u>calculator/7558.html -</u>

Planting Plan



- North-south rows
 - Taller plants to north end.
 - Medium height plants in the middle
- Shorter plants at the south end
- Mix fast and slow growing crops (lettuce between rows of cabbage)

Read the Seed Packet

CAULIFLOWER - for fresh market and freezing.

GREENHOUSE: Sow in the greenhouse from Feb. 1st. - Mar. 15th .; 1/4 in /5 mm deep, cover with fine soil and firm. Germinate @ 70°F/21°C soil 20mp. for 5 - 7 days. Grow seedlings @ 60-65°F/15-18°C. Night temps below 40-50°F/5-10°C will cause severe bolting to seed later on in the field. Make successive sowings to insure against bad weather conditions during the first weeks after transplanting. Weather conditions influence the growth of Cauliflower more than any other crop. Transplant outdoors from April 15th, to May 1st. in rows 30 in /75 cm apart, 18 in /45 cm apart in row. Using rubber gloves, dip the roots in Diazanon to control root maggots. Use transplants about 5 weeks old, slightly hardened by withholding water for 4 days before transplanting. LATE CROPS: Sow seed outside on sandy loam from May 20th. to June 5th. (depending on area). Make several sowings a few days apart so that you can choose slim. young transplants about 5 weeks later. Discard old transplants, or those which have begun to swell at the crown - they will button up. Transplant in bate June or early July, FERTILIZE sandy soil with 650 lbs./ 29 g of 5-20-70 per acre disked into the soil before transplanting. Side dress with the same about 3 times, 14 days apart, 3 weeks after transplanting. Use a starter solution of 20-20-20 when transplanting. HARVEST when curds are the size of a tea cup, tie outer wrapper leaves up, to shadow the curd, with different colored rubber bands or stang in signify first, second, and third cuts). Blanching takes 3 or 4 bays in warm weather, or 10 days in cool. SMALL CROWER: Sow June 5th. 1/4 in./5 mm deep @ 3 seeds per in /25 mm, cutor with time soil and firm. Transplant seedlings 5-6 weeks later, as shove. Soil should be about pH 6.0.

NOTICE TO BUYER

TOKES WARRANTY AND CONDITIONS OF SALE Before planting this seed - please read our warranty which appears on the first page of our mail order catalog, all order forms, invoices, larger commercial packages and the packing sign included with this seed. If our warranty is not acceptable to you - do not plant this seed. Return the unopened package and the purchase funds shall be refunded.

CHUTTON: This seed is treated with a mild fungicide THIRAM. If you are allergic to appricially, be careful not to handle seed without gloves. Do not lead seed to **birds** matrixes, or burn as fuel

COUNTRY OF ORIGIN - JAPAN 50 SEEDS Packaged in Canada

lacked for 2013 - Sell By

• Most of what you need to know is here.

- Sow dates
- Depth
- Transplant date
- Spacing
- Fertilizer
- Harvest info
- Date packed
- Germination %

Frost Hardy Seeds

- Does not mean they won't freeze, but are hardy enough to withstand a few degrees of frost.
- Can be sown ahead of frost tender types because they will germinate at lower temperatures.
- Broccoli, cabbage, leaf lettuce, onion, radish, peas, spinach, turnip, parsnip.

Semi-Frost Hardy Seeds

- Sown almost as early as the frost hardy types because they will not germinate in cold soil.
- Generally remain in the soil for a couple of weeks before emerging.
- Beet, carrot, cauliflower, head lettuce, potato

Frost Tender Seeds

• Should be sown after last frost.

• Beans, cucumber, peppers, squash, pumpkin.

Seeding and Transplant Dates

May 15 - June 1

- Peas seeds
- Onion sets
- Parsnip seeds
- Radish seeds
- Spinach seeds
- Potatoes- seed potatoes
- Turnip seeds
- Leaf lettuce seeds

June 1 – June 15

- Beet seeds
- Broccoli transplants
- Cauliflower transplants
- Cabbage transplants
- Leaf lettuce seeds
- Carrots seeds
- Onion transplants

After June 15th

- Beans seeds
- Peppers transplants
- Pumpkin- transplants
- Tomatoes transplants
- Squash transplants
- Wait until the cold and wet has passed. Seed can rot before it germinates.

Basic Four Bed Crop Rotation



Don't Bug Me



- Row Covers protect plants from insects
 - Physical barrier between plants and insects.
- Loose-spun fabric allows light through to plants
- Protect carrots against carrot rust fly
- Protect cabbage, cauliflower and broccoli against cabbage white butterfly.
- Bonus it can trap a little daytime heat and help protect from a late frost.

Cabbage White Damage



Vegetable varieties grown at MUN Botanical Garden



Pole Beans



'Scarlet Runner' 70 days. 'Royal Burgundy' 50-60 days.

Cabbage 'Red Dynasty' 'Bourbon'









Touchon Deluxe

'Bolero'


Purple Haze









Beets



'Red Ace' 53 days. 'Merlin' 53 days.



Lettuce

"Romaine"
'Simpson Elite"
"Red Salad Bowl"



Zucchini 'Golden Glory' 'Senator





Garden Peas 'Bolero'



Beans 'Royal Burgundy'





Garlic



Plant cloves around the middle of October.
Remove flowers.
'Polish Jen' Oct. – Aug.
'Music' Oct. – Aug.



Leeks 'Tadorna'



Onion 'Kelsae Sweet Giant'









Time to put your garden to Bed

