

Grow-A-Row Garden Calendar



...increasing the accessibility of healthy local food
to members of the Greater Sudbury community

Backyard and Community Gardens!

Please utilize this Grow-A-Row Garden Calendar
to plant, harvest, and store your veggies!
Grow-a-Row and donate it to a local food bank!

Grow-A-Row and donate any of the following vegetables:
Beans, Beets, Carrots, Cucumbers, Edamame, Kohlrabi, Salad Greens,
Onions, Peas, Radishes, Spinach, Squash, Tomatoes, and Turnips

To register, please email - GrowARowGreaterSudbury@gmail.com

Grow-A-Row Members



The Foodshed
THINKING ECOLOGICALLY Project
...growing our foodshed sustainably



Lewis Hardy Fruit Trees & Giant Pumpkins
204 Simon Lake Drive, P.O. Box 175
Naughton, ON P0M 2M0
Phone or Fax: 705-692-4592
Tree email: ronlewis@unitz.ca
<http://users.unitz.ca/ronlewis>



Grow-A-Row Program



Be part of the Grow-A-Row Program!

**Calling on Backyard and Community Gardeners!
Participate by growing an extra row of any of the
vegetables outlined in this guide - then donate the
produce to a local food bank or meal program.**

**The Grow-A-Row Program is a partnership
between many organizations in the Greater Sudbury
community - including the Sudbury Food Bank.**

**Please register for the program -
call (705) 675-3894 and ask for Doreen Ojala,
Email:**

**GrowARowGreaterSudbury@gmail.com
to find out where to donate your produce.**

**Workshops on how to garden in the Sudbury climate
and how to preserve your harvest will
be offered to registered gardeners.**

**Join us in developing a Grow-A-Row
demonstration garden at
Anderson Farm in Lively in the summer of 2011.**

New gardeners welcome!

Thank you!



**Thank you for the input by all of the Grow-A-Row member organizations.
Editing and technical advice provided by Ron Lewis (Lewis's Hardy Fruit Trees & Giant Pumpkins),
Jo Duke (Coalition for a Livable Sudbury), and Bill Bradley (The Foodshed Project).
Printing provided by EarthCare Sudbury.**



Grow-A-Row Planting & Harvesting Guide

C - cool-hardy (can sustain a light frost) A - all weather
H - hot weather crop - loves heat S - Succession plant
Date seeded/transplanted into the garden
Expected harvest date(s)

How do you use the Garden Calendar?

- 1) Select what you want to grow for donation to a local food bank from the list below.
- 2) Mark the planting and harvesting dates and the varieties grown in the Gardener's Calendar section as a handy reminder!

Name / Variety				
Beans	C/S			<ul style="list-style-type: none"> - harvest in 50 - 70 days, pulling gently from the vine - beans can become overgrown and tough in a short time - harvest young tender beans continuously, or harvest seed in fall
Beets	C/S			<ul style="list-style-type: none"> - beets are mature in 40-50 days - leaves are nutritious, but over-harvesting will decrease root size - harvest roots when they are 1.25 - 2.00 inches wide (or larger)
Carrots	All/S			<ul style="list-style-type: none"> - harvest in 55 -95 days, pick as "baby carrots" when young - harvest when soil is moist, and use a garden fork - late carrots are harvested in October for winter storage
Cucumbers	H			<ul style="list-style-type: none"> - harvest 60-70 days from planting - pick constantly every three days after the vines start producing - pick early in the morning and refrigerate immediately
Edamame	H			<ul style="list-style-type: none"> - matures between 90-120 days, all pods mature at the same time - soybean, pick when the seeds inside the pod fill out - when mature, eat the pod and seeds, should be mild and sweet
Kohlrabi	C			<ul style="list-style-type: none"> - matures in 45-60 days - slice off the swollen stem (bulb) at the base, trim leaves off bulb - younger plants are juicy and crisp, store in a cool location
Leafy Greens	C/S			<ul style="list-style-type: none"> - harvest as soon as the plant leaves are large enough - harvest in the morning for maximum freshness - be careful to not pull out the roots
Onions	H			<ul style="list-style-type: none"> - bulb onions require 80-150 days to mature - all onions can be harvested early as green onions - harvest when leaves loose their colour and have stopped growing
Peas	All/S			<ul style="list-style-type: none"> - harvest 60 days after planting, two weeks after they flower - start picking when pods fill out and they are bright green - indeterminant vining will continue to produce pods until frost
Radishes	C/S			<ul style="list-style-type: none"> - harvest in 25-65 days before they get woody and bitter - harvest in the morning for maximum freshness - root, leaves, and seed pods are all edible
Spinach	C			<ul style="list-style-type: none"> - matures quickly, within six weeks, then flowers and forms seeds - harvest baby greens at 3-4 inches, leaves bruise easily - break cleanly at base, picking outside leaves first
Squash	H			<ul style="list-style-type: none"> - harvest from 55-110 days, start indoors and transplant - pick summer squash early before the skins get tough - harvest winter squash when fully mature - leave stem intact
Tomatoes	H			<ul style="list-style-type: none"> - grow early maturing varieties - 55-70 days - pick at full colour for best flavour, do not require refrigeration - green tomatoes can ripen indoors, if they are blemish-free
Turnips	H			<ul style="list-style-type: none"> - can harvest small turnips 30-40 days after seeding - pull directly out of ground when they are ready - harvest turnip greens to saute' or for salads

Cool weather crops can be planted 3-4 weeks before the last frost date - they can survive a light frost.
Be sure to follow safe handling practices when picking and storing vegetables for food bank donations.

ORGANIC GARDENING TIPS

- **Water drainage is an important factor in how plants grow because it has an influence on root development.**
- **Raised beds improve water drainage, and helps the soil defrost faster in the spring - that makes for earlier planting.**
- **Non-beneficial pests will be deterred by companion plants such as Marigolds.**
- **Plant a variety of plants to confuse predatory pests, and to attract pollinators.**
- **In the fall add harvested plants to the soil, along with mature compost, to improve soil structure.**
- **Get the most sunshine by planting rows north and south (some plants are shade-tolerant).**
- **Adding mulch on top of your soil will reduce weeds, keep the soil cool, and retain water.**
- **Watch out for plant stress, such as wilting - and remember to remove the three D's from your garden - Dead, Diseased, and Damaged plants.**
- **Use natural bug control instead of pesticides. To make bug juice mix the following:**
 - 1 teaspoon of dish soap
 - one cup baking soda
 - 1 cup oil and 1 cup of water**Mix the soap and oil together first, and then mix that with water. Spray plants to reduce a variety of insects.**
- **Harvest your garden in the fall and cut back perennial plants. Get your garden ready for the following spring by cutting back stocks. Compost the remains.**
- **Take pictures of your garden over the summer.**
- **Keep a garden journal to note your successes, and what you would do differently next time.**
- **Learn to save seeds for the following year.**
- **Can, freeze and preserve your harvest!**



Gardener's Calendar

...make note of your planting and harvesting dates, and variety grown

January

Year _____

S M T W T F S

● look through seed catalogues

● grow herbs in your window sill

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February

S M T W T F S

● use up your frozen squash

● check out seeds at local garden centres

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March

S M T W T F S

● time to shake off those winter blues and plan your upcoming garden!

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Grow- A- Row Plant Guide



Beans...



Beans - green beans are pole or bush varieties. Bush beans are easier to harvest, but take up more square footage in your garden. Indeterminate vine beans will grow upwards on trellises, but should be secured as they grow. Direct seed into well-drained warm soil. Beans have shallow roots, so be careful when weeding and walking near them. Beans are average feeders - avoid high nitrogen fertilizers. Amend soil with well composted manure. Avoid watering on the vines and leaves, as this could spread diseases. Mulch to cover roots.

Beets...



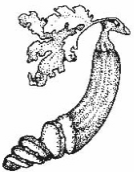
Beets are grown for both their roots and their green tops, which are eaten when they are four to six inches tall. Beets are moderate feeders, and need warm soil in which to germinate. Overly rich soil will cause beets to go to seed too quickly. Fall beets sweeten up with a few light frosts. Beets will toughen up if left too long in the ground, depending on conditions such as moisture and heat. Harvest when they reach 1.25 and 2 inches in diameter, or larger for some varieties.

Carrots...



Direct seed, and thin to one inch apart after germination. Carrots require a great deal of moisture. Add mature compost to amend heavy soil. Sow at three week intervals for a continuous harvest from mid-May to early July. Can use floating row covers to reduce moisture loss when first seeded. Carrots can grow in shade, but prefer full sun. Harvest some early as "baby carrots". Keep your patch weed-free, and avoid walking near plants. Harvest mature carrots in late fall, and store indoors in a cool moist location.

Cucumbers...



Grow both slicing and pickling types. Slicing varieties can be used for pickling if harvested young. Don't spray the leaves when watering, as damp leaves may cause powdery mildew. If possible, use a soaker hose and water deeply. Later in the season, reduce watering to encourage fruiting. With the proper watering, cucumbers will form deep roots, and will become drought resistant nearing the end of the summer. Add organic matter to the soil to retain water. Mulch with oat straw. Best direct seeded when the soil warms in spring. Can be purchased as transplants, be sure to harden off plants.

Edamame...



Edamame is a bush-type soya bean plant. Grow two to three feet apart within rows. Requires full-sun locations with well drained soil and plenty of organic matter. Plant seeds when the soil is warm. Keep the soil moist until the plant germinates. It is drought resistant and tolerates mildly acidic soils. Mulch around the base of the plant after the beans sprout. Harvest when the beans swell and fill out the pod.

Kohlrabi...



Kohlrabi is a member of the cabbage family. It has the taste and texture of a broccoli stem or a cabbage heart, but much sweeter. Kohlrabi likes well drained rich soil. It is a cool weather crop. Grow in a sunny area of your garden. Thin plants out to six inches apart when the plant is 2 inches high. It takes eight to ten weeks to mature.

Grow- A- Row Plant Guide



Lettuce...



Lettuce is categorized into crisphead, butterhead, loose leaf and romaine. It likes well-drained soil with compost, and can grow in somewhat sandy soil. Lettuce can be direct seeded or transplanted.

Space lettuce roughly 6 inches apart. Crisphead lettuce is best grown from transplants. Mulch with organic material around the base of your plants to retain needed moisture. Leaf lettuce can be picked continuously as a “cut-and-come-again” crop (the leaves will regrow). Snap off mature outer leaves before they become bitter, and leave the rest to grow. Lettuce is a shallow-rooted crop - be careful when harvesting. Please note that other greens, such as kale, radicchio, and swiss chard, are also great salad green donations.

Onions...



Loosen the soil for at least six inches deep, and remove all clumps. There are many types of onions, including green, storage, sweet, red, white, yellow, bunching, pickling and more. Green onions can tolerate partial shade. All onions are day-length sensitive, and will need at least 12 hours of daily sunlight to set bulbs. Onions are difficult to grow from seed, use onion sets instead.

Peas...



There are three types of peas - Garden peas (eat the seed-only), Sugar Snap peas (eat the pods and the seeds), and Snow peas (flat pods in Chinese food). Vining indeterminate varieties will produce over a longer period of time. Peas require full sun in the spring. Peas are climbing plants, and need to be secured. If peas die from ground up, it may mean a fungal disease - prevent by ensuring that soil drains well. Avoid heavy watering during flowering. Peas do best in cool weather.

Radishes...



Direct seed early and late in the season. Make sure to add compost to lighten heavy soil. Radishes grow rapidly, but are susceptible to root maggots, so be sure to remove mature plants and practice crop rotation. Radishes like lots of sun and regular watering. Radishes are shallow rooted, so be careful around plants when weeding. Harvest regularly before roots get bitter and woody.

Succession plant every three weeks. Read your seed package because harvesting is very dependent on the variety grown. Some varieties are grown for their leaves and seed pods.

Spinach...



Spinach is a cool weather crop, and likes fertile well drained soil. Spinach likes a neutral soil, and will turn yellowish brown if the pH drops below 6.0 - adding lime will prevent this. Direct seed and thin plants down to a three inch space. Spinach can be continuously harvested as a “cut-and-come-again” crop, especially if planted in shaded areas to prevent bolting. Break outside leaves off cleanly. Spinach only survives in late spring or fall. Like all vegetables, there are many different varieties of spinach available.



8.7 hours daylight
Winter



12.2 hours daylight
Spring



15.8 hours daylight
Summer



12.25 hours daylight
Fall

In Sudbury, the prime growing season is from the mid May to mid September. That is approximately 120 days of frost-free weather. Plan your planting and harvesting with the seasons in mind. Note the longest day of the year is in the summer. Cold-hardy plants can be seeded 3-4 weeks before the last frost that is usually at the end of May.



Grow-A-Row Garden Design and Planning

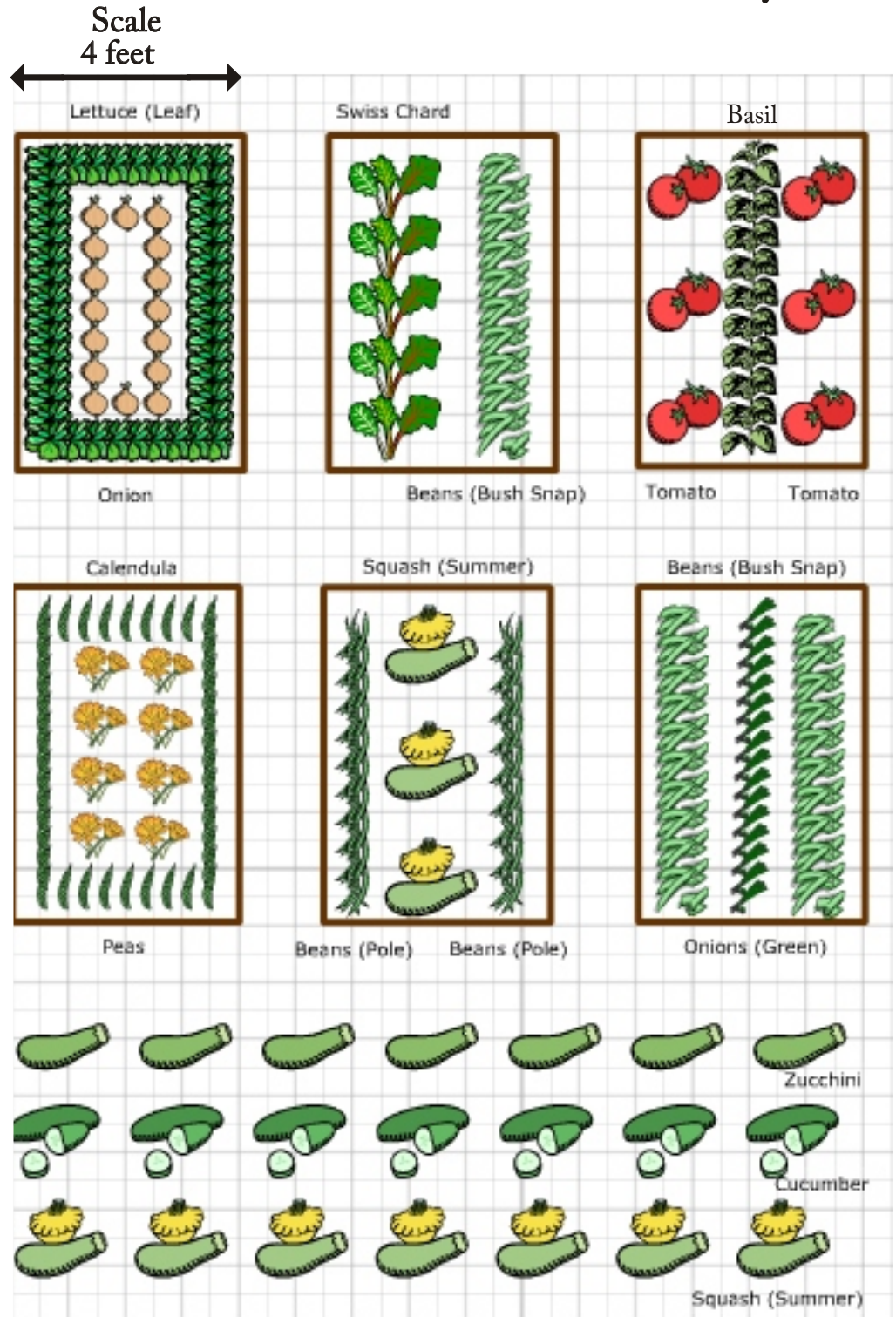
Here is an example of a
22 x 40 foot garden plot

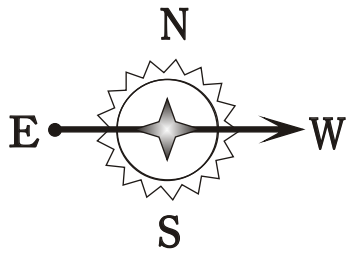
Be sure to label your plants well,
take note of the variety!

Tomatoes come in a wide variety of cultivars, from small 'indeterminate' cherry tomatoes, to bush "determinate" types. Tomatoes have deep roots and need constant moisture.

Borage is one of many plants that is especially noted for attracting pollinators, such as bees. Vine plants, tomatoes, and other fruiting vegetables need pollinators!

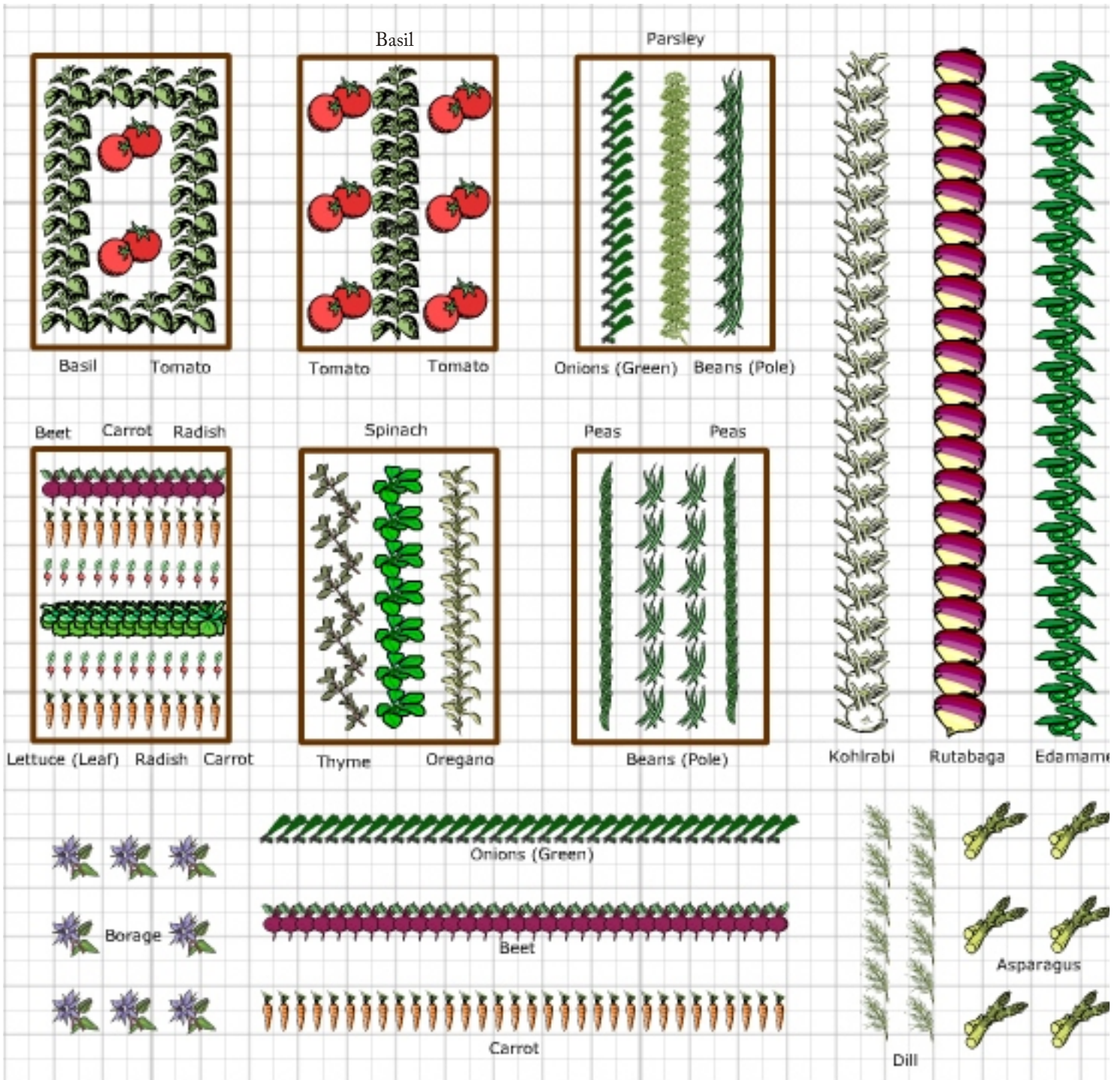
Raised beds should be four feet wide, with at least a three foot wide space between the rows. Mulch with wood chips in the walkways, and newspapers and oat straw between plants. Mulching reduces water loss, and helps encourage deeper roots. The garden bed should be at least one foot in height above the level of the ground. Dig a trench around the edge of your raised bed to capture more rainfall. Can seed edges of raised beds with clover as a green manure and cover crop.





The sun moves from East to West daily, creating shadows on the East side (and sometimes “solar burn” on the West side).
Plant shade-loving greens on the east side, in the shadow of taller plants, such as tomatoes and peppers.

Monitor the drainage in your garden, watch for eroding soil.



Inter-plant trellised beans and peas with shade tolerant herbs and salad greens such as radishes, lettuce, Swiss chard and spinach.

Grow- A- Row Plant Guide



Squash...



Squash are categorized as winter or summer varieties. Transplants can be started three or four weeks before planting into mounded hills. Summer squash includes varieties such as zucchini, courgettes, yellow crookneck, and patty pan, and are thin-skinned. Pick when young and tender. Winter squash have thicker skins, and include varieties such as butternut squash, hubbard, acorn, spaghetti, and are best picked when mature and of the proper colour. Harvest before the first frost, then allow them to cure in the sun for a few days. Apply water directly to the ground to prevent powdery mildew and fungus. Squash require rich, well drained soil. Squash self-mulch because of their large leaves, but will require regular watering once the fruit develops. Manure tea can be used to fertilize plants and condition the soil, make sure you make it from well composted manure to decrease the chances of pathogens.

Tomatoes...



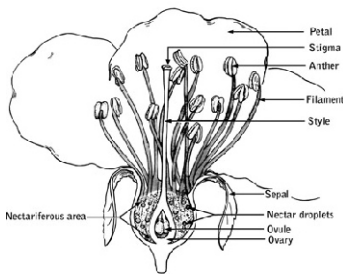
Common varieties include round, roma or plum, cherry, and beefsteak. Start tomatoes inside in early April in 4 inch pots, or 6-8 weeks before the last frost. Experienced gardeners often plant seeds as early as March, and then transplant the seedlings into larger pots. Seedlings should be exposed to moving air to strengthen their stems. If using grow lights, they will need 12-14 hours of light per day. Harden off the plants, and then transplant deeply into the ground by stripping off lower leaves. The plant will develop roots from the hairs on the stems. Tomato roots can grow as deep as three feet, and they need continual watering during their growing stages. Avoid adding excess nitrogen, which contributes to the over-production of leaves.

Turnips...



Two types of varieties of turnip include the white-fleshed and the yellow-fleshed varieties. Rutabaga or Swede turnip, are the yellow-fleshed varieties. Turnips are moderate feeders, requiring deep, well cultivated soil. Direct seed in an area that receives full sun. Avoid the over-application of nitrogen-rich fertilizers. The sweetness of the yellow-fleshed winter turnip is enhanced by light frost in the fall - but do not let them sit too long in the soil because of the possibility of attracting root maggots.

The mature green leaves of the turnip are edible.



Pollination is the basis for the development of fruit

Spade: square, flat edge, good for creating edges

Garden Tools...

Shovel: round edge, good for removing soil in bulk



Heirloom or Heritage Varieties have been bred for at least 50 years to exhibit positive traits, such as drought tolerance and hardiness - useful traits to have in a more unpredictable climate.



Succession Planting in your kitchen garden means continual planting every two to three weeks. This will give you fresh salad crops over the whole summer.

It will take some garden planning to ensure that you have room for the next crop.

Be sure to remove dead plants from your garden after their life cycle!

Gardener's Calendar

...make note of your planting and harvesting dates, and variety grown

Year _____

April

S	M	T	W	T	F	S

- plant spinach, radishes, peas, onion sets, beets, peas, beans, in late April

- start lettuce indoors for transplants

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May

S	M	T	W	T	F	S

- direct seed lettuce

- start your squash seedlings (or earlier in April)

- buy transplants of tender vegetables - such as tomatoes, cucumbers, peppers, & eggplant, harden off before planting

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June

S	M	T	W	T	F	S

- direct seed carrots, beets, and radishes as the weather warms in early June

- harvest spinach

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Grow- A- Row Glossary



Plant Growing Glossary...

Direct Seeding - planting seeds directly into the ground, seeds need certain conditions to germinate.

Germination - embryonic plant growth of a seed, occurs after dormancy period is broken.

Open Pollination - pollinated by natural mechanisms (wind, insects), as distinguished from hybridization.

Propagation - plant reproduction processes, including seeding, cutting, grafting, or other methods.

Transplants - plants started indoors or in a greenhouse, for later transplanting into the garden, extends the growing season, required for such plants as tomatoes and peppers.

True Type Seeds - self-pollinating plants that produce seeds of exactly the same variety as the parent.

Fertilizer Glossary...

Mycorrhiza Fungi - mutualistic relationship between the fungi and roots that allows the fungi to access carbohydrates. The plant benefits from increased access to minerals such as phosphorus.

Manure Tea - a brew of mature composted manure. May become anaerobic if not used within a few days.

Nitrogen - a basic macro-nutrient needed by plants, comes in granular, liquid, and slow-release, not to be used on all plants as it may increase the growth of leaves at the expense of fruiting.

Phosphorus - an essential plant nutrient, and an element in all living things, phosphate-based fertilizers promote root growth in transplants and seedlings, and fruiting later in the season.

Potassium - another macro nutrient, potassium deficiency is noted by yellowing tips on leaves, natural sources include kelp meal and greensand.

Soil Glossary...

Clay Soils - clay soils are heavy and sticky, drain poorly, and are hard for many plants to grow in.

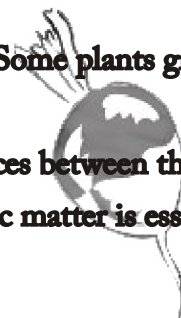
Clay soils are nutrient rich with positive ions, such as calcium. Amend clay soil structure with peat moss, grass clippings, and other organic matter.

Field Capacity - amount of soil moisture, or water content, held in the soil after the water has drained away, used to measure water holding capacity of soil.

Sandy Soils - large particles, drains quickly, can be amended with organic material. Some plants grow well in sandy soils that are amended, for example carrots.

Structure - soil structure refers to the arrangement of soil particles, and the pore spaces between them.

Organic Content - amount of decayed organic matter, or humus, in the soil. Organic matter is essential to support biological activity and retain water in soils.



Gardener's Calendar

...make note of your planting and harvesting dates, and variety grown

July

Year _____

S	M	T	W	T	F	S

- monitor the garden for wilting plants that might need watering
- put mulch around plants as they mature
- pick "cut-and-come-again" lettuce
- check underground for your "new potato" crop
- make a map of your plants and take notes for next year's crop rotation plans - take lots of pictures!
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August

S	M	T	W	T	F	S

- look for flowers on peas and beans - pods will soon follow
- secure vine plants to trellises - peas, beans, cucumbers...
- monitor your garden and remove diseased and dead plants
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September

S	M	T	W	T	F	S

- pickle cucumbers, carrots, and beans
- visit Market Square (Sudbury's farmers' market) on Elm St.
- par-bake winter squash, cube it, and freeze it in plastic bags
- in late August, start harvesting carrots, beets, and radishes
- harvest all tender crops such as tomatoes before any frost, compost dead plant material
- try your hand at seed saving, start with your heritage tomatoes
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ORGANIC or CHEMICAL fertilizers?

Is there a difference?

ORGANIC	<p>Contain carbon - may be natural or man-made.</p> <p>Examples include bonemeal, fish emulsion, and processed animal or vegetable by-products. Also includes rock powders.</p> <p>Slow acting - relies on micro organisms to break them down before they can enter the plant.</p> <p>Will build the biological health of soils - reducing fertilization needs.</p>	CHEMICAL
		<p>Man-made products containing no organic elements.</p> <p>Highly water soluble, thus releasing nutrients quickly into the plant, and leaching through the soil rapidly. May contaminate groundwater.</p> <p>No value as a soil amendment</p> <p>Use of chemical fertilizers and pesticides result in "dead" soil that requires an increasing amount of chemicals to maintain growth.</p>

Types of ORGANIC fertilizers

...supports healthy soil biology

Fertilizer	Nutrient Value N-P-K*	Comments
Blood Meal	12-1-1	Also often used to deter animals, such as deer
Bone Meal	3-18-0	Available steamed (less likely to burn), or raw
Chicken manure	6 - 4 - 3 (dry) 1.5 - 1 - 0 (wet)	Use carefully to avoid burning. Helps retain moisture in sandy soils.
Fish emulsion	5 - 2 - 2	Fast acting, needs frequent re-application.
Fish Meal	8 - 4 - 0	Especially helpful to root vegetables.
Rock Phosphate	0- 25 - 0	Mix into soil at planting time to activate roots.
Sawdust	4 - 2 - 4	Use to loosen clay, or as mulch. Mix with high N fertilizer for quicker breakdown.
Seaweed	2 - 1 - 3	Fast-acting. Also encourages beneficial organisms.
Manure (cow, steer, or horse)	0.5 - 0.3 - 0.5	Use only aged manure - may contain weed seeds. Manure from different animals will vary in NPK.
Wood Ashes	0 - 2 - 6	Fast-acting. Do not use around young seedlings. Will raise the pH of soils to be more alkaline.

* N-Nitrogen, P-Phosphorus, and K-Potassium

Gardener's Calendar

...make note of your planting and harvesting dates, and variety grown

October

Year _____

S M T W T F S

- harvest pumpkins and other late vegetables
- remove dead plant material from the garden

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November

S M T W T F S

- harvest remaining plants before snow

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December

S M T W T F S

- time to start thinking about your upcoming garden season and what you would do differently

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The Foodshed
THINKING ECOLOGICALLY Project
...growing our foodshed sustainably

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Email: Info@foodshedproject.ca

The Foodshed Project

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Contact: Doreen Ojala, Executive Project Manager



Disclaimer: The information offered in this booklet is opinion only. Please read your seed packages thoroughly, and research the specific variety or cultivar of the vegetable that you growing for information on fertilizing, harvesting, and storage. Always follow food safety guidelines when handling fresh produce for yourself and the purposes of donating to a local food bank. Please contact The Foodshed Project if you have any questions about the Grow-~~1~~-Row program.