Congratulations on growing your own food in your own garden, balcony garden or community garden! We have included lots of interesting information in this manual about planning, planting, watering, pest control and fertilizing.

This manual provides a good opportunity to connect with community gardens in the Niagara Region.

What is a Community Garden?
A community garden is an open space, and a place where you can grow your own vegetables, fruits, herbs and flowers, to work together with members from the community, and to create an area that everyone can enjoy. Our community garden supports these aspects and each garden is unique because it is determined by the gardener’s culture.

How to get involved in a Community Garden
Getting involved is very easy. You can simply contact the coordinators of the gardens. Some gardens require a small rental fee while others provide the space for free. They may also provide you with seeds and plants at no cost.

How to contact us
Links for Greener Learning has established connections with all the community gardens in Niagara. We can help you to find a garden close to your area in: St. Catharines, Niagara Falls, Fort Erie and Welland.

For more information about how to start small garden or find a garden space, please contact us:
By Phone: (905)401-2614
By email: contact@linksforgreenerlearning.org
www.linksforgreenerlearning.org

Yaneth Londono
Yaneth Londono, Executive Director
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Make a small garden in your backyard

**Raised Bed Garden**

Raised bed gardens are constructed above the ground, and can be built out of many materials. Layer newspapers at the bottom of the bed frame to provide a barrier from weeds. The frame is then filled with clean, nutrient-rich compost and you’re ready to start planting! We hope you will enjoy growing healthy, fresh food for yourself, your family and friends for many years in your new raised bed garden.

**Why raised beds?** There are many advantages to growing food in raised beds.

- The soil warms up faster in the spring, allowing for earlier planting.
- Water is able to drain easily.
- Plants like the loose soil because it gives them plenty of space for their roots to grow.
- Raised beds can be planted more intensively than a traditional backyard garden.
- This means you can grow more vegetables in smaller spaces.
- Raised beds make it possible to grow safely even on land that is contaminated by different heavy metals.
- Depending upon the severity of the winter and your own inventiveness, the garden can be used year-round.
- Minimum tools are needed to help you plant and care for your garden.

This guide contains basic information on how to plant and grow a variety of vegetables that are well adapted to our climate in the Niagara Region. There are many ways to plant a garden, so feel free to experiment and try other methods. Talk to other gardeners in your neighbourhood and see what is working for them. We have included a list of them in this guide.
Where to Put a Raised Bed Garden

Most crops require at least six hours of direct sun so it is important to site your garden in a sunny area. Check your yard during different times of the day to determine which spot gets the best sun. If you are doing this in the spring, remember to account for trees that may block light once their leaves appear. It is helpful to have a source of water nearby. Some afternoon shadow may benefit the garden by helping to conserve soil moisture.

Square Food Gardening

When using the square foot method to plan your garden, each block can contain a different vegetable, herb or flower. The number of seeds or plants that are placed in each square depends on how large the plant grows and how much space it needs to develop. By using this method, you can easily maintain and replant squares throughout the season without disturbing other areas of the garden. This growing method is also easy to learn, which is especially important for first-timers!

Plan your garden

TIPS TO CONSIDER:
The best time to plan a garden is during the winter.

➔ Choose crops that are well suited to small spaces (small plants, and things that can be grown on trellises, or vertically, save space).

➔ Some vegetables in a garden that take up a lot of space, such as cabbage, corn, squash, and melons.

➔ You can replant after a crop is harvested. For example, you will harvest your radishes and have an empty square. Plant another square of radishes, or perhaps a fall crop of greens.

Write out the dates for when you can and will plant each crop.
DIVIDING SQUARES:
Before planting, use a measuring tape to mark off each foot along the four sides of the raised bed. Use nails and strings as in the picture below to divide your plot.

PLANTING METHODS:
There are two ways to grow vegetables in your garden –

✓ by planting seeds (direct seed method), or
✓ by planting small plants that you have grown indoors or purchased (transplant method).

When you plant your garden, try to avoid stepping on the soil to prevent compacting it.

Direct Seeding
First, look at the seed package to check how old the seeds are. For new seeds that are below 90%, it is best to plant two seeds per hole.

Planting depths usually range from 1/8 inch to 1 inch. You can also follow these general rules: in cool weather, plant a seed deep enough so that 3 more of the same could lie on top of it. In hot weather, 4 seeds should be able to lie on top of it - this will help to protect the seed from drying out as it starts to grow. In other words, smaller seeds are planted less deep than larger seeds.

If you are in the garden and don’t have a ruler, it’s helpful to know that the length of your index finger from the first knuckle to the tip is approximately one inch. So just use your own finger as a guide.

Be sure to water the seeds gently right after you plant them. Try to avoid watering in the middle of the day when soil moisture evaporates the quickest.
Transplanting

To transplant, dig a hole in the soil slightly larger than the container in which the seedling is growing. Carefully pry the whole plant and the surrounding soil out of the container. Generally, it helps to turn the plant upside down and apply gentle pressure to the bottom—the root ball should slide out.

If you see a part of roots at the bottom of the root ball, which have grown outside of the container, gently tickle those roots loose. Set the root ball, roots down, into the hole, and fill it with soil. Smooth the soil out around the stem so that the surface of the soil drains slightly toward the plant. This will help the plant collect moisture.

Water the base (not the leaves) of each seedling immediately after transplanting and for the next few days until they are established, especially if transplanting in mid-summer. Newly transplanted seedlings often suffer from shock. To decrease shock, transplant on cloudy days or early in the morning.

LABELING:
Label (planting date, and date when you expect to see first leaves) what you have planted in each square. Plastic knives work well as cheap labels, or popsicle sticks!

CLIMBING PLANTS:
“Vertical crops” such as peas, pole beans, and cucumbers, like to climb, so plant their seeds in a line underneath the trellis, near the edge of the bed. Train the plants to climb up the trellis by twisting the main stem through the trellis once a week.
Square Food Planting Guide

Here is specific information on how to grow different types of vegetables.

**Bush Beans**

Direct seed in late May and every 3 weeks until August for a season-long supply. When watering beans, do not wet leaves; diseases and fungus love to grow on wet leaves. Harvest beans when the foliage is dry.

- **Square Foot Planting:** 9 bush beans per square foot
- **Seed depth:** 1 inch Direct seed
- **Germination:** 7 days **Height:** Medium

**Pole Beans**

Plant the seeds along the bottom of a trellis. As they grow, help plants wrap up and around the trellis!

- **Square Foot Planting:** 4 pole beans per sq. ft. of trellis
- **Seed depth:** 1 inch Direct seed
- **Germination:** 7 days **Height:** Tall

**Beets**

Plant every 3 weeks from mid-April through mid-August for a continual supply. Harvest the greens as well as the root.

- **Square Foot Planting:** 16 beets per square foot
- **Seed depth:** ½ inch Direct seed
- **Germination:** 5 days **Height:** Short

**Broccoli**

Transplant in late April for an early crop. Direct seed in May-June for a fall crop. Harvest the central head before yellow flower buds open. Harvest side shoots all summer long.

- **Square Foot Planting:** 1 broccoli per square foot
- **Seed depth:** ½ inch Direct seed or Transplant
- **Germination:** 4-7 days **Height:** Medium

**Cabbage**

Transplant in late April for early crop. Direct seed May-June for fall crop.

- **Square Foot Planting:** 1 cabbage per square foot
- **Seed depth:** ½ inch Direct seed or Transplant
- **Germination:** 5 days **Height:** Medium

**Carrots**

Plant carrots every 3 weeks from late April to early August. Draw 4 evenly spaced, shallow lines (1/4” deep) using fingers. Sprinkle seed evenly over each line (about 8-12 seeds per line). Lightly pack down soil. Thin to 2-3 inches apart after sprouting. Water gently after planting so as not to disturb the seeds.

- **Square Foot Planting:** 16 carrots per square foot
- **Seed depth:** ¼ inch Direct seed
- **Germination:** 14 days **Height:** Short
Cauliflower
Transplant 4-5 week old seedlings in late April/early May after danger of hard frost has passed. To keep the head white, tie the leaves up around the head as soon as the heads become visible.

**Square Foot Planting:** 1 cauliflower per square foot
**Seed depth:** ½ inch Transplant
**Germination:** 6 days **Height:** Medium

Cucumbers
Grow on a trellis, or plant close to edge in a side or corner square and train vine to grow outside of box, to conserve space. Plant seeds or starts in mid-late May.

**Square Foot Planting:** 2 cucumbers per square foot
**Seed depth:** ½ inch Direct seed or Transplant
**Germination:** 4 days **Height:** Short (Tall if trellised)

Eggplant
These need plenty of sun and heat. Transplant in late May or early June.

**Square Foot Planting:** 1 eggplant per square foot
**Seed depth:** ¼ inch Transplant
**Germination:** 14 days **Height:** Medium

Garlic
Break up bulb into individual cloves. Plant the cloves (with the pointed end facing up) in October after other crops are harvested. Cover with mulch for the winter. The garlic will be ready to harvest next July.

**Square Foot Planting:** 9-16 garlic cloves per square foot
**Seed depth:** 2 inches (Pointed end up) **Height:** Medium

Kale
Plant seeds from late April through July. Harvest only the outer leaves as they mature.

**Square Foot Planting:** 1 kale per square foot
**Seed depth:** ¼ inch Direct seed or Transplant
**Germination:** 7 days **Height:** Medium

Lettuce
Seed or transplant at ten-day intervals starting in early April. During the hottest part of the summer, plant lettuce in shade.

**Square Foot Planting:** 4 lettuce per square foot
**Seed depth:** ¹⁄₈ inch Direct seed, Transplant
**Germination:** 7 days **Height:** Medium
Onions

Onions can be planted or transplanted starting in mid-April. Separate seedlings into individual plants.

**Square Foot Planting:** 9-16 onions per square foot
**Seed depth:** ¼ inch  
**Set depth:** 1 inch  
**Germination:** 5 days  
**Height:** Short

Peas

Plant from early April to mid-May, and plant in August for fall crop. Climbing varieties save space and don’t require successive plantings. Try snap pea varieties—fat peas with an edible pod.

**Square Foot Planting:** 8-12 plants per sq. ft. of trellis  
**Seed depth:** 1 inch  
**Direct seed**  
**Germination:** 14 days  
**Height:** Tall

Peppers

Peppers need lots of sun and heat to grow well. Transplant in late May or early June.

**Square Foot Planting:** 1 pepper per square foot  
**Seed depth:** ¼ inch  
**Transplant**  
**Germination:** 14 days  
**Height:** Medium

Radishes

Radishes can be planted every three weeks from early April to early August. Begin to harvest in 3-4 weeks. They will split and get very spicy if you let them grow too big.

**Square Foot Planting:** 16 radishes per square foot  
**Seed depth:** ½ inch  
**Direct seed**  
**Germination:** 8 days  
**Height:** Short

Spinach

Spinach germinates best in cool, moist soil so plant every 1-2 weeks from late March through mid-May. Sow in August for a fall harvest.

**Square Foot Planting:** 9 spinach per square foot  
**Seed depth:** ½ inch  
**Direct seed**  
**Germination:** 10 days  
**Height:** Short

Summer Squash (zucchini, yellow squash)

Seed or transplant late May to early June. Mound soil in the center of 3 foot by 3 foot space about 4 inches high and plant 1-2 seeds in center of mound. Harvest when fruit is still small.

**Square Foot Planting:** 1 squash plant in a 3 foot by 3 foot block  
**Seed depth:** 1 inch  
**Direct seed or Transplant**  
**Germination:** 10 days  
**Height:** Medium
### Winter Squash (acorn, pumpkins, butternut)

Winter squash really needs lots of room. Plant near the edges of your raised bed. Set out transplants or direct seed after the soil is warm.

**Square Foot Planting:**
- 2 winter squash vines in a 1 ft by 4 ft row
- or under trellis

**Seed depth:**
- 1 inch Direct seed or Transplant

**Germination:**
- 10 days

**Height:**
- Medium – Tall

### Swiss chard

Plant from early April until mid-July. Harvest outer leaves as they mature, Plant every two months for most of the season.

**Square Foot Planting:**
- 2 per square foot

**Seed depth:**
- ½ inch Direct seed or Transplant

**Germination:**
- 7 days

**Height:**
- Short – Medium

### Tomatoes

Transplant outside in late May to early June. Withholding water after mid-August will force the vines to ripen more fruit. Remove all young flower clusters after Mid-September, this will help the remaining fruit ripen.

**Square Foot Planting:**
- 1 tomato in a 2 foot by 2 foot block or 2 tomatoes under 4 feet of trellis

**Height:**
- Tall

### Herbs, perennial

Common perennial herbs include sage, oregano, mint, and thyme. Rosemary is a tender perennial, so it needs to be brought inside over the winter. These herbs spread, so cut back regularly, or dig up in spring or fall. Plant 1 per square foot; or in a container.

### Herbs, annual

**Basil:** Transplant or Direct seed alongside of tomatoes or plant 2 per square foot. Harvest regularly to encourage growth.

**Cilantro:** Direct seed only. Draw 4 lines in a square; sprinkle about 10 seeds along each line. Plant a few seeds near spinach. Seed every 3 weeks for continuous crop.

**Dill:** Direct seed 4 per square foot.

**Parsley:** Difficult to direct seed so buy transplants. 2 per square foot.
Caring for Your Garden

WATERING
After planting seeds or seedlings, water them daily. Check if you need to water by sticking your finger 2 inches into the soil; if the soil is dry, it is time to water. After seedlings are established and growing well, you can water less frequently. When watering by hand, get close to the ground and pour the water onto the soil. Water and harvest your garden during the coolest hours of the day – preferably in the morning. If the plants look yellow, they are getting too much water; if they look wilted, they are not getting enough.

THINNING
After you plant seeds more than one plant might grow too close together. Choose which plant looks healthier and pull out the other plant. Gently pull out the plants you don’t want or carefully use small scissors cut the plants near the ground.

WEEDING
Spend a few minutes pulling weeds every day. If you do not pull weeds every 3 days you may not be able to find your plants. Remove the weeds right away or they will go to seed and spread more weeds around your garden. Weeding is also easiest when the soil is moist. You can remove weeds by hand or use a tool. Make sure you pull all the weed roots out.

MULCHING
Mulch is straw, shredded leaves, compost, and dried grass cuttings. Mulch is used to help keep the soil moist (wet). After your plants are 6 inches tall, spread mulch on the soil.

FEEDING THE SOIL
Plants grow best in fertile soil. Organic matter is an essential component of healthy soil. It helps dry soils to hold moisture and wet soils to drain, it adds nutrients to the soil and it creates air spaces so the roots can penetrate the soil. Adding compost is a good way to incorporate organic matter into your soil. Add compost to your garden bed each year.

MAKING YOUR OWN COMPOST
→ Place your composter on bare soil, somewhere in your garden that is easily accessible all year.

→ Mix Green and Brown materials when composting

<table>
<thead>
<tr>
<th>Greens (Nitrogen Rich)</th>
<th>Browns (Carbon Rich)</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓ Grass &amp; Garden Clippings</td>
<td>✓ Straw and Hay</td>
</tr>
<tr>
<td>✓ Green Leaves</td>
<td>✓ Dry Leaves and Dry Grass</td>
</tr>
<tr>
<td>✓ Livestock Manure</td>
<td>✓ Nut Shells</td>
</tr>
<tr>
<td>✓ Fruit and Vegetable Scraps</td>
<td>✓ Corn Cobs</td>
</tr>
<tr>
<td>✓ Coffee Grounds and Filters</td>
<td>✓ Pine Needles</td>
</tr>
<tr>
<td>✓ Tea Leaves and bags</td>
<td>✓ Peat Moss</td>
</tr>
<tr>
<td>✓ Egg Shells</td>
<td></td>
</tr>
</tbody>
</table>

→ Chop large items into smaller pieces. Add water if it is too dry; cover and add dry material if too wet.

→ Continue adding materials, stirring the contents every week

→ The compost is ready when it is dark in color and smells like earth. This can take from 6 to 18 months depending on the materials used and the time of year.
**PEST CONTROL**
The best way to keep pests away from your garden is to grow healthy plants since strong, healthy plants tend to fight off invading pests. In addition, certain vegetables, such as onions, will help to repel insects if planted around the edge or throughout the garden. Flowers and herbs, such as nasturtiums and marigolds, can also provide protection from pests.

**Balcony Garden**
You do not need a big back yard to grow food. In fact you don’t need a yard at all. Small-scale gardens can be made indoors, or on fire escapes, balconies, etc. It can also be done very cheaply. Spending a few dollars on soil and seeds can produce good, healthy food. All you need is some basic knowledge and planning.

**WHERE TO PLANT**
Find the best light and space available to you:

a) **Light** (Where to plant)
South facing windows get the most light. If you have a skylight, and can reach it, put your plants near them. But what if you don’t have big windows or good light? You can STILL have great plants living happily in your house. You will need to select plants that do well in lower light conditions, but they will grow well, especially if near a bright lamp all day.

b) **Space**
Now that you have found where most of the light comes into your apartment, you have to figure out how to fit a small garden into that space. You can use typical planter pots. You can also be creative and use plastic bottles, hanging baskets, boxes on windowsills, etc. You can plant in anything that will hold dirt and let water drain.

**DESIGNING A BALCONY GARDEN**
The same design principles apply on a balcony as they do in a yard:

- Use different combinations of container and plant sizes to create visual interest.
- Layer plants, with taller plants in the back and smaller ones in the front.
- Try vertical gardening. Hanging baskets and trellises can be used to maximize space.
Companion planting means that certain vegetables, herbs, and flowers like to grow together. They often help each other to grow better, yield more or taste better. Some plants can also repel pests or attract pollinators. These plants can be planted in squares next to each other or even in the same square if there is enough space.

<table>
<thead>
<tr>
<th>VEGETABLES</th>
<th>COMPATIBLE WITH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beans</td>
<td>Cabbage family, carrot, corn, cucumber, eggplant, peas, potato, Swiss chard, marigold, nasturtium, oregano</td>
</tr>
<tr>
<td>Beets</td>
<td>Bush beans, cabbage family, lettuce, onion, garlic</td>
</tr>
<tr>
<td>Cabbage family</td>
<td>Beet, cucumber, lettuce, onion, potato, spinach, Swiss chard, chamomile, dill, garlic, nasturtium, sage, thyme</td>
</tr>
<tr>
<td>Carrot</td>
<td>Beans, lettuce, onion, peas, peppers, tomato, chives, rosemary, sage, thyme</td>
</tr>
<tr>
<td>Corn</td>
<td>Beans, cucumber, melon, peas, potato, squash, marigold, parsley</td>
</tr>
<tr>
<td>Cucumber</td>
<td>Beans, cabbage family, corn, lettuce, tomato, marigold, parsley</td>
</tr>
<tr>
<td>Eggplant</td>
<td>Beans, peppers, marigold, thyme</td>
</tr>
<tr>
<td>Lettuce</td>
<td>Beet, cabbage family, carrot, onion, chive, dill, garlic, onion</td>
</tr>
<tr>
<td>Melon</td>
<td>Corn, pumpkin, squash, marigold, nasturtium, oregano</td>
</tr>
<tr>
<td>Peas</td>
<td>Beans, carrot, corn, cucumber, turnip, parsley</td>
</tr>
<tr>
<td>Peppers</td>
<td>Carrot, eggplant, onion, tomato, basil</td>
</tr>
<tr>
<td>Spinach</td>
<td>Cabbage family, lettuce, peas, radish, onion</td>
</tr>
<tr>
<td>Squash</td>
<td>Corn, melon, pumpkin, radish, marigold, nasturtium, oregano, onion</td>
</tr>
<tr>
<td>Tomato</td>
<td>Asparagus, beans, carrot, cucumber, onion, peppers, eggplant, basil, chive, parsley, sage, thyme</td>
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## Planting Schedule

<table>
<thead>
<tr>
<th>Last Frost</th>
<th>May 16th</th>
<th>First Frost</th>
<th>Start of Nov</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mar</td>
<td>Apr</td>
<td>May</td>
<td>Jun</td>
</tr>
<tr>
<td>Beans, Peas</td>
<td></td>
<td></td>
<td>Plant every 3 weeks</td>
</tr>
<tr>
<td>Beet, Radish</td>
<td>Outdoor seed 4 weeks before last frost</td>
<td>Plant every 3 weeks</td>
<td>Plant every 3 weeks</td>
</tr>
<tr>
<td>Broccoli, Cabbage</td>
<td>Plant every 3 weeks</td>
<td>Direct Seed for a Fall crop</td>
<td></td>
</tr>
<tr>
<td>Carrots</td>
<td>Plant every 3 weeks</td>
<td>Plant every 3 weeks</td>
<td>Plant every 3 weeks</td>
</tr>
<tr>
<td>Cauliflower, Peppers, Tomatoes, Squash, Kale</td>
<td>Transplant in late April</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cucumber</td>
<td>Plant outdoor in early June</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eggplant</td>
<td>Transplant in June when soil is warmed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Garlic</td>
<td></td>
<td></td>
<td>Plant outdoors</td>
</tr>
<tr>
<td>Lettuce</td>
<td>Transplant in late April</td>
<td>Plant or transplant every 10 days</td>
<td>Plant or transplant every 10 days</td>
</tr>
<tr>
<td>Onions</td>
<td>Plant or transplant in mid April</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spinach</td>
<td>Plant every 2 weeks</td>
<td>Plant every 2 weeks</td>
<td>Plant every 2 weeks</td>
</tr>
<tr>
<td>Swiss Chard</td>
<td>Plant in early April</td>
<td>Plant every 2 months</td>
<td></td>
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</table>
Make a small garden in your backyard