

BELLINGHAM FOOD BANK

# GARDEN PROJECT

Growing more than vegetables.

## Growing Guide

Made possible by the Sustainable Whatcom Fund of the Whatcom Community Foundation



## **For More Information:**

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# About Bellingham Food Bank

## Our Mission:

To reduce hunger by providing wholesome foods to those in need on an emergency or chronic basis and by educating the community on the problem of hunger.

## What we do:

Bellingham Food Bank is Whatcom County's largest emergency food provider, and we've been feeding our community since 1972. We meet our mission by supplying groceries to tens of thousands of hungry Bellingham families every year. In addition, Bellingham Food Bank serves as the warehouse for more than one dozen smaller food banks throughout Whatcom County, each year receiving, storing and distributing more than 1 million pounds of food to partner food banks.

Bellingham Food Bank also educates the community about local hunger issues. Our staff members are available to talk to schools, civic, business and other community groups.

## How We Do It:

Bellingham Food Bank relies on support from the community to meet our mission. Our small staff is supported by more than 200 volunteers. Each week, the food bank rescues thousands of pounds of produce, dairy and bread from local grocery store donors. Local food drives, gardeners and farmers' surplus also help feed Bellingham's hungry families.

Bellingham Food Bank also receives and depends on generous monetary donations to feed our community. We purchase tons of food each month, including food from food bank distributors capable of accessing large amounts of surplus food. We also directly purchase food that is in highest demand, such as milk, frozen protein and baby food. Because of our purchasing power, Bellingham Food Bank can usually buy 1,000 pounds of food with \$100.

## Bellingham Food Bank Agricultural Programs

### Small Potatoes Gleaning Project

Gleaning is the ancient practice of gathering food left in the fields after harvest. Small Potatoes Gleaning Project takes this age-old practice and puts it into action in Whatcom County. Volunteers annually glean more than 135,000 pounds of produce from local farms, home orchards and the Bellingham Farmers Market. The gleaned fruits and vegetables are then delivered to area food banks, soup kitchens and feeding programs.

### Victory Gardens

During World War 11, Victory Gardens were a way for everyday folks to help with the war effort. Today most people garden for the joy of it and eat the fruits (and veggies) of their labor. But what to do with the overabundance of lettuce or carrots? Community members donate their surplus produce to the food bank to help in the fight against hunger. Produce grown in Victory Gardens help to provide fresh and nutritious food to those who need it most.

For more information on any of these programs and to learn about volunteering visit [www.bellinghamfoodbank.org](http://www.bellinghamfoodbank.org), send an email to [glean@bellinghamfoodbank.org](mailto:glean@bellinghamfoodbank.org) or call (360) 739-5274.

# Welcome to the Bellingham Food Bank Garden Project!

The Garden Project increases access and education about organic gardening. We build free home gardens for Bellingham families and individuals who have a limited income. In addition to the raised bed garden, Garden Project participants receive two years of support and many free resources, such as educational workshops, this guide, newsletters, a mentor (if they so choose), organic seeds and plant starts and basic gardening tools. The benefits are numerous: from fresh nutritious vegetables and increased outdoor exercise to sharing the gardening experience with family members and friends.

It is our hope to foster a strong community by empowering people to grow more than vegetables. We hope that you have fun, enjoy abundant, fresh and healthy produce grown close to home and pass your knowledge on to others.

*Thank you for your energy and enthusiasm.*

## How to Use this Growing Guide

This guide is an introduction to gardening and is intended to be used as a tool to get you started. Information on organic gardening in the Maritime Northwest and record-keeping charts provide new and old gardeners with useful tools. Be playful and use your ingenuity and community resources. Remember, experience is often the best teacher. A multitude of other print and organizational resources are listed in the back of this guide.

## Why Raised Beds?

Soil in a raised-bed garden warms up fast in the spring, drains well and is easy to tend because it is above ground level. The raised beds that the Garden Project builds should provide years of use with little maintenance. Garden Project volunteers build 4' x 8' garden frames of a high quality 2" x 10" Douglas Fir lumber and fill it with healthy garden-ready soil. Your garden will do best if you let the soil settle for a few days after construction. Use this time to read through this guide and begin planning your garden. As you plan, visualize tending and harvesting throughout the growing season.

## Where the Garden Project Gets its Support

Bellingham Food Bank's Garden Project is made possible with generous funding from the **Sustainable Whatcom Fund of the Whatcom Community Foundation**. Contributions and discounts on hardware and materials from the following organizations make this project possible: **Builders Alliance, Garden Spot Nursery, Kellogg Garden Products, Hardware Sales, Growsource, B Squared Bamboo, RESources, Sunseed Farm, Uprising Organics** and **WSU Extension Master Gardener Program**. Furthermore, the Garden Project appreciates the generosity and wisdom of programs such as **GRUB** in Olympia, **Growing Gardens** in Portland, and **Clark County Homegrown Gardens**.

The Garden Project is brought to life through the amazing energy from our volunteers.

*If you're in the neighborhood of any of these great organizations, don't be shy to say "thanks!" Contact information can be found in the back of this book.*

# Planning Your Garden

Planning your garden with the entire growing season in mind will help you get the most out of your garden bed. It can also be a lot of fun.

The following steps will lead you through this process:

**Step 1:** Identify your garden goals. **Step 2:** List all the vegetables you want to grow. **Step 3:** Make a garden map.

## Step #1: Identify your garden goals.

Make a list of what you want to get out of your garden. Maybe you want to grow enough tomatoes to preserve for the winter. Maybe you want to grow herbs for daily use. Maybe you want to experiment with new vegetables.

1.

2.

3.

4.

## Step #2: Make a Planting List of all of the vegetables you want to grow.

What vegetables do you and/or your family like to eat? Maybe you want to try something new?

To make your list, fill in the first column on the next page with what vegetables you want to grow. Then use the **Planting Guide**, page 10, to find out when you should plant each vegetable. Put this information in the “When to Plant” column of your **Planting List**.

Use the **Vegetable Guide**, page 19 - 29, to fill in the other three columns with other planting information and harvesting schedule information.



# Step #3: Make a Garden Map

Making a map can help you decide where to plant each kind of vegetable. This will also help you make the most of your garden space. Detailed planning is key and the increased yields make it well worthwhile. We recommend using the following method.

## Square Foot Gardening

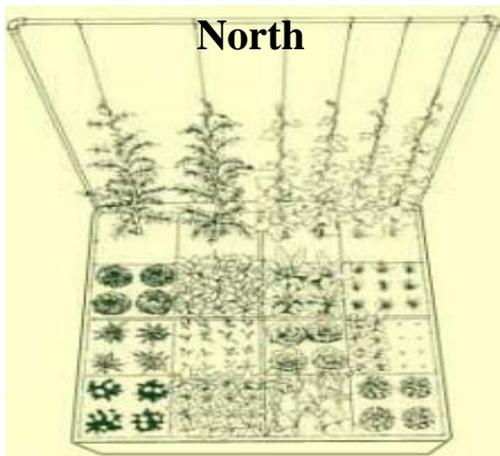
Square foot gardening uses block spacing instead of rows. Each square represents a square foot.

It's a great method to use in a small garden because it saves space and allows you to easily clear and re-plant a block without disturbing other areas of your garden. This method is also useful for record keeping to aid in proper crop rotation (see page 13).

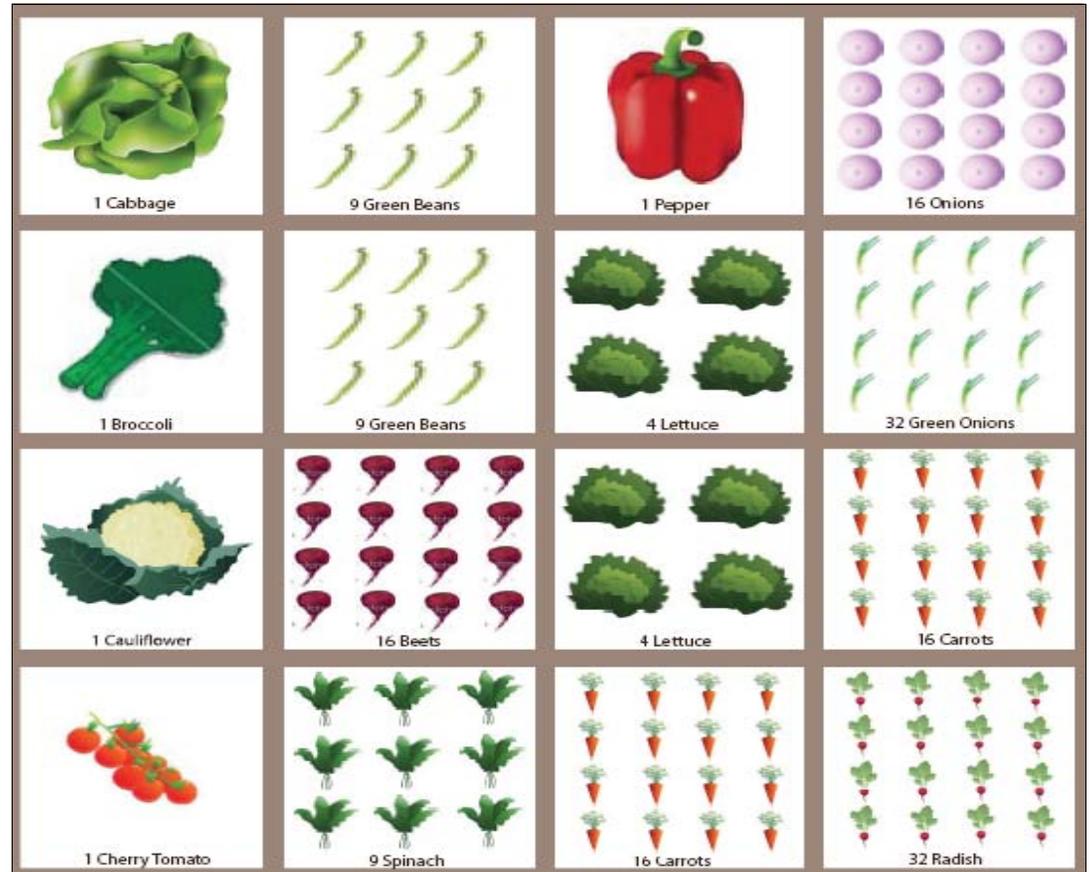
- **Use a blank grid make your garden map.**  
**You'll find many blank grids at the back of this booklet.**  
These grids are customized for Garden Project garden beds that are 4' x 8' or 32 square feet.

*If your garden is not this size, you can draw your own grid.  
Measure your garden bed, the split it up into square feet.  
Draw one box per square foot.*

- **Locate North in your yard and put this on your map.**



*Below is an example of a garden using square foot gardening method.*



Tall plants like tomatoes, pole beans and climbing peas go at the north end of your garden so they won't shade out shorter plants. Also, by using a trellis you can maximize space in the garden.

## Maritime Northwest Climate and Plant Selection

Whatcom County has a wet, mild winters, and warm, dry summers. This climate is perfect for many plants and allows for year-round gardening. Because of mild conditions, certain plants can be grown all year long. Others, particularly heat-loving plants like peppers, tomatoes and eggplants can be more challenging. You'll learn from experience, conversations with friends and other resources what other kinds of plants will thrive in your garden. Seed packets and this booklet will provide more information about planting dates.

**\*\*\*In Whatcom County, the average last frost date is May 6. To be safe, wait to plant until the second or third week of May.\*\*\***

## Plant Selection and Planting

The Garden Project provides healthy plant starts and seeds to participants for two years. If you buy plant starts from other sources, choose ones that are strong, straight and green without yellowing or insect damage. Plants bought from outside stands will be ready to go right in the ground but until about mid May. Those from a greenhouse or other warm environments will need time to slowly adjust to the outside. Abrupt temperature changes can shock, stunt or even kill tender plants. Helping plants to adjust to the outside is a process called "hardening off." This is most often accomplished by bringing plant starts outside during the day and then inside a warm environment at night. After a few days, plants will be acclimated to outdoor conditions and should be fine.

## Sunlight

Plants, such as tomatoes, peppers and broccoli are sun-lovers and need **full sunlight (6-8 hrs. of sun)**. Some plants can still grow decently in **partial sun (4-6 hrs. of sun)**. These plants can be good for those tricky areas of your yard or garden beds that may be shaded during part of the day.

**Plants that do well in partial sun:** arugula, beans, beets, broccoli, carrots, chard, collards, endive, kale, kohlrabi, lettuce, onions, parsnips, peas, radishes and spinach.

## Planting Seeds and Starts

You can grow many vegetables by planting seeds directly into the ground. This is called '**direct-sown.**' Most root vegetables, such as carrots and beets should only be direct-sown. Some vegetable plants need to start growing inside and then get planted outside when the weather and soil warms. This is called '**transplanting.**' Tomatoes, peppers and eggplant need to be transplanted. The young plants are called '**plant starts.**'

The chart on page 10 describes which crops should be direct-sown and which should be transplanted.

**Some important things to find out about each vegetable *before* planting:**

**When** to plant the seeds

**How deep** to plant the seeds

**How far apart** to plant the seeds

## General Planting Tips

- **Watering:** Keep the soil of young plants moist, but don't over-water. It's best to water just a little every day while plants are young. Water less often when they get older. Avoid getting water on the leaves.
- **Succession Planting:** Use this method for fast growing crops such as carrots, cilantro, lettuce, radish, salad mix and spinach. Direct-sow these crops every 2-3 weeks to have a fresh harvest throughout the season.
- **Vining Crops:** Such vegetables as squash, cucumbers, climbing peas and pole beans are considered vining crops. Plant on the edge of garden beds because they need extra room to spread their vines. Plant on the north end so you don't block the sun for other plants and use a trellis to save space.
- **Planting Dates:** Dates for outside planting vary depending upon where exactly your garden is located. Dates provided are guidelines. Anything planted *before* these dates is at risk of frost damage or kill.

# Crop Planting Guide

common garden crops	direct-sow or transplant?	earliest to latest planting date (outside)	space between plants	seed depth	time from seed to harvest
Arugula	direct-sow	April - September	3" - 6" or 6/sq.ft	1/8" - 1/4"	6 weeks
Basil	transplant	June - July	4" or 9/sq. ft.	1/8"	6 - 7 weeks
Beans (pole)	direct-sow	May - June	3" - 4" or 8/sq. ft.	1"	7 - 10 weeks
Beets	direct-sow	mid April - mid July	4" - 6" or 16/sq. ft	1/2" - 1"	8 - 12 weeks
Broccoli	either	mid April or July	18" - 24" or 1/sq. ft	1/2"	12-14 weeks
Broccoli Raab	either	mid April or July	18" - 24" or 1/sq. ft	1/2"	7 - 8 weeks
Brussel Sprouts	either	mid May- July	24" or 1/sq. ft	1/4" - 1/2"	12 - 16 weeks
Cabbage	either	late April - July	18" or 1/sq. ft	1/4"	16 weeks
Carrots	direct-sow	late April - August	2" - 4" or 16/ sq. ft	1/4"	10 weeks
Cauliflower	either	April- July 15	22" or 1/sq. ft.	1/4"	14 - 19 weeks
Celery	transplant	mid May - July	12" or 1/sq. ft	NA	15 - 20 weeks
Chard	direct-sow	mid May- July	10" - 12" or 1/sq. ft.	3/4"	8 - 9 weeks
Cilantro	direct-sow	late April	1" or 12/sq. ft.	1/2"	8 weeks
Collard Greens	direct-sow	mid May- July	10" - 12" or 1/sq. ft	1/4" - 1/2"	7 weeks
Cucumbers	either	early June	18" or 1/sq. ft	1/2" - 1"	6 - 8 weeks
Dill	direct-sow	April - May	9" or 2/sq. ft.	1/4"	8 weeks
Eggplant	transplant	mid June	18" - 24" or 1 - 2 /sq. ft.	NA	9 - 11 weeks
Garlic	direct-sow	October or February	4" or 9/sq. ft.	1" - 2"	harvest in July or August
Kale	direct-sow	April - early August	8" - 16" or 1 sq. ft.	1/2"	8 - 9 weeks
Kohlrabi	direct-sow	April - early August	4" or 4/sq. ft.	1/4"	6 - 7 weeks
Leeks	either	May - July	6" or 4/sq. ft.	1/4"	11 - 12 weeks
Lettuce	direct-sow	mid April - August	6" - 12" or 2/sq. ft.	1/4" - 1/2"	7 - 8 weeks (head lettuce)
Mustard Greens	direct-sow	April- August	6" - 12" or 2/sq. ft.	1/2"	3 - 7 weeks
Onions	either	April - May	3" - 5 inches or 9/sq. ft.	1/2"	12 - 13 weeks
Oregano	either	May	12" or 1/sq. ft.	1/4"	15 weeks
Parsley	direct-sow	April - July	6" - 8" or 2/sq. ft.	1/4"	12 weeks
Parsnips	direct-sow	April - June	3" - 4" or 14/sq. ft.	1/4" - 1/2"	16 - 17 weeks
Peas	direct-sow	March - July	1" - 2" or 12/sq. ft.	1"	9 - 10 weeks
Peppers	transplant	early - mid June	12" - 18" or 1/sq. ft.	NA	10 - 11 weeks
Potatoes	direct-sow	late March	12" or 1/sq. ft.	2-3" & mound	7 - 8 weeks
Radish	direct-sow	March - July	2" - 3" or 16/sq. ft.	1/2"	4 - 5 weeks
Rosemary	transplant	May	12" or 1/sq. ft.	NA	12 - 15 weeks
Spinach	direct-sow	late March -mid August	2" - 4" or 9/sq. ft.	1/2"	6 - 7 weeks
Squash (summer)	either	early June	3' - 4' or 1/ 1 - 2 sq. ft.	3/4"	7 - 8 weeks
Squash (winter)	either	mid-June	4' or 1/3 sq. ft.	NA	12 - 15 weeks
Strawberries	transplant	early June	12" - 18" or 1/sq. ft.	NA	when berries are red
Tomatoes	transplant	late May - early June	24" or 1/ 1 -2sq. ft.	NA	8 - 16 weeks
Turnips	direct-sow	early May - mid-August	2" - 3" or 10/sq. ft.	1/2"	6 - 7 weeks

# Planting Schedule Guide for Whatcom County

May 6<sup>th</sup> is the average last frost in Bellingham.

Weeks in month	March				April				May				June				July				August				September			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Beans, Bush																												
Beans, Pole																												
Beets																												
Broccoli																												
BrusselSprouts																												
Cabbage																												
Carrots																												
Cauliflower																												
Celery										X	X	X	X	X	X	X	X											
Chard																												
Collards																												
Corn																												
Cucumbers																												
Garlic																												
Kale																												
Kohlrabi																												
Leeks																												
Lettuce																												
Mustards																												
Onions								X	X	X	X	X	X															
Parsnips																												
Peas																												
Peppers													X	X	X													
Spinach																												
Squash, summer																												
Squash, winter																												
Tomatoes													X	X	X													
Turnips																												

"X" designates crops that will do best transplanted in this area.

## Direct – Sowing

**Large Seeds:** Example: cucumbers, squash, beans, peas, chard, beets

- Make little holes where you want to plant your seeds. The holes should be no deeper than your first knuckle (about an inch).
- Put a seed in each hole. Cover with loose soil.
- Gently water the soil after planting. Watering too strongly will wash the seeds or soil away.
- Keep the top of the soil moist. You'll likely need to water once daily in the height of summer. It's best to check soil moisture before watering.

**Small Seeds:** Example: carrots, spinach, lettuce, radish

- With the side of your hand, make a shallow line in the soil, about ¼ inch deep.
- Sprinkle the seeds in the line with your finger tips. *Remember each seed is going to be a plant, so don't sow too heavily.*
- Cover the seeds with loose soil.
- *Gently* water the soil after planting.
- Keep the top soil moist.
- When the plants get their 2<sup>nd</sup> set of leaves, it's time for thinning. “**Thinning**” means pulling out some of the young plants so the others have room to grow. Envision how much room a mature plant will need. Then, select the weakest looking plants to remove until all plants have enough room to grow to full size. As you thin, be gentle as to protect the root structure of the plants you are keeping. Thin until you have the correct amount of space between plants. Or, you can thin as plants grow and harvest them to eat, as they are delicious and tender. If you choose this method of thinning, you'll want to do so regularly until you have adequate space between each plant.

## Transplanting Plant Starts

- Transplant starts during the cool of the day, such as morning or evening, to reduce shock.
- Dig a hole in the soil slightly larger than the container the start is in.
- Water the plant start well while it is in the pot. Then carefully pry the plant and its surrounding soil out of the pot. Gently pinch the bottom of the pot if the plant start isn't coming out easily.
- Place the plant and surrounding soil, roots down, into the hole. Plant the start where the leaves and the stalk meet.
- Fill in the remaining space with soil and *gently* pat down.
- Water the soil around the plants and avoid getting water on the leaves.
- *A note on transplanting tomatoes:* The fuzz on the stems of tomato plants will turn into roots when underground. The deeper the stem is buried, the deeper the roots will be. Bury tomato stems down to the first healthy looking leaves so that those leaves are just barely above the ground. Put a tomato cage, trellis or stakes around the plants right after planting. It's hard to get cages over plants once they have grown very much.

## Succession Planting

Many crops, such as carrots, cilantro, leafy greens and radishes, are best grown successively, meaning they are planted many times throughout the season. For example, you could choose sections of your garden for a steady supply of salad greens. *Use your garden map and planting schedule.*

- Begin by sowing seeds for only half a section.
- Mark the date and section you sowed.
- Three weeks later (in the case of lettuce), plant the second half of the section. Mark and date (this is a good time to thin the first section).
- When the first planting is harvestable, clear it out to eat and sow more. Continue this throughout the growing season.

## Crop Rotation

***Avoid growing vegetables from the same family in the in the same location more often than once in 3 years period, especially Brassicas.***

Rotate the place in your garden where you grow different kinds of crops each year. This helps keep pests and diseases under control and helps your soil keep a balance of important nutrients. Be vigilant with crop rotation and use old garden maps as guides.

Below is a list of vegetable plant families and the common names of popular vegetables in each family.

**Alliaceae** (*onion family*): chives, garlic, leek, onion

**Chenopodiaceae** (*goosefoot family*): beet, chard, spinach

**Brassicaceae** (*mustard family*): broccoli, brussel sprouts, cabbage, cauliflower, boc choy, kale, kohlrabi, mustard greens, radish, rutabaga, turnip

**Asteraceae** (*composite family*): endive, globe artichoke, lettuce

**Cucurbitaceae** (*gourd family*): cantaloupe, cucumber, pumpkin, summer squash, winter squash, watermelon

**Gramineae** (*grass family*): sweet corn, popcorn

**Leguminosae** (*pea family*): green bean, fava bean, lima bean, pea, snap bean

**Liliaceae** (*lily family*): asparagus

**Solanaceae** (*nightshade family*): eggplant, pepper, potato, tomato

**Umbelliferae** (*parsley family*): carrot, celery, fennel, parsley, parsnip

## Watering Tips

- It's best to water in the early morning, both to maximize the efficiency of water used and to promote healthy flora.
- Seedlings and young plants need lots of water. Check the moisture in the soil once daily to ensure they stay moist.
- Older plants can be watered less frequently. In the heat of mid-summer, plants may need to be watered daily. If plants are looking yellow, it can be a sign they are getting too much water; if they look wilted, they aren't getting enough.
- *Water the soil at the base of the plant, not the plant itself, and avoid getting water on plant leaves.* Wet leaves can encourage fungus and other plant diseases.
- If you have a hose, use a gentle stream of water. If the soil is getting pushed around, turn down the hose pressure.
- Mulch! You can cover any bare soil in your garden with leaves, grass clippings or straw. This can help hold moisture and nutrients in soil.

# Components of Healthy Living Soil

## Micro-organisms

- Micro-organisms are little critters that live in your soil. There are billions of them, and most are so small you can't see them, but they are **very** important! They include bacteria, fungus, tiny insects, nematodes and protozoa.
- They help fight pests and diseases.
- They help hold water and nutrients in the soil.
- They break down organic matter and make nutrients available for plants.

## Organic Matter

- Organic matter is decayed plant and animal material.
- It helps the soil hold water and nutrients.
- It creates air space in the soil for plants and bugs to breathe.

## Nutrients

- Nutrients are food for you plants.
- The main soil nutrients are Nitrogen (N), Phosphorus (P), Potassium (K) and Calcium (Ca).

Nutrient	Deficiency Symptoms (how you can tell a nutrient is missing)	Organic Amendment (what to add to the soil)
Nitrogen (N)	Lower leaves yellow, overall plant light green, growth stunted	Bone meal, coffee grounds, cottonseed meal, fish emulsion, fish meal, soybean meal
Phosphorus (P)	Foliage red, purple or very dark green, growth stunted	Bone meal, colloidal phosphate, rock phosphate
Potassium (K)	Tips and edges of leaves yellow, then brown, stems weak	Kelp meal, greensand, granite meal, wood ashes, Sul-Po-Mag
Calcium (Ca)	Tips and edges of leaves yellow, then brown, stems weak	Kelp meal, greensand, granite meal, wood ashes, Sul-Po-Mag, eggshells, bone meal, limestone

## **Soil Nutrients and Fertilizers**

- If your plants are growing poorly, your soil may be missing important nutrients. When a plant does not have enough of a particular nutrient, it's called a 'nutrient deficiency.'
- Fertilizing is the process of adding amendments to your soil in order to achieve a healthy balance of nutrients. When you add compost or worm castings to your garden, you are fertilizing it. We recommend using organic fertilizers because they are made without using chemicals.
- What you'll see on a bag of fertilizer is called the N-P-K ratio, which stands for Nitrogen-Phosphorus-Potassium. Nitrogen plays the largest role in forming leaves and new plant growth. Potassium plays the largest role in shaping the fruit of a plant (tomatoes, cucumbers, peppers, etc.). Phosphorus plays the largest role in establishing healthy root systems.
- Garden-oriented fertilizers are readily available in ratios balanced for vegetable growing. The garden soil mix that we use from Growsource is balanced for growing great vegetables, but as nutrients are taken up by plants, it's necessary to replace them. In the box above are some organic soil amendments (fertilizers) that you can use if your plants need nutrients.

**Add Compost Regularly** *Adding compost to your soil at least once a year is a great way to keep it healthy.*

Well broken down compost will provide most of what your garden soil needs to grow healthy plants. Worm castings are wonderful too!

## **Keep Soil Covered!**

When you don't have vegetables growing, cover your soil with mulch or a cover crop. This will keep nutrients in the garden and will keep weeds out.

# Compost, Fabulous Compost!

Compost is a great natural soil amendment and can be made with yard debris and kitchen scraps. It's made of decomposed organic matter from plant material and animal manure is commonly used. Compost adds important nutrients to your soil, improves soil structure and adds beneficial micro-organisms.

**What to Compost:** Any plant material: including green plant material, carbon material and manure (such as cow, chicken and horse). It is best if your material is chopped or shredded into small pieces. The finer the pieces the faster your compost will be finished.

**Green (nitrogen) items:**

fresh grass clippings, green leaves, plant stalks from garden and yard, weed leaves *without* seed heads, vegetable, fruit scraps, kitchen scraps, coffee grounds, coffee filters, tea bags, crushed egg shells

**Brown (carbon) items:**

dried grass, dried leaves, dried plant stalks, coffee filters, newspaper (shredded), straw, old organic potting soil, hair

**Do Not Compost:**

diseased plants, weeds with seed heads, twigs, invasive weeds (ex. morning glory, buttercup, quack grass), pet wastes, dead animals, meat, fish, dairy products, grease, cooking oil, oily foods

## Composting Basics:

**There are many methods of composting. Please see the resources section at the back of this guide to learn more about the art of composting.**

There are many varieties of composting bins that you can build yourself or purchase. If you want to contain the compost pile, it's recommended to have a bin that is 3 feet in each direction (high, wide and long).

- How to make your own **pallet bin**: You'll need 3-4 wooden pallets. Stand them on end to form 3 sides of a square. You may use 4 and completely enclose the bin. Attach the pallets together using nails or screws. You may want a tarp to cover the top of the bin during rainy season because too much water isn't good your compost pile.

You can also build a free standing pile. For example, a hot layered pile is built directly on the ground and constructed in one session.

## Creating & Maintaining Your Compost Pile:

- 1) If you aren't starting your compost pile in a fully contained bin, clear the ground first.
- 2) Start with a bottom layer of course materials, such as corn or sunflower stalks. This will help create good air flow, otherwise known as aeration.
- 3) Add a layer of **green** materials, 3-6 inches thick. Then add a layer of **brown** materials, 3-6 inches thick. Sprinkle some healthy soil into the layers. This will add beneficial micro-organisms to the mix.
- 4) Alternate the layers of each type of material until your pile is 3 feet high.  
**\*Keep each layer diverse in its range of materials, rather than having a layer just of grass or newspaper.\***
- 5) If available, try to keep a top layer of straw or dry leaves on your pile.
- 6) If you are using manure, layer it in between the green and brown materials. It's a great compost activator and is full of nutrients that benefit the soil.

**Moisture:** The pile should be as *moist as a wrung-out sponge*. You may need to water your pile during the summer and cover it with a tarp during the winter. If you build your pile in one shot, with material on hand, you'll want to water each layer as you go.

**Air Flow:** The pile should always have *good air-flow*. As the compost breaks down, it gets compacted. *Turn over your pile* for aeration and to retain heat. The more often you turn your pile the sooner it will be ready for the garden.

**\*\*\*Compost is ready to add to your garden when it looks like soil.**

***It should be dark brown, crumbly, and have an earthy smell, and the original materials should be totally broken down. \*\*\****

# Winter Gardening

A beautiful garden with nutritious crops can be grown during the winter in the Maritime Northwest! However, crops must be well established by the time cold weather sets in and the daylight hours decrease. It's strongly advised to plant your winter garden in the late summer. Plants will grow mostly in the fall, yet can be harvested in winter and spring. A winter garden needs very little water. Pests and weeds are also less of a problem.

You can only grow plants that tolerate the cold. Suitable winter vegetables are '**cold hardy**' and can grow in cool weather with limited sunlight.

*Some crops that are great for winter gardening in our climate include leeks, spinach, parsnips, beets, kale, garlic, collard greens and swiss chard.*

Winter crops can be direct-sown if you sow them by the end of July or early August. Add some compost to the area before planting. You can even plant your winter seeds under summer vegetables. This saves space and shades your seedlings from strong sun. Once the crops grow a bit, add an inch thick layer of mulch over the soil to provide warmth for your plants and protect them from the cold. **Mulch** can be made from straw, dry grass clippings or dry chopped leaves. Keep an eye out for slugs, as they are common pests in the rainy Northwest.

**Season Extenders** act like little greenhouses. They keep the soil and the plants warm, which helps your crops grow faster. A *cold frame* is a box with a removable top and a *cloche* is a plastic or glass covering over your garden. *Floating row cover* is agricultural cloth that raises the temperature and provide some frost protection. See the web resource list (page 33) for instructional website of how to build a cloche.

## Cover Crops

One easy and effective way to regenerate and protect your soil is through the use of cover crops. These crops are grown to cover the soil and to be incorporated into the garden to add nutrients and organic matter. They help prevent weed growth, soil erosion, nutrient run off and compaction caused by heavy rainfall. Cover cropping is a great way to fertilize, which lessens the need for commercial soil amendments. Also, they add beautiful color to the garden. There are many cover crops that can be planted in spring or fall. In order to have a cover crop growing in the winter, sow in early fall.

To plant cover crop, sprinkle the seeds evenly over the soil, cover with a thin layer of soil and gently water (unless it's a rainy time of year).

*Three to four weeks before planting your vegetable garden, use a cultivating fork or garden spade to chop up the cover crop plants and turn into the soil. Or if you want to plant right away, chop the plants off just above the soil level, leave the roots in the soil and put the plant tops into your compost.*

### Some cover crops to grow in the Pacific Northwest:

- **Hairy & common vetch:** Sow in late August - early September. Both crops hold up well in cold weather. This legume is a nitrogen source, weed suppressor and topsoil conditioner. It even attracts beneficial lady beetles.
- **Crimson clover:** Sow from August - early October and turn into the soil just before it flowers in April. Crimson clover needs well drained soil, but it's one of the easiest cover crops to obtain, sow and turn under. This legume is a nitrogen source, a soil builder and attracts beneficial insects
- **Fava:** A great tasting legume that can be dried or eaten when the beans are green (although be aware that some individuals have serious allergies to Fava). Sow in late fall, 5 inches apart and 2 inches deep, in rows 3 feet apart. Turn into the soil in mid- to late May to add nitrogen to the garden.
- **Austrian field peas:** Sow in the fall or as soon as possible in the spring. This cover crop can be worked into the soil late April or early May. This legume is a nitrogen source and a weed suppressor.
- **Cereal rye or winter rye:** Sow in late August - October. It suppresses weeds and prevents erosion. In the spring, turn into the soil which will add organic matter and nitrogen. It's good to pair rye with a legume, such as hairy vetch to offset rye's tendency to tie up soil nitrogen.
- **Buckwheat:** Sow in spring or summer and turn into the soil at first sight of flowering before seeds set (about 5 to 6 weeks after germination). It grows fast and because of its density, buckwheat can overpower tough weeds. It adds organic matter to the soil when turned into the garden and will pull up insoluble phosphorus from minerals up to the topsoil to make available for next crops.

# Garden Pests and Natural Management Strategies

**Integrated Pest Management (IPM)** is one of the best practices in organic gardening to keep pests from damaging your crops.

- **Scout:** Regularly look at plants to determine what kind of pest is present and how much damage they have caused.
- **Cultural Control:** Keep crops healthy by watering regularly. Plant resistant varieties and maintain good fertility levels in your soil.
- **Biological Controls:** Beneficial insects are a natural way to control unwanted pests. Some beneficial insects kill harmful pests and others pollinate your plants, so they produce more. Flowers and herbs that provide beneficial insects with food and shelter are **insectary plants** (examples: fennel, angelica, bee's friend, chamomile, coriander, clover, mints, rosemary, thyme and yarrow). Try to keep something flowering in your garden at all times.

**Plants can tolerate a fair amount of pest damage. Your veggies and fruit don't have to look perfect to be delicious and nutritious. Learn to live with a little bit of pest damage. It's a small price to pay for a healthy garden.** A small number of pest insects are actually good for your garden, as they are a food source for beneficial insects. An '**outbreak**' is when one kind of pest takes over the garden in large numbers. Avoid using pesticides (they kill the good insects along with the pests and damage soil health). Below is a list of common pests and natural ways to control outbreaks.

## **Aphids** – *Common on greens and Brassicas*

Tiny grayish-green insects that live on green leaves and stems.

Prevention: Inspect plants regularly and remove any aphids you see. Attract beneficial insects to eat the aphids. Plant nasturtiums and marigolds in your garden. These plants repel aphids and other garden pests.

Outbreak Control:

- Wash aphids off of the leaves with a strong stream of water from a hose. You'll have to do this many times.
- Put soapy dish water (or crushed hot pepper and garlic soaked in water for a day) in a spray bottle and spray the aphids.

## **Blossom End Rot** – *Common in tomatoes*

Turns the end of the fruit dark brown or black and makes it sunken and dry.

Prevention: Add calcium to your soil each year. Lime, calcium sulfate, gypsum or ground eggshells are good sources. Keep a regular watering routine.

Outbreak Control: Once a problem, quick fixes are difficult. To prevent it next year, add lime (unless the soil is already alkaline) and bone meal.

## **Cabbage Worm** – *aka Cabbage Looper or Cabbage Moth*

Moths are white and hover around plants in the Brassica family (ex. cabbage, kale, broccoli, collards, cauliflower, brussel sprouts). They lay eggs on the plants and when the eggs hatch, young worms eat the leaves of the plant. The worms are green and small.

Prevention: Cover Brassica plants with a floating row cover (agricultural cloth) to prevent the moths from laying their eggs.

Outbreak Control: Remove cabbage worms by hand. They hang out on the underside of leaves. Their color blends in well, so look closely.

## **Cats**

Cats are very common pests in urban gardens. They like to use garden beds as a litter box.

Prevention: Use a screen, chicken wire, netting or anything else you have that will discourage the cats from getting in and digging. Make sure there is space for the plants to grow and that you'll still have easy access to the garden.

## **Cucumber Beetle** – *Common on cucumbers and squash*

Green with black spots or stripes. They look like green lady bugs, but they are not related. Cucumber beetles make bite marks on young stems and leaves. They lay clusters of eggs on the underside of leaves that hatch into yellow larvae. The larvae tunnel into the ground and eat plant roots.

Prevention: Inspect plants often for beetles. Use floating row covers for protection. Plant wilt-resistant varieties if appropriate.

Outbreak Control: Remove beetles and larvae by hand. Remove and throw away infested leaves or entire plants. Don't compost infected leaves.

## Cutworm

Cutworms are little caterpillars that come out at night. They eat the stems of young plants just above ground level. The adult moths are brown or black with splotches or strips.

Prevention: Before planting a new garden, remove left-over plants.

Outbreak Control: Hand-pick caterpillars after dark. This will be easiest after rain or watering. Put cardboard collars (such as toilet paper tubes) around plant stems. Coat the cardboard with onion juice for extra protection. Thick mulch around plants can also help.

## Deer and other large pests (example: groundhogs and rabbits)

You may have to construct a fence to keep them out of the garden. A simple and affordable fence would be with long tree branches or bamboo and netting. *You may be able to find fish netting at the marina that fishermen have discarded.*

## Flea Beetle

Small, black-blue beetles that jump like fleas when bothered. Adult flea beetles eat tiny holes in leaves of plants.

Prevention: Keep your garden weed free and plant many different varieties of crops to avoid an outbreak.

Outbreak Control: Remove weeds and old plant debris. Rotate crops each year. In extreme situations, neem oil may be effective.

## Leaf Miner

A leaf miner is the larva of an insect that lives in and eats the leaf tissue of plants. The vast majority of leaf-miners are moths, sawflies, flies and beetles.

Prevention: To protect your crops, plant *trap crops*, those which draw the pest to them and therefore reduce the incidence of attack on nearby plants.

Lambsquarter and columbine will distract leaf miners from other plants by drawing the bugs to them. This is a method of *companion planting*.

Outbreak: Remove affected leaves or affected sections of the leaves from the plant and garden entirely. Do not compost affected leaves. If you regularly patrol the plants, you can crush areas in the leaf where leaf miners have burrowed to keep them under control.

## Powdery Mildew

Infected plants have white powder-like spots on the leaves and stems. Powdery mildew is common on squash, cucumber and melon.

Prevention:

- Choose varieties that are resistant to powdery mildew.
- Plant in an area with full sun, good drainage and good air circulation.
- Water plants in the morning to give them the rest of the day to dry off.

Outbreak Control:

- Mix one part milk with 9 parts water and spray this on the plants twice a week. You can also try a mixture of baking soda and water.
- Remove infected leaves to keep the disease from spreading.

## Slugs

Slugs bite holes in plant leaves. They love wet weather and feed mostly at night. During the day, they prefer moist, hidden places.

Prevention: Sprinkle crushed egg shells or oyster shells around the plants. Another option is to line your garden bed with copper tape. Slugs won't cross.

Outbreak Control:

- If you have a slug problem, only water in the morning.
- Beer traps are often successful. Pour beer into a shallow container and bury it in the soil up to its rim. Place several of these around the garden. Slugs will crawl in and drown. *If it rains, you will have to replace the beer.*
- Slug-O, a commercial iron phosphate product, is also effective and organic.

# Vegetable Guide

*The following is a fair selection of the garden vegetables that grow well in Whatcom County.*

There are undoubtedly many more that would thrive, so experiment and have fun! Certain crops, like corn, can be difficult to grow successfully in a raised bed garden because they require many plants to pollinate properly.

**Planting dates** represent the earliest recommended time to direct-sow outside and to safely transplant starts.

*Read seed packages carefully since each plant variety differs.*

## **Beans, Bush**

Bush bean varieties mature earlier than pole beans, so consider one early sowing of these along with pole beans. Growing only bush beans requires you to plant 2-4 times during the season (about every 3 weeks) for a season-long supply. If late May is still wet and cold, wait to plant until early June.

**Planting:** direct-sow

**Mature plant spacing:** 4" apart or 9 bush beans per square foot

**Seed depth:** 1"

**Plant height:** medium, does not require a trellis

**Germination:** 7-10 days

**Time until harvest:** 7-10 weeks

**When to harvest:** when they are tender but before the pods are bulging with seed

**Tips:** avoid wetting the leaves while watering to prevent mildew from growing

**Nutrition:** rich in vitamins A, B, C, calcium and iron

**Cooking:** Green beans are good raw in salads or with dip. Steamed or stir fried, they make a wonderful side dish. Green beans are great in soups, stews or mixed with other veggies.

## **Beans, Pole**

The most effective use of space in a raised bed is to grow pole beans (climbing varieties) on a trellis. A single planting will supply you throughout the season. Sow as early as one week before the average last frost in spring. Plant in along the bottom of a tall trellis. As they grow, train the up the trellis.

**Planting:** direct-sow

**Mature plant spacing:** 4" apart or 8 pole beans per square foot

**Seed depth:** 1"

**Plant height:** tall, needs a trellis

**Germination:** 7-10 days

**Time until harvest:** 7-10 weeks

**When to harvest:** when they are tender but before the pods are bulging with seed

**Common problems:** avoid wetting the leaves while watering to prevent mildew from growing

**Tips:** Plant on the north side of the garden to avoid shading out the other crops.

**Nutrition:** excellent source of vitamins K, C and manganese

**Cooking:** Great raw as a quick snack with or without dip. A simple and delicious method is to steam lightly for 7 minutes, toss with fresh chopped garlic, olive oil and slivered almonds.

## **Beets**

Earliest plantings can fail if it is too cold and wet. Sow small blocks every 3 weeks from mid-May - mid-August for a continual supply.

**Planting:** direct-sow

**Mature plant spacing:** 3-4" apart or 16 beets per square foot

**Seed depth:** ½" - 1"

**Plant height:** short

**Germination:** 5– 10 days

**Time until harvest:** 8-12 weeks

**When to harvest:** Pull the whole plant when the root is 3-6" wide. The green tops are nutritious too.

**Common problems:** Slugs and leaf miners like to eat the leaves.

**Tips:** Beets like constant moisture. Thin your planting to ensure each beet has adequate space to grow to size. Eat the tender young thinnings.

**Nutrition:** excellent source of folic acid

**Cooking:** Cut chunks of peeled beet (and other available root vegetables), place on oiled pan in a 400 degree oven for 40-60 minutes, sprinkle with salt and spices. Beet greens are great sautéed with a little garlic or steamed and dressed with lemon juice. Raw grated beets are fabulous on top a salad.

## **Broccoli**

Plant every 3 weeks, from mid-April - late June, to spread out your harvest over the season. Plant in July for the winter garden.

**Planting:** direct-sow or transplant

**Mature plant spacing:** 12"-24" apart or 1 plant per square foot

**Seed depth:** ¼"

**Plant height:** medium

**Germination:** 4-7 days

**Time until harvest:** 14 weeks

**When to harvest:** Cut when the head is firm and tight, but before they start to flower.

**Tips:** After your initial harvest, leave the plant in the garden. It will produce lots of little side shoots that will grow like tiny heads on the side of the stem.

**Common problems:** aphids, cabbage moth

**Nutrition:** excellent source of vitamin C, A, folic acid and dietary fiber

**Cooking:** Sprinkle lemon juice and sesame seeds over lightly steamed broccoli for a side dish. Try tossing with pasta or adding to omelets.

## **Brussel Sprouts**

Sow in one planting in mid May - early June. They'll mature all season long and are ready for harvest in the fall. They sweeten after it frosts.

**Planting:** direct-sow or transplant

**Mature plant spacing:** 18"-24" apart or 1 plant per square foot

**Seed depth:** ¼" - ½"

**Plant height:** medium

**Germination:** 6 -9 days

**Common problems:** aphids, cabbage moth

**Time until harvest:** 12-16 weeks

**When to harvest:** cut or twist off the buds when firm

**Nutrition:** excellent source of vitamin K and C

**Cooking:** Steam for 5-10 minutes, add butter & salt.

## **Cabbage**

Early varieties can be planted in late April. All others can be planted from mid-May - July. Plant every 3 weeks for a continual harvest.

**Planting:** direct-sow or transplant

**Mature plant spacing:** 18"-24" apart or 1 plant per square foot

**Seed depth:** ¼"

**Plant height:** medium

**Germination:** 5 days

**Time until harvest:** 16 weeks

**When to harvest:** Cut the entire head once it feels firm.

**Common problems:** aphids, cabbage worms, slugs

**Tips:** Savoy varieties do great in the Northwest, as they are very cold-hardy and productive. To avoid pest problems and disease, avoid planting members of the Brassica family (cabbage, broccoli, collards, kale, Brussels sprouts, cauliflower) in the same spot 2 years in a row. They are heavy feeders.

**Nutrition:** excellent source of vitamin C, fiber, beta-carotene, iron and potassium

**Cooking:** Shred cabbage to make a simple coleslaw salad. Add to your favorite wrap, sandwich or stir-fry.

## **Carrots**

Carrots can be sown at 3 week intervals from late April - early August. Keep soil moist and weed-free after planting. Best not to transplant at all.

**Planting:** direct-sow. As seedlings appear, thin then out to at least 3/4" between plants.

**Mature plant spacing:** 2"- 4" apart or 16 carrots per square foot. As a general rule, the larger carrot you want, the wider the spacing should be.

**Seed depth:** ¼"

**Plant height:** short

**Germination:** 6 days

**Time until harvest:** 10 weeks

**When to harvest:** Pull out the plants with the largest tops. If tops rip off as you harvest, loosen the soil around them with a shovel.

**Common problems:** carrot rust fly or maggots

**Tips:** Carrots like constant moisture, especially when young. Try using a floating row cover for the entire growing process to prevent pest damage.

**Nutrition:** excellent source of vitamin A and K.

**Cooking:** Raw shredded or sliced carrots are great in salads. To cook, sauté or steam sliced carrots for a few minutes. Add fresh ginger or garlic for a kick.

## **Cauliflower**

Plant in late April/early - mid July. A crop seeded in mid-July is easier to grow and can be harvested in the fall or winter.

**Planting:** direct-sow or transplant

**Mature plant spacing:** 12"-24" apart or 1 plant per square foot

**Seed depth:** ¼" - ½"

**Plant height:** short

**Germination:** 6 days

**Time until harvest:** 14-19 weeks

**When to harvest:** Cut the whole head when firm and tight (before "curds" begin to separate).

**Common problems:** root fly maggot

## **Cauliflower *continued***

**Tips:** To prevent pest/disease problems, avoid planting members of the Brassica family (cabbage, broccoli, collards, kale, brussel sprouts and cauliflower) in the same location 2 years in a row. They are heavy feeders on soil nutrients. Grows best in full sun, partial sun will reduce head size.

**Nutrition:** excellent source of vitamin C, folic acid and dietary fiber

**Cooking:** Sauté cauliflower with garlic, minced ginger and soy sauce or try it lightly steamed with melted cheese.

## **Celery**

Plant celery in well composted and prepared beds. Plant seedlings fairly close together as dense growth will help shade out weeds and keep soil moist and cool. Add compost and a sprinkle of chicken manure or organic fertilizer to the soil below each plant. As they mature, thin as needed.

**Planting:** transplant

**Mature plant spacing:** 12” apart or 1 plant per square foot

**Seed depth:** ¼”

**Plant height:** short to medium

**Germination:** 15-21 days. Celery seeds are notoriously slow at germinating, and, even once they do, seedling growth tends to be slow.

**Time until harvest:** 12 -17 weeks. Harvest before first frost.

**Common problems:** Excessive heat, inadequate moisture or lack of fertility will result in tough or stringy celery.

**When to harvest:** Harvest when stalks are long. Start with the outer stalks or harvest entire plant cutting below the crown.

**Tips:** Celery does best in a rich, well composted soil and likes a lot of moisture.

**Nutrition:** excellent source of vitamin C and a very good source of potassium

**Cooking:** Add chopped celery to your tuna fish or chicken salad. Enjoy the playful tradition of “Ants on a Log” by eating nut butter on celery stalks topped with raisins. Celery stalks and tops are delicious in soup and stock.

## **Chard (Swiss Chard)**

A good green to grow all year in the Pacific Northwest. Plant from end of April - July. A few plantings, spaced every two months will supply you throughout the growing season and into the winter.

**Planting:** direct-sow

**Mature plant spacing:** 10”- 12” apart or 1 plant per square foot.

**Seed depth:** ½”

**Plant height:** medium

**Germination:** 7-14 days

**Time until harvest:** 8-9 weeks

**When to harvest:** Harvest outer leaves as they mature and allow the rest of the plant to keep producing.

**Common problems:** leaf miners

**Tips:** Chard seed capsules often contain two or more seeds. If more than one germinates, promptly snip off all but the strongest sprouts at the soil line.

**Nutrition:** excellent source of vitamin K, C, A, E, magnesium, potassium and iron

**Cooking:** Steam or sauté chard. Try tossing with pasta, olive oil, lemon juice and garlic. You can also use chard in place of, or in addition to, spinach when preparing lasagna, omelets and other dishes.

## Collards

This crop is a great hearty green leaf vegetable that can stand up to cold temperatures. To harvest greens well throughout the fall and winter plant once in early June and again in late July.

**Planting:** direct-sow

**Mature plant spacing:** 10"-12" apart or plant 1 per square foot

**Seed depth:** ¼" - ½"

**Plant height:** medium

**Germination:** 6 days

**Time until harvest:** 7 weeks

**When to harvest:** Cut the large outer leaves, which allows the smaller, inner leaves (also the top of the plant) to keep growing.

**Common problems:** cabbage worms, aphids and slugs

**Tips:** In mild winters collards will continue to produce. To keep the crop healthy, be sure to feed with compost and mulch to protect from cold.

**Nutrition:** excellent source of vitamin A, C, manganese, folic acid and calcium.

**Cooking:** Serve steamed collard greens with black-eyed peas and brown rice for a Southern inspired meal. Great to use as a wrap. Another fun way of cooking collard greens is to roll a bunch of leaves tightly, cut the roll into thin sections to create long strips, steam for a 5 minutes and eat like pasta.

## Cucumbers

Works well with a trellis or climbing a 4-5 foot high fence of chicken wire. If you aren't growing them vertically, leave ample room to sprawl out on the ground. Plant seeds or starts once, in early June, when the soil has warmed up. Be careful not to disturb the roots of these seedlings when transplanting.

**Planting:** direct-sow or transplant

**Mature plant spacing:** 18" apart

**Seed depth:** ½" - 1"

**Plant height:** tall, if trellised; otherwise, short, spreading on ground

**Germination:** 3-4 days

**Time until harvest:** 6-8 weeks

**When to harvest:** Harvest when they are about 6" long. Larger cucumbers will be tough and bitter. The more you pick, the more they produce.

**Common problems:** powdery mildew, cucumber beetle

**Tips:** Cucumbers like a sunny location with well drained soil. Once they start producing, check regularly since they grow fast!

**Nutrition:** very good source of vitamin C.

**Cooking:** A simple Greek salad is always a hit. Toss cubed cucumber and tomatoes with olives, feta cheese and a Balsamic dressing!

## Garlic

To plant, break up healthy looking bulbs into individual cloves. Most varieties are planted in October -November and are ready to harvest in July.

**Planting:** directly plant individual cloves

**Mature plant spacing:** 4" apart or 12 garlic bulbs per square foot

**Clove depth:** 2" (pointed end up)

**Plant height:** medium

**Germination:** 5-7 days

**Time until harvest:** 9 months, harvest June – July

**When to harvest:** Pull the whole plant when the leaves turn brown or after flowers form. Hang to dry in a cool, dry area.

**Common problems:** Garlic is prone to rot and rust. Avoid planting in the same area as previous years, and be sure to use healthy seed.

## **Garlic continued**

**Tips:** Keep well weeded since garlic doesn't like competition. If you are growing a hardneck variety snip off the flower buds, known as a scapes, in order for the plant to put energy into bulb growth rather than flower and seed production. Scapes are delicious when grilled, stir-fried or sautéed.

**Nutrition:** Excellent source of manganese and a very good source of vitamin B6 and C.

**Cooking:** Garlic is great with any sauté, sauce or soup. It's most beneficial for your health eaten raw.

## **Kale**

Enjoy fresh kale all year by planting from late March - mid August. If the winter is not too severe, kale will produce into the following spring.

**Planting:** direct-sow

**Mature plant spacing:** 8"-16" apart or 1 plant per square foot

**Seed depth:** ½"

**Plant height:** medium

**Germination:** 5-7 days

**Time until harvest:** 8-9 weeks

**When to harvest:** Harvest outer leaves as they mature, allowing the rest of the plant to keep producing.

**Common problems:** aphids, cabbage worm, flea beetle

**Tips:** When kale starts to go to seed, the young flowering stalks (raab) are delicious and tender. This usually happens in spring from winter garden crops.

**Nutrition:** excellent source of vitamin A, C, manganese and a very good source of calcium

**Cooking:** Sauté kale with fresh garlic and olive oil, sprinkle with lemon juice and/or parmesan cheese before serving. Try tossing with pasta or topping pizza. For a raw salad, simply take the leaf off the stalk, chop very finely, dress with olive or flax oil, lemon juice and tamari.

## **Kohlrabi**

For a summer harvest, sow this crop of the Brassica family after danger of a hard frost. For a winter or spring crop, sow in midsummer.

**Planting:** direct-sow

**Mature plant spacing:** 4" apart or 4 kohlrabi plants per square foot

**Seed depth:** ¼"

**Plant height:** short

**Germination:** 6-9 days

**Time until harvest:** 6-7 weeks

**Common problems:** cabbage worms and clubfoot, which can be very common in plants in the Brassica family

**Tips:** Kohlrabi prefers well drained, fertile soil high in organic matter. This heavy feeder also needs plentiful, constant moisture.

**When to harvest:** When bulbs are roughly 2-3" wide for the good mild cabbage-turnip flavor. Harvest foliage when it's young and tender.

**Nutrition:** very good source of dietary fiber, manganese, potassium, vitamin C and B6

**Cooking:** Thin slices, wedges, strips or cubes of kohlrabi can be sautéed by themselves or along with other vegetables. Also great raw and in soup.

## **Leeks**

In early May - July plant the seeds by removing the top ½ inch of soil, sprinkle the seeds, and then sprinkle the soil back over the seeds. Leeks benefit from the addition of compost into the soil. Certain varieties of leeks can be left in the ground through the winter and harvested when needed.

**Planting:** direct-sow

**Mature plant spacing:** 6" apart or 4 leeks per square foot

**Seed depth:** ¼"

## Leeks continued

**Plant height:** medium

**Germination:** 7-10 days

**Time until harvest:** 11-12 weeks

**When to harvest:** Harvest when the stems are 1-2" thick. Some varieties of leeks can be left in the ground during the winter harvested in spring.

**Tips:** Leeks prefer sun and a rich, well drained soil. Keep the soil moist during early stages of development and lesson the watering as they mature.

**Nutrition:** very good source of manganese, vitamin C and iron.

**Cooking:** Leeks add subtle flavor to soups and enhance the taste of many dishes. Potato leek soup is a favorite to many.

## Lettuce

Seeds can be sown at 10 day intervals starting in mid-April. When it gets hot, lettuce often "bolts" or sends up its seed stalks. Bolting lettuce is bitter.

**Planting:** direct-sow

**Mature plant spacing:** 6"-12" apart or 2 lettuce per square foot. If you're growing lettuce for young salad greens sow closer together.

**Seed depth:** 1/4" - 1/2"

**Plant height:** short

**Germination:** 7-14 days

**Time until harvest:** 7-8 weeks (head lettuce)

**When to harvest:** Harvest the whole head when it feels firm or cut off individual leaves. Be sure to leave young leaves so they can keep growing.

**Common problems:** slugs

**Tips:** Lettuce does not grow well in the hottest part of the summer. It will begin to develop a stalk, bolt and take on a bitter taste.

**Nutrition:** Very good source of vitamin A, C, K, thiamin, riboflavin, vitamin B6, folic acid, iron, potassium and manganese

**Cooking:** Give sandwiches extra crunch (and nutrients) by garnishing with lettuce leaves. What can be better than a fresh salad right from your garden?

## Mustard Greens

There are many varieties. For an early summer crop, plant in April and for a fall harvest plant in late July or August.

**Planting:** direct-sow

**Mature plant spacing:** 6"-12" apart or 2 plants per square foot. If you're growing mustard for young salad greens sow closer together.

**Seed depth:** 1/2"

**Plant height:** medium

**Germination:** 4-5 days

**Time until harvest:** 3 weeks (baby); 6-7 weeks (full size)

**Common Problems:** Insects and animals avoid them, so you won't have to worry about fighting rabbits over this one.

**Tips:** Two factors to consider when planning the garden: this is a very fast growing crop and many varieties are quite colorful and bright.

**When to harvest:** Smaller leaves (3"- 6") are great for salads, while larger leaves (6"-18") are cooked and used in recipes featuring leafy greens. Simply snap off the outer leaves when they reach the desired size.

**Nutrition:** excellent source of vitamin A, C, E, folic acid and calcium

**Cooking:** Young mustard greens add spice to green salads, pasta salads and sandwiches. Sauté to reduce the spiciness, add with nuts & lemon juice. Be warned, they can be overpowering and hot if used alone or in large quantities, but many mustard lovers love the kick they deliver.

## Onions

Plant seeds or starts from late April - early May. If you start with a pot full of seedlings, separate them into individual plants so they can grow in size.

**Planting:** direct-sow or transplant starts and sets

**Mature plant spacing:** 3"-5" apart or 9 plants per square foot

**Seed depth:** ½"

**Germination:** 4-5 days

**Start depth:** ½"

**Set depth:** 1" (sets are defined as onions that have reached about one inch in diameter)

**Plant height:** short

**Time until harvest:** 12-13 weeks

**When to harvest:** For storage onions, harvest when half of the tops fall over. This is a sign that the bulb has matured and is ready to harvest. Store in a dry, cool, dark place to cure. Remove the tops when they dry. For fresh green onions, pull entire plant when the leaves are green and the bulb finger size.

**Tips:** All onions do best in fertile, well-drained soil. Before planting, loosen the soil and add some mature compost.

**Nutrition:** very good source of vitamin C, and fiber

**Cooking:** Sautéed onions are so versatile that they can be added to most any dish. They are also a great addition to a veggie roast.

## Parsnips

Even though this root crop needs a fairly long season to mature, they are well suited in the Northwest. They have a buttery and sweet flavor when cooked.

**Planting:** direct-sow

**Mature plant spacing:** 3"- 4" apart or 14 parsnips per square foot

**Seed depth:** ¼"-½"

**Plant height:** short

**Germination:** 21-28 days

**Time until harvest:** After 16-17 weeks, harvest as you would carrots. After a few frosts, their starches are converted to sugars and sweeten their flavor.

**When to harvest:** After the full 16-17 weeks, harvest as you would carrots.

**Nutrition:** very good source of dietary fiber, vitamin C, K, folic acid and manganese

**Cooking:** Place peeled and diced parsnips seasoned with broth, apple or orange juice and herbs in oven and bake for 20-30 minutes.

## Peas

Climbing varieties save space since they grow vertically on a trellis and don't require successive plantings. Try delicious snap pea or snow pea varieties that have an edible pod and are eaten fresh. Shelling peas are removed from their pods before eating and are great for preserving. Plant from March - July.

**Planting:** direct-sow

**Mature plant spacing:** 1"- 2" apart or 8-12 plants per square foot (they don't mind being close)

**Plant height:** tall

**Seed depth:** 1"

**Germination:** 14 days

**Time until harvest:** 9-10 weeks

**When to harvest:** Harvest entire pod once peas begin to bulge in their pods.

**Tips:** Be aware of soil moisture levels. Peas should never be water logged. On the other hand, don't let the soil dry out when they are germinating.

**Nutrition:** very good source of vitamin K, C, B1, manganese and fiber

**Cooking:** A fresh delight in the summer. Try a light sauté and keep crisp.

## **Peppers**

This heat loving crop needs to be transplanted here in the Pacific Northwest. Transplant early June. Early maturing varieties will do the best in this area.

**Planting:** transplant

**Mature plant spacing:** 18” apart or 1 plant per square foot

**Plant height:** medium

**Time until harvest:** 10-11 weeks from transplanting

**When to harvest:** Give the fruit a little squeeze, and if it’s firm you can pluck it. Size and color at maturity will vary by plant variety.

**Common problems:** aphids, leaf miners, slugs

**Tips:** Always harden off pepper plant starts by gradually exposing them to outdoor weather a few hours each day for about a week before transplanting.

**Nutrition:** excellent source of vitamin C, A, K and B6

**Cooking:** For fajitas, sauté peppers with onions and garlic. Sprinkle with a pinch of salt, sugar and chili powder. Serve in tortillas with cheese, chicken, tofu, avocado and/or beans. Wonderful for a quick raw snack and colorful on a veggie plate.

## **Radish**

The radish is one of the easiest, quickest growing crops you can grow. Plant every 2 weeks from March - July for fresh radishes all season long.

**Planting:** direct-sow

**Mature plant spacing:** 2”-3” apart or 16 radishes per square foot

**Seed depth:** ½”

**Plant height:** short

**Germination:** 3-7 days

**Time until harvest:** 4-5 weeks

**When to harvest:** Pull the entire plant when the bulb is about 2” across.

**Common problems:** flea beetles

**Tips:** Radishes require cool temperatures and plenty of water. If they don’t get enough water they turn woody and hot weather will cause them to bolt.

**Nutrition:** excellent source of vitamin A, C, calcium, potassium, and phosphorus

**Cooking:** Sliced and add to a green salad, a veggie platter, or as garnish in soups or sushi. Pickled radishes are delicious, and the greens are edible too.

## **Potatoes**

Potatoes are planted from disease free “seed potatoes” (small taters saved from the previous year) or “seed pieces” (sections with 1– 3 eyes). Plant in the ground in late March once soil has dried. Plant in an area that gets at least six hours of sun and with good soil fertility. Each plant yields 2-10 lbs.

**Mature plant spacing:** 12” apart or 1 plant per square foot

**Seed depth:** 2”- 3.” When about 1’ tall, mound up soil around the plant, creating a hill with just the upper leaves showing.

**Plant height:** medium

**Time until harvest:** Young, small taters can be harvested 7-8 weeks after planting. If you’re growing for storage, wait till the foliage turns brown.

**When to harvest:** In late fall, when leaves begin to dry, dig up the entire plant and root around the area to find all the little taters.

**Common problems:** To prevent soil-borne disease don’t grow potatoes in a spot you have grown them, tomatoes, peppers or eggplant for the last 2 years.

**Tips:** If you cut seed potatoes use those larger than a chicken egg and make sure they sit out for 24 hours before planting so the cut sides callus over.

**Nutrition:** Potatoes are a very good source of vitamin C, B6, dietary fiber, protein and lots of other minerals.

**Cooking:** Boil or roast until tender. Add to a fall or winter root medley and roast with leeks, onions, beets, carrots, parsnips and or winter squash.

Play with the many different varieties of potatoes. There’s a whole world of flavors, shapes, colors and sizes.

## **Spinach**

A great cool weather crop. For a steady supply, make small frequent plantings from March - June and sow again at the end of July – mid August for a fall crop.

**Planting:** direct-sow

**Mature plant spacing:** 2”- 4” apart or 9 spinach plants per square foot

**Seed depth:** ½”

**Plant height:** short

**Germination:** 7-14 days

**Time until harvest:** 6-7 weeks

**When to harvest:** Cut or pluck the outer, larger leaves and allow the inner ones to continue to grow.

**Common problems:** Spinach seed doesn’t store well, so use fresh seeds every year. Some other problems are leaf miners and bolting in heat.

**Tips:** Spinach likes rich, well cultivated and moist soil. Hot weather and long days trigger spinach to bolt (send up a seed stalk).

**Nutrition:** excellent source of vitamin K, A, C, B2, B6, iron, calcium, potassium and folic acid

**Cooking:** Add layers of spinach to your next lasagna recipe. For a salad, try fresh spinach with arugula, goat cheese, grapes and toasted sunflower seeds.

## **Summer Squash: Zucchini, Yellow Crookneck, Pattypan, etc.**

Plant after the soil has warmed up (early-mid June). Mound soil in center of 3’x3’ space about 4” high, plant 1-2 seeds in center of mound.

**Planting:** direct-sow or transplant

**Mature plant spacing:** 3’- 4’ apart or 1 plant in a 3’ x 3’ block

**Seed depth:** ¾”

**Plant height:** medium

**Germination:** 6-10 days

**Time until harvest:** 7-8 weeks

**When to harvest:** An ideal squash is 4”-8” long and is shiny. Squash is famously productive and will bear fruit throughout the growing season.

**Common Problems:** cucumber beetles, bacterial wilt and powdery mildew

**Tips:** Summer squash doesn’t keep well after harvesting, so eat quickly or share with your friends. This crop is a does best in full sun.

**Nutrition:** excellent source of manganese and vitamin C

**Cooking:** To make squash pizzas, slice summer squash, top with sauce and cheese and broil for 5-10 minutes. What to do with those large zucchinis that got a little out of hand? Cut the large zucchini in half, hollow out, add cooked rice, veggies, black beans, top with cheese and bake for a half hour at 350°.

## **Tomatoes**

To develop mature fruit in Whatcom County tomatoes must be transplanted. Transplant outside or in a greenhouse late May to early June. “Indeterminate” are vining varieties that need to be caged and pruned back to the best 2-4 leaders (main stalks) on each plant. It’s best to cage them while they are small. “Determinate” varieties don’t need to be pruned (they are bushy and compact). Withholding water after mid-August will force the vines to ripen more fruit.

**Planting:** transplant

**Mature plant spacing:** 1 plant in a 2’ block

**Seed depth:** ¼” if seeded indoors; transplant starts outside to garden. Plant up to the first set of leaves: all of the little hairs on the stem will become roots.

**Plant height:** tall

**Germination:** 5-10 days

**Time until harvest:** 8-11 weeks

**When to harvest:** There are so many different varieties and colors of tomatoes. Watch for the color to brighten and fruit to firm.

## Tomatoes *continued*

**Common problems:** blossom end rot, late blight

**Tips:** Add calcium to the soil before planting. Don't allow moisture levels to fluctuate too much- this will help prevent cracking and late blight. Remove all young flower clusters mid-September to help remaining fruit ripen. Harvest any unripe fruit before the first frost and ripen indoors.

**Nutrition:** excellent source of vitamin C and A

**Cooking:** Add tomatoes to sandwiches, salads and pastas. To make salsa fresca, finely chop 3 ripe tomatoes, 1 onion, 2 minced cloves of garlic, 3 fresh jalapeno peppers (seeds removed and finely chopped), 2 tbsp. of fresh chopped cilantro, 1 tbsp. lime juice, 1 tbsp. olive oil and sea salt to taste.

## Turnips

Rich soil and cool temperatures grow the perfect turnip. You can plant every three weeks from early May through mid-August for a continual supply.

**Planting:** direct-sow

**Mature plant spacing:** 2"-3" apart or 10 turnips per square foot

**Seed depth:** ½"

**Plant height:** short

**Germination:** 7-14 days

**Time until harvest:** Small turnips, which are the most tender, can be harvested in 4 weeks. Full-sized turnips take 6-7 weeks.

**When to harvest:** Harvest greens when they're long enough to pick and roots when they are the desired size (1-5" in diameter).

**Common problems:** cabbage maggots, cabbage worms, cutworms, club root

**Tips:** Good growing conditions, crop rotation and the use of disease-resistant varieties are the best defense against cabbage family crop problems.

**Nutrition:** Roots are a very good source of fiber, vitamin C and manganese. The greens have of vitamin A, C, E, B6, folic acid, fiber and calcium.

**Cooking:** Peel turnips first, then stir-fry thinly sliced turnips until they are crisp-tender. Try mashed turnips and prepare as you would mashed potatoes! Sauté the greens with other greens such as chard. Young small turnips are tender and delicious raw, sliced into a salad or eaten alone.

## Winter Squash: Acorn, Butternut, Carnival, Delicata, Kabocha, Sugar Pie Pumpkin, Spagetti Squash, etc.

In the Pacific Northwest, it's best to transplant winter squash because it requires a long growing season. Set out plant starts a week or two after all danger of frost has past. Generally, winter squashes mature in early fall. They are heavy feeders and will benefit from extra nutrients at the time of planting.

**Planting:** transplant

**Mature plant spacing:** 1 or 2 plants 4' apart

**Plant height:** tall if on a trellis; otherwise medium

**When to harvest:** Harvest in fall, before the first frost (which usually occurs in October). The skin should be tough enough that you can't puncture with a fingernail. Signs of maturation are different for each variety but for many winter squashes signs of maturity is the color.

**Common problems:** aphids, cucumber beetles, powdery mildew

**Tips:** Plan ahead because winter squash plants really sprawl. Plant in the corner of the raised bed and allow to cascade onto the yard. Winter squashes with smaller fruits (like sugar pie pumpkins) can be grown on a trellis. Winter squash like full sun and regular watering. Mulch around them to retain soil moisture and keep weeds in check.

**Nutrition:** excellent source of vitamin A, iron, fiber, beta-carotene, potassium and niacin

**Storage:** Set ripe winter squashes to cure in a warm and dry place for a week or two which will help their skins seal and the stems dry. Then move to a cool dry place for storage. Wait three weeks after storing them before cooking to allow the sugars time to develop.

**Cooking:** Bake cubes of winter squash, 30-60 min and add to favorite soup or add to a roasted vegetable medley. Serve whole or mashed, and dress with maple syrup with a touch of cinnamon or a little butter with salt and pepper.

# Local Gardening Resources:

- **Bellingham Parks and Recreation Community Gardens**

There are three community gardens operated by Bellingham Parks & Recreation: Happy Valley, Fairhaven and Lakeway. The gardens contain a total of 195 plots that measure 10 feet by 20 feet. Water service, hoses, compost bins, rock bins and bulletin boards for gardening information are provided.

[www.cob.org/services/recreation/activities/community-gardens.aspx](http://www.cob.org/services/recreation/activities/community-gardens.aspx)

**360.778.7000**

- **Center for Local Self-Reliance (CLSR)**

CLSR is a non-profit organization whose mission is to educate and empower our community for a sustainable future by demonstrating the resilience of urban homesteading. Their goal is to renovate and revitalize the historic caretaker's house near Fairhaven Park and offer the space for community members to practice and teach gardening, food preservation skills and other self-reliance skills.

[www.caretakershouse.org](http://www.caretakershouse.org)

- **Community to Community Development**

Community to Community Development is a women-led, place-based, grassroots organization working for a just society and healthy communities. Committed to systemic change and to creating strategic alliances that strengthen local and global movements towards social, economic and environmental justice. They use inclusive strategies to empower under-represented peoples to have an equal voice in decision making processes, develop cross-cultural awareness, restore justice to food, land and cultural practices and promote community relationships around self-reliance.

[www.foodjustice.org](http://www.foodjustice.org)

**360.738.0873**

- **Common Threads Farm**

Common Threads is on a mission to connect young people to healthy food through hands-on, seed to table experiences.

**After school and summer programs** take place at Bobbibrook Farm in Happy Valley. This privately-owned, peaceful, productive urban farm is a model of the kind of urban agricultural open space Common Threads is proud to promote and help develop. **The Common Threads School Garden Collective** was born of the recognition that school gardens, though relatively easy to start, are more difficult to sustain over the long run in ways that are meaningfully connected to the classroom, the cafeteria and the community. There are over a dozen schools in Whatcom County that are part of this program this project, which provides leadership and support for their on site gardens.

[www.commonthreadsfarm.org](http://www.commonthreadsfarm.org)

**360.927.1590**

- **RESources for Sustainable Communities**

Empowers children and adults in the Pacific Northwest region to do all we can to protect our home. By providing key information, citizen trainings and workshops, and volunteer-led field programs, RE Sources helps community members actively safeguard marine waters, rivers, lakes, beaches and air. They work to promote healthy, prosperous communities, living in balance with the natural world. RESources promotes sustainable communities through recycling, education, advocacy and conservation of natural resources. The RePatch community garden models urban agriculture.

[www.re-sources.org](http://www.re-sources.org)

**360.733.8307**

- **Sustainable Connections**

Promotes and participates in the co-creation of sustainable community in Bellingham and the surrounding bioregion and partners with other groups and individuals. To reach the goal of sustainability, the organization advocates the strategy of relocalization - becoming self and community-reliant at the local level and rebuilding communities based on the local production of food, energy, and goods as well as the relocalization of governance and culture. Relocalization includes a firm commitment to reducing consumption and improving environmental and social conditions. Their Food and Farming Program produces the **Whatcom Food and Farm Finder** which includes a farm map of Whatcom County, information about farm stands, farmers markets and ways to buy fresh, local produce directly from the farms that grow it. The Whatcom Food and Farm Finder also has information on restaurants and retailers that purchase from local farms. On their website you can find local event listings and sign up for email newsletters.

[www.SustainableConnections.org](http://www.SustainableConnections.org)

**360.647.7093**

- **Seattle Tilth**

This agency inspires and educates people to grow food organically, conserve natural resources and support local food systems in order to cultivate a healthy urban environment and community. **The Garden Hotline** provides information and guidance from educators at no cost to home gardeners and landscape professionals. Their website is full of great resources and links.

[www.seattletilth.org](http://www.seattletilth.org)    **Garden Hotline: Mon - Sat 9 a.m.-5 p.m.**    **206.633.0224**

- **Transition Whatcom**

This is a community networking site for those interested in helping achieve a vision of resilient and more self-reliant communities throughout Whatcom County with a local food supply, sustainable energy sources, a healthy local economy and a growing sense of vitality and community well-being. Their website has an extensive local resources listing.

[www.transitionwhatcom.ning.com](http://www.transitionwhatcom.ning.com)

- **Washington State University (WSU) Extension**

Programs include: **4-H Program, Agriculture, Gardening, Composting, IPM, Master Gardeners, Family Living, Nutrition, Food Safety & Preservation, Environmental & Natural Resources, Community Information, Community First! Gardens Program (CFG).**

**CFG** provides financial and resource support for many community gardens. Their mission is to support neighborhoods in creating and maintaining community gardens in which residents can grow their own food. They provide educational workshops, resource material kits and mini grants to community gardens. **Master Gardener Program** is a ten week training in community garden education and environmental stewardship.

**Diagnostic Plant Clinics and Cultivating Tips** are offered weekly for the public to bring sections of diseased plants or pest samples– in closed plastic bags- for diagnosis or advice. Their website has extensive information about their programs, related links and lists gardening workshops.

[www.whatcom.wsu.edu](http://www.whatcom.wsu.edu)

**360.676.6736**

- **Whatcom Farm Friends**

Originally formed as part of the Whatcom County Agriculture Preservation Committee, Farm Friends is now an independent, non-profit organization. Its sole purpose is to help preserve agriculture in Whatcom County. To do so, Farm Friends is enlisting the help of non-farmers. Farmers alone can't preserve agriculture for the future. And since we all benefit from the many ways farming contributes to our way of life, non-farmers are invited to help support the future of farming.

[Www.wcfarmfriends.com](http://www.wcfarmfriends.com)

**360.354.1337**

## Local Buisnesses who are Garden Project Supporters:

- **B squared Bamboo** 360.820.0867  
bamboo planting, trimming, consultation
- **Builders Alliance**  
building supplies and tools  
[www.buildersalliance.com](http://www.buildersalliance.com) 360.738.9000 3801 Hannegan Road, Bellingham
- **Garden Spot Nursery**  
garden supplies, plants and free workshops  
[www.garden-spot.com](http://www.garden-spot.com) 676-5480 900 Alabama Street, Bellingham (behind Trader Joe's)
- **Growsource, Inc.**  
soil, compost, woodchip, rock, bark, sawdust  
[www.growsource.com](http://www.growsource.com) 360.318.8554 2200 Division Street, Bellingham
- **Hardware Sales**  
tools, hardware  
[www.hardearesales.com](http://www.hardearesales.com) 360.734.6140 2034 James Street, Bellingham
- **RESources**  
Non-profit community environmental education organization. Programs include the North Sound Baykeeper, Re-Store (retail store with large inventory of affordable recycled building material), the Sustainable Living Center hosting community workshops and Re-Patch demonstration and community garden and Sustainable Schools for youth.  
[www.resources.org](http://www.resources.org) 360.733.8307 2309 Meridian Street, Bellingham
- **Sunseed Farm**  
organic plant starts  
[www.sunseedfarm.com](http://www.sunseedfarm.com) Retail Sales at the Bellingham Farmers Market and at other outlets in Bellingham.
- **Washington State University Extension: Master Gardener Program**  
Master Gardeners are trained in horticulture, community garden education and environmental stewardship. Master gardeners interns volunteer 60 hours during the same year as their training. Many volunteer as mentors with the Garden Project, as well as contributors with *The GardenBeet*, the Garden Project's monthly newsletter.  
[www.whatcom.wsu.edu/mastergardener/index.htm](http://www.whatcom.wsu.edu/mastergardener/index.htm) 360.676.6736 1000 N. Forest Street Suite 201, Bellingham
- **Uprising Organics**  
organic vegetable and flower seeds  
[www.uprisingorganics.com](http://www.uprisingorganics.com) 360.778.3749 Online sales and mail order catalog available.

# General Gardening Information Websites

- **Official Square Foot Gardening website**  
[www.squarefootgardening.com](http://www.squarefootgardening.com)
- **Gardening in Western Washington**  
<http://gardening.wsu.edu/> & <http://westsidegardener.com/>
- **Guide to gardening**  
[www.thegardenhelper.com/vegetables.html](http://www.thegardenhelper.com/vegetables.html)
- **Comprehensive gardening information**  
[www.growingtaste.com](http://www.growingtaste.com) & <http://snohomish.wsu.edu/garfact.htm>
- **Vegetable garden basics from Delaware Cooperative Extension**  
<http://extension.udel.edu/lawngarden/lawn-garden/fruits-and-vegetables/>
- **Frost dates for Washington, Oregon and Alaska**  
[www.humeseeds.com/frost1.htm#WA](http://www.humeseeds.com/frost1.htm#WA)
- **How to make a cloche and cold frame**  
<http://westsidegardener.com/howto/cloche.html> & <http://www.todaysplans.net/free-diy-greenhouse-building-plans.html>
- **How to make a trellis**  
<http://www.gardenguides.com/80681-make-bamboo-trellis-peas.html>  
<http://www.mysquarefootgarden.net/growing-vertical/>
- **Fact sheet for managing plant problems with Integrated Pest Management**  
<http://pep.wsu.edu/hortsense/>
- **Composting Publications & Fact Sheet: WSU Whatcom County Extension**  
<http://whatcom.wsu.edu/ag/compost/mrcpubs.htm>
- **Gardening Answers Knowledge Base: University of Washington Botanical Gardens**  
[www.depts.washington.edu/hortlib/resources/resource\\_search.php?term=540](http://www.depts.washington.edu/hortlib/resources/resource_search.php?term=540)
- **Common diseases in the home garden**  
[www.extension.missouri.edu/xplor/agguides/hort/g06203.htm](http://www.extension.missouri.edu/xplor/agguides/hort/g06203.htm)
- **Seed saving information**  
[www.growingtaste.com/storage.shtml](http://www.growingtaste.com/storage.shtml) & [www.seedsave.org/issi/issi\\_904.html](http://www.seedsave.org/issi/issi_904.html)
- **Rain barrel information**  
[www.cob.org/services/environment/conservation/rain-barrel-program.aspx](http://www.cob.org/services/environment/conservation/rain-barrel-program.aspx)

# Gardening Books

## Garden Layout/Planning

- *Cubed Foot Gardening: Growing Vegetables in Raised, Intensive Beds* by Christopher O. Bird
- *Gaia's Garden: a Guide to Home-Scale Permaculture* by Toby Hemenway
- *Lasagna Gardening* by Patricia Lanza
- *Square Foot Gardening* by Mel Bartholemew
- *The Maritime Northwest Garden Guide: Planning Calendar for Year-Round Organic Gardening* by Seattle Tilth
- *The New Self-Sufficient Gardener* by John Seymour

## Growing Vegetables

- *Food Grown Right, in Your Backyard: A Beginners Gide to Growing Crops at Home* by Colin McCrate and Brad Halm
- *Growing Vegetables West of the Cascades: The Complete Guide to Natural Gardening* by Steve Solomon
- *How to Grow More Vegetables and Fruits, Nuts, Berries, Grains, and Other Crops than You Ever Thought Possible on Less Land than You Can Imagine* by John Jeavons
- *The Sustainable Vegetable Garden: A Backyard Guide to Healthy Soil and Higher Yields* by John Jeavons and Carol Cox
- *100 Heirloom Tomatoes for the American Garden* by Dr. Carolyn J. Male
- *Taylor's Guide to Vegetables and Herbs* by Norman Taylor et al
- *Rodale's All-New Encyclopedia of Organic Gardening* by Marshall Bradley, Barbara W. Ellis (Editor)
- *Food Grown Right in Your Backyard* by Colin McCrate and Brad Halm
- *200 Tips for Growing Vegetables in the Pacific Northwest* by Maggie Stuckey
- *The Big Book of Herbs* by Tom DeBaggio and Dr. Arthur Tucker

## Composting

- *Let It Rot: The Gardeners' Guide to Compost* by Stu Campbell
- *Worms Eat my Garbage* by Mary Appelhof
- *Compost This Book* by Tom Christopher and March Asher
- *The Secret Life of Compost* by Malcolm Beck
- *Compost* by Ken Thompson

## **Soil Health**

- *Secrets to Great Soil Health* by Elizabeth Stell
- *Start with the Soil* by Grace Gershun

## **Container Gardening**

- *The Bountiful Container: Create Container Gardens of Vegetables, Fruits, and Edible Flowers* by Rose Marie Nichols McGee, Maggie Stuckey
- *The Edible Container Garden: Growing Fresh Food in Small Spaces* by Michael Guerra
- *Kitchen Gardens in Containers* by Anthony Atha
- *The Postage Stamp Garden Book: Grow Tons of Vegetables in Small Spaces* by Duane and Karen Newcomb

## **Winter Gardening**

- *Winter Gardening in the Maritime Northwest* by Binda Colebrook
- *Four Season Harvest: Organic Vegetables from Your Home Garden All Year Long* by Elliot Coleman

## **Seed Saving**

- *Growing Seeds! Starting from Scratch* by Linda d. Harris
- *Seed to Seed: Seed Saving and Techniques for Vegetable Gardeners* by Suzanne Ashwort

## **Gardening Books for Kids**

- *Dig, Plant, Grow: A Kid's Guide to Gardening* by Felder Rushing
- *My Backyard Garden* by Carol Lerner
- *Composting: Nature's Recyclers* by Robin Koontz
- *A Diary of a Worm* by Doreen Cronin
- *How Groundhog's Garden Grew* by Lynne Cherry
- *Tops and Bottoms* by Janet Stevens

**Garden Map** for a 4' x 8' bed. Each square represents a square foot.





*Gardening is a way of showing that  
you believe in tomorrow.*