BELLINGHAM FOOD BANK

GARDEN PROJECT

Garden Beet

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Soil Amending

By Kathleen Bander & Julia Elizabeth Raider

If you're overwhelmed by all the produce coming in from your raised bed, congratulations! But hold on, there's planning to be done for your next round of crops. And that means making sure your soil is the most nutritious mixture that will make your plants happy and productive. A huge part of all garden activity is cultivating healthy soil. Luckily, gardeners can do various things to improve the condition of their soil and it's as easy as adding compost and other organic amendments. Mulching existing plants and cover cropping are also great practices.

Nutrients in your garden soil are absorbed by your crops. The Square Foot Gardening method calls for applying a bit of compost every time you harvest one of the squares. If you've done that throughout the growing season, your soil is probably all set. But if you haven't, you'll need to amend the soil.

It's natural to direct your attention to the plants & all you see above the ground. Remember, gardening is as much about the soil as it is about the plants you grow. Think about the garden as a whole and focus on what lies below the surface.

A healthy soil is beautiful and teaming with life! It's the result of interactions between bacteria, insects, plants, fungi, macro and micro nutrients and many other factors. It's truly amazing and the science of soil is extensive and can be intimidating. By keeping basic concepts in mind, you'll be on the road to success.

All gardeners, whether they use a raised bed or not, need to amend their soil regularly. The health of all your crops depends on the health of your soil. There are 3 simple steps you can take:

1. Check your soil's pH value every 2-3 years. Luckily, there are inexpensive self-testing kits available. There is also a great resource **"Soil Testing for Home Gardeners"** to answer all your questions about the what's, how's and why's of soil testing with a lab.

2. Add compost to increase organic material to your soil. Compost is the dark, earthy material naturally produced by decaying plants and animal waste. This mix of living and dead organic matter supports an intricate web of soil life, which in turn keeps your soil loose, fertile, moisture holding and well drained.

3. When you need to feed plants, use natural, organic and slow release fertilizers.

Garden Project gardeners receive a balanced garden soil when their garden is constructed, so you are off to an easy start. If you are working directly in the ground, it's important to note that Northwest soil tends toward acidity. Though some plants love this, say blueberries, most vegetable crops want alkaline soil. But it's an easy fix with lime. Yup, you get agricultural lime from a nursery or a big box store. Be sure to apply it as directed on the bag.

Compost is a general agent to condition and fertilize your soil, and best of all you can make it yourself at home for free! The Garden Project provides compost to all gardeners in July and August, when the coordinator makes garden visits. You can also buy compost in bags. Again, apply as directed on the bag. If you have a worm composter, you've got a great source of fertilizer in the worm castings. If you haven't started your own composter yet, and want more information visit **Tilth Alliances's website**.

There are innumerable types of organic fertilizers and different people swear by different ones. Some like fish fertilizer, some like teas made by soaking fertilizers in water and watering plants with the liquid, some like to apply composted cow, horse, llama, alpaca, rabbit or chicken manure. Some use seaweed. Any, and all, of this will work. The trick is to provide a balanced diet for the soil. Don't put in too much nitrogen, or all you will get is lush, green growth. A beginning gardener will do well to go talk to a **Master Gardener** to learn of the appropriate fertilizer to use in their garden. If you want to learn more on your own, we recommend the publication **"A Home Gardener's Guide to Soils and Fertilizers"** by Washington State University Extension.

**Garden Project gardeners take advantage of your garden mentor for guidance through the process of amending. (If you didn't sign up for one in the beginning and want one now, let us know). It's an amazing resource to have a personal garden consultant!*

Experience - A Friend in the Garden

By Jo Fleming

But I followed the steps for square foot gardening and raising beets in my garden. What's happening? Their growth seems to be stunted – they haven't grown in weeks. Are they getting enough sun? Am I watering them too much -or not enough? And my carrots...I tried to thin them as I knew I should, but I just didn't have the heart to "rip out" enough when they were just seedlings. Now, I realize that I didn't give them enough room to fully mature. Some of them have grown together and look like they have legs! Some have twisted around each other and others are stubby, crooked failures. But wait – let's not talk about failures. The carrots still taste fantastic! When you think about it, I need to mature, just like my carrots. I am learning so much from them! Next year, I'll pay more attention to seed planting depth and spacing. And I now understand the importance of thinning and attention to water needs.

Now that I think about it, I'm experiencing many more successes than failures. My lettuce is magnificent! It makes me feel proud to be a gardener. As I reflect on this success, I realize that I AM doing some things right.

I am learning how to be a gardener and to partner with nature in producing my own food.

And guess what? My eggplant, squash, peppers, tomatoes, onions and cucumbers are coming along quite nicely. As a beginning gardener, I'm sure you are experiencing your share of successes and failures.

Experience is the best teacher.

Keeping a positive perspective is most important. Even if you don't grow an enormous amount of food, you are growing by leaps and bounds as a gardener. This growing season is our chance to learn and transform any problems into gardening wisdom for next year. As our vegetables mature, so do our gardening skills.

Photos by Teresa McKnight

VEGGIES OF THE MONTH

Kohlrabi

By Joanna Kenyon

If an animated movie were being made about invading space aliens who disguise themselves as garden vegetables, kohlrabi would be a major contender for the leading role. It seems one of the most unlikely of vegetables, with its long leaves jutting out of a round root-like ball that rests just above the soil.

Although the kohlrabi seems like a root crop, everything edible on the kohlrabi plant is above soil. The leaves can be eaten, as they can in most of kohlrabi's Brassica family members (cabbage, kale, turnips, broccoli and radishes). Usually it is the bulb-like stem growing just above the ground that veggie lovers relish, and it may be eaten both raw and cooked. In addition to having a delicious apple-broccoli flavor, the kohlrabi is chockablock full of vitamins C and A, as well as folate and calcium.

Planting

Kohlrabi prefers cool weather. Because of this, there are two excellent times of the year for planting kohlrabi, and you're in luck, because one is coming up soon! You can plant kohlrabi in the spring, starting 4-6 weeks before the last expected frost, and continue planting through April.

Photos by Rose Schultz

As the weather begins to warm up, the kohlrabi will ripen, and you want to keep an eye on them: if you leave them too long after ripening, the bulb will begin to turn woody and lose flavor. If you plant only some of your kohlrabi seeds each week, you can harvest over a period of time while still keeping the nice crisp kohlrabi taste.

The second period of time you can plant kohlrabi is mid-late summer. In the Pacific Northwest, planting now through mid-August will give you a nice fall harvest. Here are a few more planting tips:

• You can either transplant or direct sow kohlrabi. It prefers full sun, and will be happy if you give it nice fertile soil with compost mixed into it. If you transplant kohlrabi, move it to its new home when it is 4 inches tall.

• Kohlrabi likes a bit of space to grow. Transplant normal varieties 4-6 inches apart or thin to the same spacing if you direct sow. If you select a larger variety, such as the fantastically-named Superschmeltz variety, plant each more like 2 feet apart.

• There are a number of primarily ornamental varieties of kohlrabi that do not have good flavor. You might skip over varieties of Vienna in favor of others, such as the Winner FI, which is recommended for our region. Other purple and green varieties originating in Europe should also work well.

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Cultivation

In addition to a healthy level of compost, the kohlrabi requires regular watering. When the soil is dry, you should water. In the dry summer months, you may need to water daily or every other day.

Kohlrabi is fairly hardy and doesn't have many pests or diseases for you to worry about. However, as a Brassica, it can be susceptible to slugs, snails, aphids and leaf-eating caterpillars such as the green cabbage looper. For each of these, you should regularly check the leaves and bulb, and pick off any pests you find (mashing them can be very satisfying). Flea beetles can also be a problem, which can be helped by using row covers or stem barriers.

You may also need to be cautious of root pests, especially if they tend to be in your soil. Both cutworms and root maggots can be a problem for kohlrabi, as they only have the one slender little taproot. If you've had problems in the past or are seeing problems in early sowing, you may want to favor transplanting over direct sowing, and place a homemade cutworm collar around each plant. These can be made out of paper towel tubes, or tin cans and paper coffee cups with the bottoms cut out.

Harvesting, Storing & Eating

Harvest kohlrabi when they stop growing or when growth slows. For most varieties, this is when the bulb is about the size of a baseball. It's important to harvest them before they get woody. Also, you might thin them out a few at a time, making sure that the remaining plants continue to get ample light and water.

You can keep and eat the leaves, much as you would with kale or collards. They are tougher, like collards, and some people do not like them as much as other Brassica leaves.

The bulb is what most people are interested in with a kohlrabi, and what you will find for sale in markets as well. Most recipes call for you to enjoy the delights of the raw kohlrabi bulb—cut just above its single root, peel and slice or cut into cubes. You can store kohlrabi bulbs for a few weeks in your refrigerator after removing the leaves and stems and placing in a sealed plastic bag or container. You can also cube, blanch and freeze kohlrabi for winter storage in your freezer.

There are multiple recipes for raw kohlrabi salads, slaws and dips. The bulb does well in a Waldorf salad, grated or noodled. However, for a challenge, this recepe involves cooking with kohlrabi—both leaves and bulb.

Kohlrabi Curry

Ingredients

- **3 peeled and sliced kohlrabi bulbs & their leaves with stems cut away**
- **2 tbsp. canola, coconut or other neutral oil**
- **2 slices unpeeled fresh ginger**
- **1 yellow onion, diced**
- **1 red bell pepper, chopped**
- **1 jalapeño chile, seeded and thinly sliced**
- **1 1/2 tsp. ground cumin**
- **1 1/2 tsp. sea salt**
- **1 tsp. ground coriander**
- **1/2 tsp. ground turmeric**
- **14 oz can of coconut milk**
- **1/2 cup of chicken or veggie broth**
- **Optional: chopped fresh cilantro, lime, jalapeño slices**

Preparation

1. **Put oil, ginger in deep frying pan and place over medium heat.**
2. **Add onion, bell pepper when warm for 5 minutes.**
3. **Add jalapeño, kohlrabi slices, herbs, salt and stir.**
4. **Add coconut milk and broth, and bring to simmer.**
5. **Lower heat and stir for 10 minutes.**
6. **Remove ginger**
7. **Serve hot with optional toppings, if you wish**

Carrots

By Shannon Allegra-Fox

Photo by Ashley Eberlein

Carrots are a root vegetable with a distinctive, single large taproot. The name "carrot" comes from the Greek word "karoton," whose first three letters (kar) is used to designate anything with a horn-like shape. Carrots belong to the Umbelliferae family, named after the umbrella-like flower clusters. As such, carrots are related to parsnips, fennel, parsley, anise, caraway, cumin and dill.

Carrots have many colors: red, purple, yellow and white. They're classified by the distinct shape of their roots. The five most common types are Imperator, Chantenay, Danvers, Nantes and Planet. The most familiar orange variety seen in supermarkets is the Imperator. These are the carrots most commonly sold as fresh carrots in US grocery stores, and are the most commonly grown in family gardens and for commercial production. Imperator's are on average 10 inches long and conical shaped with a pointy end. They tend to be long and slender with broad shoulders, up to 1-1/2 inches in diameter. Imperators are notable for their consistency, usually being large sweet and flavorful.

I always thought an apple a day kept the doctor away. Apparently, carrots (along with pumpkin and spinach) are the highest ranking antioxidant vegetables in terms of their beta-carotene content. These colorful ground dwellers also have cardiovascular and anti-cancer benefits.

Planting

Carrots are very sensitive to debris in their soil. Carrots need loose, non-compacted soil that is free of rocks and sticks 8-12 inches under to grow straight and true. A single small stone located directly under a young carrot can cause the taproot to split and fork.

Potassium promotes solid, sweet carrots. Potassium rich organic amendments, such as wood ashes, contain soluble potassium which reaches the plant quickly and promotes strong root development.

Excess Nitrogen causes branching and hairy, fibrous roots, so high nitrogen fertilizers should be avoided. Manure may be added prior to planting, but only if it is well composted and if it is used very sparingly. Fresh manure is too high in Nitrogen. Steer and horse manure is preferable to poultry manure in this regard.

The best pH value for carrots should be in the range of 6.5 to 7.5. Add lime, ground limestone or dolomite to raise the soil pH in acid soil. Add pulverized sulfur rock to alkaline soils to lower pH. If your soil is excessively acidic or alkaline, you may not be able to make the soil within the preferred pH range in a single season. If you can move your pH by 1 point, that should be sufficient for the year.

Abundant organic matter also helps to modify the effects of soil pH. Add a judicious amount of well-rotted compost to your garden. Your Garden Project raised bed does not need any amendment if this is your first growing season or if it's your second growing season and you cover cropped and added compost.

Sow carrot seeds in Washington late spring/early summer to a depth of ½ in. Seeds are tiny and light so don't plant on a windy day. The easiest way to sow, is to mix seeds in an equal bowl of sand, then sift the sand/seed mixture onto your row. Seeds will take two weeks or more to germinate. Thin the carrots 3 inches apart once they have reached a height of 6 inches. You may apply a thin light layer of organic mulch, such as straw or grass clippings after thinning to help the soil retain moisture. You can add more mulch as the plant develops. This retains moisture and helps prevent green shoulders by protecting the tops of the roots from sunlight.

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VEGGIES OF THE MONTH

Cultivation

Carrots don't like to compete with weeds so keep them weed free. Snipping the weeds off at ground level is preferable to pulling the weeds since this disrupts the soil and could damage your carrot's developing root system. Carrots need regular water to keep the top greens and roots healthy. At a minimum they need ¾ inches of water or rain per week. Avoid letting them get overly dry or overly wet as some carrots are susceptible to powdery mildew and root fungus. Loose well drained soil that is kept slightly moist is best.

In the fall, in a bed where carrot pests have been present, after removing all infested carrots from the bed transplant a parsley plant and allow it to overwinter in the bed. The parsley plant will be weakened by the weather and by transplanting. It will attract carrot pests looking for a vulnerable plant to infest. In early spring, remove the whole plant, roots and all, and get rid of it, along with all the pests clinging to it.

I hope you enjoy these two great carrot recipes.

Carrot, Kale & Beet Salad

Ingredients

- 4 carrots, shredded
- 8-10 large kale leaves
- 2-3 medium beets, shredded
- 1/3 cup extra-virgin olive oil
- 1/4 cup lemon juice
- 3 large cloves garlic, minced
- 1/2 teaspoon freshly ground pepper
- 1/4 teaspoon salt
- 1-2 sliced pears or apples (optional)

Preparation

1. Wash and dry kale leaves.
2. Strip kale leaves from the stems and discard the stems. Tear the leaves into small pieces and place in a large bowl.
3. Firmly massage and crush the greens to work in the flavoring. The greens will darken and shine.
4. Add shredded beets, carrots, oil, lemon juice, garlic, pepper and salt.
5. Add pears or apples for additional sweetness if desired.
6. Taste and adjust seasoning with more, lemon juice, garlic, salt and/or pepper, if desired.

Glazed Carrots with Orange & Ginger

Ingredients

- 1 pound carrots, trimmed and peeled if necessary, cut into coins or sticks
- 2 tablespoons butter or extra virgin olive oil
- Salt and freshly ground black pepper
- 1 tablespoon minced or grated peeled fresh ginger
- 1/3 cup freshly squeezed orange juice
- 1 teaspoon freshly squeezed lemon juice
- Chopped fresh parsley, dill, mint, basil or chervil leaves

Preparation

1. Combine the liquid ingredients (but hold the lemon juice till the end) and carrots, simmer covered, 5-7 min. Orange juice is an especially nice liquid to begin with, because the reducing process concentrates both its sweetness and its acidity. (A little lemon juice at the end adds the perfect balance.) If your liquid of choice is something more savory, try balsamic vinegar, Braggs or tamari.
2. Add the remaining ingredients and cook, more or less undisturbed, until carrots are tender and liquid is almost gone, 10 to 15 minutes. Uncover and boil off remaining liquid, then add lemon juice. Taste and adjust seasoning if necessary.
3. Serve hot or within an hour or two, garnished with herbs, if you like. Enjoy!

Use Your Senses & Observe Leaves

By Allie Bishop Pasquier

Swiss Chard & Nasturtium

Look around you – there are leaves everywhere! All plants have leaves. There are many leaves that we don't eat, but there are plenty that we do! Here are two that you might see growing in garden in our area:

Swiss Chard:

Chard comes in many different colors, including white. Rainbow Chard is named for its colorful ribbed stems. We can eat the stems of chard (they are a bit like celery), but many people grow chard for the leaves. Chard leaves taste delicious and very nutritious.

Mint:

Some folks say this herb "goes crazy" because of the way it can spread itself around. Many gardeners prefer to grow mint in pots so that it's contained and doesn't take over a garden or yard. Dried mint in hot water makes a delicious tasting tea! Mint also smells wonderful.

Chard and mint leaves are tasty, but they also have a function as a part of the plant. The functions of leaves are:

- To convert sunlight into sugar.
- To "breathe" for the plant, taking in Carbon Dioxide and releasing Oxygen.

If plants didn't have leaves, the plants wouldn't live! Take a walk and see how many different leaves you can find. They come in all different shapes and sizes. Some vegetables that we eat are leaves, including kale, lettuce, spinach and arugula. Many of the herbs that we eat are leaves, including mint, basil, sage and oregano. Leaves are important for plants, and important for our health. The dark, leafy greens are especially good for you to eat everyday because they contain vitamins and nutrients like vitamin C, B6, Calcium and Magnesium. Many of the most popular greens, like lettuce, are good for you too, but aren't as high in vitamins and nutrients as the dark greens.

Make sure you eat some edible leaves every day. Plant some seeds in your garden that you can watch grow into leaves to eat! Try the activity leaf rubbings. It's a fun artistic way to observe the texture and shape of leaves.

Leaf Rubbing

Leaf Rubbings

Materials

- **paper**
- **crayons or oil pastels without paper on them**
- **leaves**
- **a hard, flat surface**

First, collect a few leaves to investigate further. Rub your finger along one of the leaves. Which side feels bumpier? Make sure that side faces up. Place your paper on top of the leaf and use the side of a crayon or oil pastel to rub the paper over the leaf. Do you see lines appearing? Continue this with other leaves on other parts of the paper.

Those lines are the veins of the leaf. The veins move water and nutrients around the leaf, just like the veins in our body function to move blood and nutrients around our bodies.