

Gardening workshop:

Picking a site

The sunnier the spot the better for a vegetable garden, because sun is the most important ingredient for growing hearty vegetables. Most vegetables need full sun (at least six hours of direct sunlight per day) to grow to their maximum potential, so avoid spots that are shaded by trees or buildings during the heat of the day.

To determine if your site has the right light conditions, stand facing the south with your left hand pointing east (in the direction the sun rises) and your right hand pointing west (in the direction the sun sets). Now take your east-facing finger and follow it to the southern sky and then down behind the western horizon. This is the course the sun will take throughout the day. If there are no major obstructions then you have a sunny spot.

In addition to sun, your garden should be located as close as possible to a water source. Easy access to a garden hose means less lugging around of watering cans, and it also helps if you decide to install soaker hoses or a drip irrigation system.

Think about how you will access the garden for picking, watering and caring for your plants. Out of site often equals out of mind – and a neglected garden. Avoid high wind areas and frost pockets (low areas where frost is likely to settle).

Watch out for wildlife, pet damage and children's play areas. When we first moved here, our neighbor's dog would randomly visit and dash through the garden. This was very hard on new seedlings. Now the dog is gone, but the deer and wild bunnies come to visit, so we plan accordingly.

Soil Testing (see handout)

What and When to plant?

Rule #1 – If you won't eat a crop, don't grow it in your vegetable garden. (I break this rule for flowers. Edible or not, I like to see at least a few in every garden.) Focus on the fruits, vegetables or herbs that your family enjoys the most.

Make sure your top choices make sense for your area. Figure out your gardening zone and estimated first and last frost dates. If possible, talk to successful gardeners in your area to find out which crops grow well and which don't.

If space is an issue, make a list of your favorite vegetables, then look through some seed catalogs and see what the average spacing is for these vegetables as well as whether you get one harvest or many. Corn is a space hog. You need several rows of corn to have enough to cross-pollinate each other and produce the actual ears of corn. Corn takes months to mature, and you get basically one good picking from the crop unless you've staggered your planting. At the other end, pole beans take up very little space and keep producing for weeks.

Will you be around to harvest when the crop is ripe? If you're only around on weekends, vegetable gardening will be a challenge, but not impossible. An overly ripe tomato is still delicious, but beans and zucchini can grow to enormous size in the blink of an eye. If you plan on taking a long vacation or even

several short vacations, you should arrange with a friend to come over and harvest the ripe vegetables. They'll get fresh vegetables, and your plants will keep producing longer.

If your main reason for vegetable gardening is to have freshly picked vegetables all summer, you'll want to favor vegetables that begin ripening early and keep producing. There are many to choose from, including tomatoes, peppers, radishes, lettuce, beans, and broccoli.

Fall gardens prolong the growing season for certain veggies. Hardshell winter squashes will keep for months, while zucchini needs to be eaten before it's large enough to need its own garden.

Seeds or plants? Most garden vegetables can be directly seeded where they are to grow, including: lettuce, beans, carrots, beets, chard, spinach, peas, cukes, and squash. Starting with small plants rather than seeds is a good idea for crops that take longer to mature.

Fertilizing

The three primary nutrients plants need are nitrogen (N), phosphorus (P), and potassium (K). These are available in chemical/synthetic (nonorganic) fertilizers. The numbers of each nutrient indicate the percentage of net weight contained. For example, a 100-pound bag of 10-10-10 contains ten pounds of each element.

Nitrogen promotes strong leaf and stem growth and dark green color, such as desired in broccoli, cabbage, lettuce, and herbs. Add aged manure to the soil and apply alfalfa meal or fish or blood meal to increase available nitrogen.

Phosphorus promotes root and plant growth, including setting blossoms and developing fruit, and seed formation; it's important for cucumbers, peppers, squash, and tomatoes—any edible that develops after a flower has been pollinated. Add (fast-acting) bonemeal or (slow-release) rock phosphate to increase phosphorus.

Potassium promotes plant root vigor and disease and stress resistance and enhances flavor; it's vital for carrots, radishes, turnips, and onions and garlic. Add green sand, wood ashes, gypsum, or kelp to increase potassium.

Companion Planting

What are Companion Plants?

Companion plants are plants that complement one another in terms of growth and production. For example, one plant may attract an insect that might protect a companion plant. Another plant may act as a repellent for a bug that might be harmful to the plant next to it.

It is also important to look at the nutrients individual plants need. A companion plant may need less of one specific nutrient while its neighbor desperately needs it to thrive. In this case, companion planting would eliminate the competition between the two plants.

Pest control isn't the advantage to companion planting. Many plants are nitrogen-fixers. These plants—such as clover and alfalfa—only get about 5% of required nutrients from the soil. The rest comes from nitrogen in the air which these crops store in their root systems. This additional nitrogen is absolutely necessary for the growth of other crops including corn.

Natural Supports – Plants and flowers that grow tall and strong will lend themselves as natural, organic supports to crops that grow low or sprawl. An example of this would be planting tall sunflowers next to cucumbers or snap peas. The sprawling crops can use the taller plants as a trellis.

Optimize Soil – A plant's root system can easily affect the soil it is in. Plants with long taproots like parsnips and carrots will lift nutrients from the depths of the soil. The nutrients can then benefit those plants with shallow root systems. Nitrogen is also important to many plants, and some, such as peas and beans, actually help to draw nitrogen in, making it more available in the soil for the plants that need it.

Prevent Weeds – Alternating upright plants and sprawling ones can create a thicker cover across the majority of the open land in your garden area, which will ultimately prevent weeds.

Regulate Shade & Wind – Too much sun can damage tender and fragile plants. Companion planting can help prevent this by offering shelter as taller plants protect smaller ones. The same is true for wind. The taller and larger plants will offer protection from harsh winds.

Attracting Pollinators

Plant Certain Flowers

The most effective step to attract pollinators to your garden is definitely planting flowers. Bees, butterflies, and other insects are most interested in flowers because of the nectar and pollen they offer. However, bees and butterflies are not completely impartial when it comes to flowers. They do prefer some flowers over the others.

Flowers that are bright in color catch their attention quickest and so are the most appealing to them. Bell-shaped flowers that provide easy access to nectar are also particular favourites among them. Try to plant such flowers in your garden to catch the attention of bees and butterflies who would keep paying regular visits once they have found the reservoir of gorgeous and bright flowers.

Flowers like sunflower, bee balm, salvia, butterfly weed, butterfly bush, snapdragon, blanket flower, and marigold would work the best. While selecting flowers to plant in a vegetable garden to attract bees, keep in mind that bees and butterflies like flowers with vibrant and bright petals. Some small clusters of tomato blossoms and squash flowers would never be able to do the trick for you.

Consider planting Milkweed. This gorgeous plant is the sole food source for a specific variety of butterflies, called the Monarch butterflies, and therefore are sure to attract those beneficial insects.

Plant Native Flowers

If you have any doubts regarding which flowers to plant, always go for the flowers native to your region. Bees, butterflies, and other insects are most attracted to flowers that are native to the region they belong to.

Plant Flowers in Large Groups

After you have selected some plants that attract bees and butterflies, you have to ensure that you plant them right. Planting the plants in the right locations and in the proper manner is really important for you to succeed.

Some scattered flower plants here and there in the garden would do you no good. A beautiful flower border might soothe your eyes, but it is useless for a bee. Try planting large beds of flowers with vibrant colors to make them visible to the bees. A large patch of flowers from the same species would go a long way in attracting the attention of the insects.

Also, try to use a variety. Do not just stick to a single species of flowers. Use a wide range of vibrant, large-sized, and wide flowers to ensure that your target is fulfilled. Put up large flower-beds of diverse flowers in, around, or near your garden so that the bees come to visit. Bees keep visiting regions with an ensured and secure food source, so you will never be out of pollinators again.

Provide Shelter to the Bees

Quite contrary to popular opinion, all bees do not live in hives. Most bees are solitary wanderers, making nests in the ground, wooden blocks, or tree trunks.

Females of various species dig up small holes in the ground and lay only a single egg. Certain other species look for creeks, holes, and openings to build their nest in.

Gardeners often use thick layers of mulches and landscape fabric to beautify their gardens. This makes the garden a very unfavorable place for bees to build their nests, as a result of which they do not help in pollinating those gardens.

To ensure bees can build nests in your garden, leave at least half of the garden floor uncovered for bees to call it home. When the atmosphere is convenient for them to live in, bees would invariably feed on the pollen of your vegetable plants and help in their pollination.

Provide Water

Provide a source of water in the garden to attract hummingbirds and other pollinators. You can also set up a birdbath, a fountain, a catch basin for collecting rainwater, or a simple bowl to act as a source of freshwater. This would bring in birds, butterflies, bees, and moths to your garden.

You can also set up food dispensaries for hummingbirds and other kinds of birds to encourage them to keep visiting.

Avoid Pesticides

To encourage more insects to visit your garden every day, be sure not to use pesticides. Pesticides are not selective. While killing dangerous pests like aphids, they would also kill off the ladybugs, bees, and butterflies that visit your garden. The pesticides remaining on the leaves would also kill any future pollinator visiting later.

Flowers to Plant in Vegetable Garden To Attract Bees

Who doesn't like colorful flowers with a magnificent fragrance? If you plant flowers that hold enough nectar to attract the little pollinators to your garden then it's a double jackpot for you.

There are many excellent looking flowers with enough nectars to attract pollinators like bees, butterflies, and hummingbirds. Some of them are mentioned below:

1. Borage: this magnificent plant houses star-shaped flowers of blue color. They attract insects, especially bees. It does not take much space in your garden and can also be used as herbs for cooking.
2. Butterfly Bush: if you are going for a long haul then butterfly bush is the perfect plant for you. It can grow about 8 feet tall and takes about that much space. But planting one or two of these plants in your garden can bring a lot of butterflies and hummingbirds that will speed up the pollination process.
3. Coneflower: this beautiful flower can also attract a lot of bees and butterflies. It is a 2-foot tall plant and holds a lot of sweet nectar that attracts pollinators.
4. Others: some of the other pollinators that you can use are Dahlia, Daisy, lavender, Goldenrod, Milkweed, Marigold Sunflower, etc.

Weed Prevention

Weeds are naturally gifted with characteristics that let them spread easily. These characteristics include:

- Generous seed production
- Rapid germination and establishment
- Seeds that remain dormant for long periods of time
- Ability to occupy areas of high traffic

Weeds compete with grass and garden plants for space, light, water and soil nutrients. Not only do they look bad and have the ability to take over quickly, they're also the perfect hosts for disease and insects. Before you know it, one weed can turn into many little thieves robbing your plants of their health.

Cultivate with Caution

When cultivating a new garden bed, what you don't see is the buried weed seeds lying dormant just under the surface of the soil. Moving them to the top of the soil wakes them up and boosts them into germination. Once you've established a new garden bed, avoid unnecessary tilling and cultivating unless absolutely necessary.

Mulch Your Beds

An effective and natural option to prevent weeds from taking over your garden is through the use of mulch. Apply a thick layer of organic mulch approximately 2 inches deep in the garden area – take care to avoid the base of individual plants and shrubs. Not only will mulch help the soil retain moisture, it also smothers out any small weeds and creates an unfriendly environment for tilled up weed seeds.

Grow Plants Closely

Weeds just love the open, sunny spaces between garden plants. Plant vegetables, flowers and shrubs at the closest recommended spacing. Consider using block spacing instead of growing in rows to eliminate the open areas weeds tend to pop up in.

Eliminate Hitchhikers

Young plants from the local nursery can introduce new weeds to your garden. Weed seeds are great at spreading, even in a nursery environment. Inspect all new transplants closely to ensure they aren't bringing in any undesirable friends. If you spot seeds or sprouts, simply pull them out before transplanting into your garden.

Get to Pulling

It can seem endless, but consistently weeding your garden will pay off. For every weed removed before it goes to seed, you effectively eliminate hundreds of its offspring. Commit to a weeding schedule and stick to it. The perfect time for weeding is while the soil is moist and plants are young.

Plant a Cover

Many vegetable gardens lie dormant during winter months. Some annual weeds actually pop up during cool weather. Keep these weeds from germinating and taking over your yard by cool season cover crops, like ryegrass or clover, which create a barrier for weeds by competing for light, water and nutrients. Simply till them under in early spring to introduce organic material and nutrients into the soil.

Pest Prevention/Care

Beneficial Insects

Organic pest management does not attempt to eliminate all insects. In truth, 95% of insects are either harmful or useful. Insects that prey on pests, such as ladybirds, ground beetles, spiders, and parasitic wasps, are helpful to a garden. The following beneficial insects are useful in your garden:

1. Nematodes

Cutworms, a common pest that kills sprouts before developing into seedlings, are susceptible to nematodes. Nematodes are also efficient against the larvae of beetles and root weevils.

2. Praying mantis

Most garden pests are attracted to these huge insects. Praying mantis eggs are planted in the garden, where they hatch and soon mature into adults.

3. Chalcids, ichneumon wasps, and arachnids

These valuable insects consume caterpillars that eat leaves. Plant celery, parsley, and carrots to attract them to your garden.

These plants are simple to cultivate and should be left to blossom. The bloom is what draws the insects.

4. Lacewings

Lacewings are voracious aphid eaters, and their larvae consume aphids and a variety of other insect pests. They are interested in “composite” flowers like goldenrod and yarrow.

Rotation of crops

Crop rotation is the practice of producing several types of crops in different areas of your garden each year to help decrease insect infestation. If the plant they consume is relocated, the insect is compelled to travel closer to the food source, putting them at risk of attack by birds and other insects.

Use spray or seaweed fertilizer

Calcium, iron, sulfur, zinc, and magnesium are trace elements in seaweed that support healthy plant development. Seaweed fertilizer in mulch or spray can boost growth and provide plants the strength to resist infection. Seaweed mulch is also effective in deterring slugs.

Make Sure Your Soil is Healthy

The first step to preventing pests is ensuring you have healthy soil, which leads to healthy plants with robust immune systems capable of fighting off pests and diseases. Healthy soil is alive with beneficial microbes and organisms, as well as earthworms and beneficial insects.

Grow Resistant Varieties

One of the easiest ways to prevent pests in your garden is to pick plant varieties that are naturally resistant to common pests in your area. Most seed catalogs or seed packets list if the plant is resistant to any pests or diseases.

Interplanting Crops

Interplanting means that you alternative crops, herbs, and flowers to confuse the pests. Planting only one type of crop in your garden bed is called monocrop, and that is what garden pests enjoy. It makes it easy for them to find what they want to eat.

Plant Flowers and Herbs to Repel Pests

Strong-scented herbs and flowers deter pests when planted near vegetable plants. It's an easy way to repel pests without needing to use chemicals to repel them.

Look for herbs and flowers that are aromatic. That's the key to deterring pests; they don't like the strong scents. You can put these plants in the corners of your garden beds, in pots throughout your garden, or create rows of herbs as borders.