Top 10 Ways to a Better Veggie Garden[1]

A well informed gardener can be happy with their accomplishments in the vegetable garden with a few simple guidelines. Working with and understanding the natural growth of plants will help immensely to get the results you want without all of the extra work. The first step in growing good vegetables is keeping the plants healthy. If you keep them healthy, they will be less susceptible to disease and provide you a bountiful harvest. Here are some tips to help you grow a better vegetable garden this and every year:

10. **Good Bug, Bad Bug?** – Knowing the bad ones from the good ones will get you moving in the right direction. Gardeners are best off adopting integrated pest management where they scout, identify, and then control harmful insects. Most plants can take on quite a few bad insects before harm is done. Many times, picking off the bad insects can work. Knowing the insect and its life cycle will also help eliminate the potential destruction. Maintaining the good bugs will help reduce some populations of the bad ones.
09. **Lift Your Plants** – You can decrease disease pressure immensely if you can change the environment which supports diseases. The best environment for most diseases? Warm temperatures, darkness and humidity/moisture. So, if you can control the environment (i.e. – eliminate moisture through proper airflow and sunlight exposure) disease can be reduced, controlled or eliminated! Use stakes, trellises, panels, fencing and whatever else you can find to get plants up off the ground. Items need to be strong and sturdy to support plants at their largest size.
08. **Prune** – Suckering tomatoes, but also thinning their thick canopy will help improve air flow and reduce disease. Pruning is a chore, but saves lots of time later. Pruning basics: prune for air flow and sunlight penetration. Make clean cuts. Tomato cages limit your ability to prune and harvest.
07. **Pollinate** – Yes, bees and other insects can pollinate the plant. Protect ground nesting bees, bumble bees and carpenter bees. But, are there other rules? Sweet corn must be planted in squares, not just rows. They need another plant's pollen to pollinate. Blueberries? Apples? These need another cultivar for full production.
06. **Mulch** – Using four layers of newspapers will stop most weeds in the vegetable garden for the season. Do this after seeds emerge and transplants are planted. Cover with a thin lay of mulch (grass clippings, bark, compost, etc.) Wetting during application keeps them from moving around. For other mulches, mulching too thick can kill plants. Mulching too thin can leave you with lots of weeds. Mulching takes some work and practice to find what best fits you. Mulching also reduces the splash effect, where soil borne diseases get onto the plant.
05. **Recycle** – Compost will help add organic matter to clay for better root penetration. Compost will help sandy soil hold more water and nutrients. Either way, plants will be healthier for the addition. A compost pile can be simple. Start with all yard/garden waste and everything from the kitchen (except oils and meat scraps). Other ways to recycle? Find used stakes for tomatoes, sheets for frost protection, newspapers for mulch and more.
04. **Know the Soil** – Have you ever used lime on your garden? Is it worth $20 every couple of years to save $30 on fertilizer? Only a soil test can steer you in the correct direction. The pH of the soil (chemical charge) can affect how and if your plants can take up certain nutrients. Soil testing is simple and can take all of the guess work out of liming and fertilization. Soils in the valley range from hard clay to coarse sand.
03. **Water the Roots** – Even though the gardener in the commercial looks happy and the plants look happy when water sprayed all over the tops of plants – neither will be happy for too long. Watering should happen at the root zone. Use of soaker hoses along the row or slow draining buckets to conserve water and plant health.
02. **Cleanup** – Many of us do not do a good job cleaning up plant debris in the fall. This debris left all winter harbors disease into the next year. Pull out plants, rake up dead leaves and get these out of the garden area. Plant a cover crop to hold soil in place and to provide more organic matter for next season's crop.
01. **Practice & Learn** - The more you grow, the more you will find out what works best for you. Attend classes or gardening events to see how others are improving their gardens. Use the internet to search, but use "university extension" in your search to get the correct answers on how to be the best gardener.

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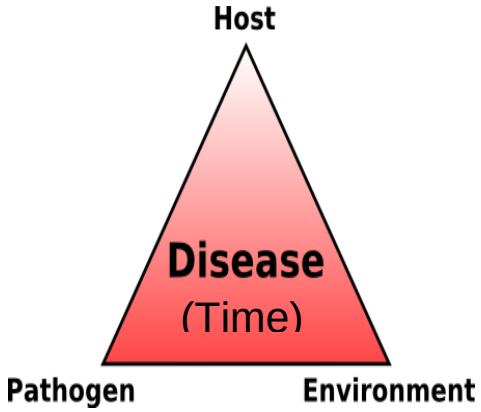
Air and Sunlight Can Reduce Disease[2]



Pathogens growing on plants cause many problems in the garden. In order to grow and reproduce, these diseases need the appropriate environment. The best environment for many diseases consists of warm temperatures, darkness and the presence of moisture. When the gardener isn't careful, they are encouraging these diseases to persist by providing the perfect environment. If one can control the environment, diseases can be controlled or even eliminated!

To reduce the amount of disease in your garden, eliminate the environment for diseases (the easies side of the triangle for us to eliminate) by following some simple steps:

1. **Water in the morning** – Watering during the heat of the day means much of the water will evaporate – never reaching plant roots. Watering in the evening creates a different problem. Evening watering allows moisture to 'hang out' around the garden all night on plant leaves and stems. The more natural process is in the morning, like when the dew forms. Watering in the morning allows for a natural drying process with the rise of the morning sun. The latest research, though, says watering at the **root zone** during the afternoon provides the most benefits to plants. To make this work, we need to change watering practices.
2. **Water low to the ground** – Many gardeners the mistake of acting like natural rain when we water. Since we have the opportunity to add water, we should do so in the best interests of plants. Keeping water off leaves and stems keeps diseases from having the moisture they need to grow. Thus, use soaker hoses or a garden wand to put the water right on top of the ground to filter down to the roots. A garden wand is like a shower head. It produces a lighter mist of water and keeps us from washing dirt away from plant roots. Keep the wand close to the ground, not watering the leaves and stems – but roots! Better yet - use a soaker hose or similar irrigation type device to deliver water directly to the root zone for maximum effectiveness and water conservation. A bucket with one tiny nail hole will be sufficient for watering new trees and shrubs, or even a milk jug with a tiny hole in the bottom over the roots of tomato plants.
3. **Prune and shear certain plants**– Treat larger perennials like you would a fruit tree. That is, get sunlight and air to move through the plant to dry out water left from rain and watering. Pruning (selecting certain stems to cut out) is most effective. Shearing (cutting the tops off) should be reserved for artistic effects for the most part. Pruning can be done by taking out dead stems or removing stems in crowded sections of the plant. Be sure to check with the type of plant before pruning. Some plants need pruned in autumn for flowering, others in the spring. Pruning at the wrong time of year can prevent flowering for the next year. Both pruning and shearing can increase flower size. Suckering tomatoes is a form of pruning which can be beneficial in many ways. When early blight begins affecting tomatoes every year, prune off the lower branches to increase air flow through the plant. Remove the diseased branches/leaves from the garden. (For this disease, mulching will help reduce the 'splash effect.' This is an action when rain hits the soil and splashes soil and any pathogens/spores in the soil up onto plant leaves, usually causing infection.)
4. **Space Plants Apart** – Overcrowding of plants decreases air circulation in the garden. Packed masses of plants can be quite stunning, but will require much more attention when it comes to disease than a garden with good plant spacing. By dividing plants at different intervals in the spring and fall we can not only increase air circulation in the garden, but we can increase the number of plants we have by giving them all a little more room. In the vegetable garden, be sure to leave plenty of room between plants and utilize trellis structures/staking to get plants up off the ground for proper air circulation.

Contact your local Extension office if you have questions about plant diseases. They will help you get them identified and give you options for control!

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