

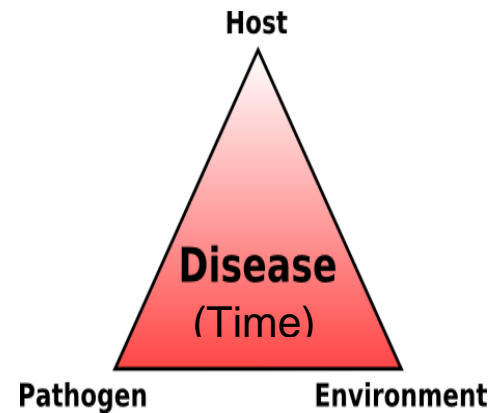
Air and Sunlight Can Reduce Disease¹

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 easiest 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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