



## Water; Too Much, Too Little, Too Late?

### *Water - the million dollar question..*

"My Lawn And Some Of My Flowers Are Dying!" exclaims a frustrated gardener.

"How Often Are You Watering?" asks an experienced horticulturist.

"Oh, I Water Every Day," comes the diligent gardener's reply.

"That is the most likely problem: You are killing your plants with Kindness; You are watering them too much" explains the horticulturist.

The Silence is deafening as the confused gardener ponders this new information.



Most gardening problems can be attributed to one single factor; **WATER -**

### **Too Much or Too Little or Too Late?**

How much water is enough and when is it too much? That is the million dollar question.



### **Too Much Water**

Too much water is just as bad for plants as not enough. Plants that are watered too much do not always establish strong, healthy roots. When a problem comes along, the weak rooted plants are going to die before the strong rooted plants die. Also, plant roots need oxygen to grow and develop properly. Plants that are always kept too wet cannot absorb oxygen from the soil, so the roots start to rot and die. Once the roots start to rot, or die, the plants start to show signs of lacking water, so the natural tendency is to give the plant more water.

The symptoms of over watering are very similar to those caused by the lack of water. - **The plant wilts and dies.** The reason the over-watered plant wilts is that many of the roots have died, and the remaining roots cannot absorb water from the soil fast enough to support the leaves and flowers.



A simple test to check for 'over or under' water is to watch a wilted plant. If you water a wilted plant, and it recovers within a short period of time, the plant needed more water. Adjust your watering schedule, or amend the soil immediately, to prevent future problems.

If the wilted plant does not recover quickly, or it gets worse, it is probably dying from too much water. Adjust your watering schedule as soon as possible to help the plants start to recover. Over-watered plants will not improve quickly from this problem, it may take weeks or even months to completely repair the root damage caused by too much water.

**A simple gardening fact is that More Plants, especially those planted in or near a lawn, die from too much water than die from the lack of water. Newly planted flowers, shrubs and trees are the exception.**

### **Not enough water**

Many trees and shrubs may have leaves with brown tips or brown edges this fall. This browning is commonly called "**summer leaf scorch**". Summer leaf scorch is a problem that many trees and shrubs show during the late-summer and fall. Many effected plants could not tolerate the extreme heat, especially when it was accompanied with dry winds. Other plants (especially newly planted shrubs), didn't have enough roots, and couldn't absorb water fast enough to supply the needed moisture to the leaves during the hot weather.



Leaf scorch doesn't usually kill plants (except for the newly planted ones), it just makes them look terrible for the rest of the summer. The damaged leaves will not recover, and the plant may not produce any new leaves until next spring, but the plant should be fine if you water it properly for the rest of the summer and fall.

Summer leaf scorch may affect one side of the tree and not affect the other side at all. Leaf scorch may even affect one plant, but not show up on another plant just two or three feet away. Soil moisture, leaf conditions, and root systems can vary greatly from one plant to another plant.

The best prevention and cure for summer leaf scorch is to soak your plants, with a slow trickle of water, every two or three weeks during the heat. This long, slow trickle of water allows the roots to absorb enough water before the water drains away. Water also needs to soak as deeply into the soil as possible and not just run down the gutter. Tree roots can be 2' to 4' deep and water needs to soak in long enough to reach these roots.



Don't drown your plants, just water normally and then water them deeply once or twice a month during the summer and fall. Once the snow starts to fall, mother nature usually takes care of them for the rest of the winter.

**Remember: Newly planted shrubs need more frequent watering than the older established shrubs and trees that have larger root systems.**

**To prevent your plants from hanging their heads, and giving up during the summer, they need plenty of water.**

**But how much, how often?**

**The worst possible scenario is to water your plants every day, all season long - unless of course, they are in pots.**

**Keep evenly moist.** Most plants depend on even moisture. However, slight drying out between waterings actually promotes root growth of the plants.

**Water more seldom - but more thoroughly.** In the vegetable garden or flower bed, one to two watering sessions per week is usually sufficient during the heat of summer: Its better to water less often, with plenty of water, rather than to water more often with less water.

**Water late in the evening or early in the morning.** When you water cooled soil in the evening, or morning, less water evaporates than watering hot soil during the day. And the plants can absorb the water they need before the next day's heat.

**Give plants the right amount of water.** Water must sufficiently reach all the roots. Watering too little often only moistens the upper soil surface, or waters the shallow roots. It may not even reach the main roots at all.

**Give the water to the plants, not to the gutter.** Water needs time to seep into the soil. Before water flows away unused, it's better to stop, wait until the water soaks in, and then water again. Repeat until the correct amount of water is applied during the cycle.



**Water a plant evenly around the root zone.** Watering at only one point leads to one-sided root growth in the soil. Always water around the plant and distribute water in the entire irrigation area.

**Irrigate in a way that saves water.** Water as much as necessary, and as little as possible. Adjust your water schedule according to the weather, the soil conditions, and the type or size of plant.

**Avoid water logging the soil.** Water logging the soil prevents the air the roots need to breathe, from entering into the soil - the root cells drown without oxygen.

**How Much is Enough?** As a rule, most older plants need 1 to 2 inches water a week. Apply 1 inch of water twice a week, perhaps a little more if it is hot and windy.

This means watering your plants deeply enough to saturate the soil to the entire root level, once or twice a week, or whenever the soil dries too much.

Newly planted plants need watering a little more frequently than older, established plants.

Soil that drains too quickly may leave your plants struggling to survive, and may require more frequent watering. In extremely gravelly or sandy soil, this could mean watering more than once or twice a week.

#### **Examples of How Much Water:**

An older, low-water-need plant (one that needs 1" of water per week) with a root system that is 5' wide needs about 15 gallons of water per week.

Calculation: (5'x5' root system) = 25 square feet x (1/12' water) = 2.08 cubic feet of water = 15 gallons of water.

**1 cubic foot equals 7.48 gallons of water.**



A normal-water-need plant (one that needs 2" of water per week) - the same size - needs about 30 gallons of water per week.

**Tree Example:** A Medium Sized Tree needs about 180 gallons of water per week.

(12'x12' root system) = 144 square feet x (2/12' water) = 24 cubic feet of water = 180 gallons of water per week.

#### **How long does it take to water plants?**

Most garden hoses give 5 to 7 gallons of water per minute, but to be exact, you can do some math.

Determine how long it takes to fill a 5 gallon bucket with your hose (make sure it is not a 4 or 4.5 gallon bucket).

Divide 5 gallons by the seconds it took to fill it - then multiply by 60 seconds. This will give you the gallons per minute going through your hose.

**Example: 40 seconds to fill the 5 gallon bucket.** (5 gallons ÷ 40 seconds x 60 seconds = 7.5 gallons per minute)

It will take 2 minutes (not 30 seconds) to give your low-water plant 15 gallons of water, or, 24 minutes (not 10 minutes) to give your tree 180 gallons of water.

#### **Drip Irrigation Systems - Good or Bad?**

If A plant needs 15 gallons of water.

If One drip emitter allows 1 gallon per hour.

One emitter would take 15 hours to water the plant, or

10 emitters would take 1.5 hours to water the plant.

**Make sure you use enough emitters, and allow enough time, for your drip system to apply the correct amount of water for each plant. Remember, not all plants need the same amount of water.**



#### **Other Factors**

The amount of water your plants need changes as they grow. While small plants in 4- to 6-inch pots may require only 1 to 2 cups of water when first planted, a full-grown tomato plant may require 1 to 3 gallons of water each time you water.

The need for water also increases during periods of rapid growth. After you fertilize plants, you need to water a little more, because of the added growth.

In the fall, as the weather cools, plants need less-water: not no-water. Continue watering plants, enough to keep the soil moist, until the plants go dormant, and the weather provides adequate moisture naturally. They do not usually require a lot of water, just a consistent water schedule.

**Do Not Stop Watering Plants Just Because The Irrigation Water Is Turned Off in October. Watch the weather to determine your plant's watering needs.**

You may also need to water some plants occasionally during a dry winter.

**As you can see, there are many factors that you need to take into consideration as you determine how much water each plant in your yard requires.**

**There is not one set method to determine how much to water all plants, all year long. Adjust your watering schedule as often as the conditions change: Daily; Weekly; Monthly.**

**Plants can be forgiving, but they do have their limits, and there is a point where they cannot recover from either too much, too little, or too late watering.**