



Learn to Water Well

Proper Watering Techniques from Warner's Nursery

Many customers come in to the Garden Center to find out what is wrong with their plant. More often than not the plant is suffering from a lack of water. The response is always "But I water it ALL the time". The problem is that they are watering incorrectly. Many people hand water, and while it feels like a lot of water is being given to the plant (probably because as much as 400 gallons per hour can come out of a garden hose); in reality most of the water is being wasted. Hand watering delivers water at such a high rate that only the surface of the soil is reached and the majority of the water rushing out of the hose is lost to evaporation or runoff. The water that does penetrate the soil only reaches a depth of an inch or two; not nearly deep enough for the entire root system.

The best way to water in our climate is with **Drip Irrigation**. If it is impractical to install drip at the moment, you can also create the same effect with your hose by only allowing a very small amount of water out of the hose at the root system for a longer period of time. Doing this will not only ensure that you penetrate the entire root system, but will also train the roots to grow deeply. This is healthier for the plant and also better for you in the long run. Hand watering, on the other hand, teaches the roots to stay at the surface of the soil (because that is where the water is); thus causing the roots to dry out more quickly because they are closer to the sun. Continuing to water this way will harm your plant in that the roots are not solid enough to support it; and require you to water more often.

Efficiency

Drip irrigation has no runoff, no erosion and little evaporation loss. The result is that drip irrigation has an efficiency of 95% compared to 50% for overhead sprinklers or hand watering. The reason sprinkler water is not absorbed deep into the soil has to do with the way that water moves in the soil. Water moves by gravity and by capillary action. What is capillary action? If you repeatedly wet the corner of a towel, eventually the entire towel will become wet. That's capillary action. Water moves slowly from thread to thread, wetting the strands as it goes. The same thing happens in soil. Water moves down, sideways and even up against the force of gravity by capillary action, but it can only move slowly in all but very sandy soils. Capillary water is important because it is the only water in the soil

available to the roots of the plant. Sprinkler and hand watering don't penetrate the soil well because they deliver too much water at once for capillary action to work as it should.

Air in the Soil

Roots need air. Most garden plants will drown if the roots are submerged in water for a period of time. Sprinklers and hand watering can produce puddles that can displace air in the soil and saturate the ground. If the puddles do not have a chance to drain quickly, any plants with their roots under water can be stressed or die. Drip irrigation keeps vital air in the soil around the roots. The slow drop by drop delivery of water never displaces the air in the soil and the plants avoid the stress of being submerged. Plants that avoid the stress of under or over watering are healthier and more resistant to harm by pests or disease.

The benefits

Drip irrigation delivers water the way that plants prefer, slowly and in the right amount to cause the least stress and maximum growth. Sprinklers are great for lawns but for every other flower, vegetable, shrub and tree in your yard, drip irrigation is better.