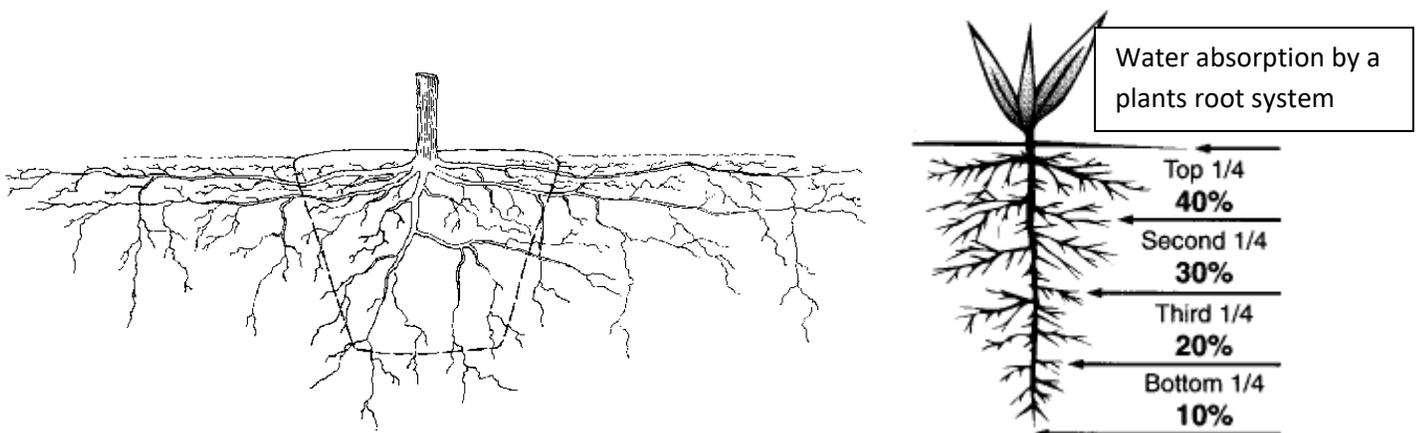


KEYS TO PROPER WATERING



The root systems on plants have 3 functions. 1 is to anchor the plant so that it stays upright in the soil or growing medium. A 2nd is to store food and carbohydrates to sustain the plant (Especially on deciduous plants during the period when there are no leaves on the plant.)

The 3rd is to absorb water and nutrients.

The roots that absorb water and nutrients are called feeder roots or hair roots and are very fine, delicate roots that are constantly being generated and are dying off due to soil conditions and other factors. **In most soils, 70% of the feeder roots occur in the top 1 foot of soil! 90% of the feeder roots occur in the top 3 feet of soil in most soils, due to water and air availability.**

#1 Water the proper area – the Feeder Root Zone!

- Water near the trunk or stem on newly planted plants so that you wet the original root ball.
- Water at the dripline **and beyond** on plants which are established in the ground. (The plant may take from a few weeks to a one year or more to become established depending on the type and size of the plant, the time of year that it was planted, soil conditions, cultural practices and other variables.)
- Water further away from the trunk or stem as time progresses and as the plant grows larger in diameter.

#2 Apply water to a sufficient area of the Feeder Root Zone to support the canopy of the plant and to maintain a strong and healthy root system.

- Irrigate as much of the area around all sides of the plant as possible, not just one side or in one area.
- Water will spread out to an average of 1-2 feet at a depth of 2-3 feet when applied from a source such as a drip emitter or soaker hose.
- If irrigating with a drip system or with soaker hoses, provide enough drip emitters or concentric rings of soaker hose to wet a significant area of the Feeder Root Zone – NOT just a few spots or a single line.
- Adjust and expand the region irrigated as the plant grows to promote the expansion of the root system in order to support the healthy development of the plant's canopy.

#3 Water with sufficient amount of water – enough to thoroughly wet the entire depth of the Feeder Root Zone.

- 1" of water penetrates the ground 1' in sandy soil, it takes 2" of water to penetrate the ground in clay soil.
- 90% of feeder roots are found in the top 3' of soil! (70% are in the top 1' of soil.)
- Water to an average depth of 1' to 3' at each watering for plants that have been established in the ground. Smaller plants generally have shallower root systems than larger plants. As a general rule, water to a depth of 6" to 1 foot for plants 1' or less in height, to a depth of 2 foot for plants 1' to 4-5 feet in height and to a depth of 3' for plants larger than 5 feet in height.
- For plants in containers, water with enough water to leach excess salts out of the container and to thoroughly wet the entire root ball at each watering.

#4 Water at the correct interval – often enough to keep the plant from wilting, but infrequently enough to allow air to penetrate the soil. Roots can drown if the soil is kept constantly wet!

- Watering frequency will vary with the time of year, location, size of the plants, soil, weather conditions and many other variables.
- **On average:**
- Water new plants in the ground 1-2 times per week.
- Water older established plants in the ground 1 time per week to 1 time per month depending on the variables.
- Water plants in containers 1-3 times per week.
- **There are very few exceptions where plants should be watered every day! Watering too frequently will exclude oxygen from the soil and cause roots to drown as well as promote diseases!**



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