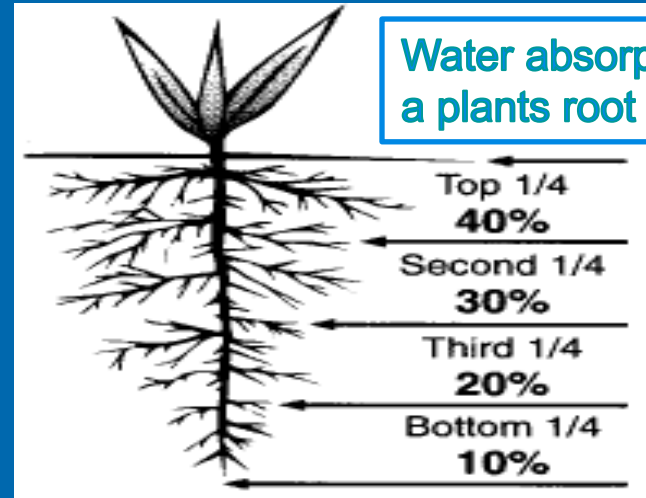
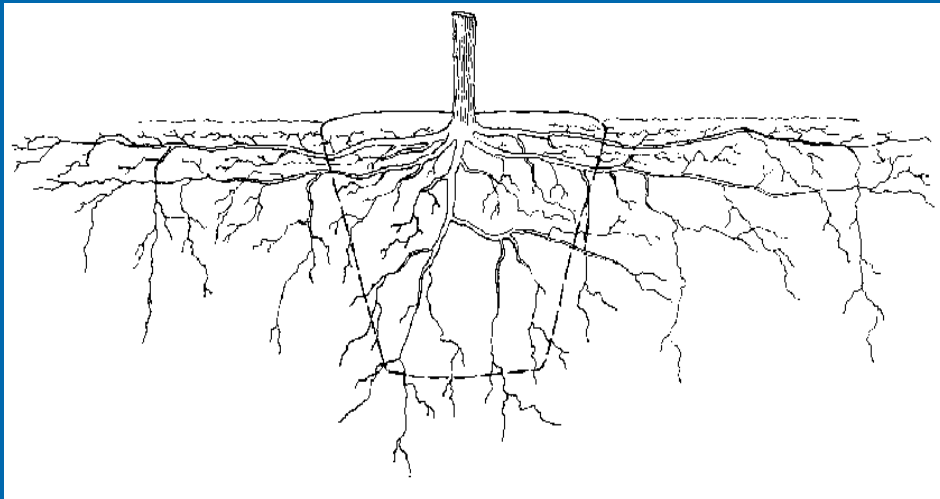


KEYS TO PROPER WATERING



Water absorption by a plants root system

- 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.)

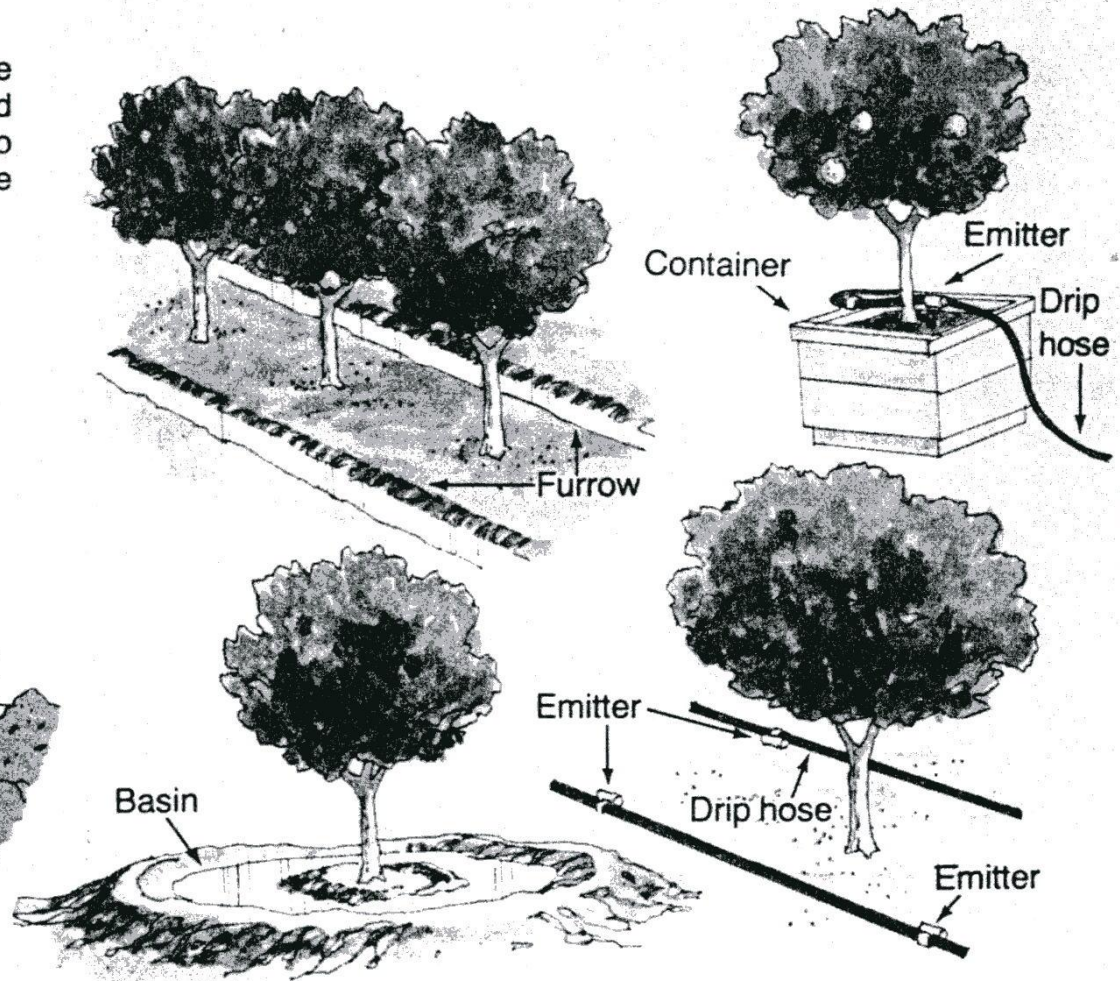
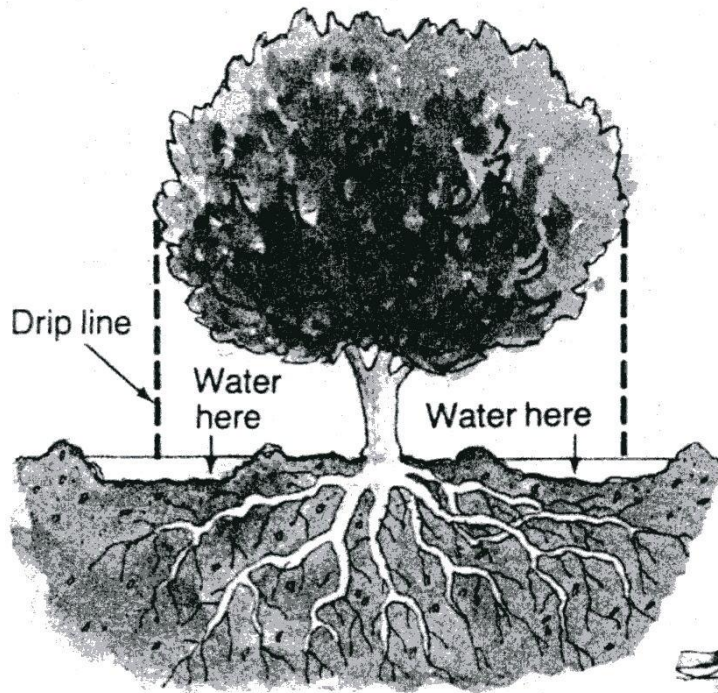
The 3rd is to absorb water and nutrients.

- 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.**

KEYS TO PROPER WATERING

Watering

There are many ways to water trees. The method you choose will depend on where and how your trees are growing. It is important to note that citrus feeder roots extend beyond the drip line.



- There is no one way to correctly water trees. Any method used to water (a bucket, a hose, flood irrigation, sprinklers, a drip system, microspray) or any other watering method can be used to properly water.

A trees age and size as well as the soil, climate, season and other factors affect watering. There are four key principles to proper watering.

KEYS TO PROPER WATERING

Water the proper area – the Feeder Root Zone!

Water near the trunk on newly planted trees so that you wet the original root ball.

Water slightly within the drip line and well beyond the drip line on trees which are established in the ground for one year or more.

Water further away from the trunk each year as the tree grows larger in diameter.

KEYS TO PROPER WATERING

Apply water to a sufficient area of the Feeder Root Zone to support the canopy of the plant.

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 a few spots or a single line. Space drip emitters 12-18 inches apart in concentric rings 2-3 feet apart around the tree, both within and outside of the tree's canopy

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.

KEYS TO PROPER WATERING

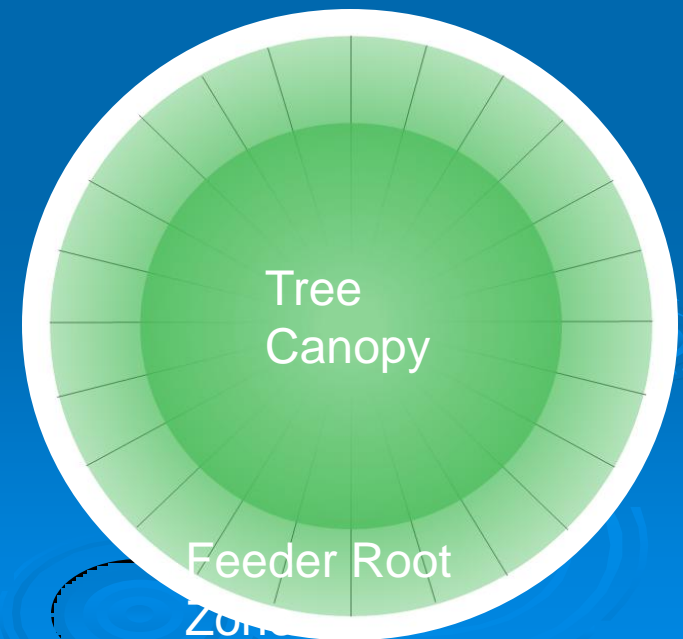
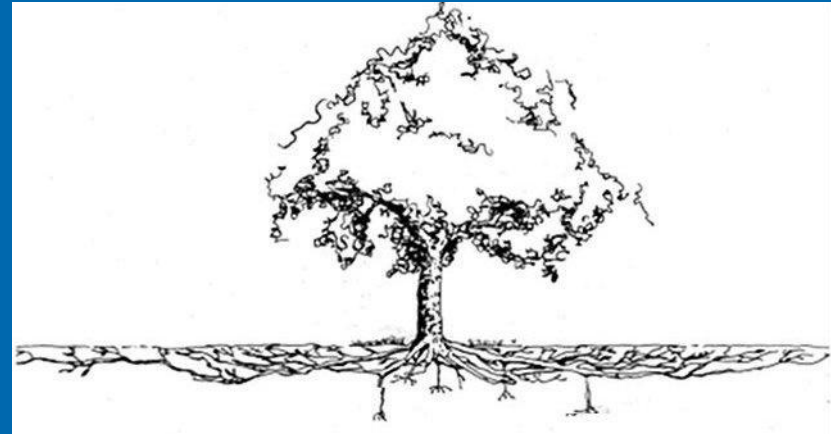
Water a sufficient amount of the Feeder Root Zone to support the existing canopy of the tree.

Use a soaker hose or “Netafilm” in concentric rings 2-3 feet apart around the tree, both within and outside of the tree’s canopy.

Move a sprinkler or hose to several locations around the feeder root zone.

Flood irrigate around the feeder root zone.

Do not use pipes or tubes to “deep water” trees!



KEYS TO PROPER WATERING

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 the feeder roots are found in the top 3’ of soil! (70% are in the top 1’ of soil.)

Water to a depth of 3’ at each watering for trees that have been established in the ground.

For trees 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.

KEYS TO PROPER WATERING

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 trees, soil, weather conditions and many other variables.

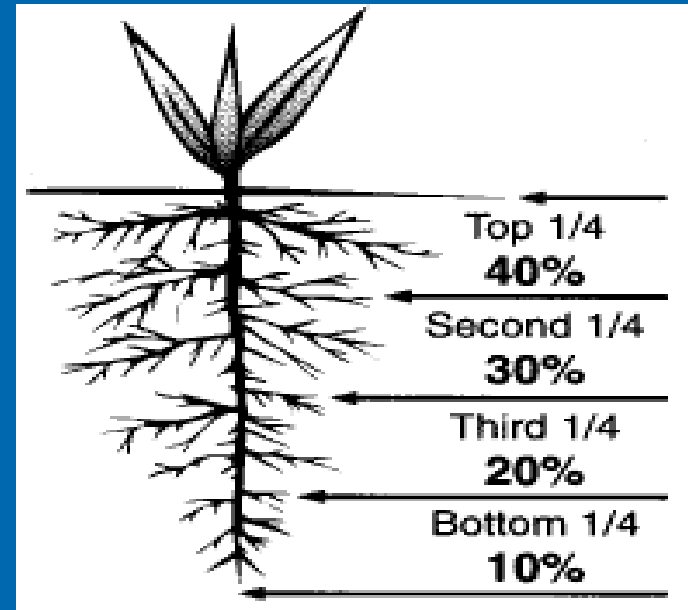
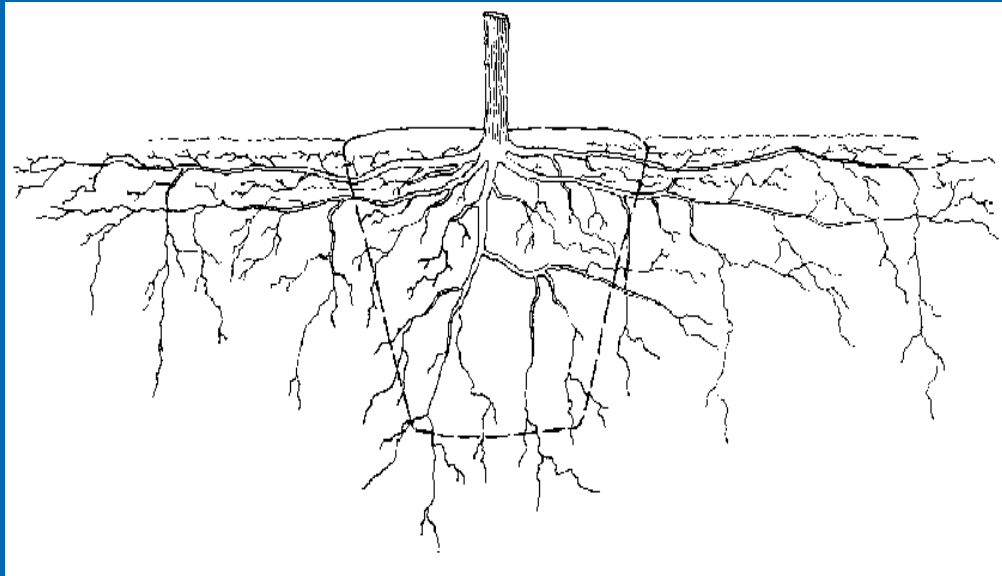
On average:

Water new trees in the ground 1-2 times per week.

Water older established trees in the ground 1 time per week to 1 time per month depending on the variables.

Water trees in containers 1-3 times per week.

KEYS TO PROPER WATERING



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