

Water Wise Tree Care

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Main Messages

- Trees are a key part of a water wise landscape
- Check the soil before you water
- Mulch is a must
- Water slowly, thoroughly, and infrequently

Trees work for us 24 hours a day

Cooler temperatures
Absorb pollutants
Absorb carbon dioxide
Provide oxygen
Higher property values
Less energy use
Less runoff
More air moisture
Provide food
Wildlife habitat
Absorbs noise
Better health
Lower crime
Allow for relaxation
and well being...



Increasing the Canopy to Increase Benefits

... even in a drought year!

Trees don't live forever.



Hagan Community Park
2003 and 2012



It Starts With the Roots



- Well planted trees will absorb water better
- 4 ft wide hole
- Shallow in center, deeper at edges
- Stakes 18 inches from the tree
- Ties are loose to allow for trunk movement
- 4 to 6" of mulch applied keeping it away from the trunk

Mulch!

Mulch Madness Volunteer day at McKinley Park



What is MULCH anyway?



= Chipped up hardwood or softwood, wood products, pruning material, leaves

Organic and biodegradable!

Benefits of wood chip mulch:

- Soil moisture retention!
- Maintain optimal soil temperatures
- Increase soil nutrition (natural fertilizers)
- Increase tree growth rate
- Reduced soil compaction
- Reduced weeds
- Reduction of disease & pesticide use
- Provide good conditions for mycorrhiza (beneficial soil fungi)

Ideal mulch is NOT:



Avoid: rubber, bark, rocks, decomposed granite, cedar chips, Redwood bark, landscape fabric, artificial turf, plastic

How To Apply Mulch

4 x 4 x 6 Rule for Young Trees:

4 ft diameter around tree

4 inches from trunk

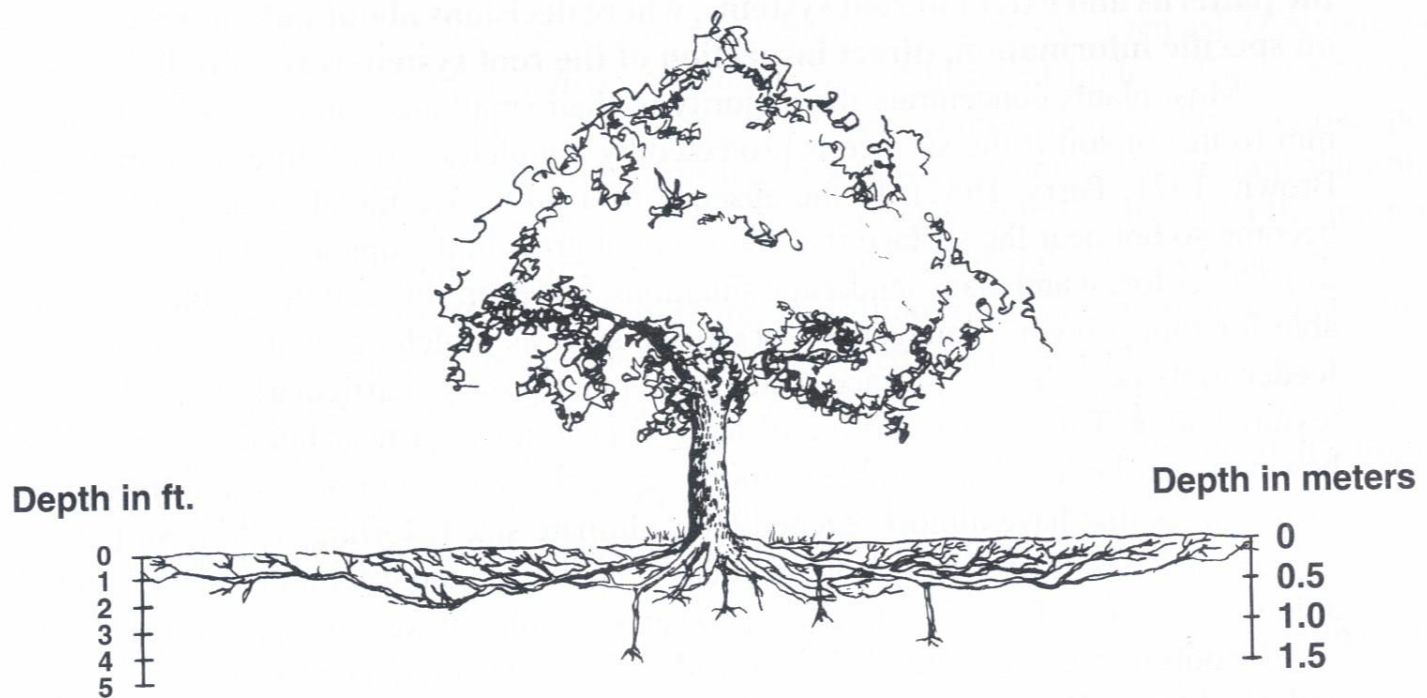
6 inches thick

= a “fluffy doughnut” of mulch



For Large Trees: cover as large an area as possible under the drip line

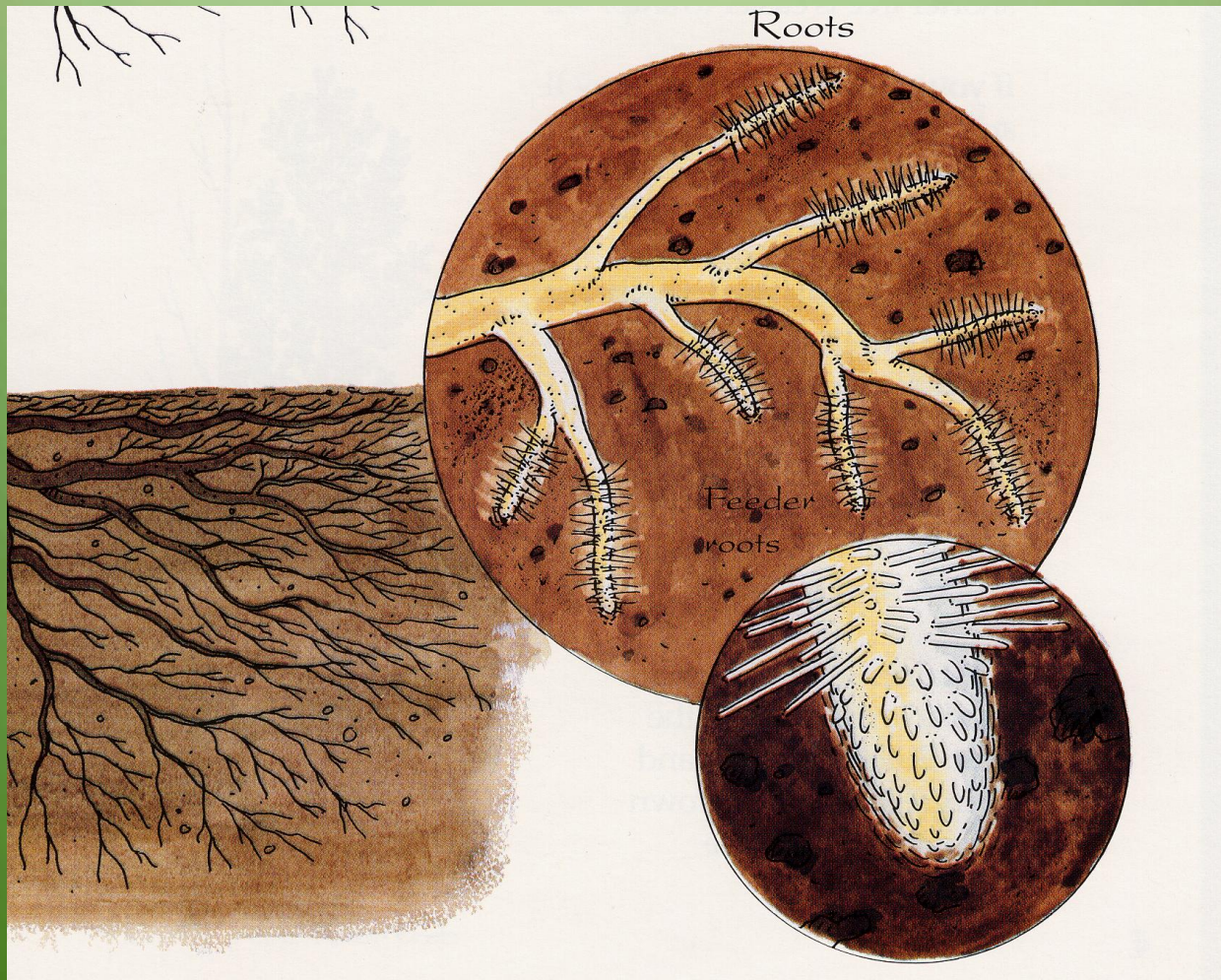
What Trees Need



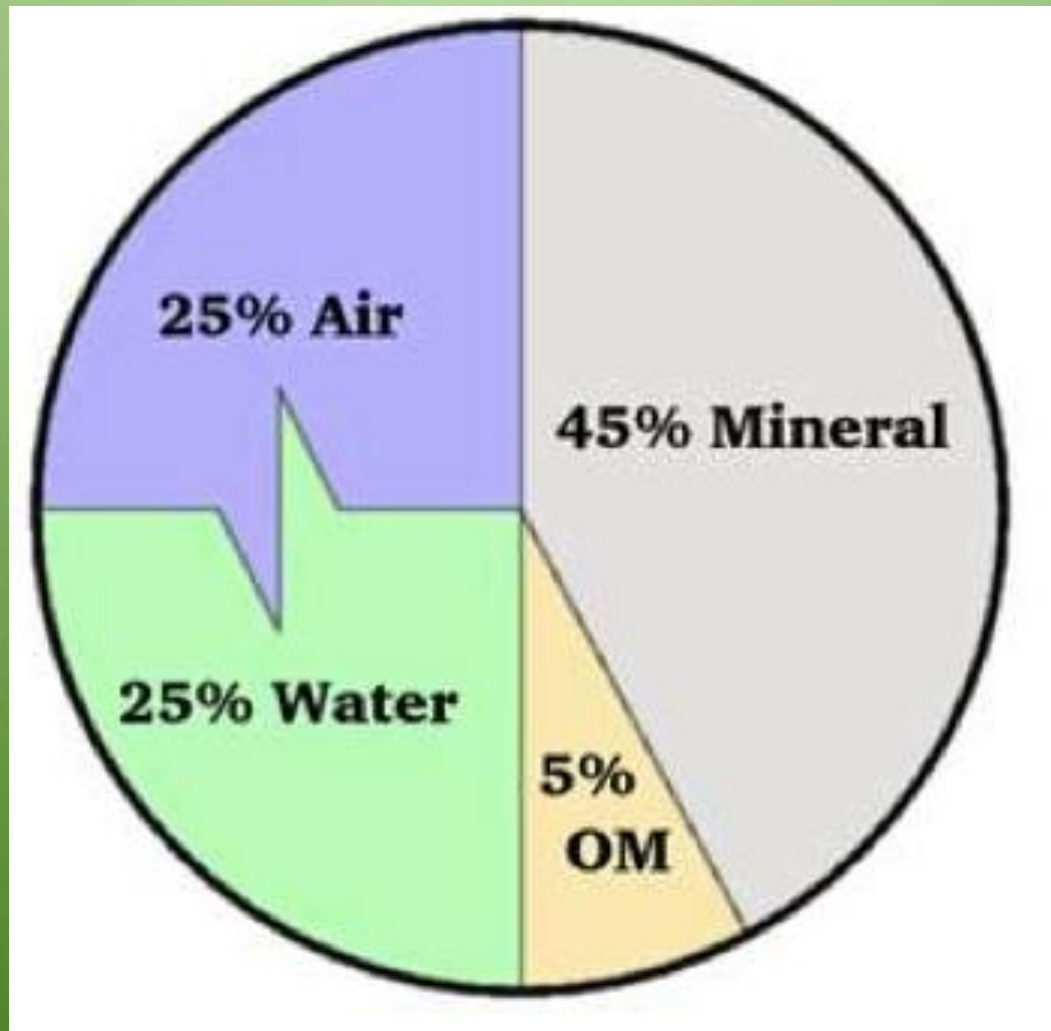
Nutrients – Water – Oxygen
at the root zone, generally about 6 to 12”

Oxygen must be present for roots to absorb nutrients and moisture

Roots absorb moisture from their tips



Ideal Soil Moisture at Roots

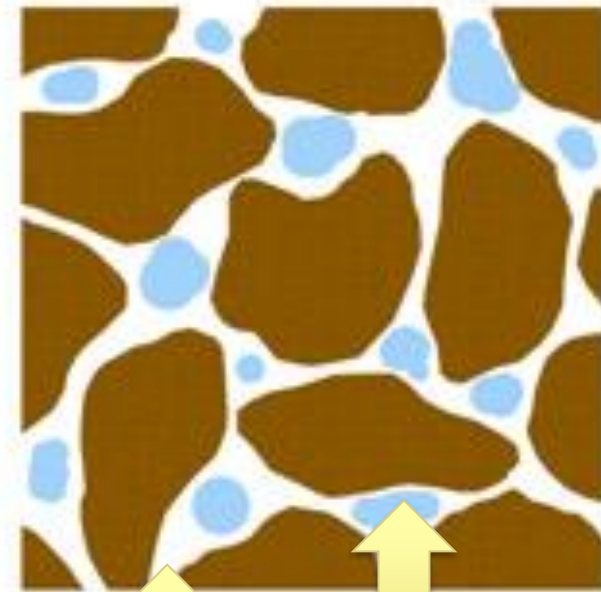
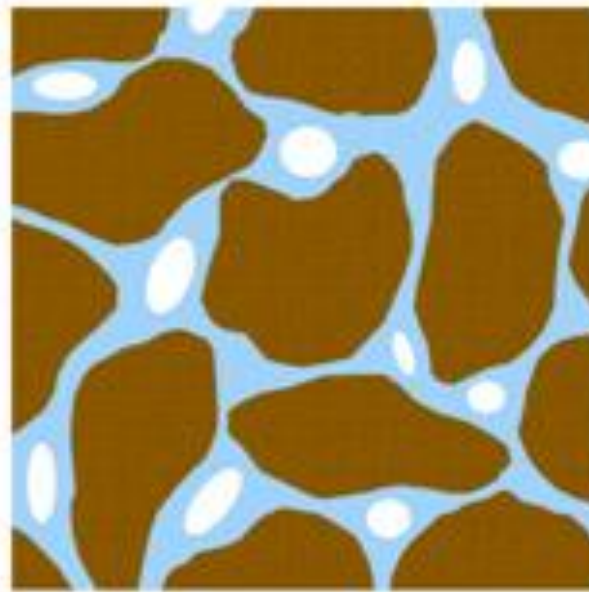
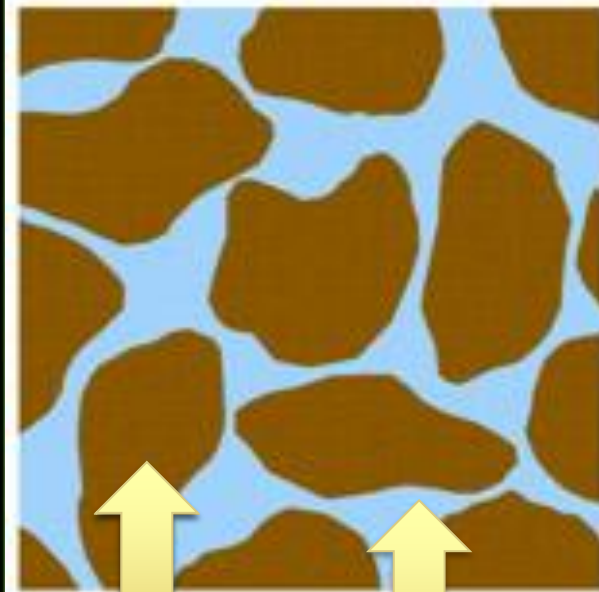


What is Just Right?

Too wet for roots

Good capacity for roots

Too dry for roots



Soil particle

Pore space

air

water

Test soil moisture before watering

Use a shovel, trowel, or screwdriver to check below the surface.

Or:



hand testing



Soil probe



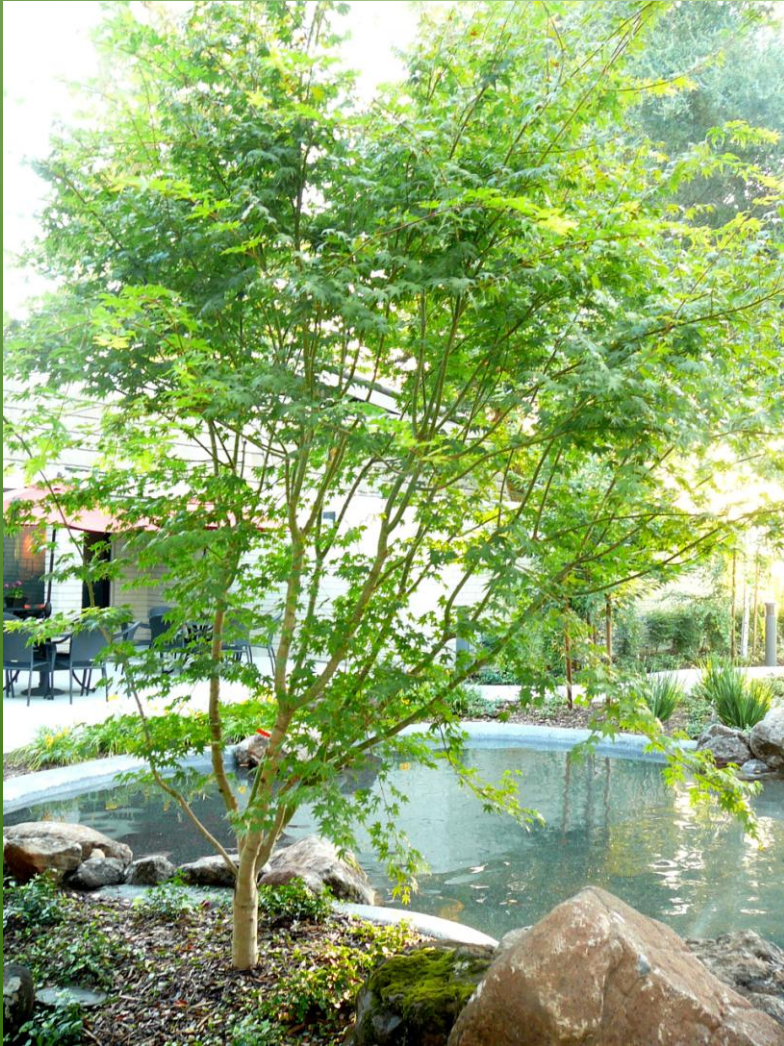
Battery operated
soil moisture meter

Monitoring Soils

Amount of water in soil	Fine texture: clays, silts and loams
Wet to too wet	Squeeze ball, no free water appears on soil but wet outline of ball is left on hand
Not time to re-water	Easily ribbons out between thumb and forefinger
Just right	Forms ball, will ribbon out between thumb and forefinger
May be time to re-water	Somewhat pliable, will ball under pressure, does not ribbon out
Too Dry	Hard, difficult to break into powder

How Much? How Often?

It Depends



- Type of soil, type of plants, number of plants, soil compactness, type of watering system, temperature, rainfall, sprinkler output
- Look to the soil to determine when to water
- Know the output of your watering system

Does my tree need water?

Over or under watering can look the same...



Water Stress Symptoms

- Wilting leaves
- Brown, crispy leaves
- Curling leaves
- Smaller than normal leaves
- Premature leaf drop
- Abnormal cracks or flaking bark
- Sucker growth or water sprouts



Water Stress Symptoms

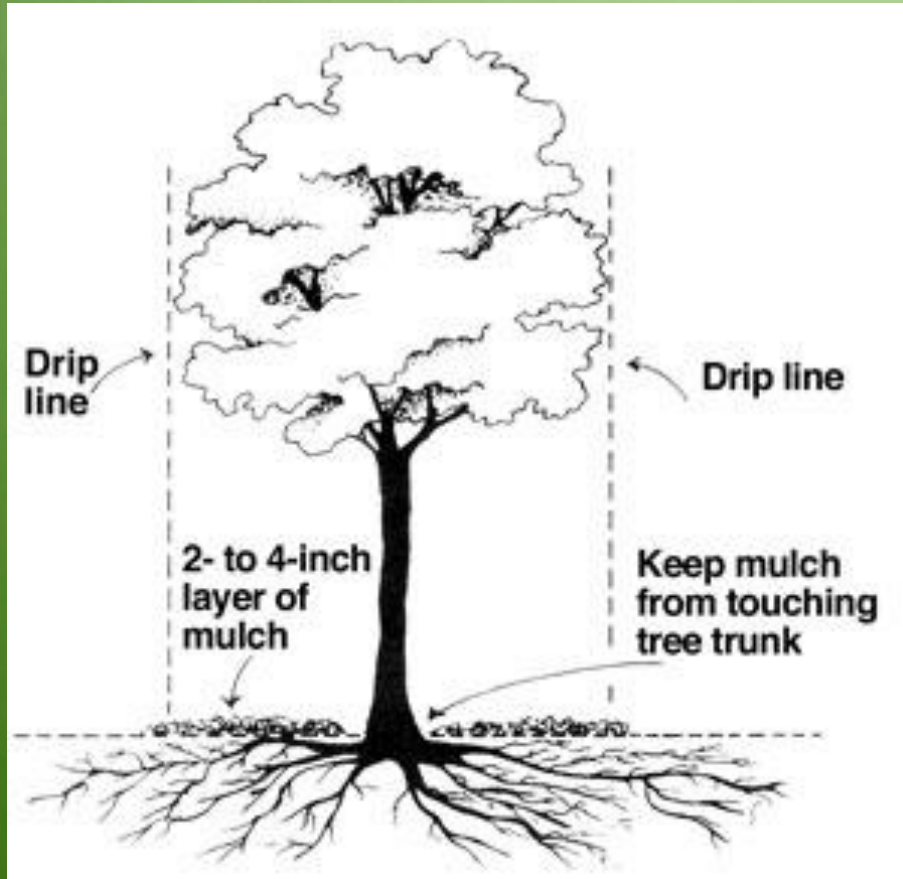


dead tips on elm



red maple in July

Watering Needs for Young Trees



- Evenly moist soil for first 3 years as new roots develop to absorb moisture from surrounding area
- Water at the base of the tree
- Move water out from trunk as canopy grows
- Slowly reduce water for trees requiring less moisture as their root system expands

Watering Young Trees



5 gal bucket
with 1/8 inch
hole

Crete a berm for the dry
seasons and remove in rainy
weather

- soaker hose
- drip emitters



How to Water Young Trees

- Keep the area mulched
- Water 1-2 times a week
- 5-10 gal each time
 - Hand water
 - Use bucket with a hole in the bottom
 - Use a soaker hose
 - Install a drip system



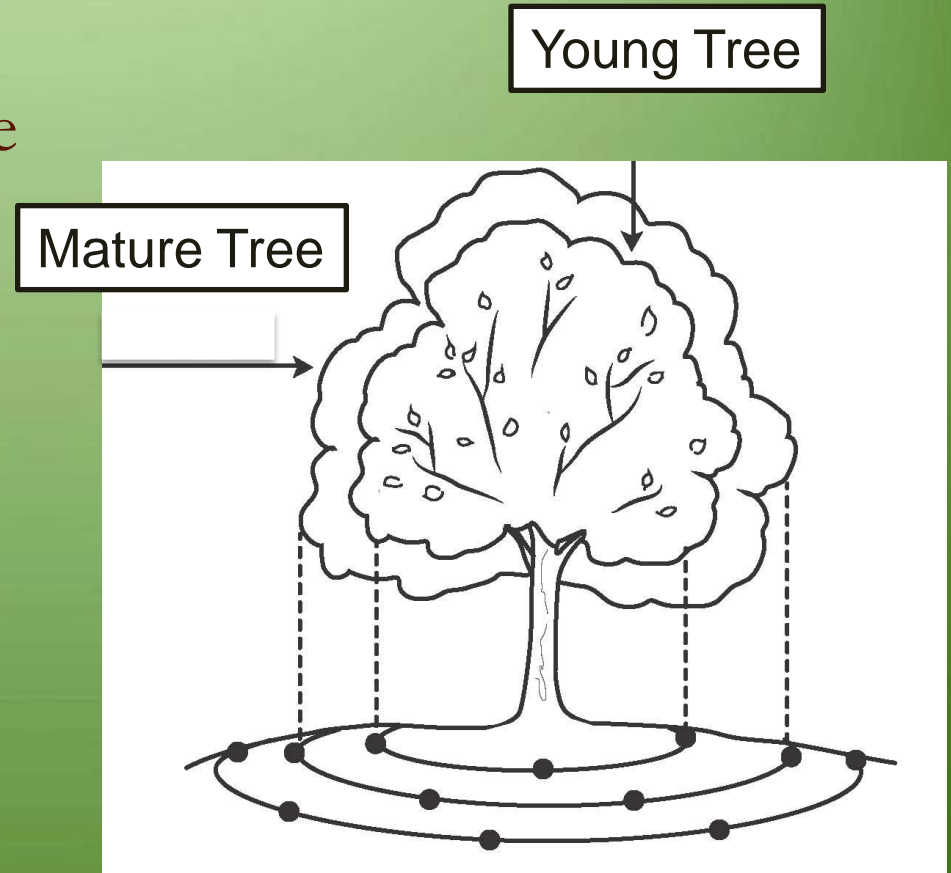
Water Needs for Mature Trees



- Water near the dripline, not at the trunk of the tree
- Water bi-weekly, monthly, bi-monthly, depending on:
 - species
 - soil
 - time of year
 - density of plantings
 - shade cover

Watering Mature Trees

- Water where the feeder roots are – near the dripline
- Slow soak to reach the roots 12-18” below surface
- How often?
It depends! (of course)
- Check the soil!
- Probably about 2-3 times per month



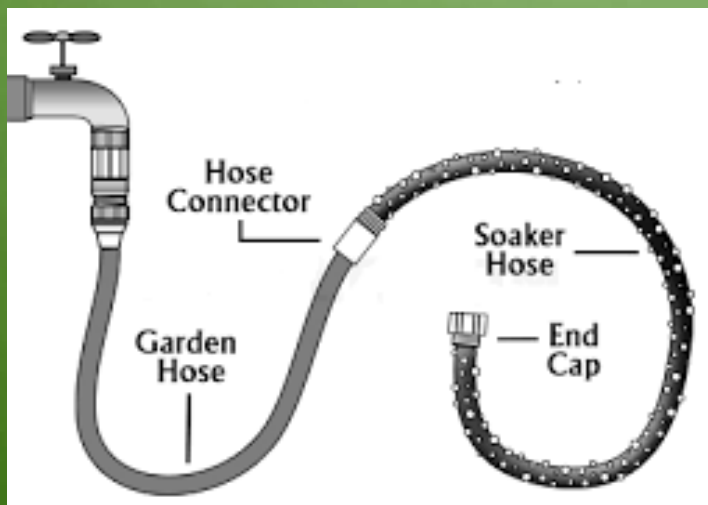
How to Water Mature Trees



- Soaker hoses circled around at the canopy edge
- Convert your spray irrigation system to a drip system
- Fan sprinkler on low, moved around the canopy (set a timer!)

Using a Soaker Hose

- Placement:
 - base of trunk for young trees
 - canopy drip line for mature trees
- Turn faucet on low so water will slowly seep, not spray



Efficient Irrigation Tools



Hose bib timer



SMART irrigation controller

Water Needs of Some Common Trees

Moderate to dry soils:

- London Plane
- CA Sycamore
- Chestnut-leaf Oak
- Blue Oak
- Valley Oak
- Zelkova
- Shantung Maple
- Chinese Flame Tree
- Goldenrain Tree
- Chinese Pistache

Wetter soils:

- Coast redwood
- White Birch
- River Birch
- Red maple
- Little Leaf Linden
- Tupelo

Do I need to water my native oak?



wild blue oak



valley oak planted in turf

What NOT to do to Your Tree in a Drought:

- Never water when the soil is wet – check it first
- Avoid herbicides and fertilizers
- Don't prune heavily

To Save Water Landscaping DO:

- Keep lawns 3 to 4" long
 - Less moisture evaporation and stronger roots
- De-thatch and aerate lawns
- Consider allowing lawns to go dormant
- Mulch around trees and in non-lawn areas
- Water when it is cooler 7pm to 7am

In a Nutshell



- Plant it right – wide and shallow
- Understand your soil's drainage – check below first
- Move irrigation away from the trunk as the tree grows
- Water slowly, deeply, infrequently
- Trees make our lives better!

Plant – Volunteer – Learn – Join



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Thank you!
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