



# Welcome!

## Watering, Irrigation & More

7/26/2020

UC Master Gardeners of Napa County



University of California

Agriculture and Natural Resources

UCCE Master Gardener Program



## UC Master Gardeners of Napa County

<http://napamg.ucanr.edu/>

*Our mission: "To extend research-based knowledge and information on home horticulture, pest management, and sustainable landscape practices to the residents of California and be guided by our core values and strategic initiatives."*

# What type soil do you have?

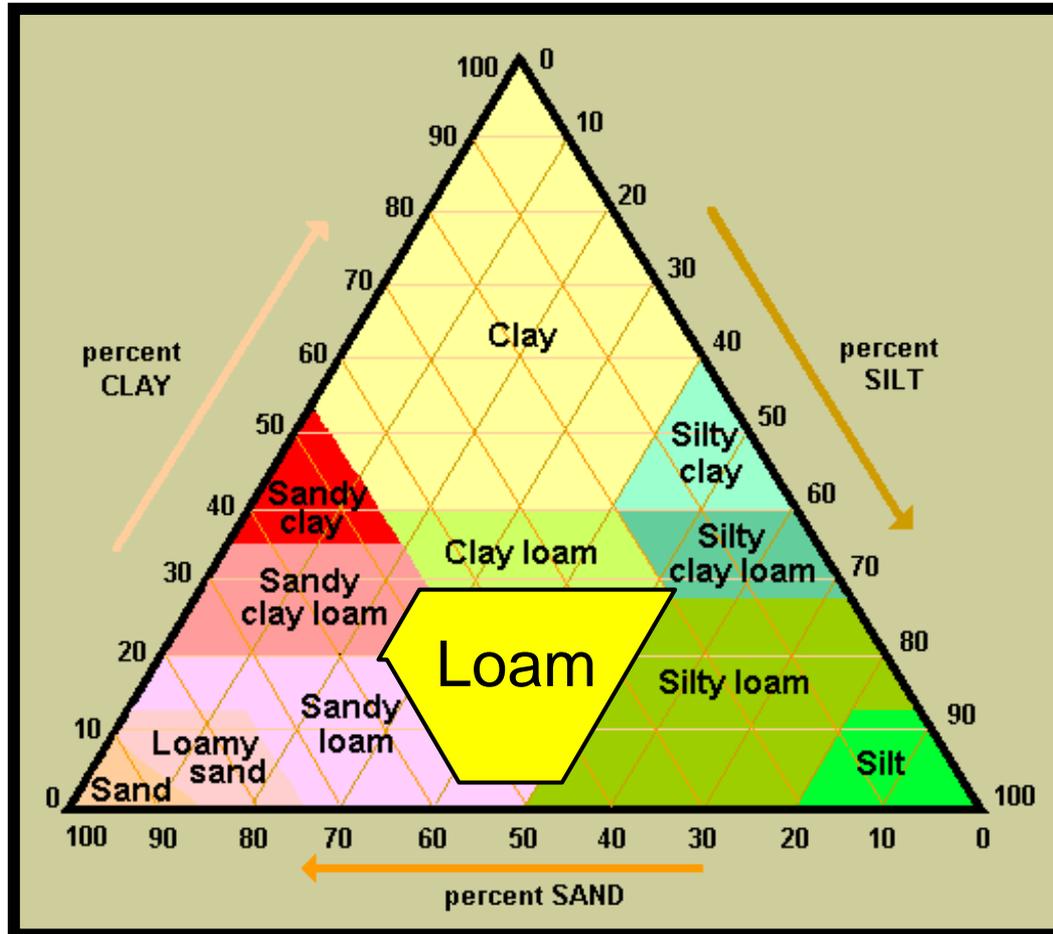


**University of California**

Agriculture and Natural Resources

■ UCCE Master Gardener Program

# The Soil Textural Triangle



University of California

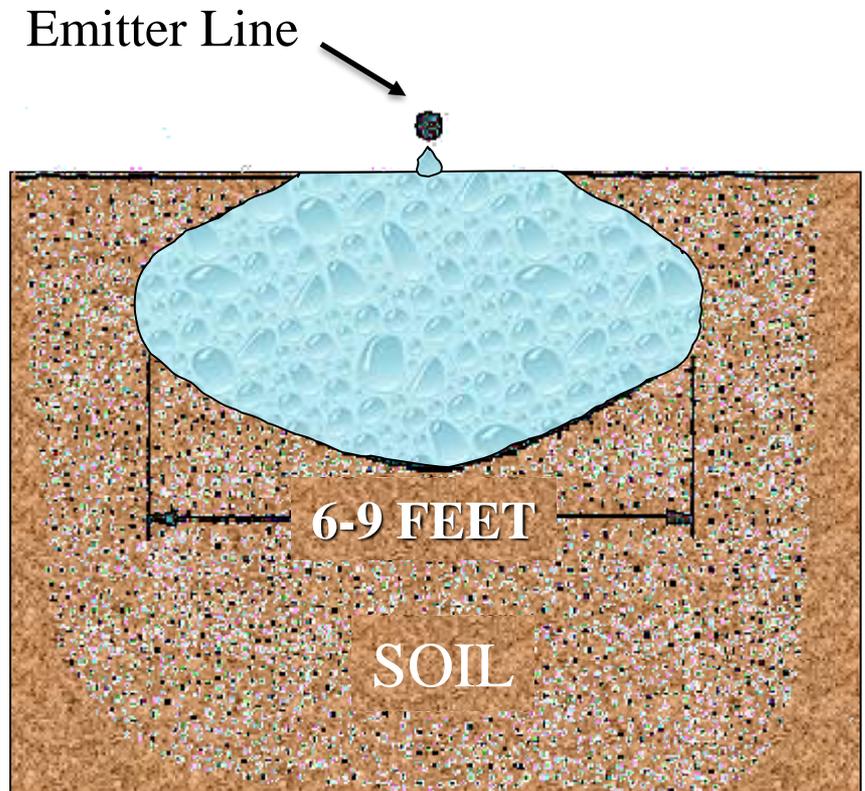
Agriculture and Natural Resources

UCCE Master Gardener Program

# CLAY

- Napa County has a lot of clay and clay loam soil
- Very difficult to work with (like concrete when it is dry)
- Greater water holding capacity but poor drainage

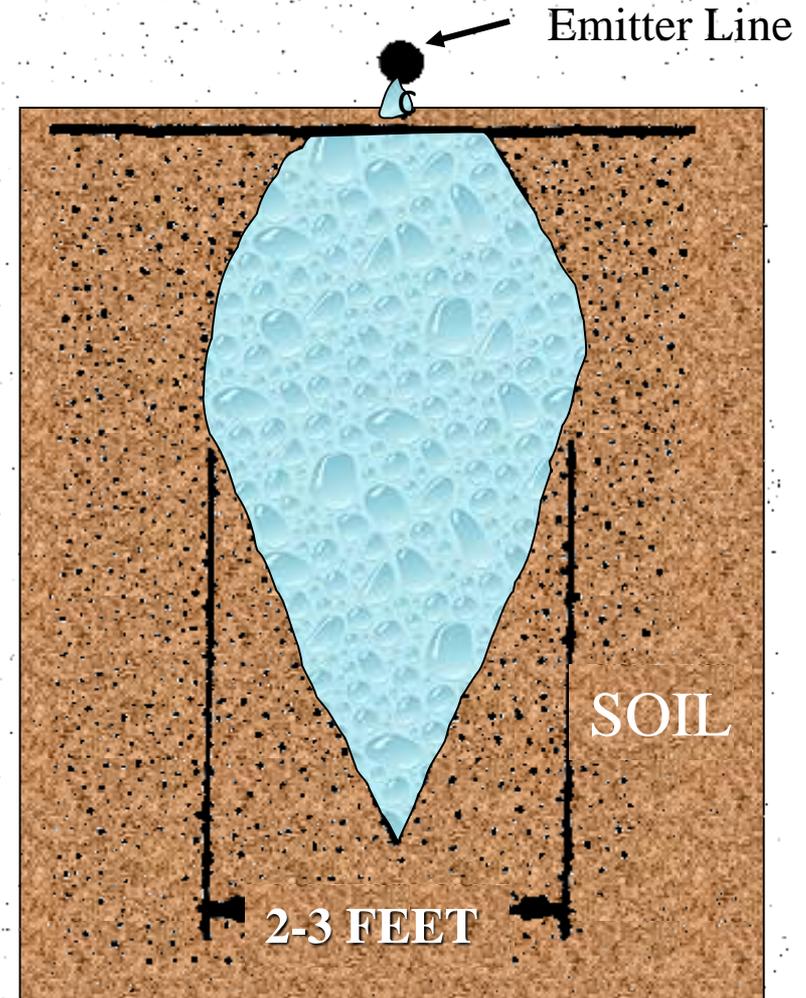
## Soil Wetting Pattern



# SAND

## Soil Wetting Pattern

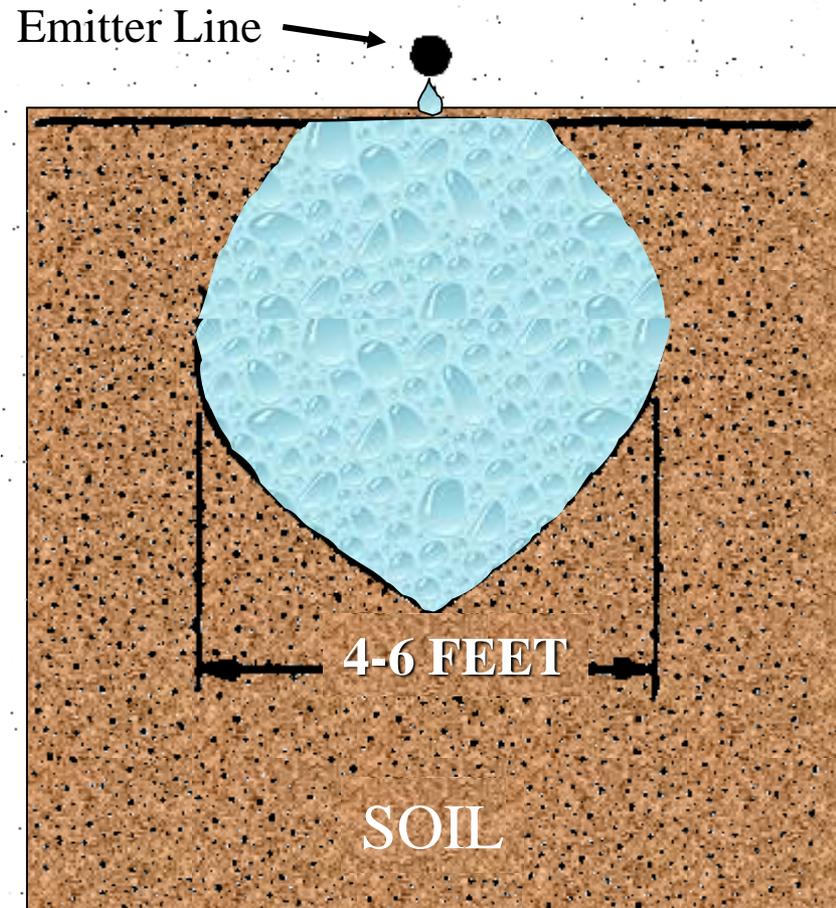
- Low water holding capacity and fast drainage
- Some of the water percolates below the root zone



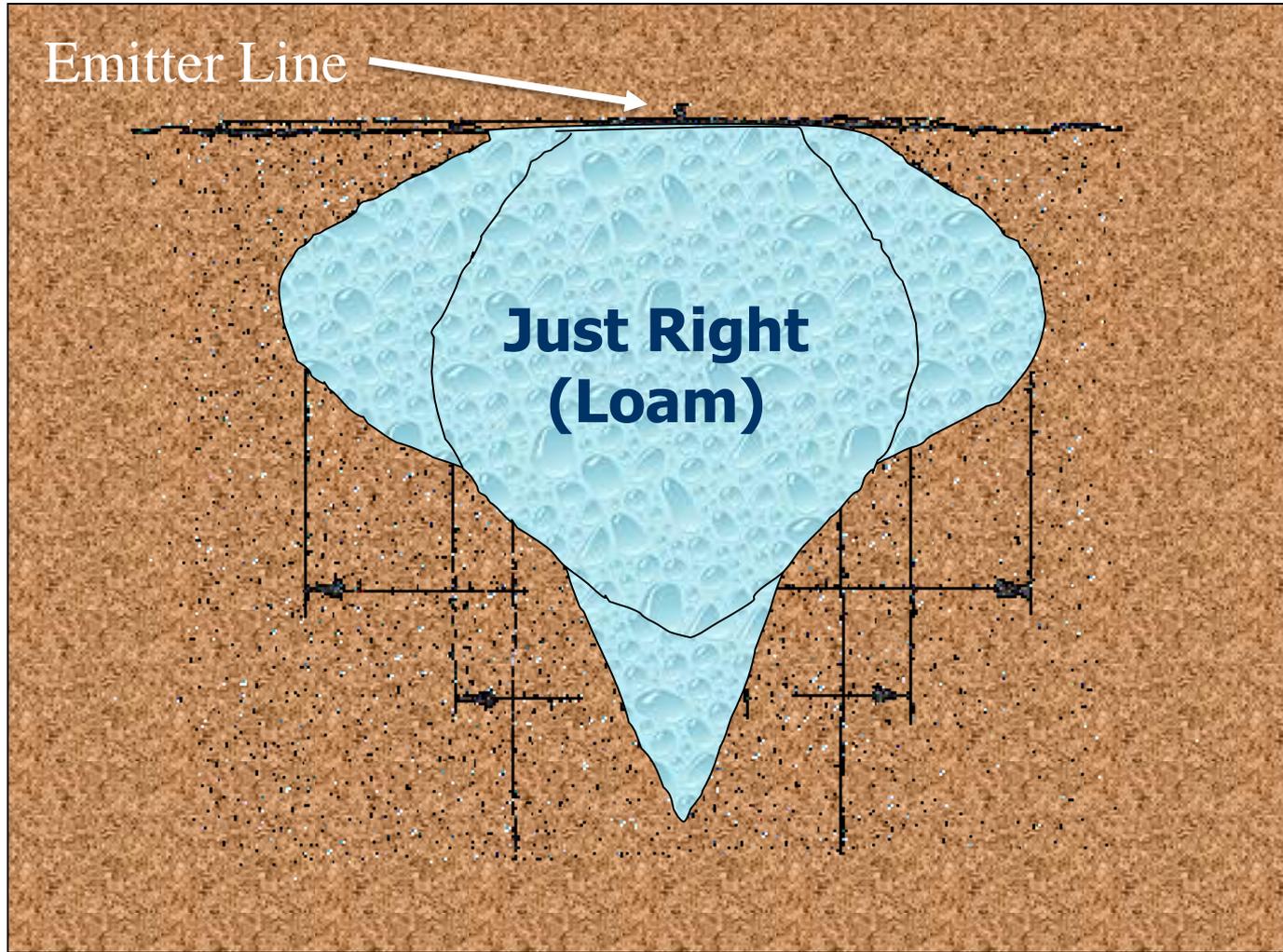
# LOAM

## Soil Wetting Pattern

- A mixture of particle sizes is best for plant growth
- Good water holding capacity and drainage



# Overlay of Soil Wetting Pattern



University of California

Agriculture and Natural Resources

UCCE Master Gardener Program

# Soil Type and Water Infiltration

Maximum Water

<u>Soil Type</u>	<u>Infiltration, inches/hour</u>
<b>SANDY LOAM</b>	<b>0.75 – 1.25</b>
<b>LOAM</b>	<b>0.25 – 0.75</b>
<b>CLAY</b>	<b>0.13 – 0.25*</b>

**\* To avoid wasteful runoff, apply no more than 1/4" per hour to clay soils.**



University of California

Agriculture and Natural Resources

UCCE Master Gardener Program

# How to Water?

- Best: Controller that can be set for multiple stations, times and amounts
- Good:
  - Hose with timer
  - Soaker hose with timer
- Not so good: watering by hand without a timer



# Root Depth for annuals

- Most annual plants (including vegetables) have root depths of 6 – 12”
- Run your irrigation system for a specific time, e.g. 10 minutes
- Check to see how much of the soil has been wetted.
- Increase or decrease accordingly



# Best Garden Tools

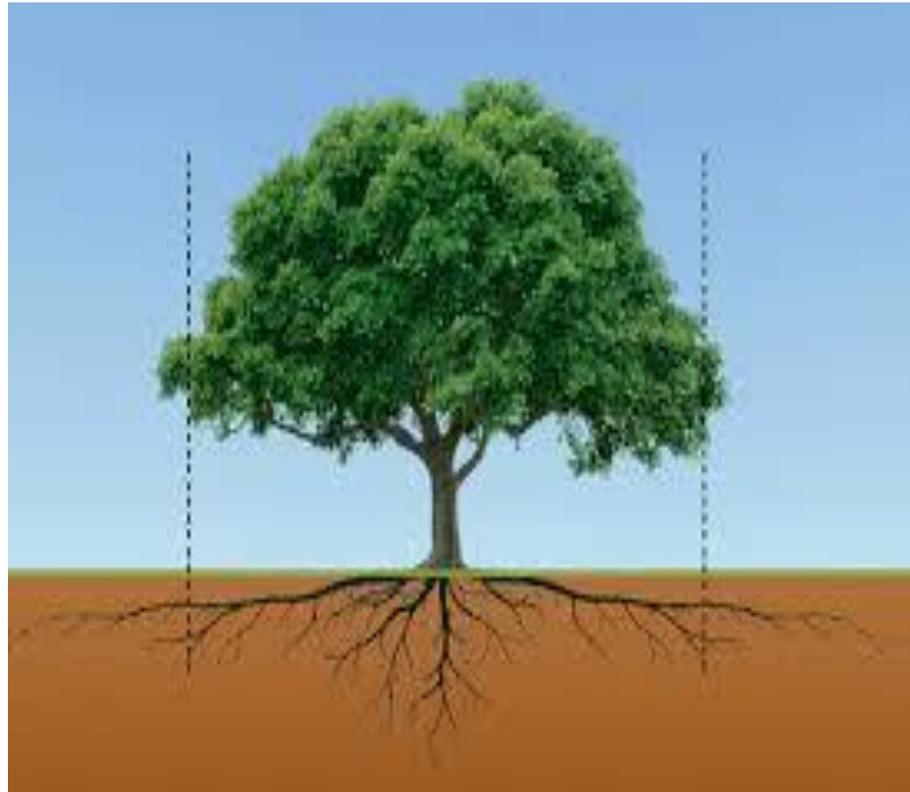


# Root Depth for perennials

- Perennial plants (trees, shrubs) have deeper roots, 1 -12 ‘
- Encourage deeper root growth by watering less often and more deeply



# Structure of a tree



Source: [commons.Wikimedia.org](https://commons.wikimedia.org)



**University of California**  
Agriculture and Natural Resources

■ UCCE Master Gardener Program

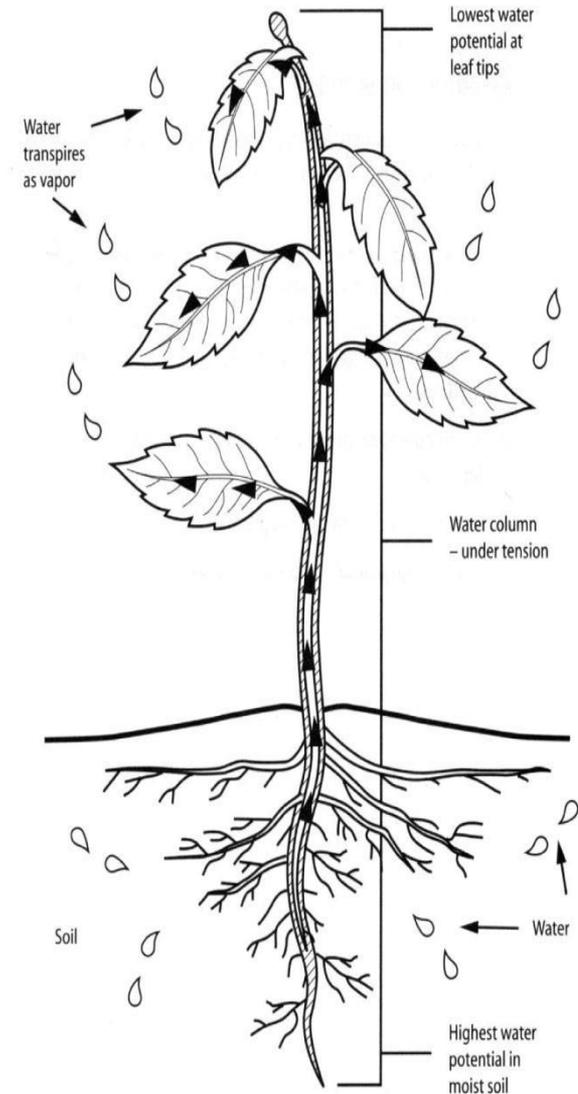
# Water Needs for Established trees

Canopy diameter (ft.)	1	2	3	4	5	6	8	10	12	15	20	25	30
gal/tree/day													
midsummer (June, July, Aug)	0.4	1	2.1	3.5	5.4	7.6	13.4	20.7	30	47	83	129.7	186.8
spring and fall (April, May, Sept)	0.3	0.7	1.5	2.5	3.8	5.3	9.4	14.5	21	32.9	58.1	90.8	130.7

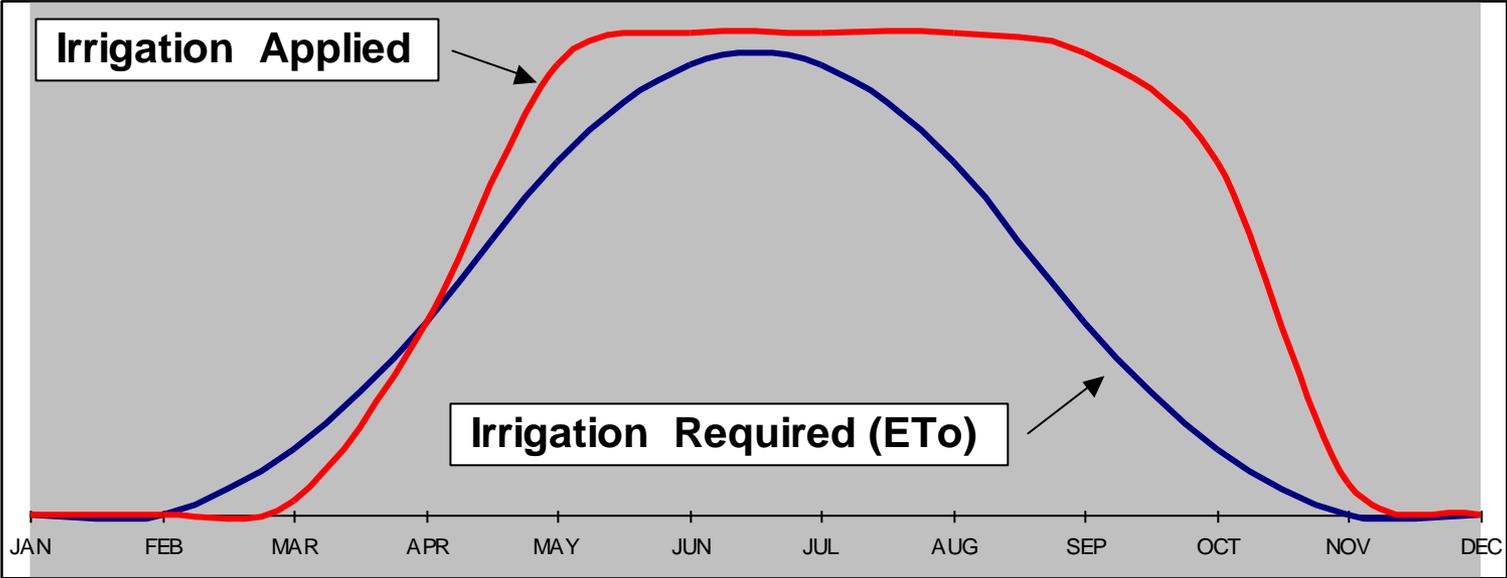


# Evapotranspiration

The process by which water is transferred from the land to the atmosphere by **evaporation** from the soil and other surfaces and by **transpiration** from plants.



**Adjust Schedule Monthly to avoid overwatering**





**Questions?**

UC Master Gardeners of Napa County  
<http://napamg.ucanr.edu>