



# Right Plant Right Place

Key to Sustainable  
Landscape Design

Karrie Reid, M.S.  
Env. Horticulture Advisor  
San Joaquin Co. Coop. Ext.



University of California

Agriculture and Natural Resources | Cooperative Extension

# What does “right plant” mean?

- Suited to soil type & irrigation
- Suited to climate
- Mature size fits space
- Non-invasive
- Resistant variety/  
best for the area





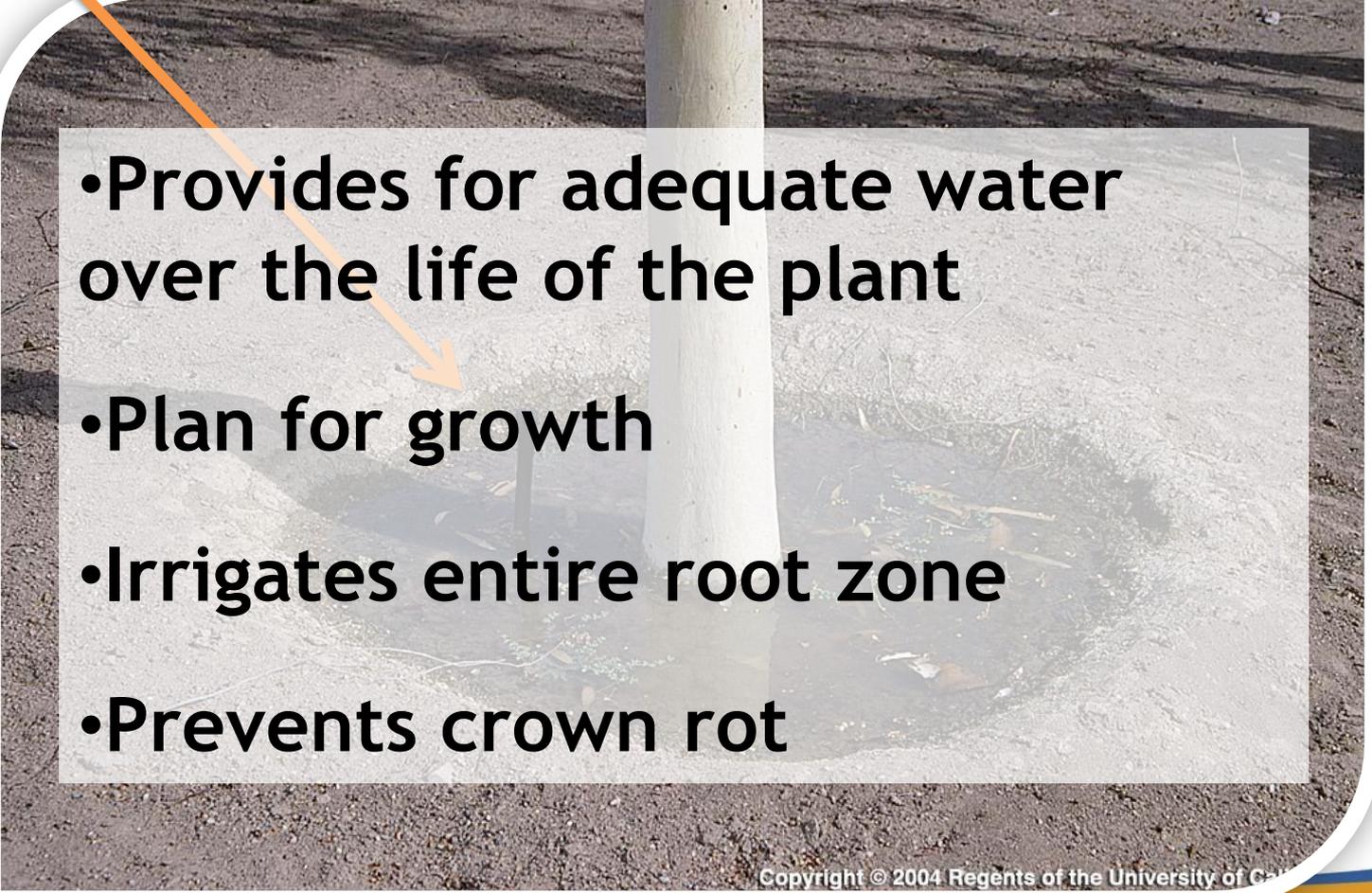
## **Soil compatibility**

- Fewer root diseases
- No need for fertilizers/amendments
  - Structural stability

# Soil characteristics:

- **Depth: determines rooting depth**
  - Hardpans/ compaction layers/slopes?
- **Texture: clay, sand, silt, loam**
  - Determines water infiltration, room for air and roots
- **Organic matter & nutrients**
  - Stabilizes structure
  - Provides nutrients (plants and microbes)
- **pH - neutral/ acid/ alkaline?**
  - Affects nutrient uptake

# Matched with irrigation system and soil

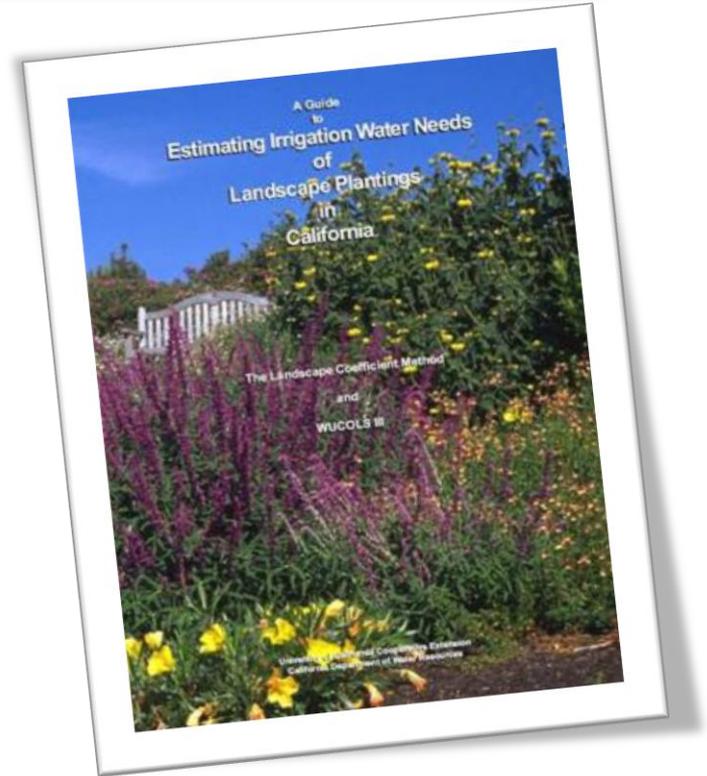
- 
- Provides for adequate water over the life of the plant
  - Plan for growth
  - Irrigates entire root zone
  - Prevents crown rot

Copyright © 2004 Regents of the University of California

# Weather-based irrigation: Water use method

## Things to do

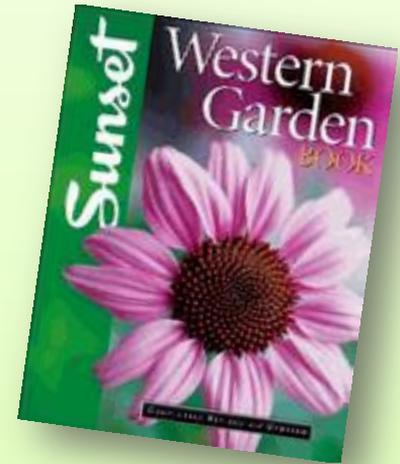
- Obtain information on plant water use: **WUCOLS**
- Group plants of similar water requirements within an irrigation zone (hydrozones)
- **Use with timers or other controllers**



[www.water.ca.gov/wateruseefficiency/docs/wucols00.pdf](http://www.water.ca.gov/wateruseefficiency/docs/wucols00.pdf)

# Suited to climate

- **USDA hardiness zones (9)**
  - Will the plant freeze?
- **Sunset climate zone (14)**
  - Heat tolerance
  - Sun exposure
  - Humidity needs
  - Frost tolerance



**Check BEFORE specking or planting!**

# Suited to site/ microclimate

- Sun or shade? Morning or afternoon?
- 6 hours of sun = full sun
  - Blooming
  - Color
  - Stem length, leaf thickness
- Windward or leeward?
- Frost protected by water, eave or canopy?

# **Suited to the climate/site:**

- **Fewer stresses from**
  - **HEAT**
  - **COLD**
  - **WIND**
  - **DROUGHT**
- **Less water needed**
- **Ask: where is this plant from?**

***Stressed plants are susceptible to PESTS!***

# MATURE size fits planting space



Copyright © 2004 Regents of the University of California

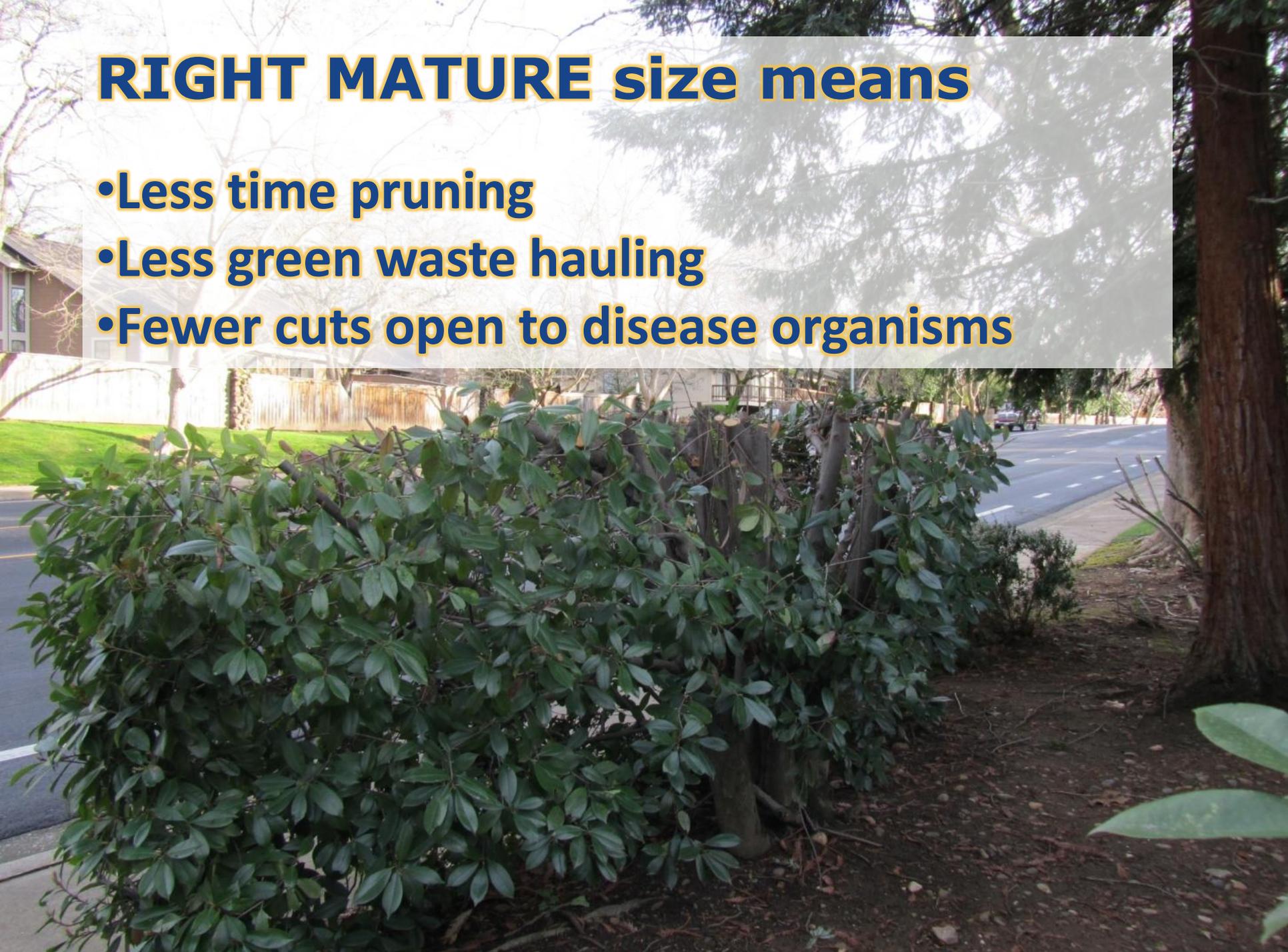
- Adequate room for healthy crown
- Adequate space for roots and water uptake
- Structural soils can help

<http://www.hort.cornell.edu/uhi/outreach/csc/article.html>

- **What about redwoods?**

# **RIGHT MATURE size means**

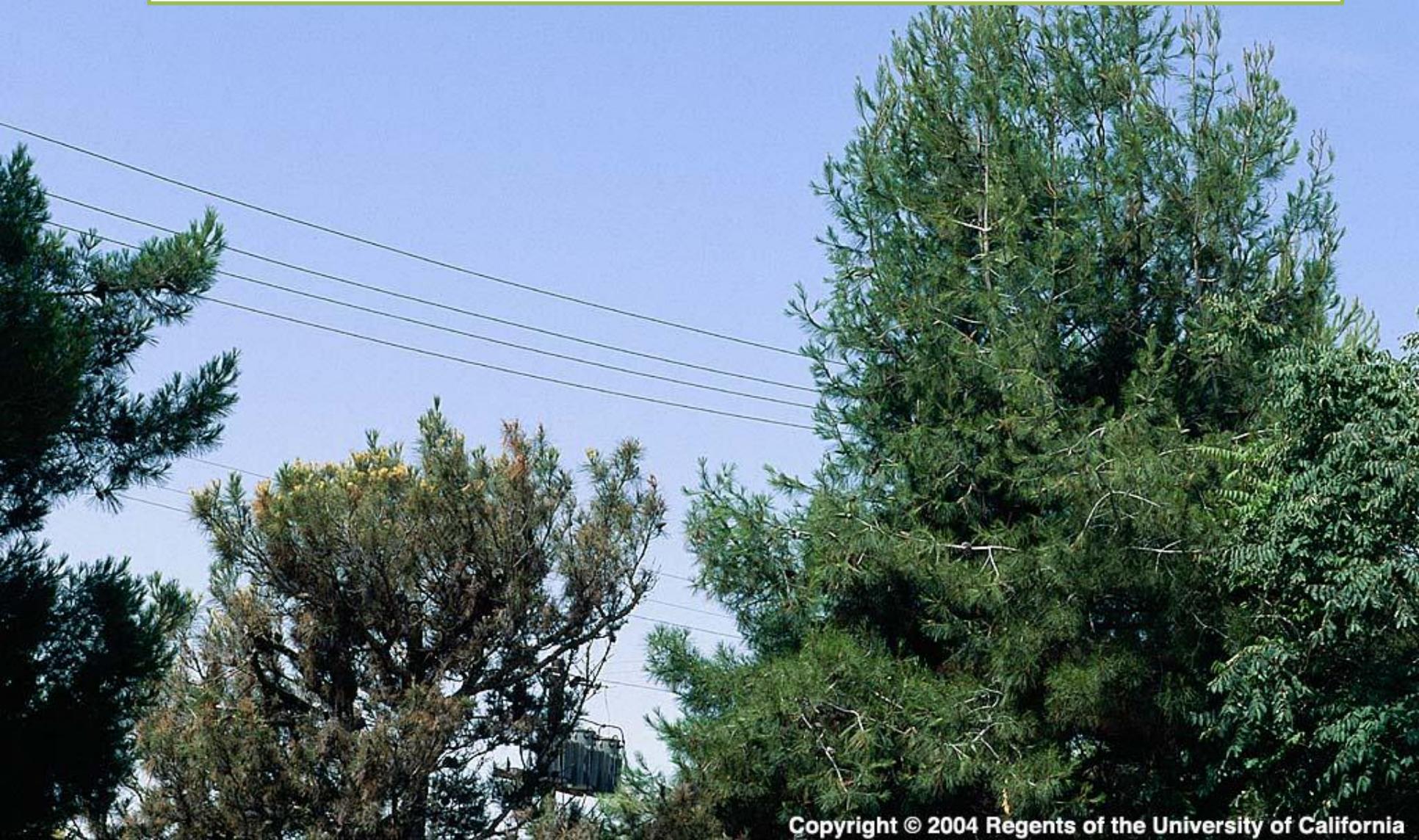
- **Less time pruning**
- **Less green waste hauling**
- **Fewer cuts open to disease organisms**





**Mature size is 15' x 20'**  
**Likes full sun best**

**RIGHT MATURE size means:  
No topping for power lines**















**NEW  
ROW OF  
THE  
SAME  
TREES!**

# **RIGHT PLANT** **means non-invasive**

## **INVASIVE**



*Pennisetum setaceum*  
**Fountain grass**

## **NON-INVASIVE**



*Muhlenbergia capillaris*  
**Pink muhly grass**

# **RIGHT PLANT** **means non-invasive**



*Trachelospermum jasminoides*  
**Star jasmine**

# **RIGHT PLANT** **means non-invasive**

- English or Algerian  
ivy



- Pachysandra



# San Joaquin Co. invasives:

- English ivy
- Giant Periwinkle (*Vinca major*)
- Blue gum
- Black locust
- Chinese tallow tree
- Scotch, French, Spanish broom
- Scarlet wisteria

# CALIFORNIA INVASIVE PLANT COUNCIL

<http://www.cal-ipc.org/>

## Know your bullies!

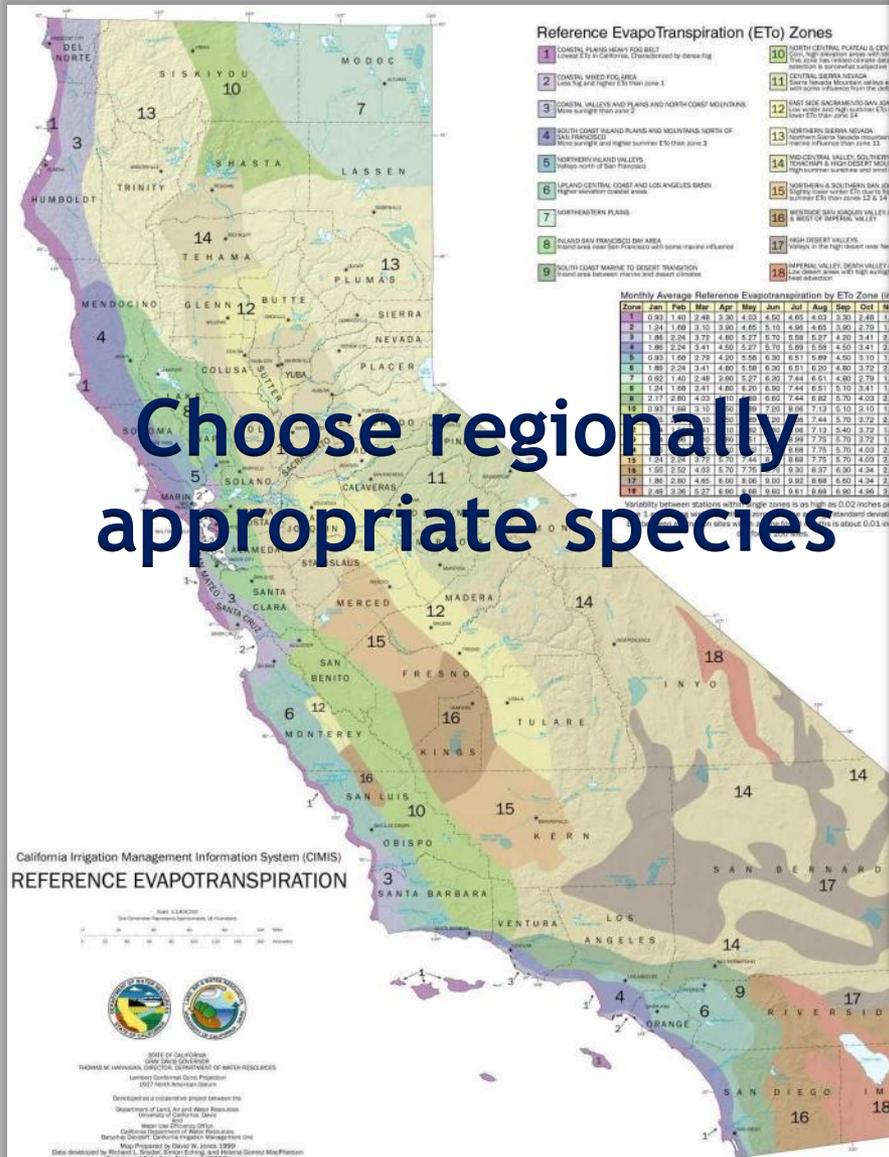
# PLANT RIGHT

<http://www.plantright.org/>

# Using California native plants

- Adapted to dry, hot summers
- Adapted to local soils
- Provide for native wildlife
  - Nectar, pollen, seeds, berries, shelter, larval food

# BEWARE: CA is diverse



Choose regionally appropriate species

- Soils
  - Clay- sand
- Rainfall
  - Desert -rainforest
- Day length
  - 8° latitude
- Heat/cold
  - No frost -snowpack

# Right plant means disease-resistant



Check print resources, online and grower websites for newest resistance

# Right plant means pest-tolerant



## Mistletoe resistant trees:

- Bradford pear
- Goldenrain tree
- Crape myrtle
- Chinese pistache

## **Right plant means part of a diverse mixture**

### **Diversity:**

- Prevents catastrophic loss of entire landscape
- Provides for variety for beneficial wildlife
- Offers more visual interest
- Offers more seasons of interest









# Plant **SOMETHING** for the Pollinators





## **Every All-Star must:**

- **Be attractive for most of the year**
- **Be tested in the UCD Arboretum**

## **All-Stars were also selected for:**

- **Drought tolerance**
- **Attracting beneficial wildlife (4 Bs)**
- **Low maintenance**
- **Disease resistant; Pest tolerant**



[http://arboretum.ucdavis.edu  
/arboretum\\_all\\_stars.aspx](http://arboretum.ucdavis.edu/arboretum_all_stars.aspx)

# How is this sustainable? Financially



- Fewer plant replacements
- Lower maintenance requirements
  - PRUNING - labor and landfill costs
  - CHEMICAL APPLICATIONS- labor and cost
- Less infrastructure damage

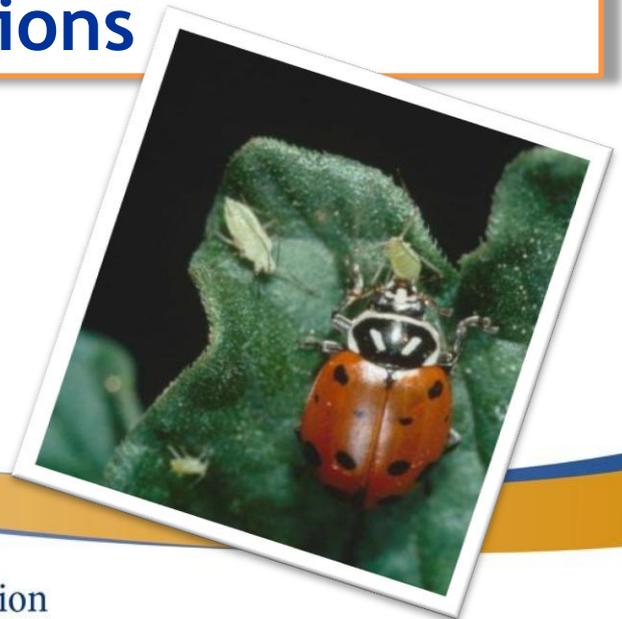
# How is this sustainable? Environmentally

- Well-suited plants require less water
- Fewer chemical needs = fewer pollutants in runoff to local water bodies



# How is this sustainable? Environmentally

- Fewer insecticides applied = greater insect bio-diversity = better natural balance
- Less pruning = Less to the landfill  
= Fewer emissions



# Questions?