

# Citrus From Tree to Table

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Agriculture and Natural Resources

**California MG and MFP**  
**Cooperative Extension**  
**El Dorado County**



Making a Difference  
For California

## Today's Housekeeping

### Welcome to our class

- Other MGs and MFPs
- We are volunteers trained by UCCE
- MG Goal: educate our community about research-based home horticulture
- Who has attended our classes before?
- Sign in, mailing list, evaluation form
- Publications
- Break, snacks, restrooms
- Donations: support all MG and MFP classes – here, at the Demo Garden, and hands-on components

# Audience Needs/Questions



# Today's MG portion covers:

- Tree choices for El Dorado Co
- Planting and Care
- Pruning
- Winter Care
- Pests and Diseases
- Resources and Questions

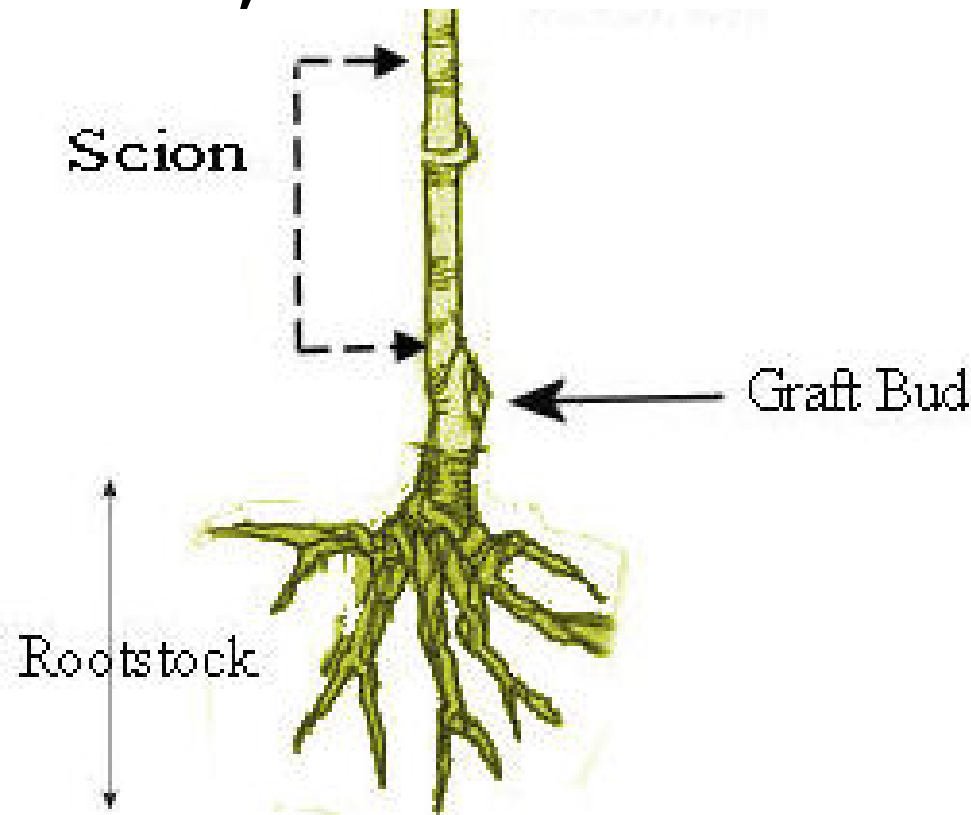
# Considerations Prior to Purchase

- Tree size – dwarf
- Sweetness/taste
- Temperature limits
- Growing requirements
  - soil, light...



# Rootstock

- Enhances variety with valued characteristics-disease resistance, cold, tree size, ...





Common rootstock for our area:

Trifoliolate: cold hardy,  
rot and nematode  
resistant

C-35: less cold  
hardy, less resistant  
to rot, faster producer



# Rutaceae family

- Kumquat – Fortunella
- Kumquat hybrids (depends) *Citrortunella*
- Mandarin – C. reticulata
- Grapefruit – C. paradisi
- Oranges – C. sinensis
- Limes – C. aurantifolia
- Lemons - C. limon

Best varieties for El Dorado County foothills



# Planting

**Sunny**



**Wind free**

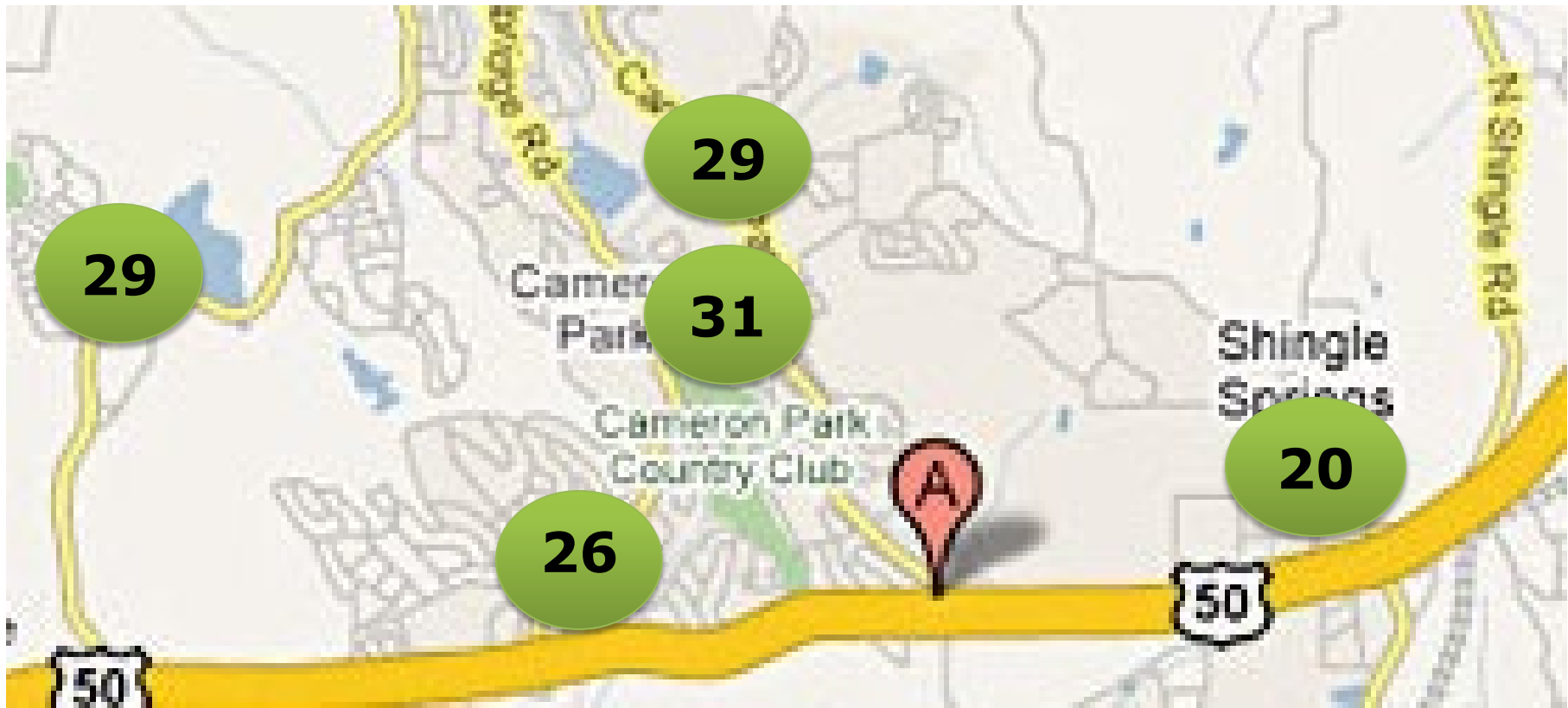


**Depth**



# Microclimates - Know Your Area

## “Everything is Local” - Farmer Fred



# Soil and Drainage

1. Dig a hole 30" deep
2. Fill with water to saturate the soil. The next day refill the hole with water.
3. Drainage - if water drops 2" in two hours it's ok.

OR



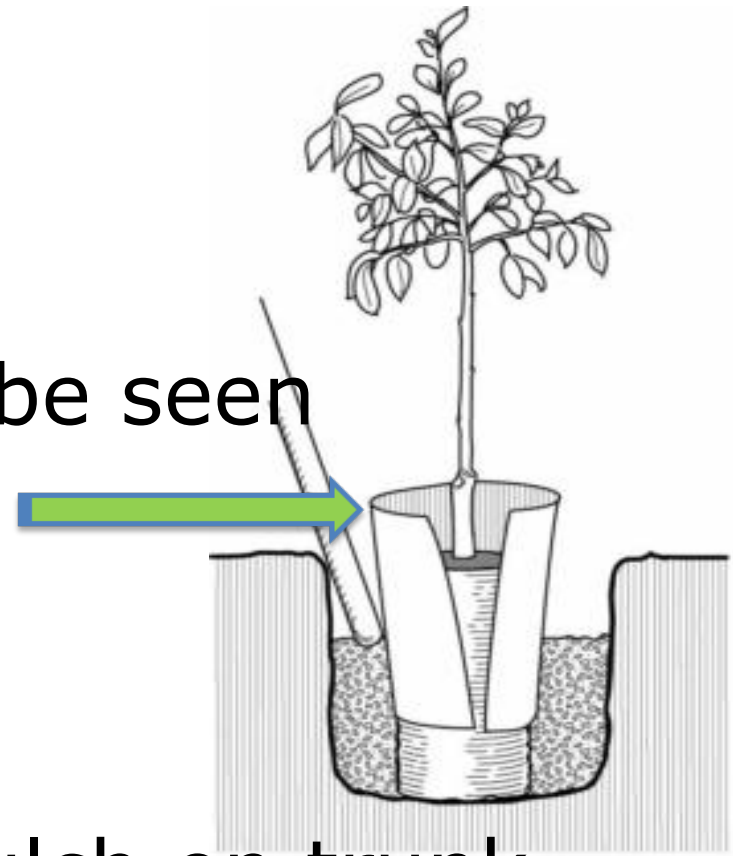
# Raised beds or containers

- Light, well-drained soil
- 2-3 yr. old into 15 gal. pot w/holes
- Plant in spring



# Planting

- Root ball high
- First (upper) roots may be seen



- Do NOT allow soil or mulch on trunk
- Fill the basin slowly to soak in
- Water thoroughly: twice weekly (more or less) depending on your soil and temperature



# Citrus peculiarities

Feeding roots are shallow

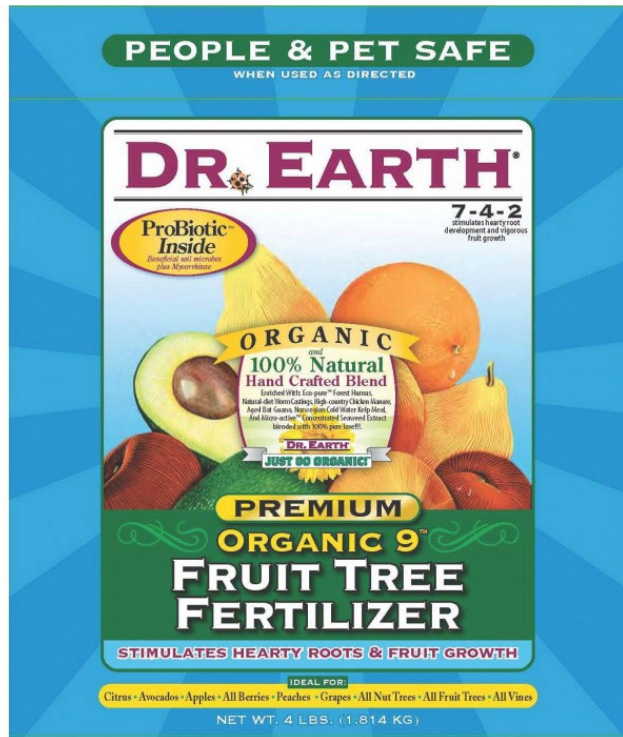


Blossom Drop -  
Self thinning

# Fertilizer

Yellow leaves: are they a lack of nitrogen, iron,... **OR** overly wet roots?

- Manures or worm castings
- Complete w/ Trace minerals
- Citrus/Avocado Food – liquid or solid





# Citrus in containers need:

- Slow release or foliar spray
- Smaller amounts, more frequently
- Consistent even water –  
never soggy



# Diagnosing Yellow Leaves





# Nitrogen Deficiency





# Iron



Potassium/Magnesium

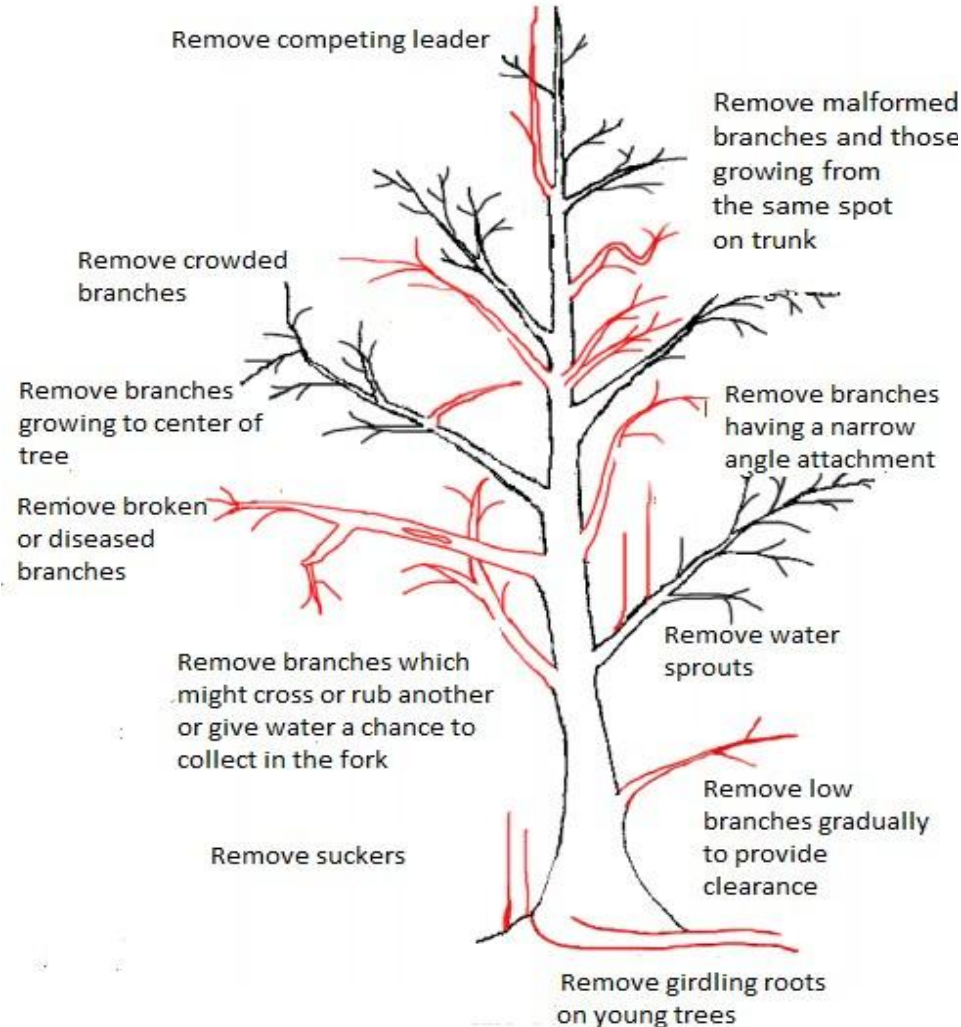


# Overwatering



# Pruning

- Spring shoots which sprout from bearing woods are the most productive

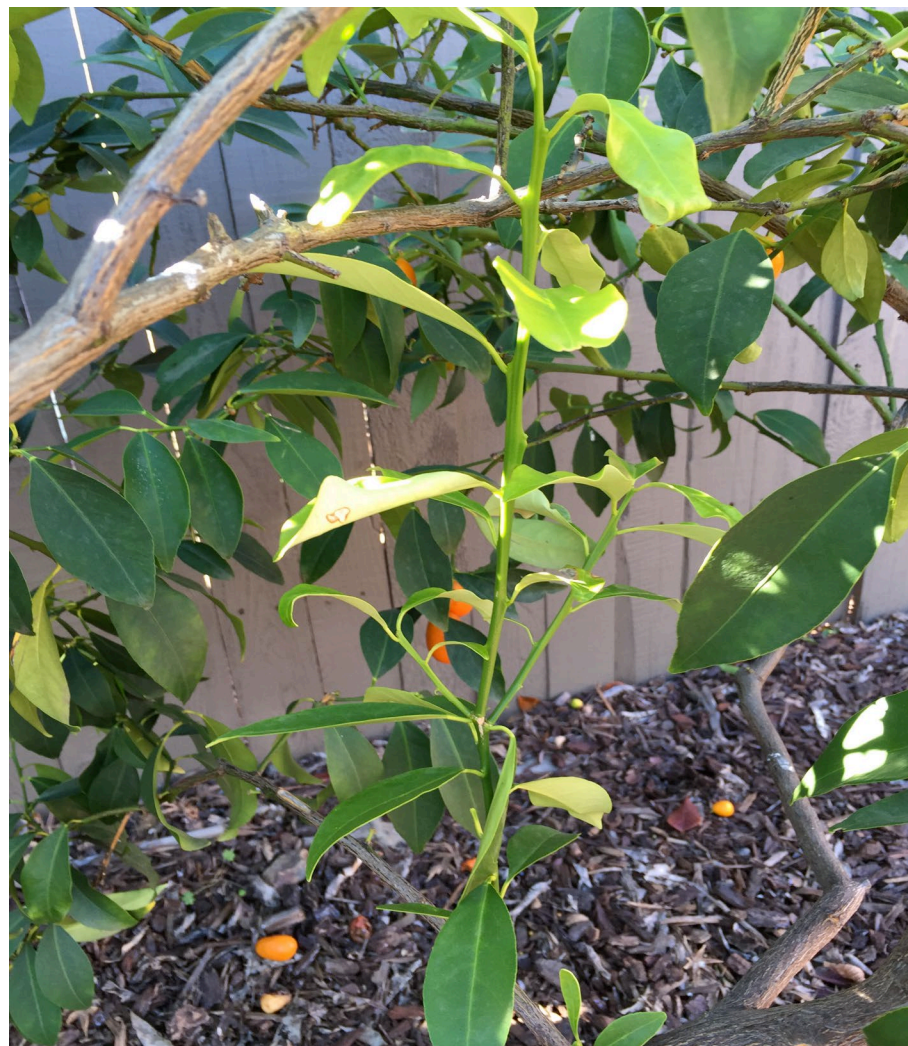




# Suckers



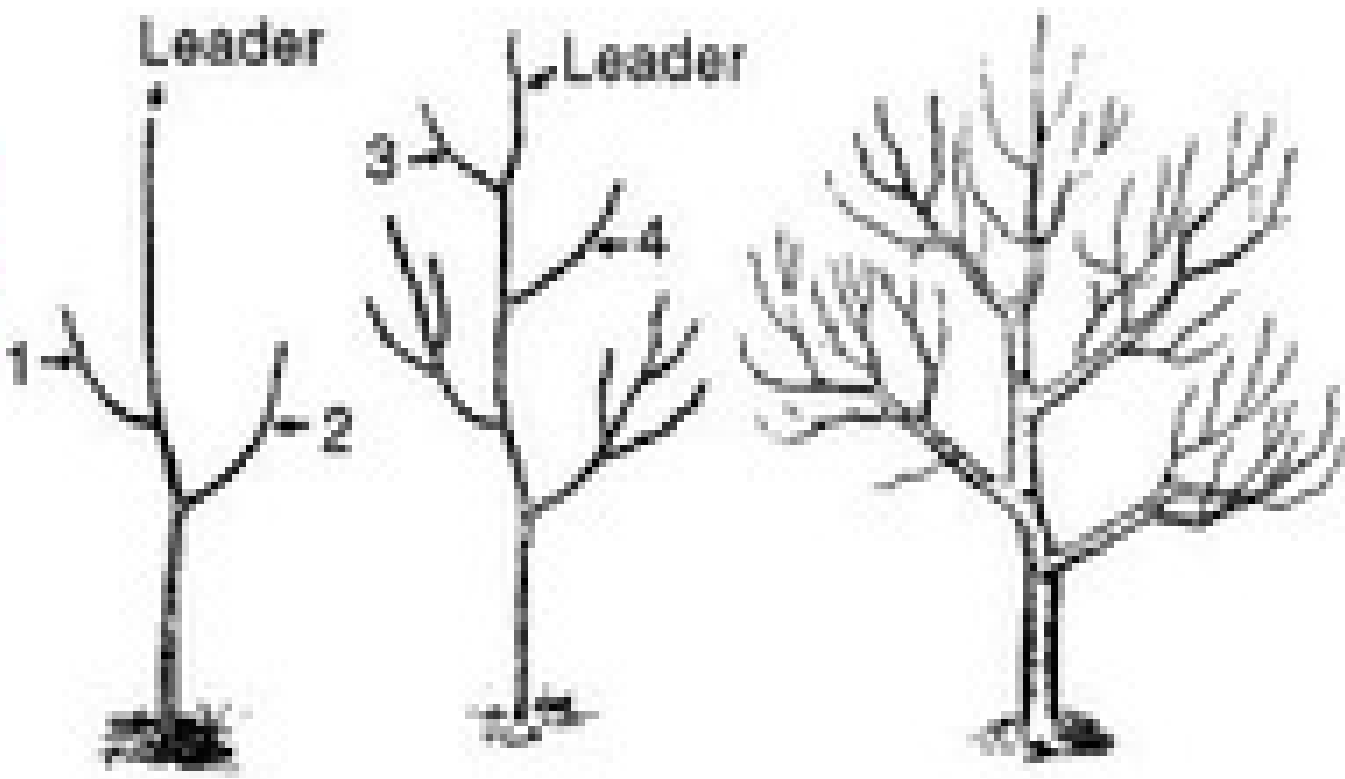
# Watersprouts



# Heading cuts for shape

## Central Leader

Correct



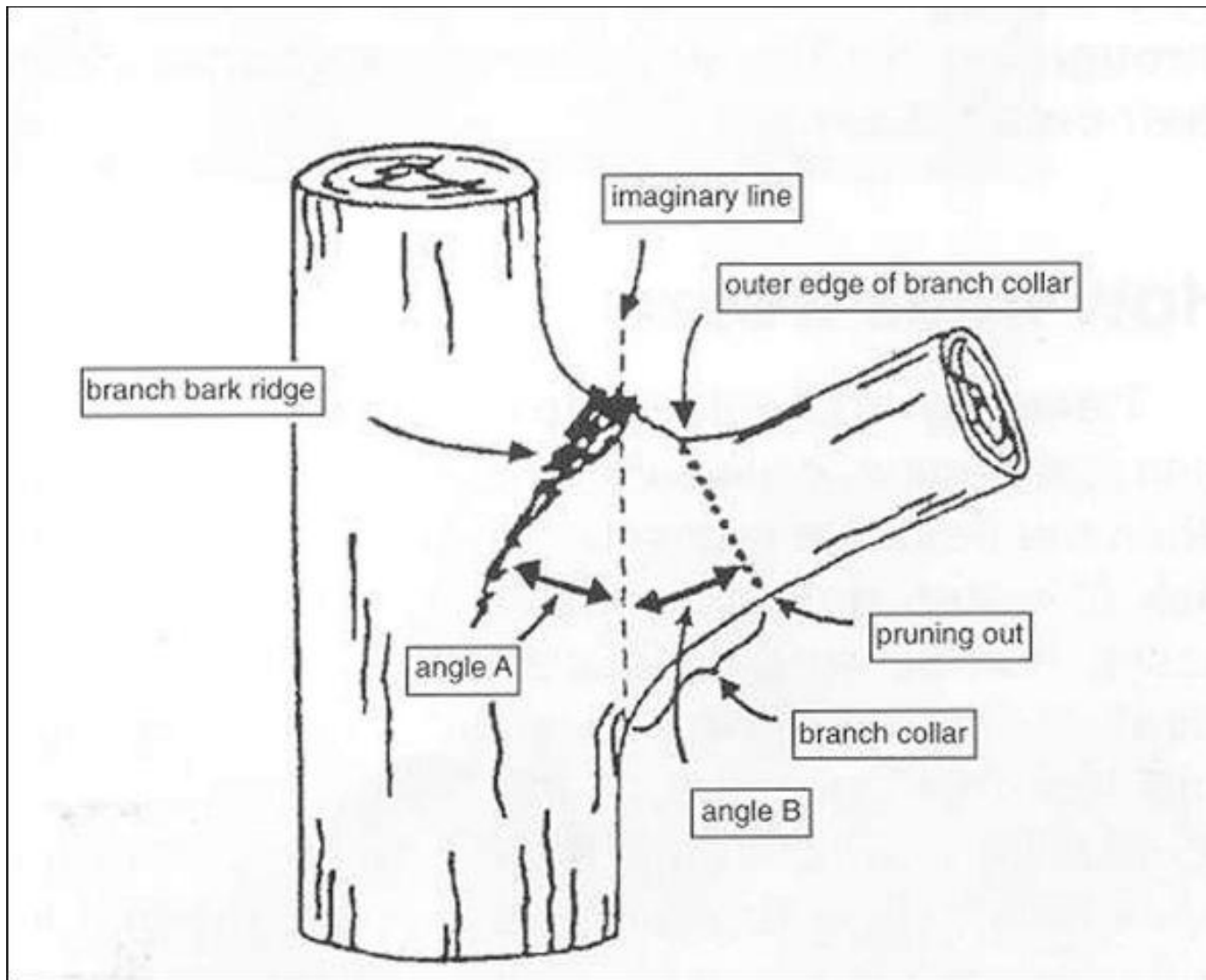
↑  
Pruned at  
this time

↑  
A Year Later

↑  
Six to Eight  
Years Later



# Thinning cuts





Espalier





# Weather



# Preparing for a freeze:

- Water plants deeply the day before
- Remove ripe tree fruit
- Remove mulch under canopy – bare, moist soil radiates
- Wrap young tree trunks with pipe wrap, cardboard,...





# Row cover or frost cloth



## Grades:

30 - gives 6<sup>0</sup>F  
frost protection  
& 70% light  
transmittance

50 - 8<sup>0</sup>F & 50%



Watch  
clips,  
rubbing



# Lights

100 W Heat lamp exterior rated or  
Old-school C7 or larger C9 lights - no LED





# Year 2014-15 Freeze

## Kumquats

2 yr. old, row cover only  
Sherwood Demo Garden,  
Placerville 1,500 ft. elev.

19 yr. old, no cover, no  
lights  
1,200 ft. elev.





# Meyer

2 yr. old, with row cover,  
Sherwood Demo Garden  
1,500 ft. elev.



# Eureka Lemon

3 yr. old, espalier, row cover,  
lights for two nights,  
1,200 ft. elev.



# Diseases and Pests



# Citrus Red Scale

- Armored body
- All surfaces – leaves, twigs, fruit
- Water blast, hand squash or pick, or oil sprays





# Citrus Blast - *Pseudomonas syringae*

Occurs due to warm and then cold/wet weather winter-spring

- Black fruiting spurs, leaves wither, curl, drop – entire twig may die
- Prune out after the rainy period

Treatment:

Prevent excessive new growth

- Prune late summer
- Fertilize late spring



# Whiteflies, Thrips, and Mites

The "Over" problem:

water  
fertilizer  
pesticides

Treatment:

- Stop "overing"
  - Spinosad
  - Mites usually only a problem in coastal areas
- BUT...



# Phytophthora Root Rot





# Citrus Leafminer



Adult – 2mm long



- Feed on new foliage
- Hardest on young tree
- Foliar effective for 2-3 weeks only
- Systemic? Edible crop!

## Treatment:

Decrease “growth flush”

- Trim once yearly
- Don't apply nitrogen unless needed



# Brown Marmorated Stink Bug

Suck juice from leaves/  
fruit

Treatment:

- Note area and report to MG office

530-621-5512

- Seeks shelter in winter
- Remove weeds



# Asian citrus psyllid - *Diaphorina citri*



- Adult – 1/8 " long, red eyes, tail up
- Waxy deposit from nymph
- Egg to adult takes 4-6 weeks

Florida 1998 and California 2008  
Found now in 31 counties in CA

# 2023 Asian Citrus Psyllid (ACP) Bulk Citrus Regional Quarantine Overview



**Bulk Citrus Regional Quarantine**

- Zone 1
- Zone 2
- Zone 3
- Zone 4
- Zone 5
- Zone 6
- Zone 7

Effective Date: 02/17/2023  
ESRI 2023, ArcGIS Pro v 3.0.3





# Huanglongbing (HLB) - Greening Disease



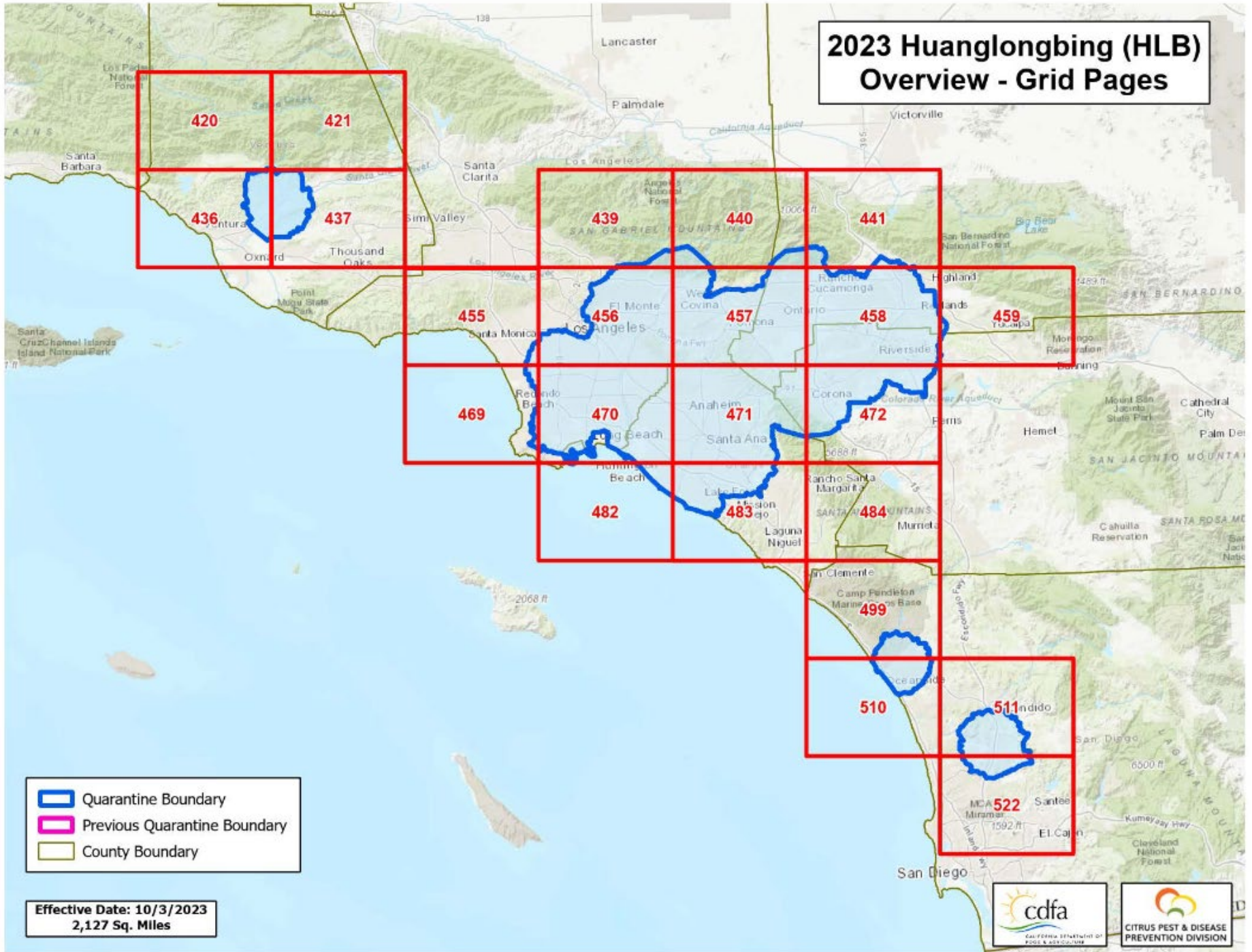
Irregular mottling



Lopsided & "greening"

- Florida 2005 and California 2012
- Widespread throughout SoCal

# 2023 Huanglongbing (HLB) Overview - Grid Pages



- Quarantine Boundary
- Previous Quarantine Boundary
- County Boundary

Effective Date: 10/3/2023  
2,127 Sq. Miles



# Saving Citrus in California

- Highly regulated now
- HLB only spreads two ways: psyllids or grafting
- Dan Willey YouTube:  
<https://citrusvariety.ucr.edu/budwood.html>
- Wasp *Tamarixia* is released in Central and Southern CA citrus industry areas costing \$.50/wasp and thousands are released at one time! Timing and ACP population size matters.
- PCR test on leaf samples – 9 mo. to 2 years to find 'right' leaf to detect HLB
- Dog sniffing out HLB



# Bud Mite



Coastal lemons

- Think problems in the bud stage

# Naval Orange Split



Stressed tree –  
water and weather

# AND...

## Microcitrus: Australian Finger Lime





Many colors and note the change in the segments!



# El Dorado County Master Gardeners



Thank you