



Southern California Fruit Trees 101

How to Irrigate Your
Home Orchard With
Greywater

Ty Teissere
Greywater Action
Webinar Series

Ty Teissere



- Lover of Fruit ~California Rare Fruit Grower
- Lover of Trees ~ISA Certified Arborist
- Lover of Water ~Greywater Action
Educator and Certified Installer
Rainwater Harvesting Certified
- Lover of Plants ~LBCC Horticulture Degree
- Lover of Patterns ~Permaculture Design
Certificates

The Road Map:

- Success with Fruit
- Understand our climate
- Tap into water
- Basins of relations
- Plan the orchard
- More Fruits in less space
- Resources



Why some people fail with fruit

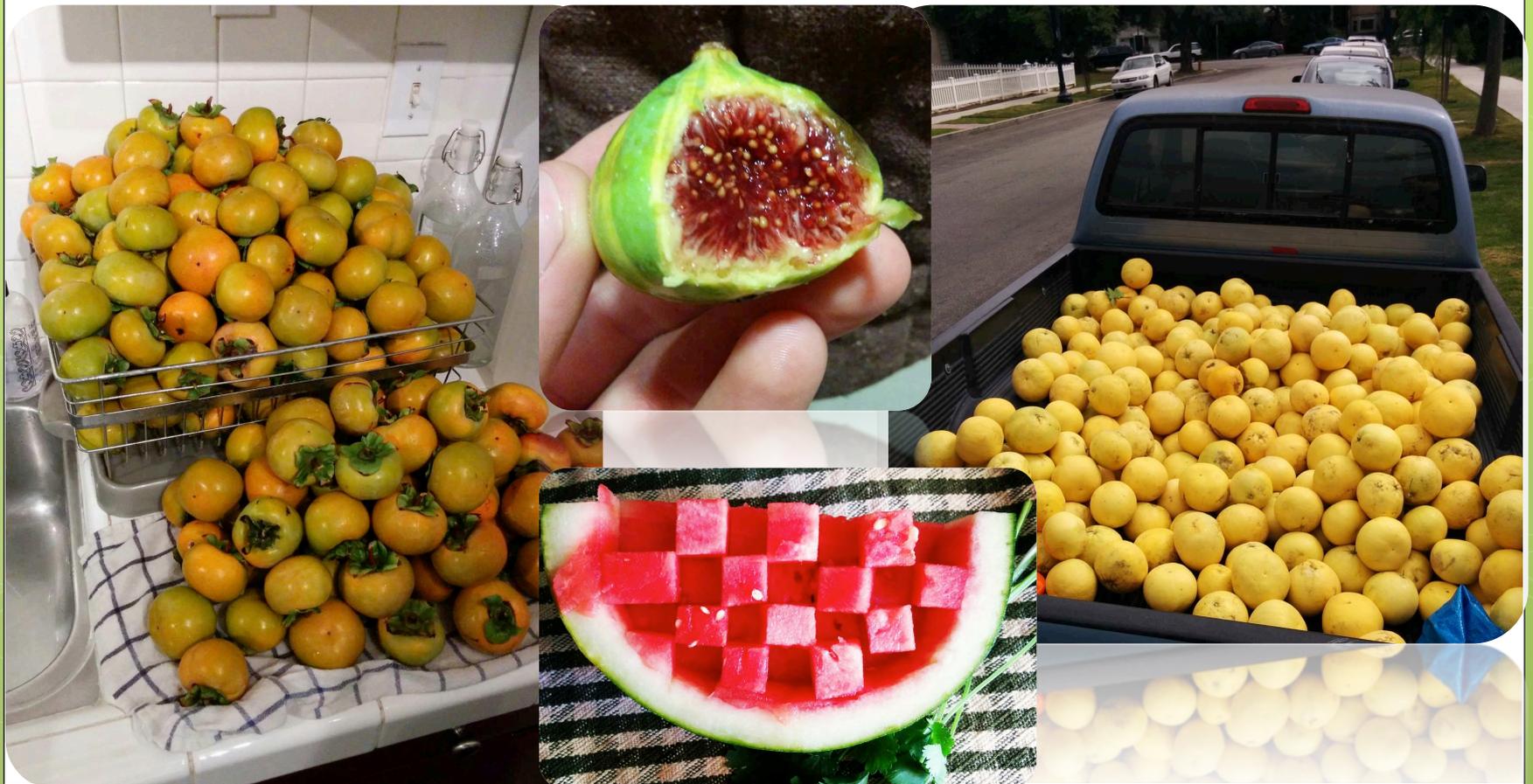
- Typical backyard gardener pattern:
 - Buy a tree
 - Dig a hole
 - Place the plant
 - Backfill hole (maybe with amendments)
 - Water (when they remember)
 - Fertilize (with chemicals)
 - Prune when too tall or in the way
(if the tree survived)

How I've succeeded with fruit

- Identify water source(s)
- Tap into the flow
- Dig basins
- Identify microclimates
- Select awesome plants
- Dig hole, plant and backfill
 - > ○ Add Compost and MULCH
- Repeat -> ○ Prune based on a plan
 - > ○ Harvest



Some FRUIT to get your juices flowing!









Mulch

- Wood chips
 - Filter and absorb water before it soaks into the soil
 - Feeds the soil food web and plants
 - 4" minimum depth



Mulch Basin

- A shallow basin filled with mulch (wood chips)
- The basin spreads water out, provides surge capacity, and prevents pooling or runoff

Basin is here



Image Credit:
Greywater Action

Mediterranean Climates

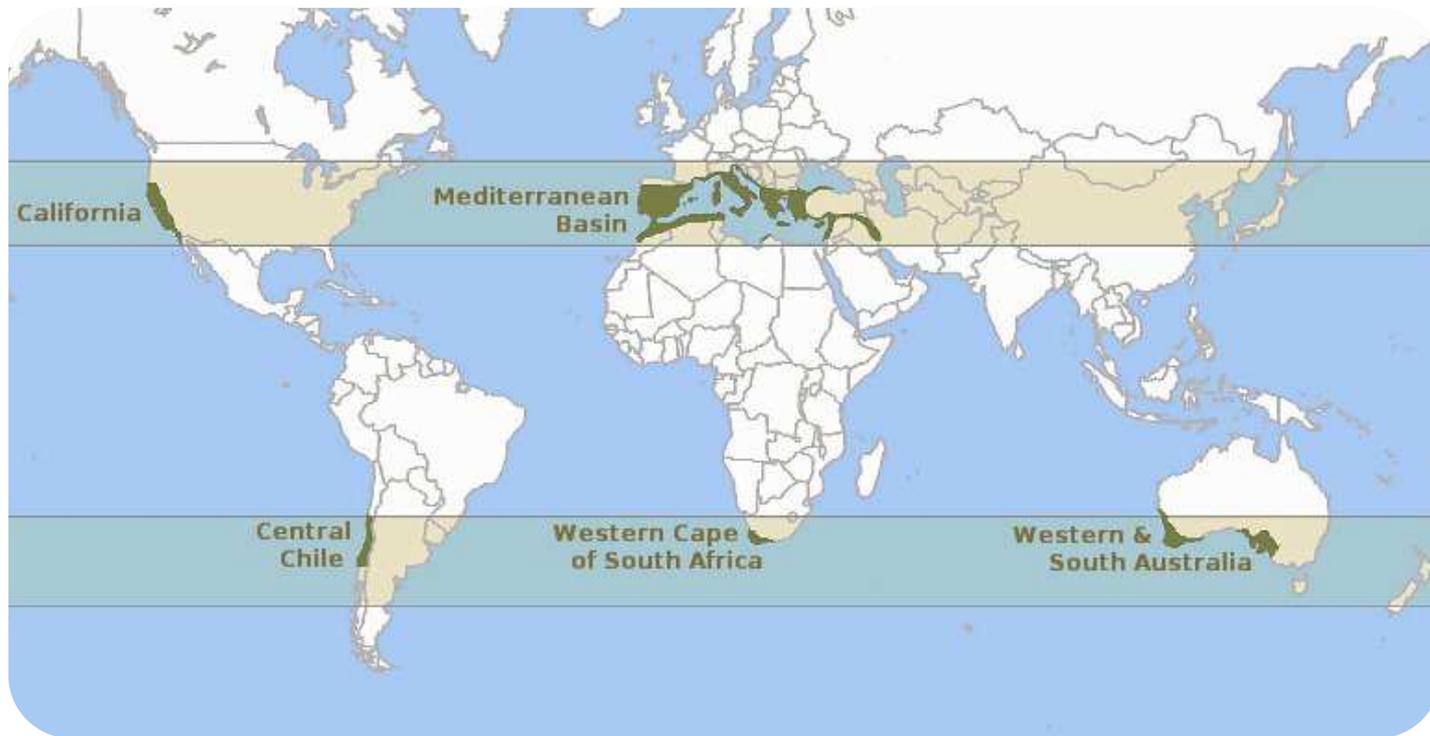


Image Credit:
<http://gimcw.org/climate/map-world.cfm>

Mediterranean Climates

Hot Dry
Summers

Cool Wet
Winters

Key Leverage
Point:

- Little to no frost

Achilles Heel:

- **Not much
water**



Tropical Climates

Moderate
seasonal
temperature
change

Seasons
defined by rain

LOTS of rain

**So what really
separates us
from the
Tropics?**



Image Credit:
Rizal Arnex

Tapping into Drops from the Sky

Rain water is where we start

- Who doesn't like FREE?
- Lots of it
- Great quality
- Problems downstream if not used

So you think we're dry eh?

Modest 1000 square foot house

- 1" of rain
 - = 600 gallons

Downtown LA

- July 2012- June 2013 (lowest in last 5-years)
 - 5.85 inches of rain
 - > 3,000 gallons of rain water from roof!

Two Rain Harvesting Strategies

Active Harvesting

- (what most people think of)
- Barrels, Tanks, Cisterns
 - Bigger up front cost
 - Best suited for veggies or compost tea

Passive Harvesting

- Simple hand dug earthen basins
- Guide downspouts and runoff to basins
 - Cheap
 - Great for Fruit trees and greywater!

Tapping into Rivers in Black Pipes: **Greywater!**

- Greywater is gently used wash water from tubs, washing machines and sinks
- 100+ gallons per household per day
- Fruit trees don't require perfectly clean water



Where to tap in?

- **Washing Machine**

- PROS:

- No permit needed
 - Has a pump built in for pressure
 - Relatively easy to install
 - DIY is cheap

- CONS:

- Front loaders have less flow and smaller pumps



Where to tap in?

- **Bath Tub**

- PROS:

- Generally large volume of water
 - High quality water
 - Well suited to trees

- CONS:

- Permit needed
 - Gravity flow can be impossible with slab or long runs
 - Can be a PITA



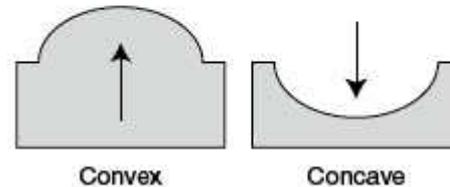
Basins of Relations

- Remember the Achilles Heal!

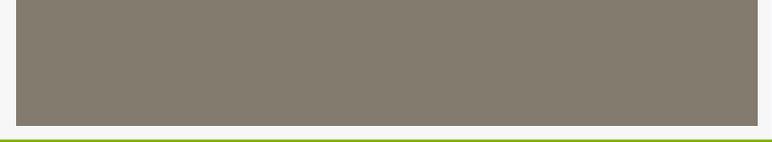


- WATER!

- Convex to Concave



- If you have a lawn, don't be a GRassHOLE
Remove it!









Basins of Relations

- Think of the Soil Food Web
- Mulch = Soil Food
 - Soil Waste = Plant Food
 - Plant Fruit = People Food
 - People Waste = Soil Food

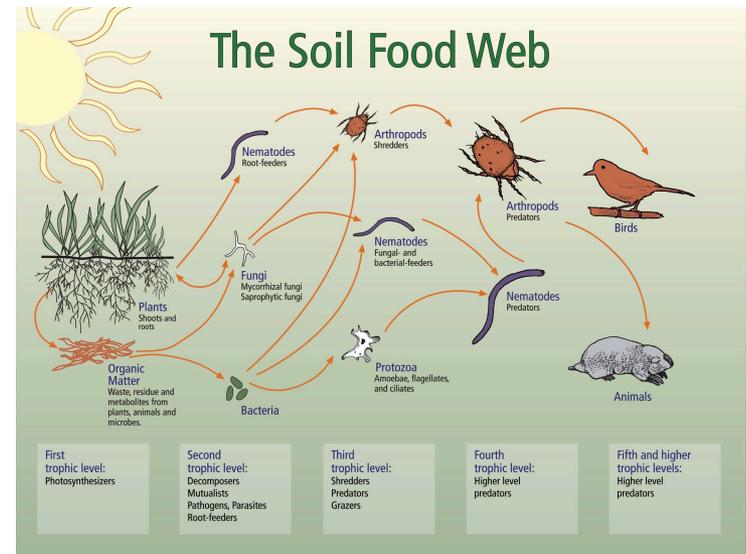


Image Credit:
Soil and Water Conservation Society

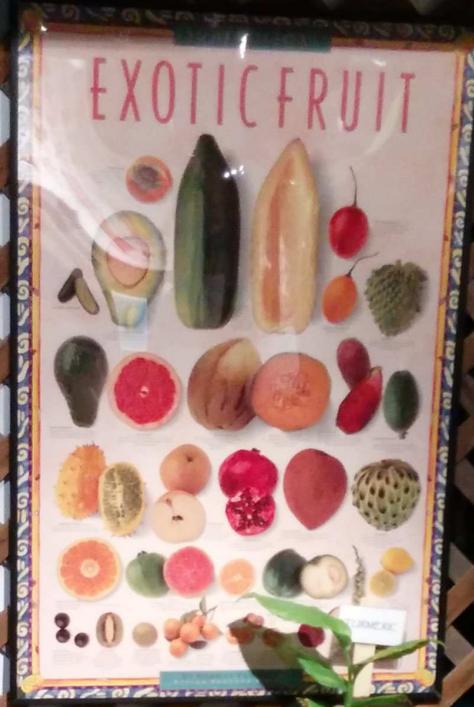
The Road Map Revisited:

- ~~Success with Fruit~~
- ~~Understand our climate~~
- ~~Tap into water~~
- ~~Basins of relations~~
- Plan the orchard
- More Fruits in less space
- Resources



Plan the Orchard

- **List of Fruits you love**
 - Research details about each one
- Ask around to try fruits you're curious about
 - CRFG is a fantastic resource!
 - Ethnic markets are a wonder of exotic galore
- Travel to fruit tastings to find specific varieties
- Travel the world to and see what other people eat







This is How I Travel



Fruit Tastings

- University of California, South Coast Research and Extension Center, Irvine



Map your Site

- Water sources
- Sun and Shade
- Place Trees where needs are met by water and sun
- **Where no water:**
 - Dry-adapted fruits
- **Where less sun:**
 - Shade-tolerant fruits
 - Social space/storage space/hammock

More Fruit in Less Space

- Quantity vs Variety
- Big vs Small
- 3D vs 2D



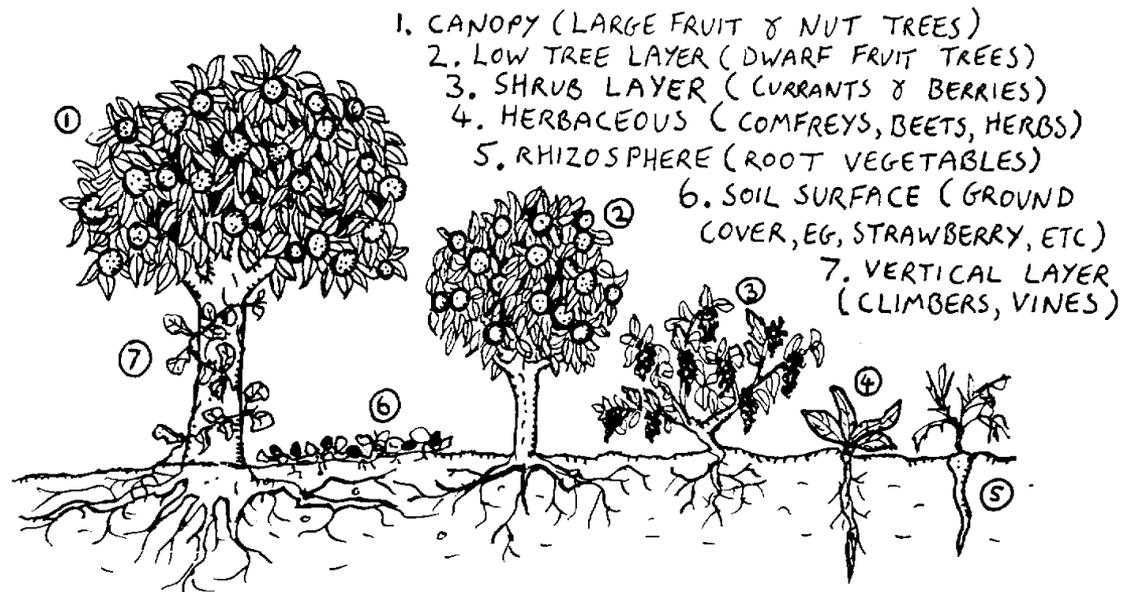
Photo Credit: Dave Wilson Nursery

Pruning for Size Control

- Summer prune for size control
 - Keep it to your height!
 - Easier pruning
 - Easier harvest
 - More fruit in less space
 - More variety in less space
- Winter prune for 4 D's (How to Prune Fruit Trees)



Layers in the Forest



THE FOREST GARDEN: A SEVEN LEVEL BENEFICIAL GUILD

Image Credit: Graham Burnett

Fruits for Southern California

Subtropical Fruits:

- Avocados
- Citrus
- **Feijoa (Pineapple Guava)**
- Kiwis
- Mulberries
- Cherimoya
- Lychee
- Mamey



Fruits for Southern California

Tropical Fruits:

- Bananas
- Papayas
- Mangos!
- **Passion Fruit**
- Guavas
- Jack Fruits (jury is still out)



Fruits for Southern California

Temperate Fruits:

- **Paw Paw** (*Asimina triloba*)
 - Part Shade adapted, likes water
- Apples (Anna, Pettingill, King David, Fuji...)
 - Kuffle Creek in Riverside
- Stone Fruits (Peach, Plums...)
 - They do okay some years
 - depends on microclimates



Fruits for Southern California

Dry-Adapted Fruits

- Peruvian Apple Cactus
- Blueberry and Plum Cactus
- Prickly Pears
- Pomegranates
- Figs
- Carob
- Mesquite



Resources

- California Rare Fruit Growers www.crfg.org
- Mediterranean Climate Region Info
 - <http://oaktreedesigns.com.au/mediterranean-climates/>
- Dave Wilson Nursery 
- How to Prune Fruit Trees ~R. Sanford Martin
- Holistic Orchard (Book/DVD) ~Michael Phillips
- Permaculture Orchard (DVD) ~Stefan Sobkowiak
- The Water Wise Home ~Laura Allen
- Rainwater Harvesting for Drylands and Beyond ~Brad Lancaster

Questions or Concerns?

- Q/A
(Now)
- Ty.Teissere@gmail.com
(Later)

