The California Pomegranate Industry: Trends and Production Insights

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California Pomegranate
Acreage Trends

• 1917 – 150 ac
• 1955 – 480 ac
• 1975 – 1875 ac
• 1985 – 3475 ac
• 2006 – 12-15,000 ac
• 2009 – 25-29,000 ac
• 2012 – 30-33,000 ac
Primary Varieties

• Foothill Early – Wonderful mutation, ripens late August, discovered in Porterville, CA by RJ Owen in mid-1970s

• Early Wonderful – Wonderful Mutation, ripens early-mid September, discovered in Cutler, CA by Leonard Wileman, 1972

• Wonderful – discovered in Porterville, CA in 1896; chance introduction in cuttings from Florida. **Preferred for juice.**
Climate & Soils

- Good
  - Dry
  - Hot
  - Salt & pH tolerant

- Bad
  - Frost
  - Rain
Frost Damage
Planting Systems

- Rootstocks
- Propagation
- Pruning & Training
- Spacing
  - 18-20’ between rows
  - 12-18’ in row
  - Trellis
  - Machine Harvest
Pruning
Nutrition
(Jim LaRue)

- **Nitrogen**
  - ~50 lbs/acid

- **Zinc**
  - Dormant spray of 20#/100 - 36% zinc sulfate
  - 30# is OK

- **Potassium**
  - No effect
Nitrogen Pomegranate Yield (lbs/tree)
Nitrogen Pomegranate Fruit Size (lbs/fruit)
Nitrogen
Pomegranate Maturity
(\% in 1^{st} Pick)

![Bar chart showing nitrogen levels in pomegranate maturity from 1958 to 1961.](chart.png)
Fruit Thinning
fresh market only
Sucker Control
Fruit Cracking

- Irrigation
  - Fluctuation
  - Lysimeter Studies
- Rain
- Overripe
Aphids
Checking and russetting caused by Brevipalpus sp.
Leaf Footed Plant Bug
Sunburn
Harvesting
Maturity Standards

• >10% must not exceed 1.85% acid
• Juice = “a shade of red that indicates maturity.”
Postharvest Storage (intact fruits)

• Chilling Injury
  – 41 F for 8 weeks
  – 50 F if longer
Alternaria Rot as a Preharvest Defect
Infection begins in the orchard especially following rain during flowering and early fruit development. The fungus can grow within the fruit without external symptoms.
Value Added
Field Juice Prices to Growers
($/ton)

• 2006 – $350-450
  – Any variety
• 2007 – $200-325
  – Any variety
• 2008 – <$100-150
  – Typically only Wonderful
• 2011 to present – <$100
  – Only Wonderful
Juice Yields

- 80-90 gallons free juice per ton – “good” fruit
- 16-17 gallons per ton fruit of 65° Brix concentrate
- 5 t/ac @ 17 gal/ton = 85 gal/ac
Concentrate Prices

• March 2008 - ~$45/gallon  
  – $3825/ac @ 85 gal/ac

• March 2009 - $23-27/gallon  
  – $2125/ac @ 85 gal/ac

• September 2013 - $15-20/gallon  
  - $1487/ac @ 85 gal/ac
Seed [Aril] Extraction
Reliable Resources from California

• UC Pomegranate Cost Study
  – http://coststudies.ucdavis.edu

• Growing Pomegranates – Jim LaRue