

Pomegranate Cultural Management



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Pomegranate



Perfect; female/productive



Perfect; male/non-productive



Photos Credit: A. Sarkhosh

The US pomegranate industry

- ~40,000 acres in 2017, it was ~8,000 in 2000
- Over 90% produced in CA
- Kern and Fresno are the leading counties in CA
- Harvesting season in CA late Aug to late Oct
- Only 5% of the US residents have tasted fresh pomegranate fruit prior to 2006



Photo Credit: A. Sarkhosh

Fruit and it's products



Remedy & Medication



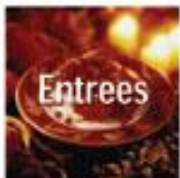
Organic seed oil



Desserts



Salads



Entrees



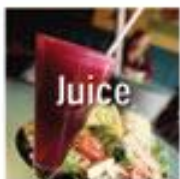
Drinks



Beverages



Cholesterol Free



Juice



Pomegranate Health.. 

100% Premium
Pomegranate Seed Oil

Wildcrafted and Cold Pressed

Mother Nature's best-kept anti-aging secret

15 ml (1/2 oz.)

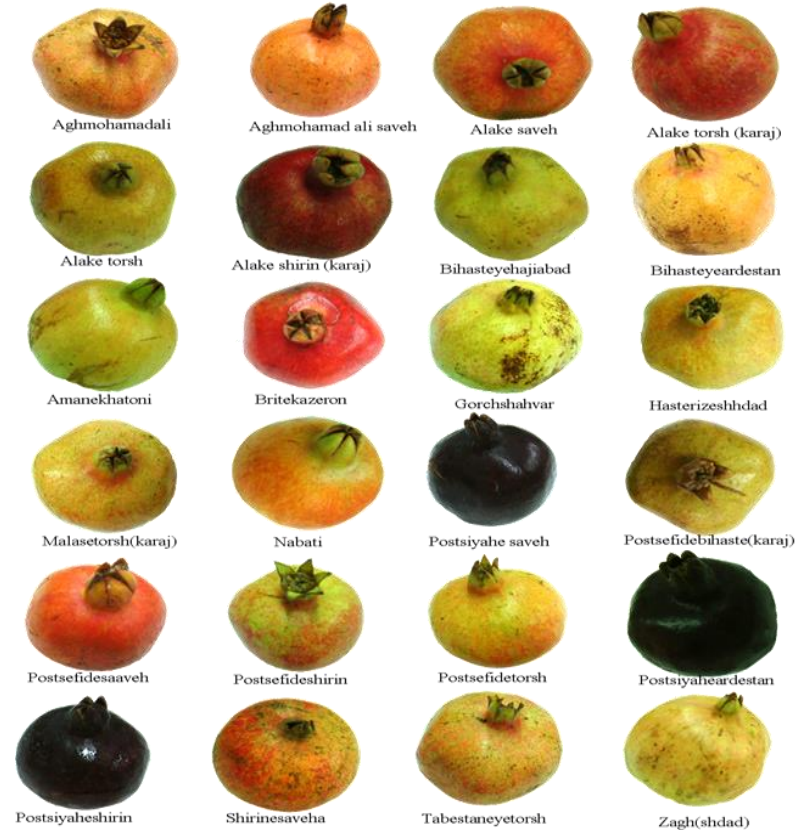


Pomegranate arils extraction system



Varieties and fruit characteristics

- 'Wonderful' is standard variety in the US
- 'Foothill Early'
- 'Early Wonderful'

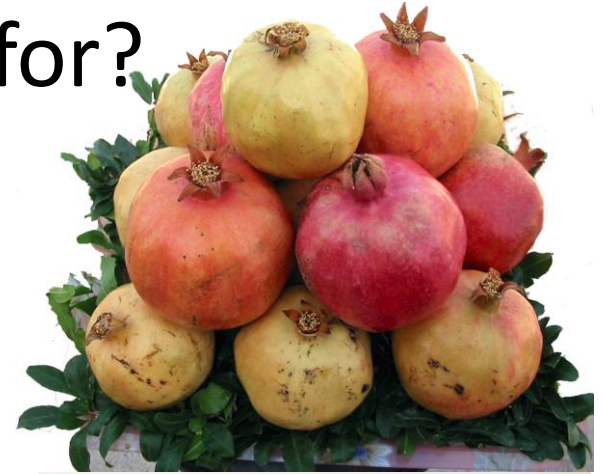


Ornamental varieties



What are the pomegranates fruit characters we look for?

- Early ripening varieties
- Colored skin and colored arils
- Fruit size over 300-450 gr
- Arils % over 35%
- Juice% over 30%
- Smooth seeds (soft or semi-soft)
- Taste: sweet or sweet-sour
- Easy release of the arils from skin
- Yield over 6t/acre at commercial production stage



Climate

- This tree is primarily mild-temperate to subtropical
- The fully dormant tree can severely injured by temperatures below 12 °F
- Young tree and non-dormant tree can injured by higher temperatures, below 25 °F



Freezing damage

Soil

- The tree can grow in a wide range of soils, from sand to loam-clay (pH 6-7.5)
- It is recommended to plant the tree on the raised bed in heavy soil, rainy area,



Irrigation and nutrition programs

- Citrus irrigation program with minor modification can be used for pomegranate tree
 - Flowering, fruit development, and harvesting (April to Aug/Sep)
 - Vegetative growth/ flower development for next season (Aug/Sep to Dec)
 - Dormant period (Dec to Feb)
- Fertilizer/fertigation is important for producing high quality fruit
 - N: 1.8-2.2% P: ~0.3% K:~ 2% Ca%:~2% Trace elements
 - K is needed for red color of aril
 - Ca needed for fruit quality and reducing fruit splitting



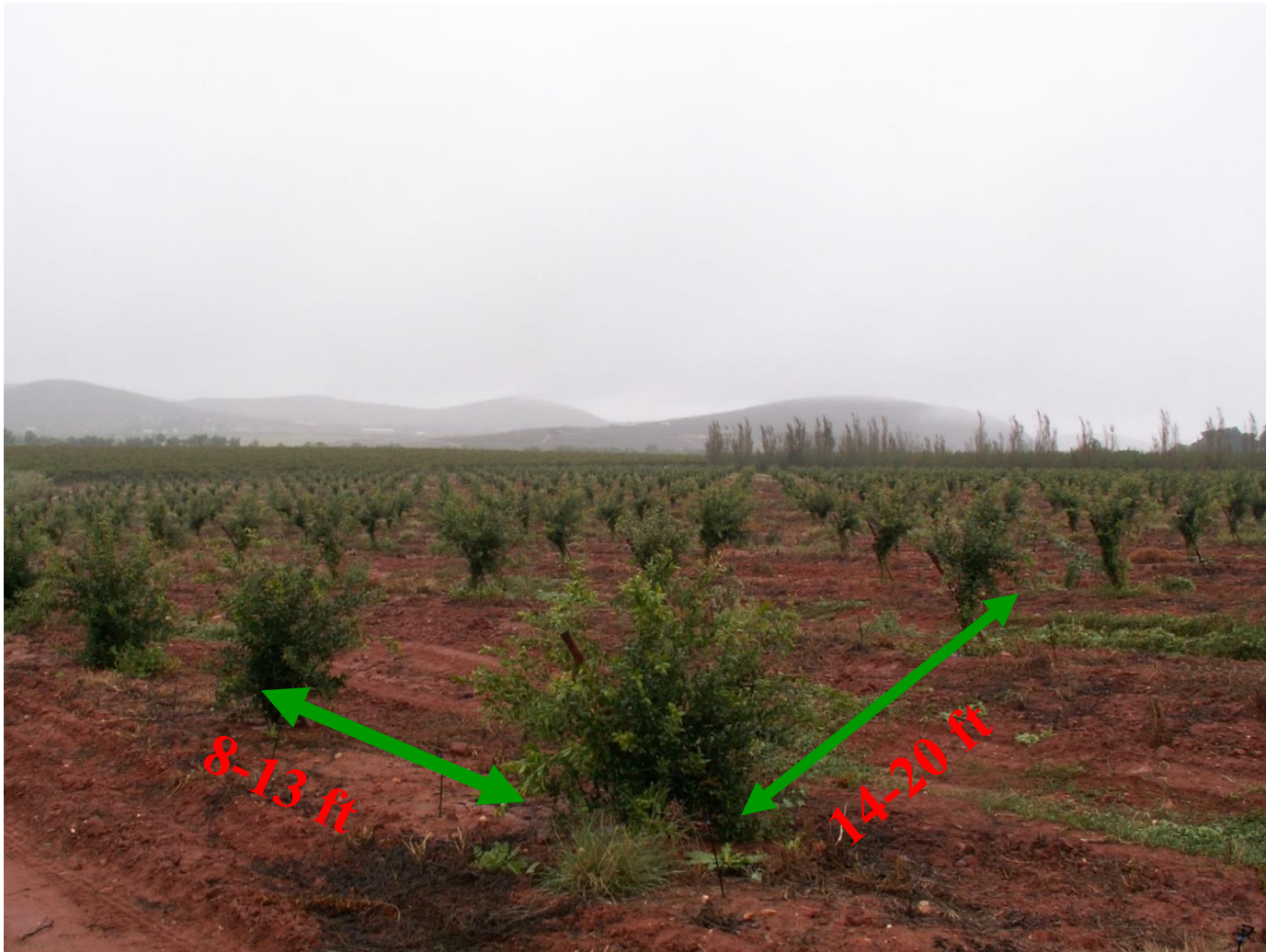
Photos Credit: A. Sarkhosh

Propagation

- Hard wood during winter
- Soft wood during growing season
- Tissue culture



Trees spacing



Training & pruning are important to achieve high yield and quality fruit



Multi-trunks: 3-5 main trunks

- Advantage: Less tree/acre, more fruit/acre,
- Disadvantage: Lower marketable fruit rate, low level of mechanization, more de-suckering/pruning, more harvesting time,



Mono-trunk

- Advantage: Efficient in labour, producing high quality fruit, high level of mechanization,...
- Disadvantage: Support/trellis needed (cost), more tree/acre, not enough data available for the life of the tree,



Suckering habit



Sucker control; manually/chemically



Manually; by hand or pruner

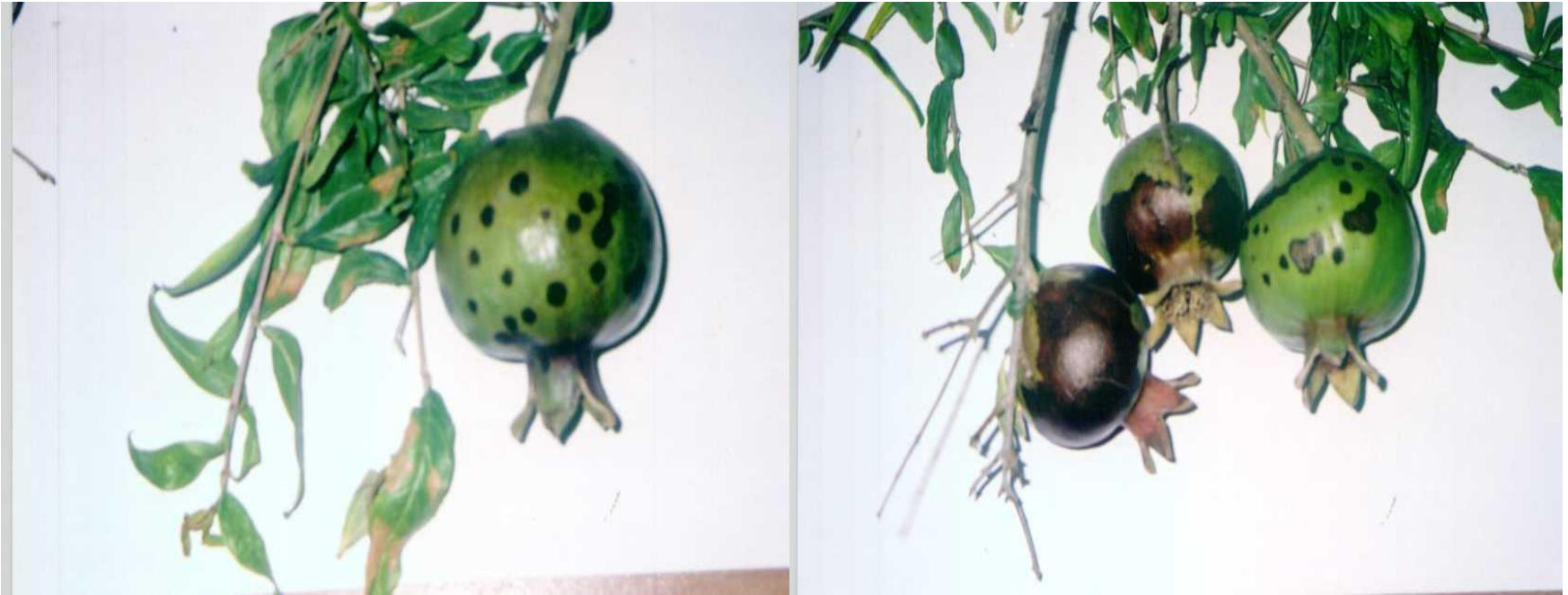


Chemically by Paraquat



Photos Credit: A. Sarkhosh

Paraquat drift damage on the fruit



Photos Credit: A. Sarkhosh

Mature or red fruit will carry the damage



Fruit thinning
-Recommended for fresh
market



Fruit thinning stage



Keep one fruit/cluster

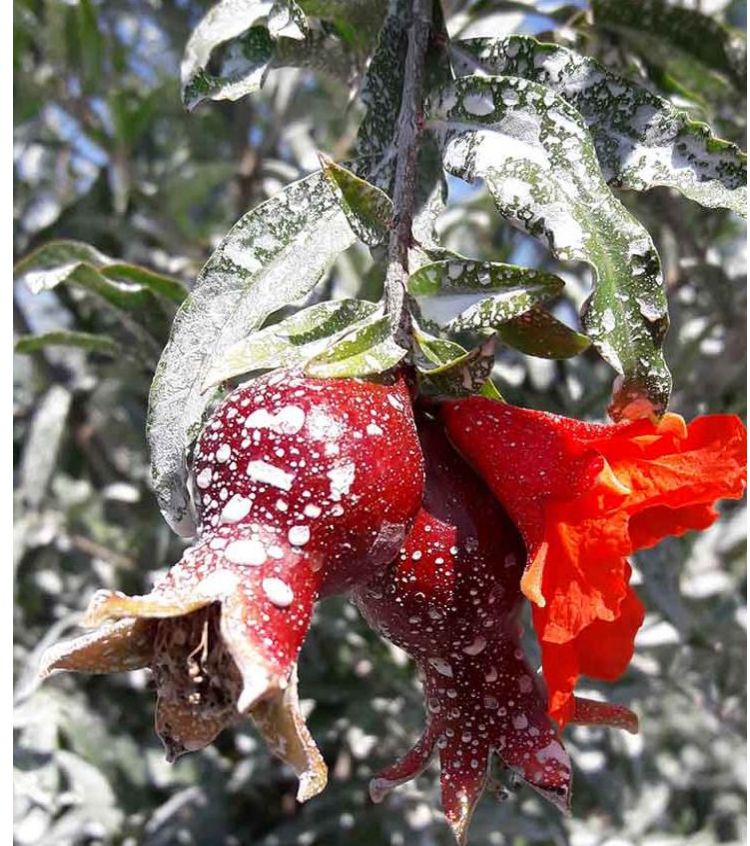
Fruit cracking

- Genetic
- Irrigation
- Temperature
- Ca deficiency



Photo Credit: A. Sarkhosh

Sunburn



Kaolin



Photos Credit: A. Sarkhosh



Scrubbing



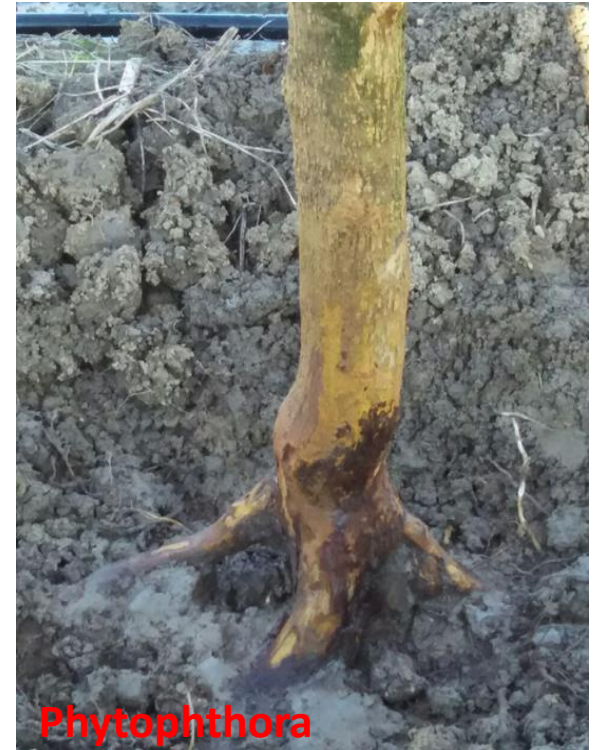
Diseases



Anthracnose



Botryosphaeria



Phytophthora



Botryosphaeria



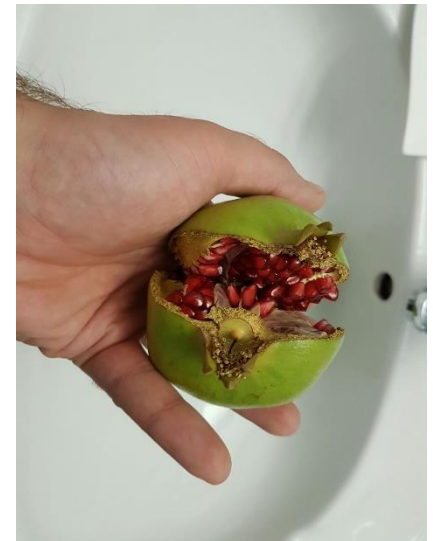
Botryosphaeria

Insects



Production challenges in FL

- Suitable cultivar; cultivar selection
- Marketing; production window
- Nutrition and water management
- Physiological disorders
- Diseases and pests management (labelling and,.....)
-



Thank you

FPA, growers and research team

Florida Pomegranate Association (FPA)

Dr. William Castle, CREC/IFAS/UF

Dr. Gary Vallad, GCREC/IFAS/UF

Dr. Zhanao Deng, GCREC/IFAS/UF

Dr. Shinsuke Agehara, GCREC/IFAS/UF



Thank you,

“We would like to see growers get rewarded for the hard work that they have put into producing a quality product”

