

## Basic Postharvest Losses to Reduce Fruit Deterioration

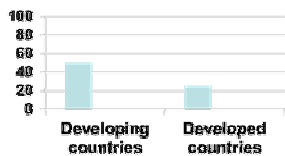


Juan Carlos Díaz-Pérez  
Dept. of Horticulture  
University of Georgia

After harvest, fruits and vegetables are not dead.  
They are ALIVE!



## Postharvest losses (%)



Most important factors in postharvest life

- Temperature
- Humidity



Poor postharvest practices  
increases produce losses



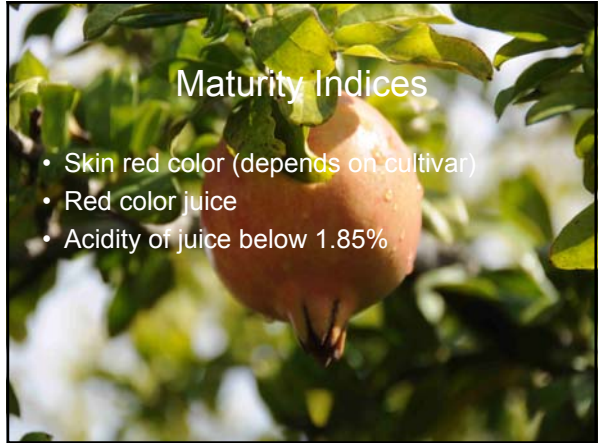
Contact with soil



Exposure to sun

## Maturity Indices

- Skin red color (depends on cultivar)
- Red color juice
- Acidity of juice below 1.85%



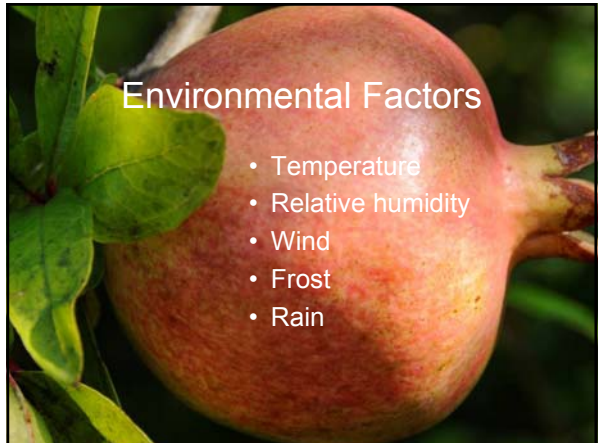
## Fruit quality

- Genetics (cultivars)
- Preharvest factors
  - Climatic
  - Cultural (irrigation, fertilization, etc.)
- Maturity at harvest
- Postharvest handling



## Environmental Factors

- Temperature
- Relative humidity
- Wind
- Frost
- Rain

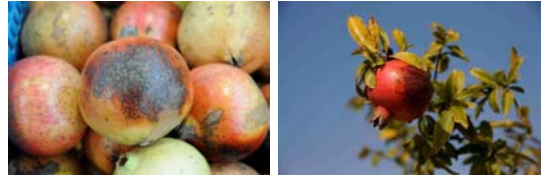




Shading reduces field heat in produce

## Sunscald

- Excessive heat
- Excessive solar (UV) radiation





## Cultural Practices




- Fertilization
  - Fruit nutrients
  - Shelf life
  - Fruit diseases
- Irrigation
  - Shelf life
  - Soluble solids
  - Fruit diseases
- Pruning
  - Fruit size and fruit number



## Tree structure

One stem	Multi-stems
	
<ul style="list-style-type: none"><li>• Increased light penetration</li><li>• Increased ventilation</li><li>• Reduced plant diseases?</li><li>• Increased fruit number?</li></ul>	<ul style="list-style-type: none"><li>• Reduced light penetration</li><li>• Reduced ventilation</li><li>• Increased in plant diseases?</li><li>• Reduced fruit number?</li></ul>

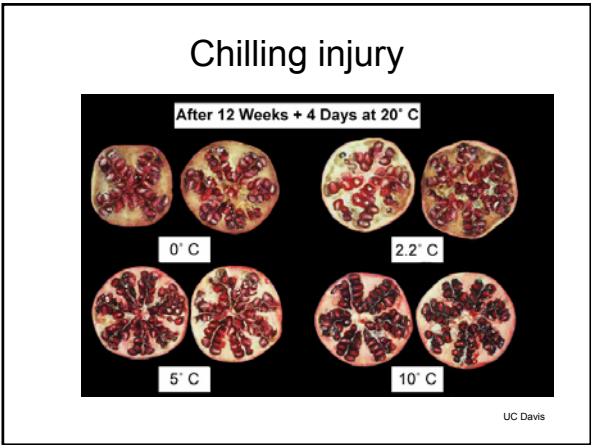
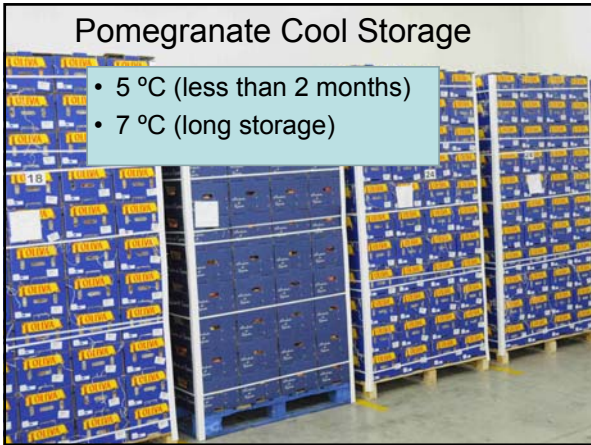
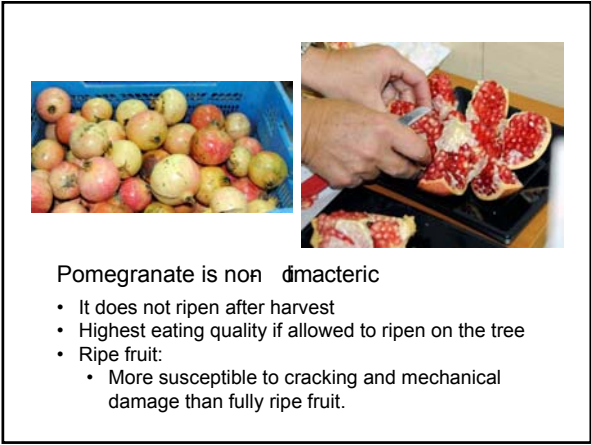
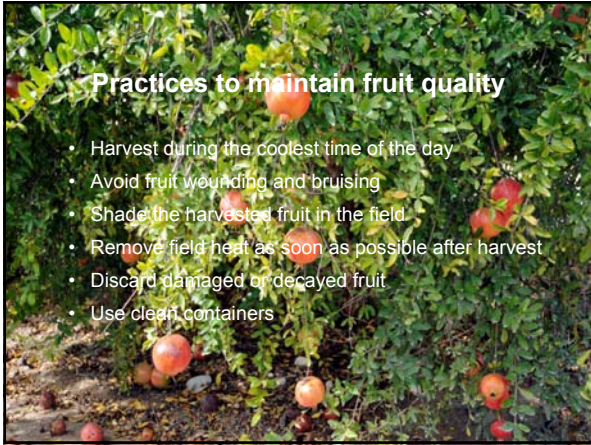
## Pruning



## Pomegranate Quality Indices



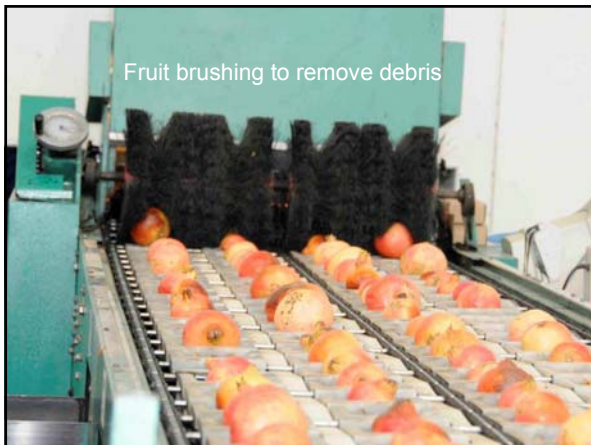
- Free from bruises, cuts and decay
- Skin color
- Flavor (sugars/acid ratio)
- Soluble solids higher than 17%



Modified atmosphere packaging



Fruit coming from the field



Fruit brushing to remove debris



Fruit sorting









Proper packaging reduces  
the risk of fruit damage



Adequate packaging protects  
the fruit and allows for proper  
aeration of fruit



Fruit should be handled with care  
to avoid fruit damage

Pallets must be firmly built to prevent fruit injury



Boxes should not be overfilled



Container type depends on the market requirements



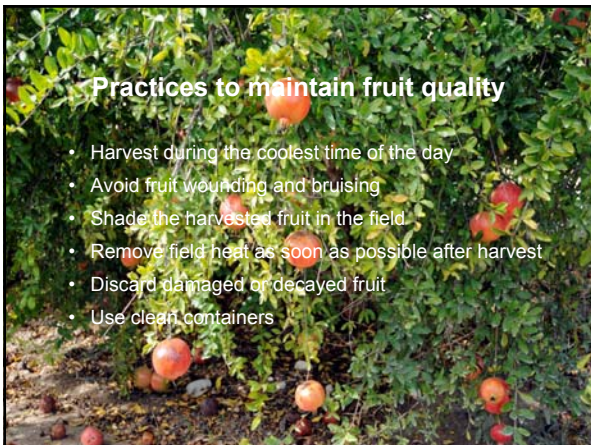
Pallets arranged by fruit size



After grading, fruit is taken to storage room



Fruit storage



### Practices to maintain fruit quality

- Harvest during the coolest time of the day
- Avoid fruit wounding and bruising
- Shade the harvested fruit in the field
- Remove field heat as soon as possible after harvest
- Discard damaged or decayed fruit
- Use clean containers



Pomegranate: Fruit of increasing popularity



Chiles en Nogada

