CITRUS VARIETY CHARACTERISTICS

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Citrons

- Citrus medica
- Dry pulp, acid or insipid pulp
- Used for fragrance, zest, essential oils, teas and rind jam.
- Freeze/frost susceptible due to deep-tropical growth habit (no quiescence)
- Varieties: Diamante, Buddha’s Hand, Greek, Yemenite,
Pummelo

Pomelo *Citrus maxima*

- Parent of grapefruit
- Tree-tall, irregular & spreading
- Cold hardiness considered less than mainstream (grapefruit)
- Fruit maturity: Early-mid season
- Varieties: Chandler, Hirado Buntan, several others
Grapefruit

Citrus X paradisi

Pummelo x sweet orange

- Tree: dense & spreading
- Used as rootstock: seldom
- Cold hardiness: mainstream
- Fruit Maturity:
  - Most: Dec-Feb
  - Few: Early as September; late as June
Grapefruit tree
**Trees:** Compact, dense, upright

**Cold Hardiness:** Mainstream

**Maturity:**
- Early oranges—late September to January/February
- Mid-season oranges—Thanksgiving to March/April
- Late oranges—early February to June/July

**Sweet oranges**

**round oranges & navels**

**Citrus sinensis**
Sweet Orange
Trees: Vase-shaped; sprawling; foliage often more pale in color
Cold Hardiness: Deep tropical (except ‘Meyer’); continuous flushing with multiple crops per year.
Maturity:
Main Crop is Mid-Season
Ichang Lemon

- Tolerates Sub 10 F temperatures
- Large, seeded lemon
- Thorny tree
Limes

Key Lime (Citrus aurantifolia)
Persian Lime (Citrus × latifolia)

Trees: Round, Compact
Cold Hardiness: Deep tropical; continuous flushing with multiple crops per year.
Maturity: Various
Kumquats *Fortunella crassifolia*

- Tree; thick canopy; shrub-like
- Tolerate 10-20 F depending on acclimation
- Specialty fruit, used for decorations, marmalades, fresh consumption
- Very productive
- Small fruit; most are seeded.
Broad grouping of interrelated citrus that are small to medium in size, generally soft, loose-skinned and low to moderate in acidity.

**Ponkans**
- Tangelo

**Clementines**
- Kat mandarins

**Satsumas**
- Tangors

**Tangerines**
- King

Mandarins
What is a tangerine? *Citrus reticulata* Blanco.

American-misnomer for Mandarin that has become permanent part of citrus language.
- Calamondin or Calamasi
- xCitrofortunella mitis
- “acid orange” introduced to U.S. in 1900
- Very cold hardy—10 F
- Very sour pulp; used for ornamental value, cooking, flavoring drinks, marmalades, etc.
- Rootstock for kumquat
Satsuma (Citrus unshiu)

- Satsuma on Trifoliate Orange rootstock is one of the most cold hardy commercial citrus plants.
  - Tolerates temperatures as low as 12-14 F when acclimated, but can be damaged at 20-23 F when not acclimated.
  - Fruit Maturity is very early!
Brazoria County, 2011
Brazoria County, planted 2009
You must set lots of blooms to get thin-skinned satsumas
Commercial Citrus trees are grown (by grafting) on rootstocks

- Common rootstocks
  - Trifoliate Orange, Sour Orange, Rough Lemon, Swingle Citrumelo, Cleopatra Mandarin, Carrizo citrange, etc.
- Size Control—Dwarfing (Flying Dragon)
- Nematode and Phytophthora resistance
- CTV Resistance
- Soil pH adaptation
- Cold hardiness
Rootstocks

‘Rubidoux’ Trifoliate Orange

Sour Orange

‘Flying Dragon’ Trifoliate Orange

‘Swingle’ Citrumelo
Citrus Rootstocks--Texas

**Citrus aurantium**
Sour Orange

- Good cold hardiness
- Grows well in alkaline soils
- Resistant to Phytophthora & Cotton Root Rot
- CTV susceptible
- Moderate Salinity tolerance

**Poncirus trifoliata**
Trifoliate Orange
“Trifoliata”

- Small, slow growing-dwarfing
  - Several varieties
- Very cold hardy
- CTV tolerant (most strains)
- Phytophthora susceptible
- Acid-Neutral Soils only
Cleopatra Mandarin

- More cold hardy than Sour Orange
- CTV tolerant
- Moderate-good salinity tolerance
- Intermediate on alkaline soils
- Lower yields and smaller fruit than Sour Orange

Photo UCR CCPP
Hybrid Rootstocks

- “CIT” = Trifoliate Orange Cross
  - Citrange = Trifoliate Orange x sweet orange
    - Carrizo, Troyer, C-32, C-35
    - Very Vigorous (Large trees), Good cold hardiness
    - Not for heavy soils, alkaline or saline soils
  - Citrumelo = Trioliate Orange x grapefruit
    - Swingle Citrumelo
      - Not for heavy soils
  - Citrangequat = citrange x kumquat
    - Thomasville-very cold hardy
Chinese Box Orange-Severinia
buxifolia
Kaffir lime foliage transportation

Kaffir lime

Photo by H. Gomez - USDA

Slide Credit: Julian Sauls
Curry Tree - Murraya koenigii

Slide Credit: Julian Sauls
Other host plants that are quarantined

Orange Jasmine - *Murraya paniculata*
Nitrogen deficiency

Photo: UFL, IFAS
Severe water stress
Recognizing Freeze Injury
Bronzing or stippling from Citrus Red Mite
Zinc deficiency

Slide Credit: Julian Sauls
Recognize Signs of Possible Greening Infection

Mottling is irregular across leaf midrib vein

Slide credit: Julian Sauls