

**Plants for Landscape Design
HORT 608 Fall 2011**



**Plant List 1
Palms & Cycads**

Reading Assignments

In *Landscape Plants For Texas And Environs, Third Ed.*

- Family descriptions
 - Intro on families & monocots vs. dicots (p. 63-64)
 - Cycadaceae (p. 78), and Arecaceae (p. 69)
- Intro materials on Palms (p. 489)
- Descriptions for individual species
 - See page listings on Plant List 1 Handout (also available under lists on course website)

Arecaceae (Palmae) Palm Family

- Large monocotyledonous family
 - Over 200 genera with 2,500 to 3,000 species
- Most either lack a trunk or are single trunk
 - Infrequently multi-stemmed, usually from basal suckers
 - Diffuse vascular bundles, lacks continuous secondary cambium
- Fronds are fan-like, costapalmate, or feather-like
 - Overall size and margins are key in identification
- Inflorescences sheathed in woody spathe-like covering
- Fruits mostly drupes with fleshy coatings
 - Important exceptions like coconut
- Only native genus to Texas is *Sabal*
 - Some U.S. species include *Rhapidophyllum* & *Serenoa*
 - Other exotics include *Butia*, *Brahea*, *Chamaerops*, *Coccothrinax*, *Livistona*, *Phoenix*, *Rhapis*, *Syagrus*, *Trachycarpus* & *Washingtonia*

Palms As Monocots

- Some practical implications
 - Damage to trunks may be more permanent
 - Not as easily girdled by mechanical damage
 - Critical not to injure growing points (buds)
 - Smaller rootball needed during transplant
 - Fronds often a maintenance issue

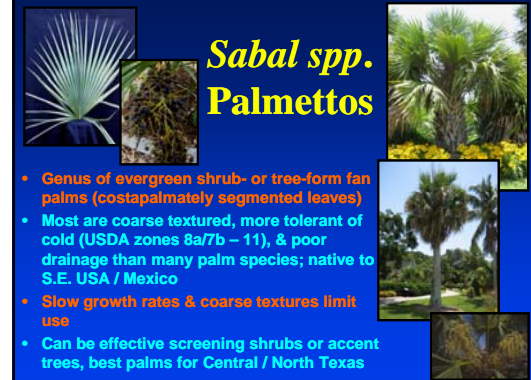


Fan & Costapalmate Palms



***Sabal* spp.
Palmettos**

- Genus of evergreen shrub- or tree-form fan palms (costapalmately segmented leaves)
- Most are coarse textured, more tolerant of cold (USDA zones 8a/7b - 11), & poor drainage than many palm species; native to S.E. USA / Mexico
- Slow growth rates & coarse textures limit use
- Can be effective screening shrubs or accent trees, best palms for Central / North Texas





Sabal mexicana Texas Palmetto

- Tree 25'-35' (60'), coarser textured than *S. palmetto*
- Cold hardy, z. 8 (7b) - 11, slow grower, Texas native







Sabal palmetto Palmetto Palm

- Single trunk tree, 20' - 25' (40'), native to SE USA coastal plains, cold hardy z. 8 (7b) - 11
- State tree of Florida and South Carolina









Sabal minor Dwarf Palmetto Palm





- Shrub species, 3' - 6', that is very cold hardy z. 7b (7a) - 11, and tolerant of swampy soils, Texas native
- Good bold accent, understory weed in some areas

Trachycarpus fortunei Windmill Palm

- Medium, 20'-25', fan palm, thin fibrous trunk
- Finer textured than most palms, segments with drooping tips, rich dark green
- One of most cold hardy palms, z. 8-11, but foliage can yellow in cold, avoid extended high heat
- Fronds prone to damage by high winds
- Nice accent, best in groupings


Chamaerops humilis Mediterranean Fan Palm

- Small / medium fan palm, 8'-12' (20')
- Straight central trunk surrounded by arching basal suckers
- Small divergent spines on leaf stalks are maintenance liability, barrier plant use
- Cold hardy z. 8b (8a) - 11; slow grower
- Heat, drought, salt, and some wind








Washingtonia robusta Mexican Fan Palm

- Tall, 50'-60' (100'), rapid growing fan palm
- Large leaves with huge recurved prickles on leaf stalks, major maintenance liability
- Minimally cold hardy, z.9 (8b) - 11, thin trunk, heat, salt, and drought tolerant








Washingtonia filifera California Fan Palm



- Similar to *W. robusta*, but shorter (40'-50'), slower grower, thicker trunked, and more cold hardy, zones 8b(8a) – 11
- Petticoat palms
- Better in low humidity

W. robusta (corner tree) versus *W. filifera*

Pruning Palms Can Be A Maintenance Issue



- How often must we prune?
- How do we access the site?
- How large is the palm?
- Size of fronds and / or fruiting structures?
- Presence of spines/prickles?
- What is client's tolerance for liability?

Brahea spp. Blue Fan Palms



- Mostly medium size stout Central American palms, very slow growers to 30' to 40' tall
- Handsome stiff blue-green foliage
- Hardy in USDA zones 9b (9a) – 11
- Tolerates heat, drought, alkalinity, and some salts, but needs well drained soils
- *Phytophthora* root & bud roots may develop in mesic climates
- Good trees for xeric landscapes

Livistona chinensis Chinese Fan Palm



- Slow growing Asian palms that mature as large shrubs to small trees 20' to 25' tall
- Dark green 4' to 5' long fronds have drooping distal segments
- Distinctive languid tropical look
- Full sun or in high light interiorscapes
- Hardy in USDA zones 9 to 11
- Heat, drought, somewhat salt tolerant, soil pH adaptable, needs good drainage
- Susceptible to lethal yellows and *Gandoderma*

Feather Palms



Butia capitata Jelly Palm



- Thick trunked squat feather palm, 12' - 15' tall
- Stiff blue-green leaves, 2' - 6' long
- Wider canopy than many palms, slow grower, needs some winter chilling
- Edible date-like fruit on females
- Salt, drought, and wind tolerant
- One of most cold hardy feather palms, z. 9 (8b) - 10, not vigorous in true tropics
- *Phytophthora* infection issues







***Cocos nucifera*
Coconut Palm**

- Perhaps the most important commercial feather palm
 - Ornamental signature plant of the tropics
 - Commercial source of coconut products
- True tropical, nearly frost intolerant, USDA z. 10-11 only
- Lethal yellows has been devastating in some regions




***Phoenix canariensis*
Canary Island Date Palm**

- Thick massive trunked feather palm, 15' - 20' (60') tall, dark green fronds
- Huge leaves arch upward then droop with age, lower segments spiny

***Phoenix canariensis*
Canary Island Date Palm**








Useful seaside / street tree in Gulf Coast areas, z.9 (8b), 2nd or 3rd most cold hardy feather palm

Prone to several problems: lethal yellows, palm heart rot, bud rot, root knot nematodes, palm borers, palmetto weevil, Mg deficiencies in high pH soils



***Phoenix dactylifera* Date Palm**

- Source of commercial date production, but poor fruit set occurs in humid climates
- Susceptible to similar problems as *P. canariensis*, but resistant to cotton root rot
- Foliage tends to stay more upright than *P. canariensis*, but lower segments are also spiny

***Phoenix dactylifera* Date Palm**




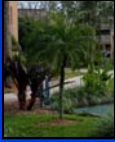

- Trunks are less massive, more multi-stem habits, and perhaps slightly more cold hardy (z. 8b - 11) than *P. canariensis*; Interesting for night lighting






***Phoenix roebelenii*
Pygmy Date Palm**

- Miniature version of *P. dactylifera*
- Grown as single or multi-trunk forms (plant multiple plants)
- Cold tolerant only in 9b (9a) -11, but fair heat and drought tolerances
- Sun to part shade, well drained fertile soils
- Popular for large containers, patio pots, oasis or accent plants

Syagrus romanzoffiana
Queen Palm

- One of the more cold tolerant feather palms behind species of *Butia* and *Phoenix*, cold hardy in z. 9b -11
 - Frequently planted, but marginal in 9a & 8b
- Offers the luxuriant tropical look of the king palms
- Valued as a street or avenue tree
- Strong tropical accent
- Moderately susceptible to lethal yellows & bud rots





Cycadaceae **Cycad Family**

- Ancient tropical / subtropical gymnosperm family
 - No close extant (living) related families
 - 9 genera containing about 85 species
- Dioecious floral structures in whorls or cone-like
 - Males strongly cone-like & erect
 - Females spreading open cones
- Pinnate or bipinnate lobing / leaves
- Frond-like foliage surrounds terminal bud
- Genera *Cycas*, *Zamia*, and *Dioon* are found in tropical / subtropical U.S. landscapes





Cycas revoluta
Sago Palm

- Short-trunked cycad, 8' - 10' tall
- Resembles a feather palm, stiff plastic-like dark green leaves radiating in spiral









Cycas revoluta
Sago Palm

- Very slow growing, full sun to shade
- Best in moist acidic soils, but drought, heat & wind tolerant once established
- Often planted in z. 8, but reliably cold hardy only in z. 9b (9a) - 11








Questions / Comments?

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Dr. Michael A. Arnold
Dept. of Horticultural Sciences
Texas A&M University
College Station, TX 77843-2133
email ma-arnold@tamu.edu