

Woody Ornamental Plants
HORT 306
Fall 2011



Plant List 2
Medium & Large Deciduous Trees I

Reading Assignments

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

– Family descriptions for:

- Aceraceae (p. 65), Anacardiaceae (p. 67), Betulaceae (p. 71), Bignoniaceae (p. 71), Boraginaceae (p.72), Ebenaceae (p. 80), Fagaceae (p. 82), Ginkgoaceae (p. 84), Hamamelidaceae (p. 84), Hippocastanaceae (p. 84), Juglandaceae (p. 85), Platanaceae (p. 95), Salicaceae (p. 100), Sapindaceae (p. 101), Taxodiaceae (p. 104)

– Descriptions for individual species

See page listings on Plant List 2 Handout (also available under lists on course website)



Acer rubrum
Red Maple

- Large, 40'-70' (100') tall, deciduous forest / shade tree
 - Larger in Eastern USA, variable hardiness by provenance, USDA z. 3 - 10
- Clonal selections for fall color, yellow, red, orange
- Popular, but have pest / disease / physiological problems
 - Susceptible to salt and physiological leaf scorch, Mn chlorosis on high pH soils, dense shade & surface roots hinder turfgrasses, weak wood, weedy, graft incompatibility



Acer rubrum
var. drummondii
Drummond Red Maple



- Better tolerance to heat and higher pH soils
- Good red flowers and fruit, can be weedy
- Native Texas variety, smaller in our region than species type; USDA zones 7 to 9
- Less cold tolerant than species type, but requires fewer chilling hours for budbreak



Acer saccharum
Sugar Maple

- Medium to large, 60' to 80' (120'), deciduous tree of the Eastern USA forests, including East Texas
- Once the source of maple syrup, important timber tree
- Valued for dark green summer and vibrant fall foliage



Acer saccharum
Sugar Maple



- More widely utilized in cooler climates, USDA z. 3b-7b as shade or park tree
- Prone to problems with compacted soils, root disturbance, and reflected heat
- A sugar maple leaf is the national symbol of Canada



Physiological leaf scorch





Aesculus hippocastanum European Horsechestnut

- Important timber and landscape tree in Europe
- Reaches 60' to 70' in Northeastern and Northwestern U.S., USDA zones 5 to 7(8)
- Valued for late spring creamy white flowers
- Fruit are not edible
- Poor performer in our region, prone to powdery mildew, leaf scorch and leaf spot diseases


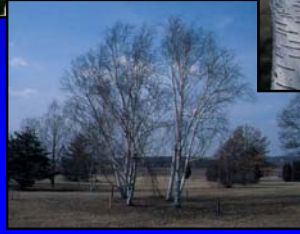









Betula nigra River Birch






- Medium / large, 40' - 60', deciduous tree, z. 4-8 (9)
- Only *Betula spp.* widely adapted to Deep South
- Pyramidal becoming irregular oval, fine textured
- Super exfoliating cinnamon to very light brown bark
- Rapid grower; needs moisture; avoid high pH soils, salty irrigation water, late winter / spring pruning
- Moderately resistant to bronze birch borers

Betula papyrifera Paper Birch





- Has super white bark, but is poorly adapted to the southern USA
- No reliable white-bark birches for the Deep South

Ecologically important in northern climates







Carya illinoensis Pecan

- Texas state tree!
- Large 70' - 80' tall deciduous shade or orchard tree
 - Excessively large for contemporary urban / suburban lots

Carya illinoensis Pecan

- Very messy landscape tree, drops leaves, catkins, fruit, & limbs
- Long-lived, but prone to numerous foliar & fruit diseases / insect problems
- Important commercial nut and timber species
- Contact your local extension agent or certified nursery professional to suggest the best cultivars for your region












Carya ovata Shagbark Hickory

- A large deciduous tree of Eastern North American forests, USDA zones 5 (4b) - 8 (9a)
- Picturesque shaggy bark in recurved strips
- Long straight bole
- Beautiful golden yellow fall color
- Edible meat in hickory nuts
- Very, very slow grower, coarse taproot hinders transplant
- Preserve *in situ* trees, possibly for wildlife and naturalized plantings

Juglans nigra Black Walnut

- Medium to large, 50' to 60' (120') tall, deciduous tree of Eastern North America, including East Texas
- Thick stout trunk and crown when open-grown, long straight bole in competition
- Handsome fissured blocky bark with age
- Produces edible walnuts in fleshy husk

Juglans nigra Black Walnut


- Best on deep rich alluvial soils with alkaline to neutral pH, slower grower in shallower or acidic soils
- Very valuable as veneer wood, walnut rustlers!!!
- Allelopathic (juglone) to some plants, awfully coarse winter texture, premature defoliation due to anthracnose, webworms can be problematic, taprooted





Juglans regia English Walnut

- English Walnuts are the classic walnuts of commerce
- Important European nut, shade, and timber tree
- Grown in USDA zones 7 - 9, Carpathian strain to zone 6
- Grown in commercial orchards on the West Coast where cultivars are grafted on *J. regia*, *J. hindsii*, or *J. regia* x *J. hindsii* seedlings
- Finer textured than *J. nigra*
- Not widely encountered in our region

Castanea dentata American Chestnut

- Chestnut blight (*Cryphonectria parasitica*) = tragic tale of the slaying of the "queen of the eastern forests"
- Prior to blight one of largest trees in the eastern forests, up to 120' tall with 7' diameter trunks, hardy in USDA zones 4 - 9
- Now stump and root sprouts in its former range, once one-third of the forest canopy
- It's loss had huge ecological & economic consequences; intolerant of salt exposure
- Recurrent backcross programs to breed blight resistant trees are in progress





Castanea mollissima Chinese Chestnut

- Introduced medium size, 30' - 40' tall, deciduous shade or orchard tree, USDA zones 5 (4b) - 9a
- More apple tree growth habit





Castanea mollissima Chinese Chestnut

- Showy male catkins in spring
- Self-sterile, need two different genotypes for good fruit set
- Intolerant of high pH soils, soil or foliar salts, or root zone disturbance
- Resistant to chestnut blight, but susceptible to oak wilt
- Messy burs in lawns







Fagus grandifolia American Beech






- An important large, 60' – 70' (120') tall, deciduous climax tree of the eastern North American forests, USDA zones 4 (3) – 9a
- Beautiful smooth light gray bark, dark glossy leaves, nice tan to brown fall colors, edible beech nuts








Fagus grandifolia American Beech


- Chlorosis on high pH soils, intolerant of compaction or poorly drained soils
- Casts a dense shade which hinders turf culture
- Young trees for screening, naturalizing, wildlife, specimen
- Very, very slow grower, you are planting it for your grandchildren to enjoy


Fagus sylvatica European Beech



- European counterpart to *F. grandifolia*, USDA z. 4 - 8
- Large tree, 50' to 60', more in some sites
- Similar landscape attributes as American Beech, but wider array of cultivars are available
 - Fastigiate, weeping, contorted, cutleaf and bronze foliage forms
- Not recommended for widespread use in our region, even less tolerant than *F. grandifolia* to environmental stresses




Catalpa bignonioides Southern Catalpa





- Medium/large tree with irregularly spreading crown, USDA z. 5b - 9
- Pleasantly coarse in summer, harsh habit in winter
- Decided tropical in appearance, large heart-shaped leaves
- Very tough, any soil that is not extremely wet or dry

Catalpa bignonioides Southern Catalpa



- Drought tolerant, but responds by dropping leaves
- Major limitations are *Verticillium* wilt, powdery mildew, & catalpa sphinx
- Plants tend to be messy on manicured lawns
- White 1" - 2" flowers with purple splotches, late spring, pods resemble greenbeans on steroids (but not edible)

Catalpa speciosa Northern Catalpa

- Similar to *Catalpa bignonioides* except;
 - Larger, 50' - 60' tall, with upright oval crown
 - Even coarser textured, but better timber tree
 - Blooms a few weeks earlier than *C. bignonioides*
 - Flowers slightly less effective than *C. bignonioides*
 - More cold hardy, z. 5a (4b) to 9
- Wood of *Catalpa spp.* is hard and durable in contact with soil once cured, but warps badly





***Diospyros virginiana*
Common Persimmon**





- Medium / large tree, pyramidal, later upright oval
- Dark glossy green foliage turning varying combinations of yellow, orange, red, or maroon in autumn
- Female trees with interesting edible orange fruit

***Diospyros virginiana*
Common Persimmon**





- Best on moist acidic soils, but adapts to heavy clays and neutral pH soils, native Texas pioneer on abandoned fields
- Leaf spot, transplant shock, messy fruit, persimmon wilt, and a tendency to sucker can be problems
- Good naturalizing plant, males are possibility as street trees

***Ehretia anacua* Sandpaper Tree**

- A native shrub or tree from South Texas & NE Mexico, USDA zones 8 (7b) to 11
 - Common in Hill Country
- Upright to spreading, 15' to 25' (50') tall
- Semi-evergreen dark glossy scabrous leaves
- Showy star-shaped spring flowers, sporadic fall/winter
- Tough shade tree for South Texas landscapes




***Ehretia anacua*
Sandpaper Tree**





- Handsome yellow-orange to red-orange fruit are quickly taken by birds, can be messy & weedy, ala hackberry
- Drought, heat, wind tolerant, best in alkaline soils
- Avoid poorly drained sites, but trees are cotton root rot resistant

***Ginkgo biloba*
Ginkgo**







- Large deciduous broad-leaved conifer, hardy z. 4-8 (9)
- Tendency to gangliness in youth, later becomes attractive and picturesque as trees mature
 - Unique bi-lobed leaves, turn golden yellow in autumn
 - Trunk becomes gnarled and bark corky with age

***Ginkgo biloba*
Ginkgo**






- Adaptable to most urban sites, but less vigorous in USDA z. 8 & 9 than in cooler climates
- Fruit (nut) on female trees is edible, but coating is malodorous; long juvenility period, so pick male clone
- Supposedly saved from extinction by Buddhist monks



Koelreuteria paniculata
Paniced Goldenraintree

- Medium, 20' - 30', deciduous tree, hardy USDA z. 5 - 8
 - Typically umbrella-shaped canopy, gangly when young
- Multiple seasons of interest
 - Medium coarse summer foliage, yellow - orange fall color
 - Late spring / early summer yellow flowers
 - Lantern-like seed capsules, green / tan, late summer / fall

Koelreuteria paniculata
Paniced Goldenraintree



- Soil adaptable, drought, wind, air pollution tolerant
- More cold hardy, less heat tolerant than *K. bipinnata*
- Needs training in youth, requires 4-5 yr. to flower



Koelreuteria bipinnata
Bougainvillea Goldenraintree

- Similar to *K. paniculata* except;
 - Less cold hardy, z. 9 when young, older plants z. 8
 - More heat tolerant, requires less winter chilling
 - More irregular upright oval growth form, taller
 - Coarser textured foliage, much larger leaves
 - More showy, later summer yellow flowers
 - More attractive tan to pinkish seed capsules
 - Smooth gray bark, less corky
- Best to use *K. bipinnata* in USDA z. 8b and warmer, *K. paniculata* in z. 8a to 5



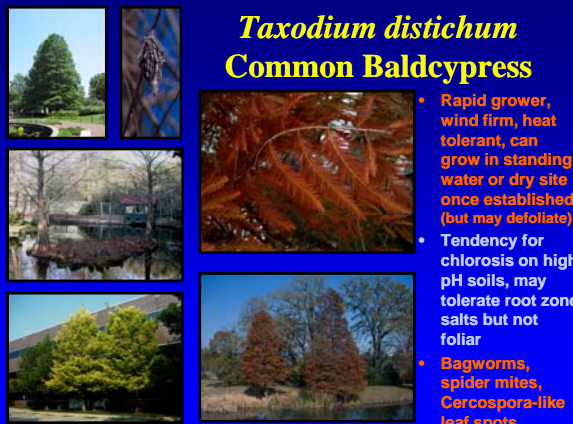
Liquidambar styraciflua
American Sweetgum

- Medium / large deciduous native tree, 40' - 60' (120')
- Dark glossy green leaves turn yellow, orange, red in fall
- Crown upright oval, long clear bole in competition
- Native to a variety of upland and bottomland sites
- Needs some moisture, tolerates various soils if not high in pH
- Variable hardness by provenance, z. 6 (5)-9
 - *L. styraciflua* 'Moraine' is more cold hardy
- Can become weedy; ball-like woody capsules can be very messy
- High pH soils result in chlorosis



Taxodium distichum
var. *distichum*
Common Baldcypress

- Deciduous conifer with soft textured needle-like foliage in layers of horizontal branchlets, good bronze fall color
- "Knees" develop from roots on wet sites; USDA z. 5 (4)-10



Taxodium distichum
Common Baldcypress

- Rapid grower, wind firm, heat tolerant, can grow in standing water or dry site once established (but may defoliate)
- Tendency for chlorosis on high pH soils, may tolerate root zone salts but not foliar
- Bagworms, spider mites, Cercospora-like leaf spots

Taxodium distichum var. *imbricarium*

(syn. *Taxodium ascendens*)

Pond Baldcypress



- Adapted to similar uses and sites as *T. distichum*, but narrower of crown, possessing ascending awl-like needles, and perhaps lesser tendency to develop knees
- Useful USDA z. 5 - 9 (10); tolerates standing water
- Sometimes considered to be a separate species



Taxodium distichum var. *mexicanum*

(syn. *Taxodium mucronatum*)

Montezuma Cypress



- Tardily deciduous to evergreen coniferous tree that is now a variety of *T. distichum*; useful in USDA z. 8b (8a) - 11
- Even more rapid growing than *T. distichum*, but less uniform in growth habit; sometimes more blue-green in foliage color
- Sometimes thought to be a separate species
- Tolerates more alkaline soils than the type

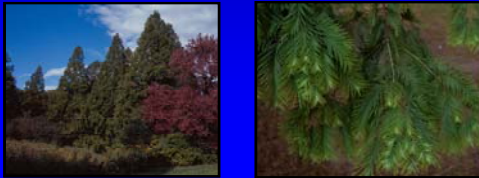


Metasequoia glyptostroboides

Dawn Redwood



- Very handsome large 70' to 80' tall deciduous conifer closely related to *Taxodium spp.*
- Needles a bit larger and opposite compared to *Taxodium spp.*
- Feathery dark green foliage, pyramidal form, fluted trunk and russet fall color are assets



Metasequoia glyptostroboides

Dawn Redwood



- Not tolerant of drought, low relative humidity, salt, nor high pH soil, but is a rapid grower
- Much less urban tolerant than *Taxodium spp.*
- Known only from fossils until late 1940's
- Does not develop knees; peeling bark; USDA z. 5 - 8 (9), best used in NE portion of our region



Pistacia chinensis Chinese Pistachio




- Deciduous medium tree, broad spreading crown
- **Excellent shade, street, specimen or patio tree**
- Disease/pest-free foliage, attractive fruit on female trees, often excellent red/orange/yellow fall color
 - One of most reliable trees for fall color in Texas




Pistacia chinensis Chinese Pistachio





- **Very adaptable; tolerates heavy clay soils, alkaline soil; takes heat, drought, salty irrigation water**
- Slow to establish, sparse in youth, fruit can be messy, can escape cultivation, useful z. 7 (6b) - 9







Platanus occidentalis Sycamore




- Massive deciduous native forest / shade tree, z. 3 - 9
 - Upright oval to broadly rounded crown
 - Massive trunk, large horizontal branches
- Numerous landscape features; coarse maple-like leaves, majestic form, white, tan, brown mottled bark, wide site adaptability, beautiful tree


Platanus occidentalis Sycamore


- Numerous landscape liabilities; too large for most urban / suburban sites or street tree plantings, constant litter, leaves, twigs, fruit, number of insect / disease problems (anthracnose, fastidious xylem inhabiting bacteria)







Platanus × acerifolia London Planetree




- Very similar in landscape use to *Platanus occidentalis* except;
 - Slightly smaller, but still a very large tree
 - Somewhat less cold hardy, to z. 4 - 9
 - Resistant to anthracnose but susceptible to lethal canker stain and sycamore lace bug
 - Bark less attractive than *Platanus occidentalis*, green instead of white under bark







Platanus × acerifolia London Planetree

- Perhaps somewhat more urban tolerant than *Platanus occidentalis*, but ornamentally inferior
- Sometimes pollarded






Populus deltoides Eastern Cottonwood

- Large native deciduous tree along stream/river courses
- Irregular upright oval to vase-shaped crown composed of 3 or 4 main branches, very rapid growth rate
- Coarse in leaf and winter habit, picturesque in native habitat, best left in large naturalized planting sites, 60' - 80' tall common, 100' possible

Populus deltoides Eastern Cottonwood

- Wind flutters leaves
- Extremely cold hardy, z. 2 - 9 (10)
- Numerous problems, many common to most poplars;
 - Messy (leaves, fruit, twigs), weak wood, invasive roots, cankers, root rots, drop leaves in drought, weed problem

Populus tremuloides
Quaking Aspen

- Medium to large upright deciduous trees from high elevations or latitudes
- Hardy in USDA z. 2 (1) - 6 (7); intolerant of heat
- Extremely important ecologically & economically in cold temperate North America
- Also native to a few mountain tops in West Texas, but only suited to high elevation landscapes in our region



Questions / Comments?

All material represented herein are copyrighted by the author, or otherwise as indicated, with all rights reserved.

For permission to reproduce text or images from this presentation write:
Dr. Michael A. Arnold
Dept. of Horticultural Sciences
Texas A&M University
College Station, TX 77843-2133
email ma-arnold@tamu.edu