

Plants for Landscape Design
HORT 608
Fall 2011



Plant List 4
Trees With Significant Landscape Liabilities

There is no perfect tree, but every tree has its place!

Some just have fewer acceptable placements in cultivated landscapes than others.

Acer saccharinum
Silver Maple

- Large deciduous eastern USA shade/forest tree
- Shortish stout trunk with spreading large branches
- Silver-back deeply lobed leaves
- Subject to similar limitations as *A. rubrum*, but a bit less site specific than *A. rubrum*
- Very weak wood, several insect/disease problems
- No fall color; very weedy on favorable sites; dense shade & surface roots hinder turf culture

***Acer rubrum* versus *Acer saccharinum* habit**

A. saccharinum *A. rubrum*

Ailanthus altissima
Tree-Of-Heaven

- Classic trash tree, once extremely popular, sort of tropical looking
- USDA z. 4 - 8 (9)
- Elephant hide bark, bold coarse texture
- Dioecious
 - Flowers are noticeable but not overly showy
 - Male flowers are malodorous

Ailanthus altissima
Tree-Of-Heaven

- Fruit on females can be tan to red
- Extremely widely adapted, actually hard to kill once established
- The tree everyone loves to hate
- Prone to limb breakage

Albizia julibrissin
Mimosa

- Small 20' - 30' deciduous tree, vase-shaped, hardy USDA zones 7 (6b) - 10
- Stratified branching
- Light airy texture, large bipinnately compound leaves with tiny dark green leaflets
- Light to dark pink 2" powder-puff flowers
- Very adaptable, but develops chlorosis on extremely high pH soils
- Very rapid grower, can become weedy

'Summer Chocolate'



Albizia julibrissin
Mimosa

- **Verticillium wilt, mimosa webworm, and cotton root rot can all be limiting factors**
- Tree with tropical flavor, but short-lived



Celtis laevigata
Sugar Hackberry

- Medium/large native deciduous shade tree, 40'- 60+'
- Few favorable landscape traits, but adapted to very adverse sites, hardy in USDA zones 5 - 9
- Weedy species, birds spread seeds widely



Celtis laevigata
Sugar Hackberry

- **Shade tree (difficult sites), naturalizing, shelter belts, wildlife food & habitat**
- **Mistletoe, witch's broom, & nipple gall are persistent problems**



Elaeagnus angustifolia
Russian Olive

- Known as Oleaster in the Old World
- Although most frequently used for erosion control and shelter belts, the silver foliage is attractive
- Extremely cold tolerant; common plant in z. 2 - 6, less well adapted to z. 7 & 8
- Widely planted 15' to 20' tall small tree on in the Central to Northern Plains and Intermountain West
- Takes drought, salts, variable soil pH; although short-lived it can be invasive



Firmiana simplex
Chinese Parasol Tree

- A coarse textured small to medium, 25' to 30' (40'), deciduous tree with rounded to oval crown
- Useful USDA z. 7 - 9
- Large leaves easily damaged by wind
- Bright green trunks stand out
- Showy summer panicles of follicles



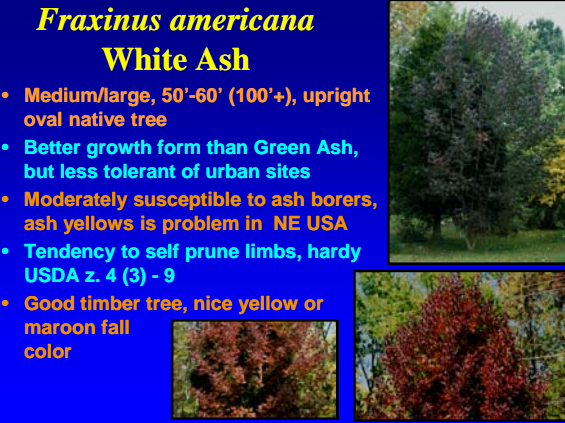
Firmiana simplex
Chinese Parasol Tree

- Tolerates wide range of well drained soils, heat and humidity, drops leaves during droughts
- Novelty, tropical accent, buffer strips, highway plantings, street tree when thin bark will not be damaged; can be invasive



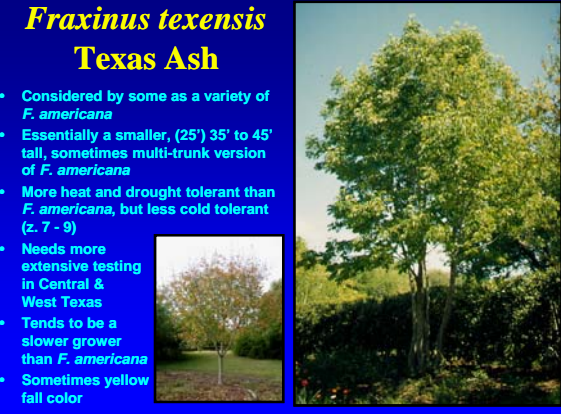
Fraxinus americana
White Ash

- Medium/large, 50'-60' (100'+), upright oval native tree
- Better growth form than Green Ash, but less tolerant of urban sites
- Moderately susceptible to ash borers, ash yellows is problem in NE USA
- Tendency to self prune limbs, hardy USDA z. 4 (3) - 9
- Good timber tree, nice yellow or maroon fall color




Fraxinus texensis
Texas Ash

- Considered by some as a variety of *F. americana*
- Essentially a smaller, (25') 35' to 45' tall, sometimes multi-trunk version of *F. americana*
- More heat and drought tolerant than *F. americana*, but less cold tolerant (z. 7 - 9)
- Needs more extensive testing in Central & West Texas
- Tends to be a slower grower than *F. americana*
- Sometimes yellow fall color



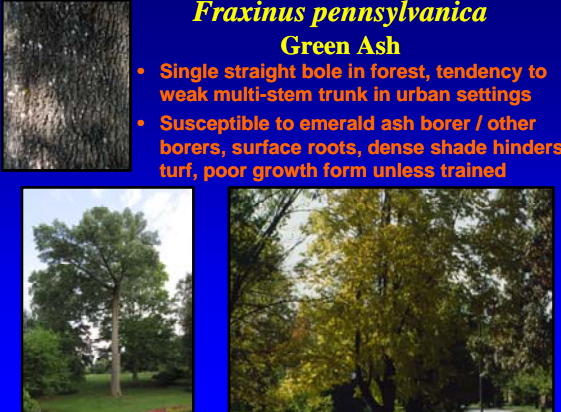
Fraxinus pennsylvanica
Green Ash

- Medium / large, 30' - 60'+, forest, shade, park or street tree
- Very cold hardy, USDA z. 2 - 9, more tolerant of compacted soils than *F. americana*, may develop a good yellow fall color




Fraxinus pennsylvanica
Green Ash

- Single straight bole in forest, tendency to weak multi-stem trunk in urban settings
- Susceptible to emerald ash borer / other borers, surface roots, dense shade hinders turf, poor growth form unless trained



Fraxinus velutina
Arizona Ash

- Rapid growing small / medium, 20'- 40' tall, shade tree
- Round lollipop crown, moderately fine textured
- Short-lived, extremely ash borer susceptible, grows in USDA zones 7 (6b) - 9 (10a)
- Fruit set can be maintenance liability on female trees, also weedy, "trash tree", performs better in South & West Texas



***Fraxinus velutina* Arizona Ash**



- Fairly drought tolerant, more tolerant of high pH soils than most *Fraxinus* spp.
- Rapid growth makes it favorite of developers and nurserymen, if not over the long run for the homeowner



***Gleditsia triacanthos*
Common Honeylocust**



- Species type is medium to large deciduous native tree
- Open filtered shade, but nasty thorns on twigs, branches and main trunk
- Interesting, but messy fruit
- Used only in specialty situations or naturalizing



***Gleditsia triacanthos* var. *inermis*
Thornless Common Honeylocust**



- Similar to *G. triacanthos* but lacking thorns
- All commercially available trees and cultivars are from this variety, southern adapted clones are lacking in the trade
- Fine textured foliage, layered branches, filtered shade, early season yellow fall color

***Gymnocladus dioica*
Kentucky Coffeetree**



- A large, 40' - 60' (90') deciduous coarse textured shade tree for USDA zones 4 - 8
- Trees have huge bipinnately compound leaves, brown to yellow fall color

***Gymnocladus dioica*
Kentucky Coffeetree**

- Flowers not showy, but fruit in pods with large hard seeds, at one time ground to make a coffee substitute
- Tolerant of a wide range of soil pH, soil salts, drought, & cold
- Poor vigor in zone 8



***Maclura pomifera*
Osage Orange**




- A deciduous small to medium size tree, 25' to 30' (50') tall, indigenous to Texas and Oklahoma
- Growth habit reminiscent of Mesquite
- Grape-fruit size syncarp of drupes produced on female trees, hence names Hedge Apple or Horse Apple
 - Biological curiosity in evolution
- Thorny forms used as living fences / barrier plant



Maclura pomifera
Osage Orange

- Once used by native Americans for bow manufacture, hence names Bodark, Bois d'Arc, or Bow Wood
- Initially a rapid grower that slows with age, adapted to a wide range of soil and site conditions in USDA zones 5 - 9
- San Jose scale and cotton root rot can be problems
- Thorns, fruit, and dense canopy cause maintenance issues



Melia azedarach **Chinaberry**



Melia azedarach f. *umbraculiformis*

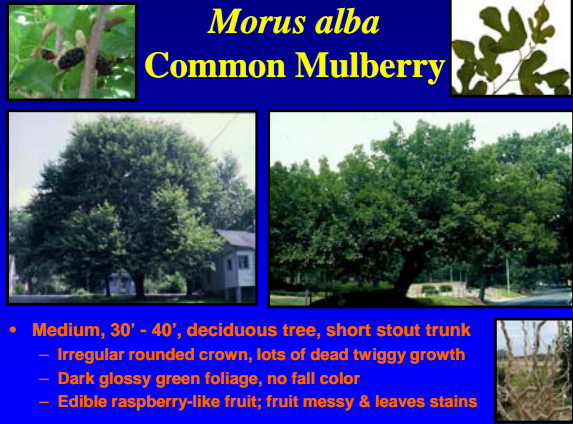
- Medium, 30' - 40', deciduous tree, z. 7 - 10
 - Irregular upright oval to umbrella-shaded crown
 - Pleasantly coarse in leaf, not so in winter character
- Clusters of half inch yellow drupes resembling tiny crabapples, fall/winter, mildly effective but **poisonous** & messy, naturalized southern USA

Melia azedarach
Chinaberry




- Fragrant purple flowers in spring, hidden by foliage
- Good yellow fall color, winter fruit effect can be good
- Will tolerate extreme sites, but weedy and prone to wind, ice and snow load damage
- Similar class of trash tree as *Ailanthus altissima*, *Ulmus pumila*, & *Sapium sebiferum*; use only in dire circumstances

Morus alba
Common Mulberry



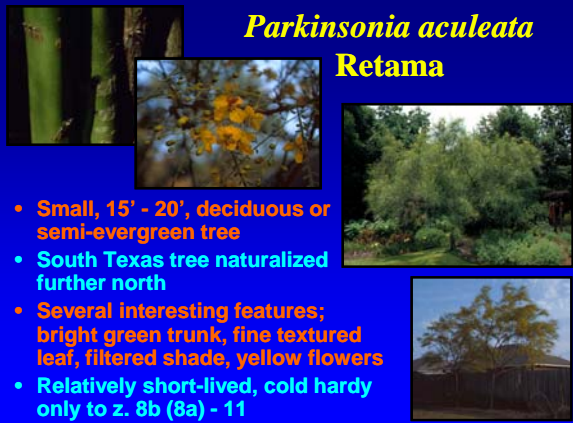
- Medium, 30' - 40', deciduous tree, short stout trunk
 - Irregular rounded crown, lots of dead twiggy growth
 - Dark glossy green foliage, no fall color
 - Edible raspberry-like fruit; fruit messy & leaves stains

Morus alba
Common Mulberry




- Extremely tough adaptable tree, tolerates reflected heat, drought, cold (z. 4), soil salts, heavy clays, various pH soils
 - Tends to be short-lived, cotton root rot, webworms, bacterial blight, other minor pests/diseases
- Use only where better trees will not grow
- Weeping forms are painfully coarse textured in winter

Parkinsonia aculeata
Retama






- Small, 15' - 20', deciduous or semi-evergreen tree
- South Texas tree naturalized further north
- Several interesting features; bright green trunk, fine textured leaf, filtered shade, yellow flowers
- Relatively short-lived, cold hardy only to z. 8b (8a) - 11







***Parkinsonia aculeata*
Retama**

- Thorns maintenance liability, can be weedy
- Very site adaptable, cold & excessively wet soils are limiting, drought, heat, salt & alkaline soils OK








***Paulownia tomentosa*
Royal Paulownia**

- Controversial member of *Scrophulariaceae* or *Bignoniaceae*, but is functionally very similar to *C. bignonioides* in landscapes
- An irregular rounded tree, 30' to 40' tall, in our region, important timber tree in its native land
- Large cordate leaves lend a bold tropical effect
- Light purple foxglove-like flowers in spring
- Can be weak wooded and trashy
- Extensively naturalized in some locales, tolerant of a wide range of soils/sites
- Protect from high winds, flower buds [z. 7 (6) - 9] less cold hardy than vegetative tissues [z. 6 (5) - 9]










***Populus nigra* 'Italica' Lombardy Poplar**

- Extremely narrow columnar medium size tree
- Often used to line drives, USDA z. 3 - 8 (9)
- Very short-lived, highly susceptible to cankers
- Spreads profusely by root suckers
- A better plant in low humidity environments

***Prosopis glandulosa*
Honey Mesquite**

- Irregular spreading deciduous rounded crown
- One of most widely distributed trees in Texas
- Several desirable ornamental features;
 - Ferny fine textured foliage, filtered shade, fruit and can be attractive, adapted to almost any site



***Prosopis glandulosa*
Honey Mesquite**



- Problems:
 - Thorns can rival those of *Gleditsia triacanthos*
 - Takes over pasture land
 - Difficult to transplant
 - Allergenic pollen
 - Looks rough in winter




***Prunus serotina*
Black Cherry**

- Medium to large deciduous tree, dark glossy green foliage, preserved if *in situ*, but seldom planted
- Small nearly inedible cherries, but valued by wildlife; grows z. 4 - 9
- Wilted foliage is toxic to wildlife and stock
- Source of cherry lumber / veneer
- Several native regional varieties in West Texas



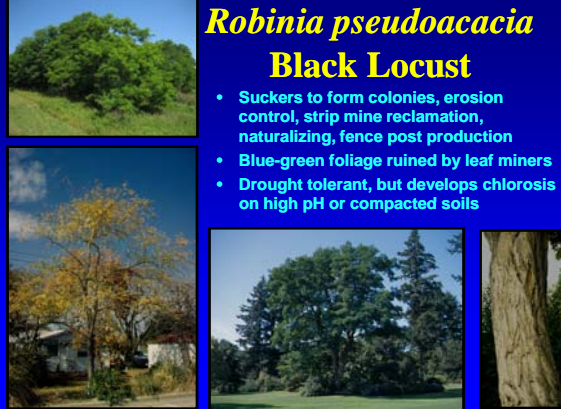






***Robinia pseudoacacia*
Black Locust**

- A 40' - 50' (100') deciduous North American tree suitable for USDA z. 5 (4) - 9, often irregular canopy
- Native NE USA, naturalized elsewhere, including Texas
- Chains of white spring flowers, yellow fall color



***Robinia pseudoacacia*
Black Locust**

- Suckers to form colonies, erosion control, strip mine reclamation, naturalizing, fence post production
- Blue-green foliage ruined by leaf miners
- Drought tolerant, but develops chlorosis on high pH or compacted soils



***Salix alba* 'Tristis'
Weeping Willow**

- Popular deciduous tree used near water features, USDA z. 3 - 8 (9a)
- Adapted to a wide geographic range and wide variety of sites as long as moisture is available
- Valued for fine-textured weeping form, bright yellow twigs, tolerance of wet sites, & cold hardiness
- Short-lived like most *Salix* spp., prone to storm damage and many pests/diseases
- Taxonomically confused with *S. babylonica*, Babylon Weeping Willow, and often sold as such



***Salix nigra*
Black Willow**

- Medium/large deciduous native tree, adapted z. 4-9
- Short stout trunk dividing to a few large upright branches, often leaning, small branches pendulous
- Valued for fine texture and tolerance to wet sites
 - Native to water courses, planted near water features
- Beautiful tree with many liabilities;
 - Short-lived, brittle wood, invasive root system, subject to borers, cankers, & cotton root rot, several other pests / diseases
 - Limit use to naturalizing near water features, stream / bank stabilization



***Sapium sebiferum*
Chinese Tallow Tree**

- Controversial small/medium (25'-35') deciduous tree
 - Major weed problem near gulf coast, extensive displacement of native vegetation in some sites
- Ecological catastrophe or good temporary tree depending on point of view, often short-lived



***Sapium sebiferum*
Chinese Tallow Tree**

- Tree of mixed merit in landscape settings
 - Fast growth, clean summer foliage, yellow, orange, red fall color, interesting flowers, fruit, trunk character
 - Major weed potential, restricted plant in Texas
 - Limited cold hardiness, z. 8 (7b)-10, tendency to break up in wind or under ice/snow load

American Horticultural Society gave it a two page spread in their book Trees That Merit Attention contrasted with Mr. Benny Simpson's advice?

Sophora japonica Japanese Pagodatree

- Small to medium size, 25' to 35' (60') tall, deciduous shade tree from Japan, USDA zones 5 (4) - 8
- Nice uniform rounded to upright oval crown
- White chains of flowers followed by translucent yellowish green legumes; messy fruit

Sophora japonica Japanese Pagodatree

- Slow to flower from seed, use grafted mature clones
- Drought tolerant, soil adaptable
- Shade, park, street, or specimen tree

Tamarix gallica Salt Cedar

- Deciduous, semi-evergreen, to evergreen multi-stem large shrub or small tree
- Soft feathery gray-green to blue-green foliage, soft textured version of *Juniperus* spp.

Tamarix gallica Salt Cedar

- Pepto-Bismol pink flower panicles summer-fall; incongruous with foliage
- Tolerant of salty soils and irrigation water, coastal dunes
- Very invasive in SW USA, displaces native species
- Adapted to USDA z. 6 (5) to 10 (11)
- Biological control vs. garden pest example

Ulmus pumila Siberian Elm

- Medium (30' - 50') tree, irregularly rounded crown, USDA z. 4 (3b) - 9
- Resistant to DED and phloem necrosis, but a lousy landscape tree where there are better species
 - Susceptible to wet wood, elm leaf beetles, and cotton root rot
 - Susceptible to wind damage, breaks up in ice / snow
 - Invasive root system, dense crown inhibits turf culture
 - Weed species, confused with superior *U. parvifolia*
- Reserve for difficult sites where other species will not grow

Questions / Comments?

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