Drought Tolerant Plants for Your Florida-Friendly Garden

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Florida-Friendly Landscaping™ Program
OF ALL THE WATER ON THE EARTH...

2 PERCENT IS POLAR ICE

97 PERCENT IS SALT WATER

LEAVING 1 PERCENT FOR ALL OTHER PURPOSES.

2 + 97 + 1 = 100%
Nine Principles of a "Florida-Friendly" Yard

• Right Plant, Right Place
• Water Efficiently
• Mulch
• Recycle
• Fertilize Appropriately
• Control Pests Responsibly
• Reduce Stormwater Runoff
• Provide Wildlife Habitat
• Protect The Waterfront
The Goal:

Creating and maintaining sustainable, low maintenance and attractive Landscapes
Water Conservation in the Landscape

The Facts:

• Largest outdoor use of H₂O is irrigation (about 50% of total household use)

• One watering day for 2,500 sq. ft. lawn = domestic water needs for 10 people
Water Efficiently

Water is wasted due to:

- Improper calibration
- Turf or plant interference
- Broken sprinkler heads
- Misdirected sprinklers wetting hardscape features
- Clogged nozzles
- Operating micro irrigation systems without timer
Water Conservation Tips - In the Yard

• Adhere to local water restrictions

• Water in early morning- minimizes water loss due to wind drift & evaporation

• Irrigate deeply (3/4”) to encourage drought resistance

• Periodically inspect and repair your irrigation system
Water Conservation Tips

- In the Landscape

• Maintain adequate mulch depth
• Use rain barrels or cisterns to collect rainwater
• Use a rain gauge
• Install a rain sensor or soil moisture sensor to irrigation system’s time clock
• When designing, group plants according to their water needs and water accordingly
Factors Affecting Drought Tolerance (of ALL plants)

- Right Plant, Right Place
- Proper planting and establishment
- Watering practices
- Fertilizer/ fertilization practices
Definition of drought tolerance:

- Drought tolerance is defined as the ability of a plant to live, grow, and reproduce satisfactorily with limited water supply or under periodic conditions of water deficit (Turner, 1979).
- Low, moderate and high drought tolerance …
Plant Establishment Period

• The time it takes for a plant to generate enough roots to stay alive without irrigation.

• In moist climates, by the end of the establishment period a tree/plant has regenerated enough roots to stay alive without supplemental irrigation in a landscape where roots can expand uninhibited by urban structures.

(Ed Gilman)
Establishment Time

…it all depends

• Plant Type / Plant Size
• Location (sun, shade, compacted soil, root competition)
• Time of year (growing season)
• Proper watering
Watering Recommendations

• Water thoroughly after planting.
• Strive to maintain constant moisture in root ball.
• Avoid keeping root ball saturated.
• Establishment period varies:
  – Trees: 6 to 12 months/inch trunk diameter
  – Shrubs & ground covers: few months to a year
  – Grass: 1 month
• After establishment, water as needed
Benefits Of Using Organic Mulches

- Conserves water
- Moderates soil temperature
- Discourages weeds
- Adds organic matter and nutrients to the soil
- Aesthetically “finishes” landscape
- Decreases soil compaction
Right Plant – Right Place
Assess SITE Characteristics

- Type of soil(s)
- Light - sun or shade
- Drainage
- Structure and/or obstacles
- Existing vegetation
The Challenges

Sandy coastal soils

Winds
The Challenges

Rain patterns

• normally 52-55 inches a year, mostly in summer months

• recently:
  - district-wide 2000 (2006) rainfall total of 35.7 inches is the driest year on record

Recommended planting time: Shortly before or during rainy season!
Right Plant – Right Place
Research PLANTS’ Characteristics and Needs

Choose plants that reduce your maintenance:

• Mature Size (width & height)?
• Grows well in sun or shade?
• Prefers wet or dry soils?
• Salt tolerant?
• Susceptible to pests and diseases?
Right Plant Right Plant –
Research PLANTS’ Characteristics and Needs

- Drought tolerance
- Color & texture
- Wildlife value
- Native vs. non-native
- Invasiveness potential
Non-Native Groundcovers
• **Trailing Lantana** *(Lantana montevidensis)*
  - available in flower colors of white, lavender and yellow
  - blooms spring, summer, fall

• **Amaryllis** *(Hippeastrum spp.)*
  - bulb for full and part sun areas
  - early spring blooms in colors of red, white & pink
REMEMBER: Avoid invasive plants!

Lantana - *Lantana camara*

A serious worldwide invader.

- Alters habitats and threatens to eliminate populations of native plants and animals in some areas.
- Can become the dominant understory in open forests.
- Hybridized with the native varieties of Lantana depressa, contaminating the endemic gene pool.
• **English/ Algerian Ivy**
  (*Hedera helix*)
  - part to full shade
  - also known as a vine
  - several varieties of colors and leaf shapes

• **African Iris**
  (*Dietes vegetata*)
  - clump forming
  - iris like white flowers with yellow and lavender accents
• Liriope  (*Liriope muscari*)
  - part or full sun
  - several varieties available:
    giant, variegated, dwarf

• Bromeliads  (*several genera*)
  - full sun & full shade
  - varieties in many colors and patterns
• **Dwarf Oyster plant**  
  (*Rhoeo spathacea*)  
  - use dwarf only!  
  - full sun to full shade  
  - wonderful color contrast

• **Asiatic Jasmine**  
  (*Trachelospermum asiaticum*)  
  - full sun to full shade  
  - eventually forms a dense mat
Native Groundcovers
Native Plants in the Landscape

- Adapted to local soil conditions
- Adapted to local (typical) climate
  - Rainfall
  - Humidity
  - Temperatures & extremes
- Preferred by native wildlife through familiarity
• **Sea purslane**  
  *(Sesuvium portulacastrum)*  
  - full sun  
  - fleshy, succulent plant  
  - salt tolerant  

• **Beach sunflower**  
  *(Helianthus debilis)*  
  - full sun  
  - salt tolerant  
  - yellow, daisy-like flower most of the year  
  - butterfly plant
• **Sunshine Mimosa**  
  *(Mimosa strigillosa)*  
  - also called Sensitive Plant  
  due to fern-like leaves that fold up when touched  
  - can be substituted for turf (aggressive)

• **Trailing Porterweed**  
  *(Stachytarpheta jamaicensis)*  
  - prostrate growing  
  - butterfly plant  
  - flowers open in morning, closed in afternoon
Native Ornamental Grasses
• **Muhly grass** *(Muhlenbergia capillaris)*
  - pinkish violet plumes during December
  - fine textured foliage

• **Sea Oats** *(Uniola paniculata)* - legally protected beach plant
  - provides soil stability in harsh conditions
• **Sand Cordgrass**  
  (*Spartina bakeri*)  
  - produces large, rounded clumps  
  - usually found on freshwater pond edges

• **Fakahatchee grass**  
  (*Tripsacum dactyloides*)  
  - large and dwarf varieties available  
  - produces large clumps of wide leaves
Non- Native Shrubs
• Oleander (*Nerium Oleander*)
  - poisonous parts
  - a variety of sizes and flower colors
  - utilize as a screen, windbreak or specimen plant
  - caterpillars

• Pittosporum
  (*Pittosporum Tobira*)
  - available in a variegated leaf & dwarf form
  - full to part sun
  - salt tolerant
• *Yesterday, Today & Tomorrow*  
  (*Brunfelsia grandiflora*)  
  - H 7’-10’. Spread 5’-8’  
  - sun to partial shade  
  - tri-color flower display  
  - moderate drought tolerance

• *Golden Dewdrop*  
  (*Duranta erecta*)  
  - sun to partial shade  
  - attracts butterflies, bees, birds  
  - full to part sun  
  - fruits poisonous to humans
• Powderpuff  
  *(Calliandra haematocephala)*
  - multiple trunked
  - Evergreen
  - Red or pink flowers
  - Blooms throughout the year

• Indian Hawthorn  
  *(Raphiolepis indica)*
  - mounding form
  - a variety of forms and flower colors
  - blooms late winter & intermittently throughout the warm months
• Firethorn  
  \textit{(Pyracantha coccinea)}  
  - thorns on stems  
  - orange-red berries from fall through spring  
  (wildlife food)  
  - many varieties available

• Podocarpus/Japanese Yew  
  \textit{(Podocarpus macrophyllus)}  
  - upright growing with dark green, thin leaves  
  - full to part sun  
  - slow growing  
  - tolerant of shearing
• **Firecracker Bush**  
  *(Russellia equisetifolia)*  
  - fire red flowers on sprawling branches with fern-like leaves  
  - blooms during warm months  
  - full sun  

• **Plumbago/ Leadwort**  
  *(Plumbago capensis)*  
  - full to part sun  
  - sky blue flowers most of the year  
  - sprawling form
• Jatropha (*Jatropha integerrima*)
  - poisonous fruit
  - red flowers throughout the year
  - full to part sun
  - a small tree

• Junipers (*Juniperus spp.*)
  - watch for spider mites!
  - many varieties available
  - full sun
• American Beautyberry 
  (*Callicarpa americana*)
  - deciduous plant
  - magenta berries in clusters around the stems starting in the fall

• Black Haw/ Walter Viburnum
  (*Viburnum obovatum*)
  - semi-deciduous upright form
  - blackish berries in summer good for wildlife
  - sends out suckers to produce a thicket
- Simpson Stopper (*Myrcianthes fragrans*)
  - large shrub or small tree
  - flower attracts butterflies
  - fruit attract birds
  - drought tolerant after establishment
  - attracts butterflies & birds

- Sea Grape (*Coccoloba Uvifera*)
  - without pruning develops into a medium size tree
  - great for a unique tropical look
  - edible fruit
  - can be messy
• Firebush
  (*Hamelia patens*)
  - butterfly and hummingbird plant
  - tubular red-orange flowers most of year
  - full to part sun

• Prickly Pear Cactus
  (*Opuntia humifusa*)
  - unique form
  - spine covered fleshy leaves
• Coontie 
  *(Zamia floridana)*
  - full sun to shade
  - stiff, fern like leaves
  - interesting brown cones

• Necklace pod
  *(Sophora tomentosa)*
  - interesting form
  - full sun
  - blooms most of the year
  - fuzzy, brown unique pods
  - seeds are poisonous
• Coralbean  
  (*Erythina herbacea*)  
  - poisonous seed  
  - deciduous plant  
  - full to part sun  
  - open habit  

• Yaupon Holly  
  (*Ilex vomitoria*)  
  - great wildlife plant  
  - dwarf and upright forms  
  - full sun to full shade
Non- Native Annuals & Perennials
• Geraniums
  (*Pelargonium x hortorum*)
  - prefers soil with organic matter
  - needs some maintenance
  - a variety of flower colors and plant forms

• Shrimp plant
  (*Justicia Brandegeana*)
  - upright form
  - interesting flower form
  - full to part sun
• Dusty Miller (*Senecio Cineraria*)
  - best in full sun
  - interesting foliage
  - produces great combination with other bedding plants
  - remove flowers to prolong life

• African Daisy Bush (*Gamolepis chrysanthmoides*)
  - upright plant form
  - full sun
  - daisy like flowers
• Gazania daisy (Gazania rigens)  
  - full sun  
  - interesting flower patterns  
  - summer annual

• Portulaca/ rose moss (Portulaca grandiflora)  
  - full sun  
  - flowers open only during mid-day  
  - summer annual
• Periwinkle/Vinca (*Catharanthus rosea*)
  - full sun
  - many flower colors and plant forms available

• Day lilies (*Hemerocallis fulva*)
  - bulbous perennial
  - flower colors in yellow, orange, pink, & red
Native
Annuals/Perennials
• Butterfly weed
  \textit{(Asclepias tuberosa)}
  - great butterfly plant
  - bright orange flowers
  - full to part sun
  - many native species available

• Goldenrods
  \textit{(Solidago spp.)}
  - doesn’t cause allergies
    (ragweed does)
  - full sun
  - upright form to six feet
  - great in wildflower garden
• Tropical Sage 
  \textit{(Salvia coccinea)}
  - great for butterflies & hummingbirds
  - reseeds itself
  - full sun to light shade

• Wild Petunia 
  \textit{(Ruellia caroliniensis)}
  - full to part sun
  - grows to 2 feet
• Blazing Star
  (*Liatris gracilis*)
  - upright 3 foot stems
  - full sun
  - interesting flower habit
  - butterfly plant

• Blanketflower/ Indian blanket (*Gaillardia pulchella*)
  - annual plant that reseeds itself
  - full sun
  - salt tolerant
Non-Native Ornamental Trees
• Bottlebrush (*Callistemon viminalis* & *C. rigidus*)
  - weeping and upright forms
  - red flowers most of the year
  - full sun

• Crape Myrtle (*Lagerstroemia indica*)
  - summer flowering
  - many flower colors and plant types, including a dwarf
• Jerusalem Thorn *(Parkinsonia aculeata)*
  - lacy leafed member of the pea family
  - small tree with thorns on stems & open canopy

• Frangipani *(Plumeria spp.)*
  - interesting small tree
  - yellow, pink and reddish flowers used in Hawaiian leis
• Glossy privet
  \textit{(Ligustrum lucidum)}
  - multi-trunked
  - small to medium size
  - wider, paler green leaf
    than \textit{L. japonicum}
  - white flowers in clusters
    at end of stems

• Japanese blueberry
  \textit{(Elaeocarpus decipiens)}
  - Slow growing 15-20’
  - full to partial sun
Native Shade & Ornamental Trees

Remember - Right Plant/Right Place
• Elms (*Ulmus spp.*)
• Oaks (*Quercus spp.*)
• Pines (*Pinus spp.*)
  - all medium to tall growers
  - full sun

• Hollies (*Ilex vomitoria* & *Ilex opaca*)
  - full sun to shade
  - American Holly is salt tolerant
  - need both male & female plants for berries
• **Bald Cypress**  
  (*Taxodium distichum*)  
  - Yes, this is drought tolerant!  
  - excellent tree for urban settings

• **Red Cedar**  
  (*Juniperus silicicola*)  
  - creates tall, full screening/ windbreak plant  
  - salt tolerant  
  - great plant for wildlife
- Wax Myrtle (*Myrica cerifera*)
  - small size evergreen
  - multi-trunked
  - salt tolerant
  - full to part sun

- Sycamore (*Platanus occidentalis*)
  - large leafed deciduous tree
  - interesting peeling bark
  - pyramidal shape
Non- Native Edibles
• Mango *(Mangifera indica)*
  - produces large tree
  - full sun
  - hypo-allergic people sensitive to pollen, sap, fruit
- **Rosemary** *(Rosmarianus officinalis)*
  - salt tolerant
  - fine-textured upright plant with blue-gray leaves

- **Pineapple** *(Ananas comosus)*
  - full to part sun
  - is a bromeliads
Native Edibles
• **Persimmon**  
  (*Diospyros virginiana*)  
  - native plant with an open form  
  - yellow-orange leaves in fall  
  - edible fruit

• **Muscadine grape**  
  (*Vitis rotundifolia*)  
  - native plant  
  - can be aggressive  
  - fruit used for juice & jam  
  - wildlife plant
Non-Native Vines
• Bougainvillea  
  (*Bougainvillea spectabilis*)  
  - variety of flower colors from white to pink to orange - thorns!  
  - can be aggressive

• Confederate jasmine  
  (*Trachelospermum jasminoides*)  
  - spring/summer scented flowers  
  - full to part sun  
  - can be used as a ground cover
Allamanda (Allamanda cathartica)
- tropical vine
- flowers through summer
- poisonous if eaten
Native Vines
Carolina yellow jessamine (*Gelsemium sempervirens*)
- sweet scented flowers in winter
- attractive to hummingbirds
- full to part sun
- poisonous if eaten

Coral honeysuckle (*Lonicera sempervirens*)
- full to part sun
- flowers throughout the year
- butterfly & hummingbird attractor
• **Passionflower/ Maypop**
  *Passiflora incarnata*
  - interesting flower most of the year
  - can be aggressive
  - larval host for butterflies

• **Railroad Vine**
  *Ipomoea pes-caprae*
  - more of a ground cover
  - full sun
  - salt tolerant
  - great for erosion control
Non-Native Palms and Cycads
• European fan *(Chamerops humilis)*
  - full to part sun
  - clump forming small palm - slow growing

• Pindo *(Butia capitata)*
  - medium size solitary trunk
  - recurving blue-gray fronds
  - salt tolerant
• Windmill palm
  
  *(Trachycarpus Fortunei)*
  
  - full to part sun
  - solitary trunk
  - salt tolerant
  - slow growing
• Cardboard Plant (Zamia furfuracea)
  - slow growing
  - full to part sun
  - interesting form
Native Palms
• Cabbage Palm/ Sabal (*Sabal palmetto*)
  - salt tolerant
  - solitary trunk

• Needle Palm (*Rhapidophyllum hystrix*)
  - part sun to shade only
  - fan like leaves dark green above and silvery underneath
  - needles on trunk
• **Paurotis/ Everglades** *(Acoelorrhaaphe wrightii)*
  - clusters of slender trunks of various heights
  - full to part sun
  - grows to 20 feet

• **Saw palmetto** *(Serenoa repens)*
  - sprawling clump palm - wildlife plant
  - salt tolerant
  - blue-gray leafed variety available
Thank You!

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