COLOR IN THE SUSTAINABLE LANDSCAPE

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SCNLA Annual Conference
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COLOR THEORY & SUSTAINABILITY

- Color Theory
  - Color wheel
  - Color harmony
  - Color context
- Sustainability
  - Definition
  - Sustainable Sites Initiative
- Plants offering ecosystem benefits and strong color

Title page image: http://2.bp.blogspot.com/_2DfKUYo5p4/S8s_NV1PhII/AAAAAAAABdc/OTB-dVPiKjI/s1600/96dpi.jpg
COLOR THEORY : ITTEN

Johannes Itten (1888-1967)
“One of the greatest teachers of the art of color”
-Faber Birren, (Itten, 1970, p. 6)

1888- Born in Switzerland
1913- Studied in Stuttgart
Fascinated by color—he saw relationships between music and color and gave early attention to abstract color expression in geometrical paintings.
1916-1919- Opened his own school in Vienna
1919- joined the Brauhaus (arts and architecture designers) founded by Walter Gropius

COLOR THEORY

Available from Amazon.com used for $250 or Kindle for $40

https://www.google.com/search?q=Itten&hl=en&client=firefox-a&bbo=d&bds=org.mozilla:en-US:official&channel=f!fb&source=lnms&tbm=isch&sa=X&ei=ZHUFUZzCBZD8ATDo4CYAQ&ved=0CAcQ_AUoAA&biw=1440&bih=797#imgrc=x8brZb3L1_BHmM%3A%3B-1155AZNIFyrlM%3Bhttp%253A%252F%252F%252Faqua-velvet.com%252Fblog%252Fimages%252F%252F2012%252F12%252F04_itten2.jpg%3Bhttp%253A%252F%252F%252Faqua-velvet.com%252F2012%252F12%252Fitten-the-elements-of-color-1970%252F%253B567%3B567
COLOR THEORY

Student - “In the realm of aesthetics, are there general rules and laws of color for the artist, or is the aesthetic appreciation of colors governed solely by subjective opinion?”

Itten - “If you, unknowingly, are able to create masterpieces in color, then un-knowledge is your way. But if you are unable to create masterpieces in color out of your un-knowledge, then you ought to look for knowledge.”

- “Doctrines and theories are best for weaker moments. In moments of strength, problems are solved intuitively, as if of themselves.”
- Close study of the great master colorists has firmly convinced me that all of them possessed a science of color.” (Itten, 1970, p. 7).

COLOR WHEEL

Used in art

http://www.colormatters.com/color-and-design/basic-color-theory
COLOR WHEEL

<table>
<thead>
<tr>
<th>Primary colors</th>
<th>Secondary</th>
<th>Tertiary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red, blue, yellow</td>
<td>Green, orange, purple</td>
<td>Yellow-orange, red-orange</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Red-purple, blue-purple</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Blue-green, yellow-green</td>
</tr>
</tbody>
</table>
A little red with a great deal of green makes the red highly active
(Itten, 1970, p. 60-61)


Photo: http://1.bp.blogspot.com/_9hdptnTIDQQ/TUXuk5oe6FI/AAAAAAAAAzU/AwBVMnIGefw/s1600/itten3.jpg
COLOR HARMONY

• Pleasing to the eye.
• Creates an inner sense of order and balance in the visual experience.
• When not in harmony the experience is boring or chaotic.

http://www.colormatters.com/color-and-design/basic-color-theory

Felicity Henderson design

Photo by Ellen Vincent
COLOR HARMONY

• When not in harmony the experience is chaotic or boring.
COLOR HARMONY

• Color harmony delivers visual interest and a sense of order

http://www.colormatters.com/color-and-design/basic-color-theory

Photo by Ellen Vincent
COLOR HARMONY

Formula 1: Analogous colors

- Analogous colors are any three colors which are side by side on a 12 part color wheel, such as yellow, yellow-green, and green. Usually one of the three colors predominates.

http://www.colormatters.com/color-and-design/basic-color-theory
COLOR HARMONY

Formula 2: Complementary colors

Complementary colors are any two colors which are directly opposite each other, such as red and green and red-purple and yellow-green. In the illustration above, there are several variations of yellow-green in the leaves and several variations of red-purple in the orchid. These opposing colors create maximum contrast and maximum stability.

http://www.colormatters.com/color-and-design/basic-color-theory
COLOR HARMONY

Formula 3: Nature

- Nature provides a perfect departure point for color harmony. In the illustration above, red, yellow, and green create a harmonious design, regardless of whether this combination fits into a technical formula for color harmony.

http://www.colormatters.com/color-and-design/basic-color-theory
COLOR CONTEXT

Is there a red square that appears larger than the others?

http://www.colormatters.com/color-and-design/basic-color-theory
COLOR CONTEXT

How many different colors do you see?

http://www.colormatters.com/color-and-design/basic-color-theory
COLOR CONTEXT

http://www.colormatters.com/color-and-design/basic-color-theory
Global Meanings of Red

- Red is one of the top two favorite colors of all people.
- Red is the most popular color used on flags in the world. Approximately 77% of all flags include red.
- Red is the international color for stop.

The history of languages reveals that red is the first color after black and white. (All languages have words for black and white. If a third hue exists, it is red.)
Global Meanings of Yellow

- In almost every culture yellow represents sunshine, happiness, and warmth.
- Yellow is the color most often associated with the deity in many religions (Hinduism and Ancient Egypt)
- Yellow is the color of traffic lights and signs indicating caution all over the world.

http://www.colormatters.com/yellow
BLUE

- Blue has more complex and contradictory meanings than any other color. These can be easily explained by pinpointing by the specific shade of blue.
- Blue is the #1 favorite color of all people.
- 53% of the flags in the world contain blue.
- Blue is the most commonly used color in corporate identity.
- A dark blue suit is professional business attire.
- Blue jeans are worn all over the world.
- Aristocracy is blue-blooded in all European languages.

http://www.colormatters.com/blue
Global Meanings of Green

• Green is universally associated with nature.
• Green symbolizes ecology and the environment.
• Traffic lights are green all over the world.

Designing with Green

• There are more shades of green than that of any other color. Greens range from yellow-greens, such as lime and avocado greens, to those with a blue tinge (such as emerald). Aqua or turquoise are colors that are typically half green and half blue.

• Green is no longer just a color. It's now the symbol of ecology and a verb.

http://www.colormatters.com/green
COLOR SCHEMES IN THE LANDSCAPE:

Photos by Ellen Vincent

Charleston, SC

Regents Park, London
COLOR SCHEMES IN THE LANDSCAPE:

Regents Park, London

Falls Park, Greenville, SC

Regents Park, London

Photos by Ellen Vincent
COLOR SCHEMES IN THE LANDSCAPE:

Falls Park, Greenville, SC

Photos by Ellen Vincent

Rock Quarry Park, Greenville, SC
SUSTAINABLE LANDSCAPES

Sustainable development, according to the Brundtland Report, meets the needs of the present without compromising the ability of future generations to meet their own needs (1987, p. 8).

Photo: images.google.com kidsdreamgym.com

THE BRUNDTLAND COMMISSION

Gro Harlan
Brundtland

Book available from Amazon.com $.01-16.00

http://iftblogs.blogspot.com/
ISSUE TRIAD-1987

Healthy Environment

Sustainable Development

Social Justice

Economic Development
SUSTAINABLE SITES INITIATIVE™ PARTNERSHIP

Purpose: To create voluntary national guidelines and performance benchmarks for sustainable land design, construction and maintenance practices.

American Society of Landscape Architects

Lady Bird Johnson Wildflower Center at The University of Texas at Austin

United States Botanic Garden

http://www.sustainablesites.org/
SUSTAINABLE SITES INITIATIVE™ (SSI)

- Voluntary certification program for commercial businesses
- Developmental stage
- Will become the landscape component of the U.S. Green Building Industry’s LEED® (Leadership in Energy and Environmental Design) certification program.

http://www.sustainablesites.org

Photo: Ellen Vincent
GUIDING PRINCIPLES OF A SUSTAINABLE SITE

• Do no harm
• Precautionary Principle
• Design with nature and culture
• Use a decision making hierarchy of preservation, conservation, and regeneration
• Provide regenerative systems as intergenerational equity
• Support a living process
• Use a systems thinking approach
• Use a collaborative and ethical approach
• Maintain integrity in leadership and research
• Foster environmental stewardship

(Sustainable Sites Initiative, 2009, p. 9.)

ECOSYSTEM SERVICES/BENEFITS -2009

(Sustainable Sites Initiative, 2009, p. 6.)

- Global and local climate regulation
- Air and water cleansing
- Erosion and sediment control
- Pollination
- Habitat functions
- Waste decomposition and treatment
- Human health and well being benefits
- Produce food and renewable non food products
- Cultural benefits
- Produce food and renewable non food products

SSI: FOCUS AREAS

- Hydrology
- Soils
- Vegetation
- Materials
- Human health & well-being
SSI FOCUS AREA : VEGETATION

Protect and use existing vegetation

Use vegetation that promotes a regional identity and a sense of place

Use vegetation to lower energy consumption

Manage landscapes effectively to reduce potential damage
SSI: PILOT PROJECTS

• 150 pilot projects (June 2010-June 2012).
• Projects include residential, open space, educational/institutional, and commercial.
• Feedback from the pilot programs are being used to create *The Reference Guide*, due for release in 2013.

**Certification levels (250 total points)**

One Star (minimum points 40%): 100
Two Stars (minimum points 50%): 125
Three Stars (minimum points 60%): 150
Four Stars (minimum points 80%): 200
SSI : PILOT PROJECTS

- Charlotte Brody Discovery Garden at Sarah P. Duke Gardens
- **Location:**
  Duke University, Durham, North Carolina
- **Size & Type of Project:**
  0.96 acres, Open Space - Garden / Arboretum
- **Certification Level:**
  Two Stars
- **Site Context:**
  Urban
- **Former Land Use:**
  Greyfield
- **Terrestrial Biome:**
  Temperate Broadleaf and Mixed Forests
- **Budget:**
  $950,000

• **Sand River Headwaters Green Infrastructure Project**  
  Aiken, South Carolina  
  **Project Type:** Transportation corridors/Streetscape  
  **Project Team:** Center for Watershed Excellence (Clemson University), Clemson University  
  **Description:** Watershed restoration by reducing severe erosion caused by stormwater runoff is the focus of this greyfield streetscape project.

• Downtown medians become rain gardens and bioswales to treat stormwater.

• Downtown streets and parking lots reconstructed with pervious concrete and asphalt.

[http://www.horsleywitten.com/smartgrowth/LID/regional_planning/LID/new_photos/PorAsph-colored-xsec5-wlogo.JPG](http://www.horsleywitten.com/smartgrowth/LID/regional_planning/LID/new_photos/PorAsph-colored-xsec5-wlogo.JPG)
COLOR IN THE LANDSCAPE: PERENNIALS

*Achillea millifolium*  
Yarrow

- Native to US, and SC
- Zones: 4-8
- White compact clusters at end of stem late April through July (south)
- 12-36” h x 15-24” w
- Gray-green fernlike fragrant foliage
- Full sun to part shade
- Soil loamy, sandy, well-drained, drought tolerant
- Border, landscape
- Provides value to native bees; conservation benefit - soil stabilizer on banks

http://www.wildflower.org/plants/result.php?id_plant=ACMI2/
COLOR IN THE LANDSCAPE: PERENNIALS

_Achillea Red Velvet_

- Zones: 4-8
- Deep red 6” clusters with a creamy eye --early summer to early autumn, color doesn’t fade
- 18” h x 15-18” w (may spread 3’ wide in fertile soil)
- Compact green foliage, upright habit
- Full sun
- Soil loamy, sandy, well-drained, drought tolerant
- Border, landscape, container, cut flower, dried flower
- Deadhead for fast repeat blooms
- Reputed deer resistant, drought tolerant, disease resistant, heat tolerant
- Provides nectar for butterflies

COLOR IN THE LANDSCAPE: PERENNIALS

*Achillea ‘Saucy Seduction’ PP#20,782*, bred in Holland and introduced by the British nursery Blooms of Bressingham, part of the Seduction™ series

- Zones: 4-9
- Dark pink-rose fragrant blooms
- Blooms early summer to early fall
- 18-24" h x 24-28" w
- Foliage color gray-med green
- Compact habit, needs deadheading for rapid rebloom
- Full sun
- Soil tolerant, well-drained
- Containers, border, cut flower
- Attracts butterflies, hummingbirds

COLOR IN THE LANDSCAPE: PERENNIALS

*Achillea Sunny Seduction™, PP#20,808* bred in Holland and introduced by the British nursery Blooms of Bressingham, part of the Seduction™ series

- Zones: 4-8
- Buttery yellow flat topped” clusters with a creamy eye – early summer to early autumn
- 24-30” h x 24-28” w
- Compact gray green foliage, upright habit
- Full sun
- Soil loamy, sandy, well-drained, drought tolerant
- Border, landscape, container, cut flower, dried flower
- Deadhead for fast repeat blooms
- Reputed deer resistant, drought tolerant, disease resistant, heat tolerant
- Provides nectar for butterflies

Amsonia tabernaemontana  Eastern bluestar

- Native to US, and SC
- Blue-purple blooms, cut back after flowering
- Blooms in spring March-May,
- Attractive tan seed heads in late summer into fall
- 12-36” h x 24-28” w
- Multi-stemmed clumps, narrow oval leaves
- Foliage turns yellow in autumn
- Part shade
- Wet sandy sites in thin woods and on plains
- Border, rain garden
- Flowers are a source of nectar, foliage is a food source for various butterflies, attracts pollinators, milky sap deters predation by deer and other mammals

Culture and photo: http://www.wildflower.org/plants/result.php?id_plant=AMTA2//
Ecosystem benefits: http://www.bbg.org/gardening/article/eastern_bluestar
COLOR IN THE LANDSCAPE: PERENNIALS

*Amsonia* x Blue Ice

- Zones 4-9
- Dark blue blooms, cut back after flowering
- Blooms in mid spring to early summer
- 15” h, 24” w
- Compact habit, narrow oval leaves turn yellow in fall
- Full sun, part shade
- Moist well drained soils -- tolerates sand & clay soils
- Reputed disease resistant, pest resistant, heat tolerant drought tolerant,
- Border, rain garden

http://www.waysidegardens.com/amsonia-x-blue-ice/p/31538/
COLOR IN THE LANDSCAPE: PERENNIALS

*Amsonia hubrichtii*  Arkansas blue star amsonia

- Zones 5-9, native to south-central US (AR, OK)
- Light blue blooms, cut back after flowering
- Blooms in late spring to early summer
- 2-3’ h x w
- Mounded habit, finely cut feathery leaves
- Fall foliage is “blazing golden yellow”
- Full sun, part shade
- Loam soils, moist, well drained
- Reputed deer resistant, disease resistant, pest resistant, heat tolerant drought tolerant, humidity tolerant
- Border, rain garden, hedge
- Beneficial to butterflies
- 2011 Award winner Perennial of the Year (Perennial Plant Association)

http://www.waysidegardens.com/amsonia-hubrichtii/p/v1076/
Native range: http://www.bbg.org/gardening/article/eastern_bluestar
COLOR IN THE LANDSCAPE: PERENNIALS

Aquilegia canadensis  Eastern red columbine

- Zones: 3-9, native US, and SC
- Red, pink and yellow showy drooping bell like flowers
  2” with backward pointing spurs from early
  spring to summer (Feb-July), self seeds
- 20-30” h x 12-24” w
- Green to blue-green colored foliage
- Part shade
- Soil loamy, sandy, well-drained, alkaline (not acid) pH
- Border, landscape, container, shade
- Drought tolerant, heat tolerant, cold tolerant
- Spurs provide nectar and attract long tongued insects and hummingbirds, Seeds consumed by finches and buntings. Larval and nectar source for butterfly Columbine duskywing Erynnis lucilius

http://www.wildflower.org/plants/result.php?id_plant=AQCA
COLOR IN THE LANDSCAPE: PERENNIALS

Aquilegia x ‘Cardinal’ Member of Songbird Series bred by Charlie Weddle (Colorado plantsman) and Dr. Ellen Leue

- Zones: 3-9, some native heritage
- Red and white bloom late spring/early summer with upturned bloom
- 18-24” h, 12-24” w
- Gray colored foliage
- Part shade
- Soil loamy, sandy, well-drained
- Border, woodland, meadow, shade
- Provides nectar for butterflies, hummingbirds
- Award of Garden Merit from the Royal Horticulture Society

http://www.waysidegardens.com/aquilegia-x-cardinal/p/49293//
COLOR IN THE LANDSCAPE: PERENNIALS

Asclepius tuberosa  Butterfly weed

- Zones: 3-9, native to US, and SC
- Bloom mid-late summer
- 18-24” h x 36” w
- Full sun, light shade
- Soil well-drained sandy
- Container, border, landscape
- Drought tolerant, deer resistant
- Provides nectar for butterflies, hummingbirds, larval host for Grey Hairstreak, Monarch, Queens butterflies, benefits native bees, bumble bees, honey bees
- Aphids feed on foliage and provide food for ladybugs. Control using soapy water or strong blast of water.

http://www.wildflower.org/plants/result.php?id_plant=ASTU/
COLOR IN THE LANDSCAPE: PERENNIALS

*Baptisia australis*  Blue wild indigo

- Zones: 4-9, native to US, (NC & GA)
- Blue purple blooms ,late spring-mid summer
- 2-4’ h x 3’ w
- Foliage turns silver in fall
- Full sun
- Soil acidic but tolerates lime, moist,
  well-drained, clay, requires specific
  beneficial soil microorganisms
- Border
- Ornamental seed pods in fall
- Benefits native bees
- Toxic to humans, used as dye plant

http://www.wildflower.org/plants/result.php?id_plant=BAAU/
COLOR IN THE LANDSCAPE: PERENNIALS


- Zones: 4-9
- Indigo-blue blooms
- Blooms late spring-early summer
- 3’ h, 2.5-3’ w
- Upright (more compact) habit
- Full sun/part shade
- Soil normal, loamy, well-drained
- Border
- Ornamental seed pods in fall

http://www.waysidegardens.com/baptisia-blueberry-sundae-ppaf/p/49298//
COLOR IN THE LANDSCAPE: PERENNIALS


- Zones: 4-9
- Yellow blooms on charcoal black stems
- Blooms late spring-early summer
- 3’ h, 2.5-3’ w
- Upright habit
- Full sun/part shade
- Soil tolerant, well-drained
- Containers, border
- Reputed disease resistant, drought tolerant, heat tolerant, humidity tolerant, pest resistant

http://www.waysidegardens.com/baptisia-lemon-meringue-ppaf/p/49299/
COLOR IN THE LANDSCAPE: PERENNIALS

*Delosperma* Fire Spinner™ Ice plant

- Zones: 5-10, Native to South Africa
- Magenta, orange, white, multi-colored
- Blooms late spring-mid summer
- 1-2” h x 18-24” w
- Groundcover with bright green succulent leaves
- Full sun/part shade
- Soil tolerant, well-drained
- Containers, border, hot dry edges (near sidewalk)
- Attracts butterflies
- Reputed deer resistant, drought tolerant, heat tolerant, humidity tolerant

http://www.waysidegardens.com/delosperma-fire-spinnertrade-p001s/p/49650/

Photo altered by Ellen Vincent 1/27/2013
**COLOR IN THE LANDSCAPE: PERENNIALS**

**Echinacea purpurea**  Purple coneflower

- Native to US, SC, zones 3-9
- Sun, part-shade
- 2-3’ h x 18-24” w
- Rosy-purple flowers rebloom in midsummer to autumn
- Soil well-drained, sandy to fertile
- Nectar source for butterflies and hummingbirds
- Beneficial to native bees (nectar source)
- Not deer resistant

http://www.wildflower.org/plants/result.php?id_plant=ECPU

Photos by Ellen Vincent
COLOR IN THE LANDSCAPE: PERENNIALS

*Echinacea purpurea* ‘PowWow Wild Berry’

- Zones: 4-9
- Purple, dark rose, magenta blooms
- Blooms early summer to mid fall
- 20-24” h, 12-16” w
- Foliage dark green
- Compact habit, no deadheading needed
- Full sun
- Soil tolerant, well drained
- Containers, border, cut flower
- Attracts butterflies, birds
- Reputed drought tolerant, heat tolerant, humidity tolerant, pest resistant, disease resistant

http://www.waysidegardens.com/echinacea-purpurea-powwow-wild-berry/p/31548/
COLOR IN THE LANDSCAPE: PERENNIALS

_Echinacea ‘Solar Flare’ PPAF_ bred by Richard Saul of Georgia

- Zones: 4-8
- Electric red, brown center
- Blooms early summer to mid fall
- 24-36” h, 18-24” w
- Foliage olive green
- Compact habit
- Full sun
- Soil loamy, well drained
- Containers, border, cut flower
- Attracts butterflies, birds
- Reputed deer resistance, disease resistant, drought tolerant, heat tolerant, humidity tolerant, pest resistant

Echinacea ‘Hot Papaya’ PP 21,022 bred by Arie Blom bred from multiple species, exhibits _E. purpurea_ traits

- Zones: 4-9, Double fiery orange with flecks of deep pink, golds and yellows for a “skirted pompom” look
- 3” fade resistant blooms mid summer to mid fall
- 24-36” h, 24-30” w
- Medium green
- Compact habit
- Full sun
- Soil loamy dry, moist, well drained
- Containers, border, cut flower
- Seeds (if not deadheaded) feed birds
- Reputed disease resistant, drought tolerant, heat tolerant, humidity tolerant, pest resistant

COLOR IN THE LANDSCAPE: PERENNIALS

Monarda didyma ‘Pardon My Pink’ PPAF, introduced by Walters Gardens

- **Bee balm**
  - Zones: 4-9
  - Bright pink 2.5-3” cluster
  - Blooms mid summer to mid fall
  - 10-12” h, 18-24” w
  - Foliage dark green
  - Ultra compact habit
  - Part shade to shade
  - Clay to sandy soils, loamy, well drained
  - Containers, border, cottage garden
  - Attracts bees, butterflies, hummingbirds
  - Reputed deer resistance, powdery mildew resistance, disease resistant, drought tolerant, heat tolerant, humidity tolerant, pest resistant

COLOR IN THE LANDSCAPE: ORNAMENTAL GRASS

*Muhlenbergia capillaris*  Muhly grass

- Zones: 6-10, native to US, and SC
- Pink-purple blooms late summer to fall
- 3’ h x 3’ w
- Foliage yellow-green to medium green
- Neat and tidy habit
- Full sun
- Soil loamy, well drained
- Containers, border, hedge, meadow
- High deer resistance

http://www.wildflower.org/plants/result.php?id_plant=MUCA2
COLOR IN THE LANDSCAPE: ORNAMENTAL GRASS

*Muhlenbergia capillaris* ‘White Cloud’

- Zones: 6-10
- White blooms early fall to mid winter
- 2.5’ h x 4’ w
- Foliage evergreen
- Compact, more upright than pink muhly
- Full sun
- Soil loamy, well drained
- Containers, border, hedge. cut flower
- Reputed disease resistant, drought tolerant, heat tolerant
- Birds feast on seeds

COLOR IN THE LANDSCAPE: SHRUBS

*Buddleia davidii* Lo & Behold™ 'Blue Chip' PP# 19,991 Introduced by Raulston Arboretum

- Zones: 5-9, species is native to Asia
- Blue lightly fragrant blooms, continuous, not in waves
- Doesn’t need deadheading
- Blooms early summer to mid fall
- 2’ h & w
- Dwarf habit, compact
- Full sun
- Soil loamy, well-drained
- Containers, border, groundcover
- Attracts hummingbirds and butterflies
- Reputed deer resistance, drought tolerant, heat tolerant

COLOR IN THE LANDSCAPE: SHRUBS

*Callicarpa americana*  American beautyberry

- Zones: 7-11 (Dirr), native to SC
- Clusters of shiny purple (occ. white) fruit in leaf axils in fall
- 3-5’ h & w (to 9’ high in fertile soils)
- Arching branches, loose habit, fragrant foliage, yellow-green fall foliage
- Part shade
- Soil moist, fertile, sandy-clay loam, well-drained
- Soil reclamation, border, woodland edge, in pines
- Heat tolerant, cold tolerant, defoliates in drought
- Nectar source for birds and butterflies; wildlife food plant-foliage feeds white-tailed deer, mine

http://www.wildflower.org/plants/result.php?id_plant=CAAM2
COLOR IN THE LANDSCAPE: SHRUBS

*Calycanthus floridus*  Carolina allspice

- Zones: 4-9, Native to SC
- Terminal dark red fragrant blooms April - July
- 6-12’ h  x  5-6’ w, taller in shade
- Foliage glossy aromatic leathery green, prune after flowering
- Upright habit, deciduous, suckering
- Part shade
- Soil deep loam, moist, adaptable
- Border, hedge, specimen
- Resistant to diseases and insects, may be difficult to transplant, scent varies from fruit to vinegar
- Attracts butterflies

COLOR IN THE LANDSCAPE: SHRUBS

*Calycanthus* ‘Aphrodite’

- Zones: 5-9
- 4” wine red strawberry scented blooms
- Blooms repeatedly early summer to early fall
- 7’ h x 5-6’ w
- Foliage dark glossy green turning yellow in fall
- Upright habit, fragrant stems, deciduous
- Full sun to part shade
- Soil loamy, dry or moist
- Border, hedge, specimen
- Reputed to be deer resistant, heat tolerant, disease resistant
- Attracts butterflies

[http://www.waysidegardens.com/aphrodite-calycanthus-carolina-allspice-shrub/p/36051/]
COLOR IN THE LANDSCAPE: SHRUBS

**X Sinocalycalycanthus raulstonii 'Hartlage Wine'** (cross between Chinese and native allspice, introduced by Raulston Arboetum)

- Zones: 6-9
- 3” wine red fragrant blooms
- Blooms early summer
- 6’ h x 5-6’ w
- Foliage dark glossy green turning yellow in fall
- Upright habit, fragrant stems
- Full sun to part shade, full sun requires more moisture
- Soil loamy
- Border, hedge, specimen
- Reputed to be heat tolerant, disease resistant

http://www.waysidegardens.com/x-sinocalycalycanthus-hartlage-wine/p/47440/
COLOR IN THE LANDSCAPE: SHRUBS

*Caryopteris x clandonensis* ‘Longwood Blue’

- Zones: 5-9, genus is native to Asia
- Blue lightly fragrant blooms, continuous, not in waves
- Doesn’t need deadheading
- Blooms mid summer to mid fall
- 18-24” h x 24” w
- Foliage light green to silver gray
- Upright habit, cut back hard in early spring each year
- Full sun to part shade
- Soil loamy, well-drained
- Containers, border, groundcover
- Attracts hummingbirds and butterflies
- Reputed deer resistant, heat tolerant

COLOR IN THE LANDSCAPE: SHRUBS

*Hydrangea quercifolia*  Oak leaf hydrangea

- Zones: 5-9, native to SC
- White, green and purple blooms June-July, prune after flowering
- 3-12’ h & w (suckers)
- Foliage dark green, turns orange, red, brown in fall
- Irregular shape, forms mounded colonies
- Part shade, shade
- Soil moist, fertile, well-drained
- Border, naturalized area, woodland edge
- No pest problems, stems break easily

http://www.wildflower.org/gallery/result.php?id_image=7840
COLOR IN THE LANDSCAPE: SHRUBS

*Hydrangea quercifolia* ‘Little Honey’  Plant Patent #15,477

- Zones: 5-9, a sport of dwarf ‘PeeWee’
- White, 6-8” blooms June-July,
  
  prune after flowering
- 4’ h x 3-5’ w
- Foliage emerges golden yellow, turns chartreus by
  mid-summer then green. Lvs and stems turn
  scarlet in autumn-4-seasons appeal
- Full sun, part shade
- Soil moist, fertile, well-drained
- Foundation, border
- Reputed heat tolerant, drought tolerant

COLOR IN THE LANDSCAPE: SHRUBS

*Hydrangea macrophylla* Twist-n-Shout® Plant Patent #20,176. Cultivar name: 'PIIHM-1'.

- One of the Endless Summer ® series from Dr. Michael Dirr, the first reblooming lacecap hydrangea
- Zones: 4-9, species is from Asia
- Blue and pink blooms
- Blooms early summer & early fall
- 3-5’ h & w
- Foliage dark green, turns orange, red, maroon in fall
- Stems pinkish red
- Mound shaped habit, compact
- Part shade
- Soil loamy
- Containers, border
- Reputed disease resistant, heat tolerant, humidity tolerant, pest resistant

http://www.waysidegardens.com/hydrangea-macrophylla-twist-n-shoutreg/p/48869//
COLOR IN THE LANDSCAPE: SHRUBS

*Illicium floridanum 'Pink Frost' PP#21,287,* variegated selection of our native evergreen shrub, 'Pink Frost'  

- Zones: 6-9
- Maroon blooms
- Blooms mid spring
- 6-10’ h x 6’ w
- Variegated foliage tinted pink in spring  
  cream edged in summer, total pink in fall
- Upright habit, fragrant stems
- Full sun to part shade, full sun requires more moisture
- Soil loamy
- Border, hedge, specimen
- Reputed to be drought tolerant, deer resistant


http://www.plantdelights.com/images/Illicium_floridanum_Pink_Frost.jpg
COLOR IN THE LANDSCAPE: SHRUB ROSES


- Zones: 4-9
- Fire-engine red (or lighter cherry-scarlet in hot climates
- 3” lightly fragrant blooms in waves early summer into fall
- 3’ h & w
- Burgundy-violet fall foliage and orange-red hips
- Full sun
- Soil loamy, well-drained
- Containers, border, hedge
- Reputed disease resistant (blackspot), Japanese beetles, leafhoppers, and rose midge
- No deadheading needed; AARS (All American Rose Selection)

http://www.waysidegardens.com/knock-out-rose/p/26903/
COLOR IN THE LANDSCAPE: TREES

*Cercis canadensis*  Redbud

- Zones: 5-9, native to US, SC
- Pink flowers before leaves in spring along branches and stems
- 15-30’ h x 15-20’ w
- Heart shaped leaves
- Single or multi-stemmed deciduous tree
- Part shade, shade
- Soils moist, fertile, well-drained
- Border, specimen, understory
- Nesting material and structure for native bees, attracts birds, moderate deer resistance

http://www.wildflower.org/plants/result.php?id_plant=CECA4
COLOR IN THE LANDSCAPE: TREES


- Zones: 5-9
- Light purple-rose blooms before leaves in spring along branches and trunk
- 8-12’ h x 8’ w
- Spring foliage is apricot, in summer yellow and mottled lime, in autumn golden yellow
- Fast growing, compact habit
- Full sun, light shade
- Soil loam, clay-sand; dry to moist, well-drained
- Border, specimen
- Reputed disease resistant, heat and humidity tolerant
- Nectar source for butterflies

http://www.waysidegardens.com/cercis-canadensis-the-rising-suntrade/p/32039//
COLOR IN THE LANDSCAPE: TREES

**Cornus florida var. rubra Cherokee Brave™ Dogwood**

- Zones: 5-9
- Deep red bracts starred with white appear before leaves in spring
- 15’ h x 15-20’ w
- Bright red fruit in summer, fall, and winter attracts wildlife
- New foliage tinted maroon turns green in summer and maroon again in autumn
- Slow growing, multi-stemmed, horizontal layered branching
- Full sun, part shade
- Soil loamy, well-drained
- Border, specimen
- Reputed disease resistant (powdery mildew), heat tolerant, humidity tolerant

COLOR IN THE LANDSCAPE: TREES

**Cornus florida ‘Appalachian Spring’**  
*Dogwood*

- University of Tennessee Breeding Program

- **Zones:** 5-9
- **White bracts mid spring**
- **20’ h x 20’ w**
- **Spring blooms draw butterflies**
- **Bright red fruit in spring attracts birds**
- **Apple green foliage turns “searing red” in autumn**
- **Fast growing, upright, symmetrical**
- **Full sun, part shade**
- **Soil loamy, well-drained, moist**
- **Border, specimen, understory tree**
- **Reputed disease resistant (anthracnose, powdery mildew), heat tolerant, humidity tolerant**

http://www.waysidegardens.com/cornus-florida-appalachian-springtrade/p/48551/
COLOR IN THE LANDSCAPE: TREES

*Cornus kousa var. chinensis 'Milky Way'*

- Zones: 5-8, species is native to Asia
- 20-30’ h & w
- White blooms late spring - early summer, prolific producer
- Red berries in late summer to fall attract wildlife
- Fast growing, multi-stemmed, horizontal layered branching
- Mid green lvs turn orange and red in fall
- Full sun
- Soil loamy, well-drained
- Border, specimen
- Reputed disease resistance (including anthracnose), & insect resistant

[Link to species information on Wayside Gardens](http://www.waysidegardens.com/cornus-kousa-var-chinensis-milky-way/p/49015/)
COLOR IN THE LANDSCAPE: TREES


- Zones: 4-9, species is native to Asia
- Male (non-fruiting)
- Blooms mid spring
- 14-16’ h x 5-6’ w
- Fan shaped green foliage emerges slightly curled, turns bright yellow in fall.
- Columnar habit-shear back in early spring for 3-4 yrs
- Full sun to part shade
- Soil loamy, well-drained
- Border, hedge, specimen
- Reputed to be tolerant of air pollution, heat, and other environmental stresses; disease resistant, drought tolerant, heat tolerant, pest resistant

COLOR IN THE LANDSCAPE: TREES

_Metasequoia glyptostroboides_  Dawn redwood  Endangered species reintroduced from seed discovered in China in 1943 and distributed by Harvard’s Arnold Arboretum

- Zones: 4-8
- Fast growing, wet soil tolerant
- 70-100’ h x 15-25’ w
- Deciduous conifer with deep orange brown colored needles that drop in fall, small cones in hot summer
- Upright habit, buttressed roots
- Full sun
- Soil wet, loamy, not drought tolerant
- Specimen
- Endangered species, heirloom plant, reputed urban pollution tolerant

http://www.waysidegardens.com/metasequoia-glyptostroboides/p/47422/
COLOR IN THE LANDSCAPE: TREES

*Nyssa sylvatica*  Blackgum

- Native US, SC
- Blue berries attract wildlife (birds and mammals)
- 30-60’ h  x 20-30’ w
- Glossy green foliage turns yellow, orange, scarlet and purple in fall
- Upright habit, horizontal branching
- Attractive furrowed gray bark
- Full sun, part shade, shade
- Moist acid soils, sandy or clay loam
- Slow grower, transplant while young-tap root, disease susceptible
- Shade tree, bog or pond garden, ornamental
- Benefits honey bees, attracts birds

http://www.wildflower.org/plants/result.php?id_plant=NYSY/
COLOR IN THE LANDSCAPE: TREES

Nyssa sylvatica ‘Wildfire’

- Zones: 4-9
- 30-50’ h x 20-30’ w
- Foliage emerges red turns dark green, fiery red in fall.
- Upright habit, attractive furrowed gray bark
- Full sun
- Soil loamy, well-drained
- Specimen
- Reputed disease resistance; including bacterial leaf spot
- Black berries attract wildlife

COLOR IN THE LANDSCAPE: TREES

*Taxodium distichum* Bald cypress

- Zones 4-11, Native to US, SC
- Sun to part shade
- 60-80’ h x 25-30’ w
- Feathery foliage bronze in autumn
- Deciduous conifer
- Fast grower
- Drought & wet tolerant; forms ‘knees’; soil tolerant
- Tolerates compaction
- Provides wildlife cover and nesting; seeds feed birds; larval and/or nectar host for baldcypress sphinx (*Isoparce cupressi*)

http://www.wildflower.org/plants/result.php?id_plant=TADI2
INVASIVE SPECIES CHECKED √

• Plants profiled in this Powerpoint presentation do not appear on the following invasive plant lists on February 3, 2013:
SOURCES

- Sustainable Sites Initiative:
  http://www.sustainablesites.org/

- Guidelines and Performance Benchmarks:
  http://www.sustainablesites.org/report/

- SSI Pilot Projects:
  http://www.sustainablesites.org/pilot/

- Lady Bird Johnson Wildflower Center native plants database:
  http://www.wildflower.org/plants/

- SC Exotic Plant Pest Council list of invasive plants:
  http://www.se-eppc.org/southcarolina/invasivePlants.cfm
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