

# Extension Gardener Class 6:

## Selecting Ornamental Plants



FIGURE 16. Plant Bed #3 is the last planted area to be installed



# Next Week: Landscape Care

- Planting Technique
- Watering
- Fertilization
- Mulching
- Pruning
- Dealing with pests, weeds and deer



# Today's Class

- Choosing plants for success and sustainability
  - Right plant, right place!
- Recommended varieties
  - Trees
  - Evergreens
  - Shrubs
  - Herbaceous Plants



Redbud



Clethra



# Choosing Plants

## Success

- Plants survive and thrive
- Fulfill purpose in landscape

## Sustainability

- Do not consume excessive resources
- Fulfill ecosystem purpose



**Butterflyweed,**  
*Asclepias tuberosa*

# Success and Sustainability

## Success

- Plants survive and thrive

## Sustainability

- Do not consume excessive resources
  - Water, nutrients, pesticides, gardener's energy



**Choose the Right Plant for the Site!**

# Right Plant for the Site

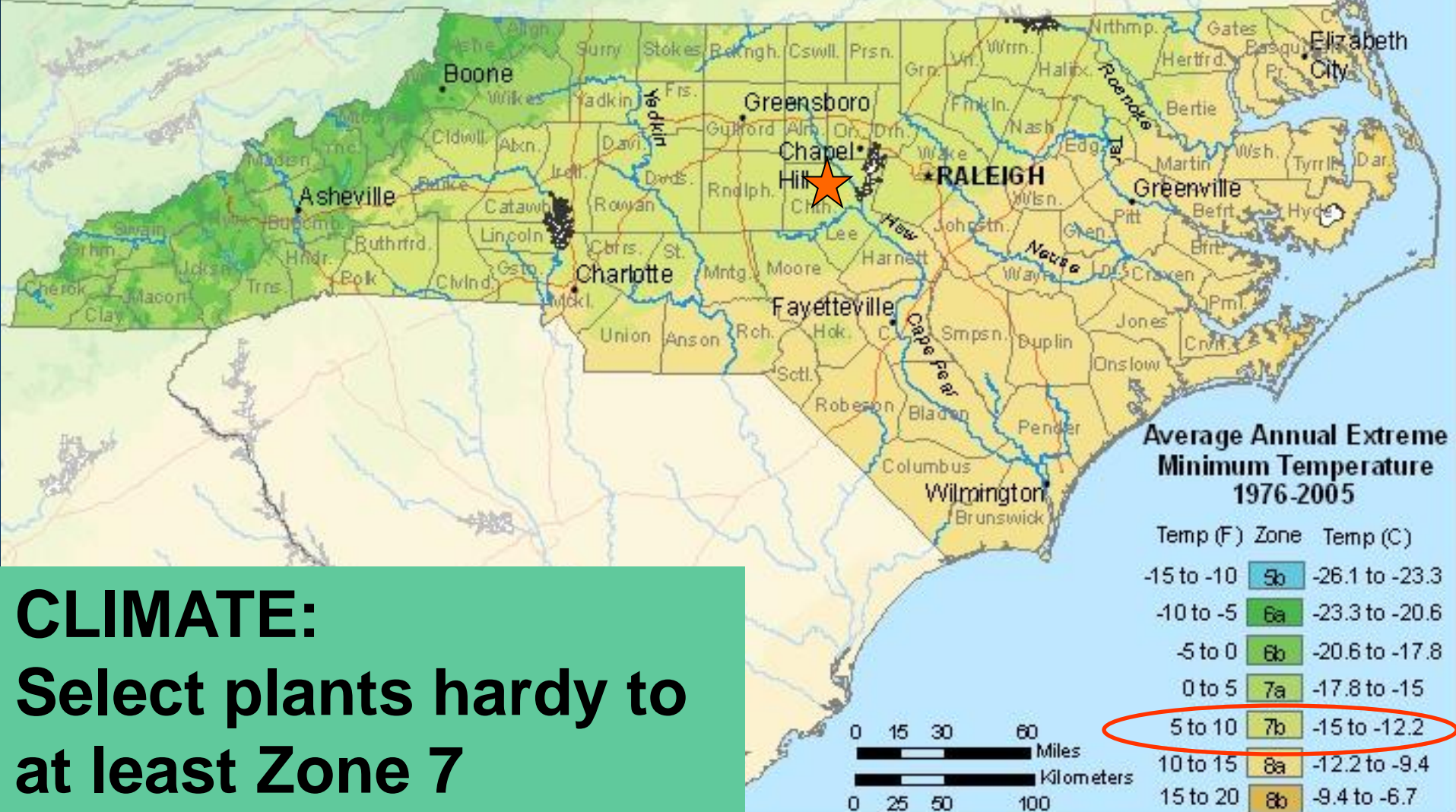
- Local climate – temperature and rainfall patterns
- Exposure to sun/shade
- Soil drainage and pH
- Space – room to grow



Always check the mature size before planting!

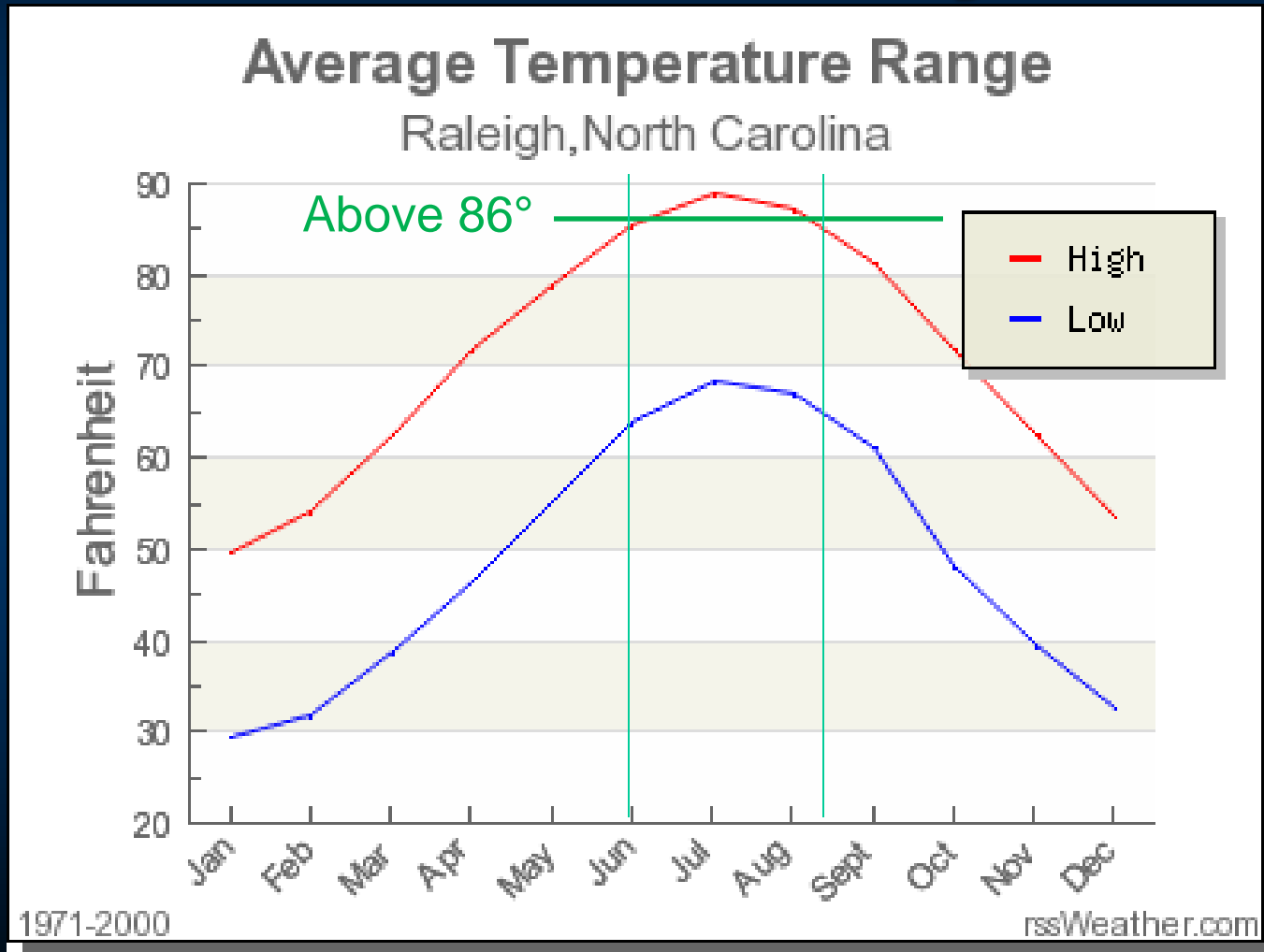


# North Carolina



**CLIMATE:**  
Select plants hardy to  
at least Zone 7

# Tolerant of summer heat and humidity

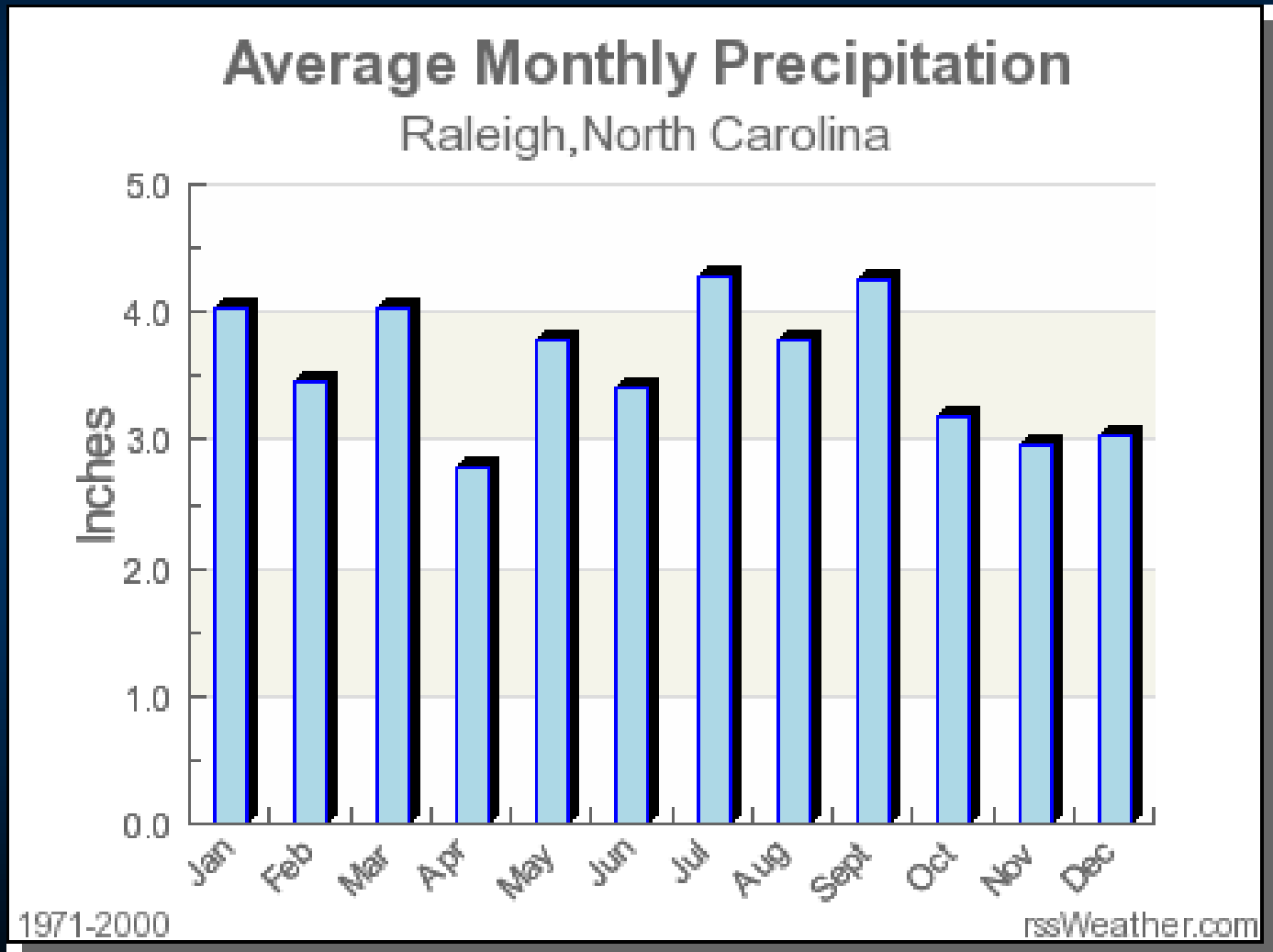


Source: <http://www.rssweather.com/climate/North%20Carolina/Raleigh/>



# Tolerant of Wet AND Dry

NC is rainy, but droughts do occur!



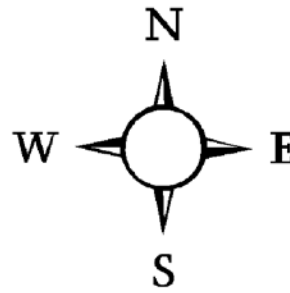
Source: <http://www.rssweather.com/climate/North%20Carolina/Raleigh/>

# Right Plant for the Site: Exposure

## Sun versus Shade

- **Full sun:** at least 8 hours direct sunlight each day
- **Part sun/shade:** at least 4 hours direct sunlight each day
  - **Morning sun:** gentler, shade plants are usually okay with morning sun
  - **Afternoon sun:** hotter, harsher – choose sun tolerant plants for sites that get direct afternoon sun





**North Facing**  
Shady, cold

**West Facing**  
Hot PM sun

**East Facing**  
Gentle AM sun

**South Facing**  
Sun all day

**West**

**East**

**House**

**PM**

**AM**





# Shade

- **Light Shade** - a bright shade such as that cast by pine trees – less than 30% sunlight blocked
  - Sun, part sun and shade plants will work
- **Heavy Shade** cast by buildings or hardwood trees – plant only full shade plants
- **Dappled Shade**: Some sunlight comes through – choose shade or part shade plants



# Right Plant for the Site



## Drainage and Soil Type

- **Poorly Drained/Wet:** water stands for days after rainfall, high clay content
  - **Moist:** Moist most of the time, water drains within 24 hours of rainfall ending
  - **Well Drained:** water drains away within a few hours of rainfall ending, sandy loams
  - **Xeric:** Extremely sandy, water never stands; also steep slopes where water runs off
- In shade, competition from tree roots causes soils to be drier

# Soil pH

Some plants need acidic soils  
(pH 5.0-5.5)

- Azaleas
- Dogwood
- Magnolia
- Gardenia
- American Holly
- Blueberries
- Loropetalum
- Virginia Sweetspire
- Centipedegrass



Yellowing between the veins on new growth is a common symptom of high pH (iron deficiency)

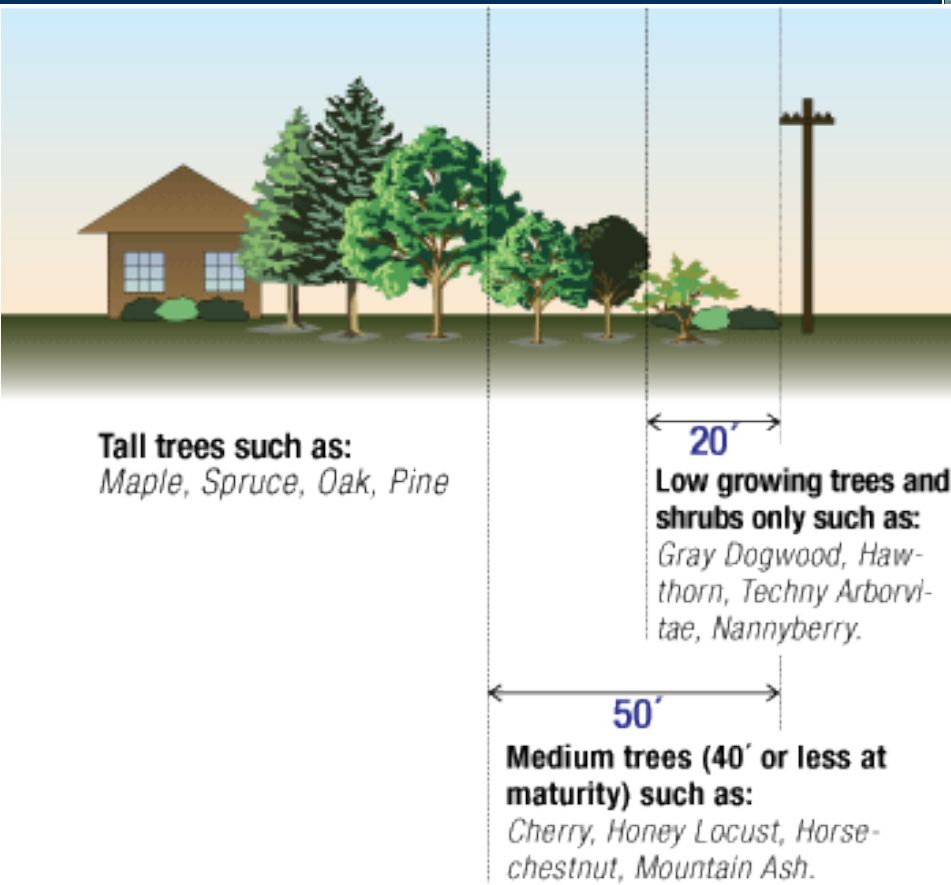


# Right Plant for the Site: Space!

- Plants grow! – often larger and faster than you anticipate
- In many new landscapes, plants are placed **too close together**, **too close to the house**, and **will eventually get too large!**



# Space: Look Up!



**Know how tall and wide a tree will grow before planting!**

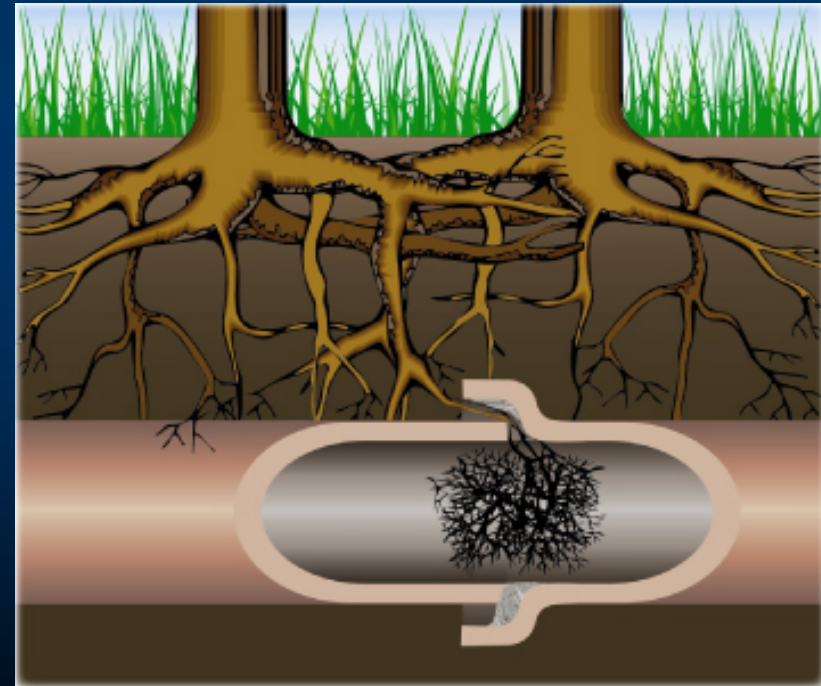
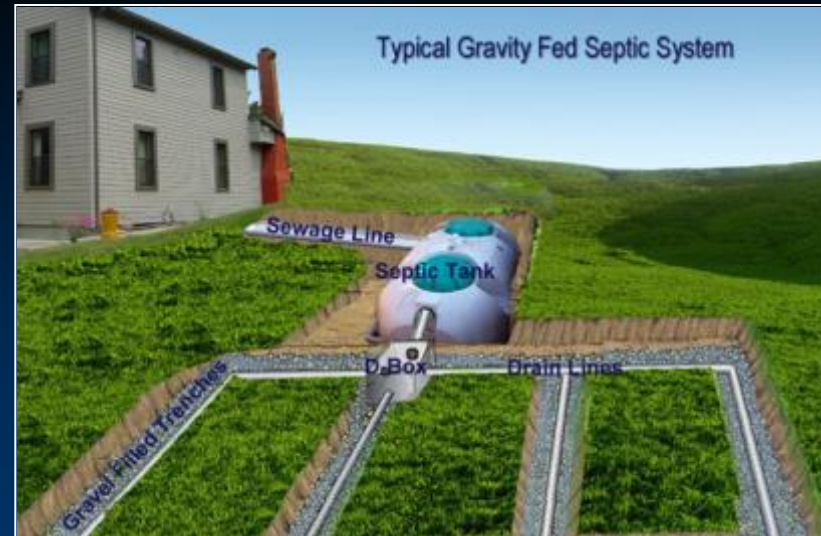
**WRONG!** Topping is  
extremely detrimental  
to tree health!





# Space: Septic Drainfields

- Tree and shrub roots clog drain lines
- For best function, keep large trees 30'+ away and shrubs 10'+ away
- Best option over drainfield = unirrigated turf



# Landscape Purpose

- Shade home
- Screening/Privacy
- Enhance home appearance –  
“foundation plantings”
- Define/divide areas
- Direct attention, add interest





# Shade

- Plant deciduous trees on west to shade hot afternoon sun in summer
- Deciduous = lose leaves in winter

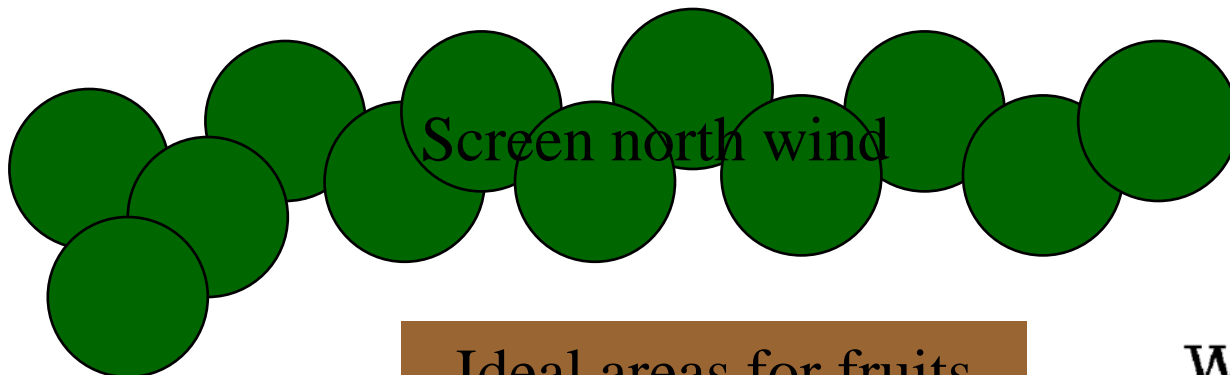




# Screening and Privacy

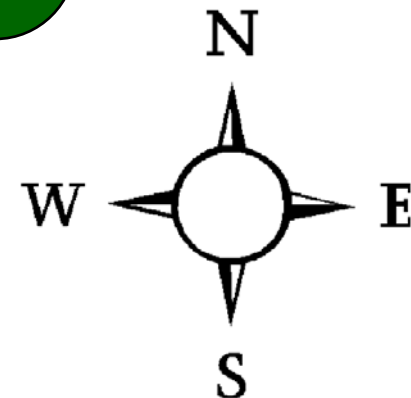
- Plant evergreen screen on north and northwest side to shield winter winds
- Dense, branched to ground





Screen north wind

Ideal areas for fruits  
and vegetables



House

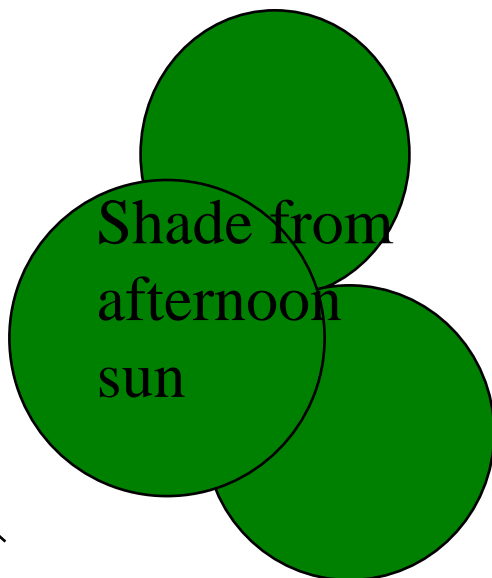
Morning  
Sun



Full sun all day



Shade from  
afternoon  
sun



PM



# Enhance Home's Appearance **“Foundation Plantings”**





# Direct Attention: Color

- A mass of one color is more effective than many colors together





# Add Interest

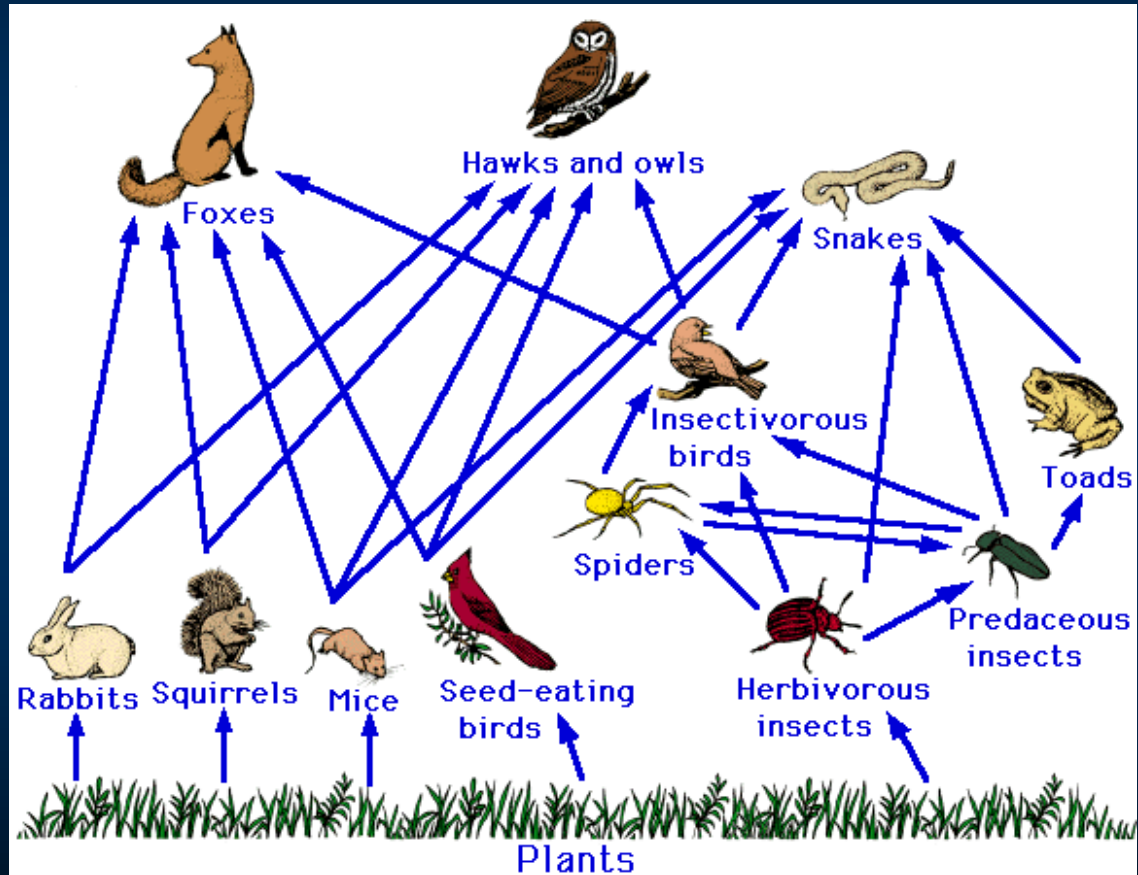
- Seasonal change
- Foliage color
- Blossoms
- Bark
- Form
- Fruits

Oakleaf Hydrangea,  
*Hydrangea quercifolia*



# Ecosystem Purpose

- Foundation of food web
- Convert sun's energy into form consumable by animals
- Provide food and shelter for birds, beneficial insects, pollinators, and other wildlife



# Include Piedmont Native Plants

## Monarchs

Research shows native plants better support native wildlife; Natives are essential for many insects to complete their life cycle

Birds rear young on insects, particularly caterpillars





# What do natives provide wildlife?

Food, shelter, nesting





# Planting for Wildlife

- Include trees and shrubs that form **berries**; leave **seed heads** on flowers and grasses
- Include **larval host plants** for butterflies



Spicebush swallowtail caterpillars feed on spicebush and sassafras

# Diversity!

- Many species
- Evergreen and deciduous
- Flowers spring – fall
- **LAYERS:**
  - Groundcover
  - Understory
  - Canopy



# Plant in Groups

- Mass plantings are easier to find and increase forage efficiency
- 3+ of any one plant type



Rudbeckia 'Goldstrum' –  
Pollinators love it but so do  
deer!



# Connect existing natural areas to:

- Create larger area for habitat
- Bridges two or more existing areas to create a corridor
- Work with neighbors to connect natural areas





# Going Native: Urban Landscaping for Wildlife

<http://www.ncsu.edu/goingnative/>

NC STATE UNIVERSITY



## GOING NATIVE

URBAN LANDSCAPING FOR WILDLIFE WITH NATIVE PLANTS

HOME | NATIVE PLANTS ATTRACTIVE TO WILDLIFE | WHERE TO GET NATIVE PLANTS | INVASIVE, EXOTIC PLANTS OF THE SOUTHEAST | MY PLANT LIST



Home >

WHY GO NATIVE

HOW TO GO NATIVE

CREATE YOUR OWN NATIVE LANDSCAPE

### Going Native: Urban Landscaping for Wildlife with Native Plants

You can go native!...with native plants in your landscape.

- See [why](#) landscaping with native plants is better for wildlife and for the environment.
- Find out about the problems caused by [invasive, exotic plants](#). Odds are you have invasive exotics in your own backyard!
- Discover the [native plants](#) you can use as alternatives to exotic plants. We even tell you [where](#) you can buy natives!
- Create your own native plant landscape that's attractive to wildlife and people with our [step-by-step guide](#) that helps you choose the right plants for your landscape.

# Avoid Invasives

- Link on top bar, “Invasive Exotic Plants of the SE”
- Examples: Bradford Pear, Japanese barberry, Eleagnus, Ligustrum (Privet), Mahonia

NC STATE UNIVERSITY


**GOING NATIVE**  
URBAN LANDSCAPING FOR WILDLIFE WITH NATIVE PLANTS

HOME | NATIVE PLANTS ATTRACTIVE TO WILDLIFE | WHERE TO GET NATIVE PLANTS | **INVASIVE, EXOTIC PLANTS OF THE SOUTHEAST** | WEPLANT LIST

Home • [How to Go Native](#) • [Native Plants Attractive to Wildlife](#) • [Where to Get Native Plants](#) • [Invasive, Exotic Plants of the Southeast](#)

### INVASIVE, EXOTIC PLANTS OF THE SOUTHEAST

This table contains a list of selected invasive, exotic species that are causing particular problems for native plants or wildlife in the Southeast. Without natural checks, an exotic species can invade the native habitat, crowd out native plants, and reduce the diversity of foods available to birds and other wildlife. When at all possible, these plants should be removed from the landscape and replaced with native plants. Use this list to identify the invasive, exotic plants in your landscape. Click on the plant name to get a detailed description and photograph of each plant. Each invasive plant description contains information on how to control the plant in your home landscape using cultural methods (e.g., pulling or moving) or herbicides. See the [Guide to Using Glyphosate in the Home Landscape](#) for more on its safe and appropriate use to control invasive plants. The [Southeast Exotic Pest Plant Council](#) and the [NC Botanical Garden](#) provide additional information on ecology and management of invasive plants of the Southeast.



*Photograph of a plant with small, dark, round fruits, likely a species of holly or similar.*

Common Name	Scientific Name
<a href="#">Tree of Heaven</a>	<i>Ailanthus altissima</i>
<a href="#">Chinese Elm</a>	<i>Ulmus parviflorus</i>
<a href="#">Chinese Tallow Tree</a>	<i>Sapium sebiferum</i>
<a href="#">Callery 'Bradford' Pear</a>	<i>Pyrus calleryana</i>
<a href="#">Japanese Barberry</a>	<i>Berberis thunbergii</i>
<a href="#">Autumn Olive</a>	<i>Eleagnus umbellata</i>
<a href="#">Russian Olive</a>	<i>Eleagnus angustifolia</i>
<a href="#">Thorny Olive</a>	<i>Eleagnus pungens</i>
<a href="#">Black Locust</a>	<i>Robinia pseudoacacia</i>
<a href="#">Privet</a>	<i>Ligustrum japonicum</i>
<a href="#">Chinese Privet</a>	<i>Ligustrum chinense</i>

# Recommended Plants

1000's of possibilities – we will look at varieties that:

- Adaptable, likely to thrive in the average landscape; not finicky
- Require low inputs once established (water, nutrients)
- Have no major pest problems but provide resources for wildlife
- Available locally
- Focus on natives and deer resistant plants



# Plant Names Are Important!

- **Common Names**
  - “Heavenly Bamboo”
  - Common names can be misleading!
- **Scientific Names**
  - *Genus species*
  - *Nandina domestica*
- **Cultivar Names**
  - ‘Cultivar’
  - *Nandina domestica*
  - ‘Firepower’ Nandina



**‘Firepower’  
Nandina –  
NOT invasive,  
no berries**



**Heavenly Bamboo,  
*Nandina domestica* –  
invasive, bird hazard**



# Shade Trees

- Many native species are available from local nurseries & garden centers
- Shade trees typically mature over 30' tall
- All need sun!
- **Essential for wildlife habitat**



Red maple is widely planted, though best reserved for moist sites

# Oaks

- The best shade trees for wildlife
- Many species native to NC
- Considered slow growing
- Very long lived
- Plant for the future!



# Fastest Growing Oaks

- **Willow Oak**
  - *Quercus phellos*
  - 100' x 50'
- **Pin Oak**
  - *Quercus palustris*
  - 60' x 40'
  - Needs acid soil
- Both native
- Wet – well drained soil





# Red Maple

*Acer rubrum*

- 40'-60' x 40'-60'
- Native
- Wet – well drained soil
- Excellent fall color
- Varieties:
  - 'October Glory'
  - 'Brandywine'
- Spring blooms are early nectar source for bees



Blooms (right)  
Seeds (left)

# River Birch

## *Betula nigra*

- Native
- 40' x 30'
- Single or multi-trunks
- Papery bark
- 'Heritage' older variety, '**Duraheat**' newer with better leaf spot resistance
- Grows fast, tolerates wet to well drained soil





# River Birch



Spiny witch-hazel gall aphid  
– attract ladybug larvae





# Evergreens

- Screening
- Foundation Plantings

Few evergreen natives  
are available for  
landscaping



Rhododendron and Mountain Laurel grow in the Piedmont but require specific conditions (shade, well drained, acidic soil) to do well

# Upright Hollies

*Ilex* hybrids

- Best choice for hedges/screens
- Full sun–part shade, well drained soil
- Most are hybrids between native and Asian species
- Prickly leaves, lots of red berries
- **‘Needlepoint’**, 15’ x 10’
- **‘Nellie Stevens’**, 20’ x 15’
- **Red Hollies** – 15’-20’ x 10’
  - ‘Oakleaf’                      - ‘Cardinal’
  - ‘Festive’                      - ‘Robin’
- **American holly** – *Ilex opaca*, is slower growing and loses lower limbs with age

**‘Nellie Stevens’**



**‘Oakleaf’**





# Southern Wax Myrtle

*Morella cerifera*

- Full sun – lt. shade
- Moist to xeric soil
- 10'-15' x 10'-15'
- Native
- Evergreen but may lose some leaves in cold winter
- Exceptionally tough, drought tolerant
- Prone to ice and wind damage
- Deer resistant





# Cleyera

*Ternstroemia gymnanthera*

- Not native
- Full sun to full shade
- Well drained soil
- 8'+ tall x 6'+ wide, to 15' tall
- Very deer resistant
- Tolerates pruning



# Small Evergreen Shrubs



Resist the temptation to turn them into little green meatballs!

# Low Growing Evergreens

- Dwarf Yaupon
  - Very small leaves
- 'Carissa' Holly
  - Larger leaves, single spine on tip
- Both 3'-4' tall, 4'-5' wide, full sun – part shade, moist – well drained soil
- Drought tolerant
- Deer resistant





# Inkberry

## *Ilex glabra*

- Native
- 4'-5' x 3'-4'
- Evergreen
- Tolerates moist soil
- Sun-part shade
- Bees attracted to blossoms
- 'Shamrock' – 3'-4' tall and wide





# **‘Duke Gardens’ Japanese Plum Yew**

*Cephalotaxus harringtonia*

- Not native
- Shade or sun
- Well drained soil
- 3’-4’ x 4’-5’
- Very deer resistant
- Very similar to yew but better adapted to our climate





# 'Firepower' Nandina

- Not native
- Sun to part shade
- Well drained soil
- One of the smallest shrubs
  - 2' x 2'
- Never blooms or produces berries
  - not invasive
- DEER may be a problem





# Shrub Palms

- Palms are very deer resistant. Hardy shrub palms:
  - **Needle palm**
    - Native to SC
  - **Dwarf palmetto**
    - Native to coastal plain
- Both grow 4'-5' tall and wide; prefer part shade and moist soil



Needle Palm



Dwarf Palmetto