

# Agent In-service Training Selection: Right Tree, Right Place Nursery Stock Quality

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Ver.1.0



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## Overview:

- What is appropriate for Kentucky Landscapes?
- Assessing the site,
- Determining the quality of Nursery Stock.



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## Right Tree, Right Place

Wrong Tree (invasive)



*Pyrus calleryana*  
(seedling)

Wrong Site



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## What's Appropriate in Kentucky?

- <http://www.ky-isa.org>  
click on:
  - Guide to Landscape Appraisal of Tree Species in Kentucky Landscapes
  - Valuations by botanical name
  - Valuations by percent groups



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click on:
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  - Valuations by botanical name
  - Valuations by percent groups
- Kentucky Arborists' Association (KAA) aka Kentucky Chapter of International Society of Arboriculture (ISA)
  - valuation by % group
  - ranked: 10-20% to 90-100%

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## What's Appropriate in Kentucky?

- <http://www.ky-isa.org>  
click on:
  - Guide to Landscape Appraisal of Tree Species in Kentucky Landscapes
  - Valuations by botanical name
  - Valuations by percent groups
- 10-20% Species Valuation
  - *Abies balsamea* (balsam fir)
  - *Ailanthus altissima* (tree of heaven)
  - *Albizia julibrissin* (mimosa)
  - *Caragana arborescens* (Siberian peashrub)
  - *Cupressocyparis leylandii* (Leyland cypress)
  - *Elaeagnus angustifolia* (Russian olive)
  - *Fraxinus americana* (white ash, untreated for EAB)

(continued)

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## What's Appropriate in Kentucky?

- <http://www.ky-isa.org>
- **How to use the lists:**
  - developed for landscapes (not riparian)
  - avoid % groups  $\leq 60\%$
  - don't automatically go to the 90-100% group
    - all large trees
    - may not be suited to site
    - practice species diversity
- **Appraisal Criteria:**
  - Climate Adaptability
  - Growth Characteristics
  - Soil Adaptability
  - Resistance/Tolerance to Biotic & Abiotic Challenges

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## Appraisal Criteria:

- **Climate Adaptability** <sup>(1)</sup>
  - cold hardness
  - frost tolerance
  - drought tolerance
  - storm (ice, snow, wind)
- **Soil Adaptability**
  - structure & texture
  - drainage
  - moisture requirements
  - acid/alkaline
  - mineral element limitations
- **Growth Characteristics**
  - tolerance to different sites
  - vigor
  - structural strength
  - aesthetics
  - life expectancy
  - pruning requirements
  - potential to be invasive
- **Resistance/Tolerance to Biotic & Abiotic Challenges**
  - disease
  - insect
  - air pollution

<sup>(1)</sup> Some spp. more/less suitable for western KY

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## Right Tree: Client wishes

- **Client requests:**
  - flowers
  - fall color
  - fast growth
  - no insect/diseases
- **Client complaints:**

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## Right Tree: Client wishes

- **Client requests:**
  - flowers
  - fall color
  - fast growth
  - no insect/diseases
- **Client complaints:**
  - messy fruit
  - have to rake leaves
  - broken branches
  - broken sidewalks

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## Right Tree: Client wishes

- **Client requests:**
  - flowers
  - fall color
  - fast growth
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  - messy fruit
  - have to rake leaves
  - broken branches
  - broken sidewalks

Unfortunately, there are no perfect plants

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## Right Place (Site Evaluation)

- What is the purpose of the tree/shrub?
  - shade
  - screening (visual)
  - accent
  - space definition
  - focal point, etc.



*Acer cappadocicum*  
(Caucasian maple)


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## Right Place (Site Evaluation)

- How much above-ground space at maturity?
  - buildings
  - overhead utility lines
  - sidewalks, driveways
- What is the habit (shape) of tree being considered?
  - broad spreading
  - pyramidal
  - columnar, etc.




*Liquidambar styraciflua*  
'Slender Silhouette'  
(sweetgum)

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## Right Place (Site Evaluation)

- How much soil volume?
  - large trees require 1,200 cubic feet of soil (20ft x 20ft x 3ft) to reach maturity.




*Acer rubrum*  
'October Glory'  
(red maple)

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## Right Place (Site Evaluation)

- Soil Characteristics?
  - pH, buffer pH
  - drainage (perk test)
  - ability to water
  - compaction



*Quercus phellos*  
(willow oak)



*Acer rubrum*  
(red maple)

Both are flood-plain species!

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## Right Place (Site Evaluation)



Backfill  
(extra concrete)



Fill soil on  
old roadbed



Perched  
water table




Footer for  
building

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## Right Place (Site Evaluation)

- Microclimate?
  - wind (desiccation)
  - winter sun
  - reflected light/heat



*Prunus laurocerasus*  
(laurel cherry)



*Buxus* sp.  
(boxwood)

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## Nursery Stock Quality

- Florida Grades and Standards for Nursery Stock
  - Fancy
    - #1
    - #2
    - Cull



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## Nursery Stock Quality

- Florida Grades and Standards for Nursery Stock
  - Fancy
  - #1
  - #2
  - Cull
- Nursery Stock:
  - Balled & Burlapped (B&B)
  - Container
  - Bareroot

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## B&B

- Issues:
  - small soilball
  - deep in ball
  - fresh wounds
  - not limbed up
  - double leaders
  - tight branch angles
  - rounded over
  - synthetic burlap (remove)



Container plant moved to field  
Dug B&B (small ball)  
Roots froze before planting

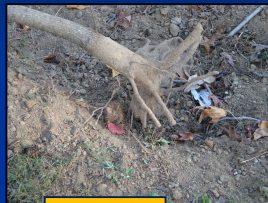
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## B&B

- Issues:
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Small rootball

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## B&B

- Issues:
  - small soilball
  - deep in ball
  - fresh wounds
  - not limbed up
  - double leaders
  - tight branch angles
  - rounded over
  - synthetic burlap (remove)



Codominant leader (top)  
Rounded-over (left)

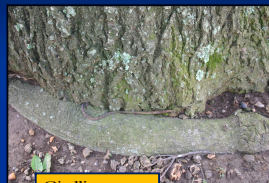
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## Container

- Issues:
  - small soilball
  - circling roots
  - deep in container
  - not limbed up
  - fresh wounds
  - double leaders
  - tight branch angles
  - rounded over



Girdling roots



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## Bareroot

- Issues:
  - limited root system
  - kinked/broken roots
  - desiccated roots
  - roots frozen/heat



Limited root system (top)  
Kinked roots (right)

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## Nursery Stock Quality

- More reading on Florida Grades and Standards for Nursery Stock

<http://hort.ufl.edu/woody/planting>

<https://www.fdacs.gov/Divisions-Offices/Plant-Industry/Business-Services/Florida-Grades-and-Standards-for-Nursery-Plants-2015>

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## Comments/Questions?



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