Woody Ornamentals and Pruning

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But first...

- Pruning is a combination of Science and Art.
- Many considerations to make before making the cut.
- Let's talk plants first.







Woody Ornamentals

- Long-lived perennials
- Remain above ground year-round
- Vines
 - Climbing or crawling woodies without self-supporting stems
- Shrubs
 - Up to 12 ft tall
 - Foliage extends to ground
 - Often multi-trunk
- Trees
 - More than 12 ft tall







Selecting Woody Ornamental Plants

- What are the growing conditions in your yard?
- What do you want?
 - Evergreen or deciduous
 - Color Flowers, etc.
 - Landscape use: specimen, screen, seasonal interest, barrier
- What is available at nurseries:
 - Demand what people buy
 - Ability to propagate
 - Growth rate in a container



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Plant Characteristics

- Mature size
 - Height and width
- Mature form
- Foliage
 - Evergreen or deciduous
 - Color, texture, size
- Bloom
 - Fragrance, duration, season
- Twigs and bark
 - Texture, messiness









Plant Characteristics

- Growth rate
 - Slow, moderate, fast
- Hardiness
- Water needs
- Native?
- Insect and disease resistance
 Ex. EAB, Leyland cypress
- Weediness
 - Ex. Tree-of-heaven, privet



Powdery Mildew – many resistant varieties available







Right Plant, Right Place

- Sunlight
- Soil characteristics
- Soil pH
 - Know your pH
 - Most plants: 6.0-7.0
 - Acid lovers under 6.0
 - Hydrangeas
 - Pink in basic
 - Blue in acidic





Plants not tolerant of high pH (over 6.0)

- Azaleas
- Rhododendrons
- Blueberries
- Camellias
- Mountain laurel



Interveinal Chlorosis – a symptom of iron deficiency due to high pH







Shrub Visualization

- This 2016 minivan is around 6' high, 7' wide, 16' long
- If you're looking at a shrub that can grow to 8-10' high and wide, imagine having a minivan in that spot
- Do you *really* have that much space for it?
- Will it be an asset for your landscape in the long run?









Planting Trees

- Choose tree species suited to site conditions (soil type, drainage, sun/shade)
- Consider growth habit/form of tree and space for growth
- Is there enough space ABOVE?
 - Look up!











OPEN

WEEPING

Tre e For ms



Growth Habits



Overhead wires and security lights



Feet away from wires Consider HEIGHT and WIDTH of tree at maturity



- If must plant beneath or next to lines, plant varieties that mature lower than height of line
- If planting close to line, plant only narrow, upright varieties
- Space large maturing trees at least 40' away from lines!





Root Health and Planting Practices

- Amend planting area, not planting hole
- Incorporate 1-3" organic matter into top 12" of soil

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 Better to plant in prepared beds rather than single plants







"Every digging job requires a call - even small projects like planting trees and shrubs. The depth of utility lines varies; multiple utility lines may be in a common area.

Digging without calling can disrupt service to a neighborhood, harm you and those around you and potentially result in fines and repair costs. Calling 811 before every digging job gets your underground utility lines marked for free and helps prevent undesired consequences."







Planting Container Plants

- Can be planted year round as long as can keep watered – fall/winter best time to plant (Oct-Feb)
- Always check for pot bound
 - Cut through circling roots and break up the root system of root bound plants









Planting Hole

- 2-3x width of root ball
- No deeper than root ball
- Roughen sides of hole if slick
- Firm bottom to reduce settling
- Backfill with unamended soil
- Berm around edge







Hole too Deep?









Planting Bare-Root Plants

- Plant while dormant
- Keep moist until planting
- Soak for at least an hour but no more than 24
- Build soil mound and make sure to work soil around roots for good contact
- Water to eliminate air pockets

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Planting Balled-and-Burlapped Plants

- Late fall-early winter best, but can be done in spring
- Planting procedure almost same as container



Staking Trees

- Only necessary if tree cannot support itself
- Never have wire in direct contact with tree trunk – use plastic coated wire or old water hose
- Ex. Of staking a bare root tree





Staking Trees

- Ex. Of staking a small tree with two stakes
- REMOVE AFTER ONE YEAR!







Establishing Woody Plants

- The 1st year it sleeps, the 2nd year it creeps, the 3rd year it leaps
- Most woodies take 2-3 years to become fully established
- 1-gallon to 3-gallon size plants require 3 to 5 gallons of water 2x/week for ~1 month
- Mulching critical









Care After Planting

- Do NOT prune at planting this can actually do more harm than good
- Trunk wraps are not necessary
- Watering is most important thing you can do to help newly planted trees establish









Fertilizing

- Incorporate lime, P and K at planting according to soil test results – No N first year, want root growth not top growth
- Future fertilization:
 - Apply in early spring (March)
 - Use slow release fertilizer
 - Broadcast around dripline



Avoid fertilizer spikes – They are not effective







Fertilizing Woody Plants

- If your plants appear healthy, and you are happy with their growth rate, then fertilization is not necessary
- Don't try to push growth with excess fertilizer = weak plants!



N Deficiency – yellowing of older leaves first, entire plant eventually yellowing and stunted







Watering Established Woody Plants

- Properly-sited, established woody plants should only need water during drought
- Less drought tolerant species (eg. Hydrangea, Japanese maple) should be in "High water use" zone
 - Water roots, not leaves







Mulching Trees

- Mulch established trees 2 ft in diameter for every inch of trunk diameter or out to dripline
- If small tree, at least 3-4 ft diameter
 - Continue to expand as tree grows larger



whacker may cause irreversible damage







Mulch Benefit

- Keeps trimmers and mowers away from the trunk
- The only living part of woody stems is directly under the bark
- If you cut through the phloem and xylem you kill the plant





Mulching for Trees

























PRUNING TREES & SHRUBS

Why Do We Prune?

- Keep plants healthy
 - Remove diseased/dead/broken wood
 - Increase air flow
 - Remove crossing branches
- Increase flowering
 - Increase light penetration
 - Stimulate flowering wood
- Aesthetics
 - Enhance natural form of plants
- Keep plants in bounds?



Why were these dwarf yaupon pruned?







Consequences of Not Pruning

- Increased risk of branch and stem failure
- Development of low aggressive limbs - damage to autos, and hazards to people
- Formation of co-dominant stems
- Defects such as included bark and dead branches
- Obstructed views
- Greater opportunity for disease







What Pruning Is NOT:

Pruning should **NOT** be cutting back and reshaping a plant that is too large for its space








What Pruning is NOT:

Pruning is **NOT** trying to change the plant's programmed genetics for shape and size











Work with the Natural Shape of Plants



Forsythia is a LARGE arching shrub







Natural Shapes Differ





'Carissa' holly is a naturally low, dense, mounded shrub



Forsythia is naturally a large, graceful shrub





Cleyera is naturally a large, dense, upright shrub



Hand Pruners

Anvil













Ratchet Pruners





















Saws and Pole Pruners











Shrubs: Thinning and Heading Cuts



Thinning

Heading back







Heading vs. Thinning

- Heading thickens growth
- Thinning opens center
- Use a mixture of cuts, as illustrated, to open plants up for better air circulation while also encouraging new growth throughout the shrub
- Remember to work with the natural shape of the shrub

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Thinning Cuts

- Completely remove selected branches to a side branch, the trunk, or down to ground level
- Opens up plants and improves air circulation
- Controls size yet maintains natural shape





What to Remove?

- Thinning crowded shrubs often involves removing older decrepit stems
- Indications for removing stems could be:
 - Decline in flower production
 - Stems that are too tall/uneven
 - A base that is crowded with too many stems



With thinning cuts, branches are removed at their point of origin







Heading Cuts

- Cut stems back to a bud or node
- Promotes dense growth and branching
- Head back at <u>multiple</u>
 <u>heights</u> for more fullness throughout the shrub



A) All shoots headed back to same height: all new growth is on the outside

B) Shoots are headed back at different heights: new growth is fuller







Shearing

- Can be done any time
 of year as needed
- Shearing before new growth (late winter) encourages vigorous regrowth
- Shearing after growth flush (early summer) minimizes regrowth



Wrong shape Top wider than the base lower part of the hedge becomes leafless because of shade Right shape Top narrower than base lower part of hedge remains clothed with leaves



Making The Cut



Make an angled cut just above and sloping away from a viable bud



"A" is a correct cut, "B" is too slanted, "C" is too far from the bud, "D" is too close to the bud







Directional Pruning

 Control the direction of new growth by cutting above a bud facing the direction growth is desired – generally outward from the plant center









Pruning Shrubs – When?

- Flowering shrubs
 - Spring blooming = prune after flower
 - Summer blooming = prune late winter
- Evergreens
 - Most require little pruning grow dense
 - Can trim as needed, avoid late summer

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- All shrubs
 - Remove dead, broken, crossing or diseased branches anytime



'Nellie R. Stevens' Holly requires little pruning





Pruning Out Diseased Wood

- Always cut 4"-6" below discolored wood, back to a lateral branch or trunk
- Disinfect pruners between cuts - use lysol, rubbing alcohol, or a 10% bleach solution



Fireblight on Pear







Narrowleaf Evergreens (Conifers)

- Require very little pruning
- Never cut back to bare branches (no leaves) – cannot produce new buds on old wood
- Pruning (generally confined to light tipping) can be done anytime of the year (avoid late summer/fall)

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New growth will not arise from old wood

Narrow Leaf Evergreens

'Old Gold' Juniper

'Emerald' Arborvitae (Thuja)



Hinoki Cypress (Chamaecyparis)





Broadleaf Evergreens

- Most require little pruning when planted in the right place
- Follow general guidelines
 - Dead, diseased, damaged
 - Out of place, crossing/rubbing
 - Vigorous stray shoots
- Light pruning almost anytime of the year
- Consider time of flowering

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Dwarf Buford Holly





Broadleaf Evergreens



Camellia

Many more: Abelias, Cleyera, Azaleas, Viburnum, etc.





Hollies



Deciduous Shrubs

- Generally grown for flowers
- Time to prune depends on when plant flowers
 - Spring Blooming: Prune after flowering but before mid-July
 - Summer Blooming: Prune late
 winter/early spring ~ Feb March
- Cut out a few of oldest stems back to ground level each year for continuous renewal









Prune After Spring Bloom

- Azalea
- Rhododendron
- Camellia
- Cotoneaster
- Flowering
 Dogwood
- Viburnum

- Euonymus
- Quince
- Forsythia
- Bush Honeysuckle
- Winter Jasmine
- Magnolia







Spring Bloomers: Prune after flowering



Forsythia

Indian Hawthorn





Others: Weigela, Kerria, Bridal wreath Spirea

Azalea







Prune in Late Winter: Summer Bloomers

- Abelia
- Chaste-tree
- Crape myrtle
- Hibiscus
- Roses

- Hollies
- Beautyberry
- Nandina
- Photinia
- Wax myrtle
- Japanese spirea









Others: Butterfly bush, Clethra, Tea Olive

Summer Bloomers: Prune late winter

Japanese Spirea

Abelia









Pruning Hydrangeas - Spring Bloomers



Mophead Hydrangea

Lacecap Hydrangea





Oakleaf Hydrangea

Bigleaf hydrangea (*H. macrophylla*), both mophead and lacecap varieties, and Oakleaf (*H. quercifolia*) bloom on old wood - prune after flowering







Pruning Hydrangeas - Summer Bloomers



Hydrangea paniculata (a common variety - 'Limelight')



Hydrangea arborescens (a common variety - 'Annabelle')

These white flowered, summer blooming hydrangeas bloom on new wood and should be pruned in late winter/early spring: mid-March is typical







Prune roses when buds start to swell in the spring

Remove weak, diseased or spindly wood and leave 3-5 of the most vigorous canes

Prune climbers after the first flush of growth remove old, diseased canes



Hybrid Tea nd Grandiflora Type Roses Do not prune floribundas Floribunda Type Roses as heavily COOPERATIVE SION

Pruning Crape Myrtles





Crape Murder!



Pruning Small Trees

- Remove all diseased, dead and damaged branches
- Remove crossing or rubbing branches

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 Remove inwardly growing branches to improve light penetration and air circulation

Pruning Shade Trees

- Develop central leader
 - Especially in trees maturing over 30'
- Space and balance branches
 - Encourage strong (wide) angles
- Remove crossing branches

Never use heading cuts on trees!

 This is called topping and is extremely detrimental to tree health - it promotes weak structure and encourages decay

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Branch Angles

- Strong "U" shaped or obtuse crotches (angles) are stronger
- Prune to correct branches with "V" shaped or very acute crotches (angles) with the trunk - these angles are weak and split easily during storms

Pruning large branches: The three cut method

A) Undercut B) Overcut C) Final Cut at Branch Collar





Exposed wood due to prunin Knot of a branch of maple tree. C rowth rings Figure 28.1 A. Photography showing knot. B. L. S of stem showing callus

B. L. S of stem showing callus tissue. C. Diagram illustrating burial of wound caused due to pruning. Barks are hatched.







Tear caused by not using the 3 cut method – tree cannot seal over – opening for decay and insects

What about wound dressing?



Not beneficial! Can actually increase decay problems







Remove Suckers

- Suckers usually come up from the base of the tree or shrub; they should be cut back or broken off at their base
- Best done in summer

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Remove Water Sprouts



Water sprouts usually branch off from a stem







When to Prune Trees

- Callus growth is maximized in late winter/early spring just before new growth begins
- And in early summer (June) after growth flush and new leaves are fully expanded
 - Pruning after growth flush minimizes sprouting
- Worst time: during a growth flush









Hiring an Arborist

- When pruning trees that you want to keep healthy hire a certified arborist
- Certification through the International Society of Arboriculture
- Can search for certified arborists from their website: <u>http://www.isa-arbor.com/</u>



International Society of Arboriculture









Let's head outside!

Grab any pruners or loppers available. Not everyone needs some.





