

Pruning

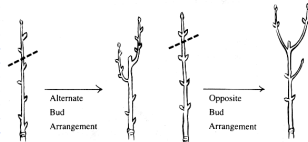
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What is Pruning?

- ◆ Selective removal of specific plant parts
- ◆ Shoots and branches are the main target for removal, roots, flower buds, fruits and seed pods may also be pruned
- ◆ Pruning wounds plants
 - Damaged areas caused by pruning are covered by callus tissue to close wounds
 - Plant wounds seal not heal

What is Pruning?

- ◆ Pruning stimulates lateral shoot growth close to the cut.



Reasons to Prune

- ◆ To improve the appearance or health of the plant
 - Removal of diseased, insect infested, damaged or dead plant parts
 - Promotes better air circulation
 - Improve future structural problems (narrow crotches)
- ◆ To control the size of a plant
 - Reduces size, prevent interference with utilities and access for pest control

Reasons to Prune

- ◆ Maintain a desired shape
 - Formal or Informal (Man-made or Natural)
- ◆ Influence fruiting and flowering
 - Encourages vegetative growth
 - Stimulate flowering
 - Produces larger fruit To train young plants
 - Develop the scaffold branches (tree structure)
 - Beginnings of espaliered, topiary plants

Reasons to Prune

- ◆ Prevent personal injury or property damage
 - Reduce wind resistance
 - Remove dead or hazardously low limbs
 - Security reasons
- ◆ To train young plants
 - Develop the scaffold branches (tree structure)
 - Beginnings of espaliered, topiary plants
- ◆ To rejuvenate old trees and shrubs
 - Restore vigor, improve appearance and encourage growth

Three T's for Proper Pruning

- ◆ Tools
- ◆ Technique
- ◆ Timing

Pruning Tools

- ◆ Look for quality and durability before price
- ◆ Replacement parts or warranties are good
- ◆ Wide range of tools are available

Pruning Tools – Thumb and Forefinger

- ◆ Thumb and Forefinger used to remove terminal buds
- ◆ Removing buds or disbudding stimulates lateral shoot growth
- ◆ Mostly done on small plants
- ◆ Good for building structure of herbaceous plants and shrubs

Pruning Tools – Hand Pruners

- ◆ Designed to cut small twigs and branches up to 1/2 inch in diameter
- ◆ Two types
 - Scissor-action or draw-cut pruners
 - Anvil action or snapcut pruners



Pruning Tools – Hand Pruners

- ◆ Scissor-action pruners
 - Sharpened blade that cuts by gliding against a thicker sharp blade
 - Usually cost more
 - Makes a smoother cut
- ◆ Anvil-action pruners
 - Sharp blade that cuts against a broad flattened grooved blade
 - Makes larger cuts easier than scissor-action

Pruning Tools – Loppers

- ◆ Scissor or anvil-action with larger blades and long handles that increase leverage
- ◆ Best for branches larger than 1/2" up to 1 1/2" in size
- ◆ Look for ones with a smooth action; shock absorption pads between blades to lessen fatigue
- ◆ Replaceable blades are a plus

Pruning Tools - Saws

- ◆ Used for branches larger than 1 1/2" in diameter
 - Curved saws up to 2 1/2"
 - Coarse Bow saws for larger limbs – 3"+ diameter
 - For branches larger than your forearm – get an expert
- ◆ Has Narrower blade and coarser teeth
- ◆ Some have curved blade that cut on the draw stroke
- ◆ Bow saws makes large cuts but hard to maneuver in tight areas

Pruning Tools – Pole Pruners

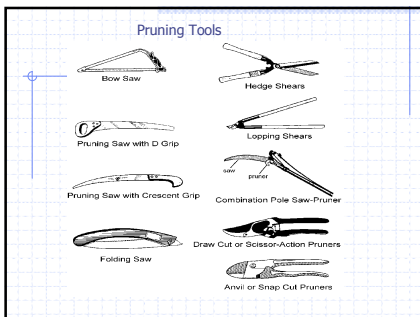
- ◆ Cut out-of-reach branches up to 2" in diameter
- ◆ Consist of a blades attached to stationary hooks which are mounted onto a wooden or aluminum pole
- ◆ Cord or chain is used to control cutting action of the spring-loaded blade
- ◆ Care should be taken when using around utility lines

Pruning Tools – Chain Saws

- ◆ Removes branches greater than 3" in diameter
- ◆ Gas or electrical
- ◆ Task for which it will be used will determine the size of engine and length of blade
- ◆ Safety Gear is a must

Pruning Tools – Hedge clippers or Pruning Shears

- ◆ Used for trimming thin-stemmed hedges; shear off growth in a straight line
- ◆ Manual, electrical or gas powered available



Other tools

- ◆ Gloves
- ◆ Eye/Ear protection
- ◆ Safety Gear for Chain Saw use
- ◆ Ladder
- ◆ Yard Rake
- ◆ Broom/power blower
- ◆ Tarp
- ◆ Gas/oil mix
- ◆ No pruning paint!

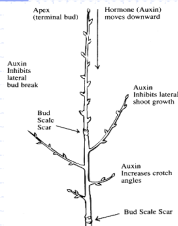
Selecting and Maintain Tools

- ◆ Select quality tools
- ◆ Sharpen blades regularly or replace blades
- ◆ Dry and oil them after use
- ◆ "Listerine" or rubbing alcohol is best for disinfecting tools. Pine Sol or bleach can be corrosive

Basic Botanical Principles of Pruning

- ◆ Terminal bud produces a hormone (auxin) that directs the growth of lateral buds
- ◆ Auxin suppresses the growth of lateral buds and shoots
- ◆ If terminal bud is removed, lateral buds and shoots below the cut will sprout and/or grow
- ◆ Most vigorous new growth occurs within 6-8" of the pruning cut
- ◆ Sunlight hastens the development of lateral shoots

Botanical Principles of Pruning



Thinning is better than Shearing

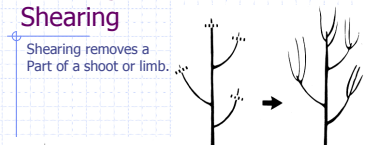
- ◆ When shrubs are sheared routinely, dense, thick new growth is produced near the outer portions of the canopy
- ◆ Results in the majority of foliage on outside of plant and plant becomes stemmy or hollow
 - Due to less light reaching the interior

Thinning is better than Shearing

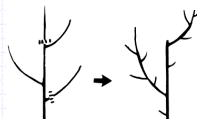
- ◆ Thinning - cutting selected branches back to a lateral branch, lateral bud or main trunk
- ◆ Thinning encourages new growth within the interior portions of a shrub, while reducing the size of the shrub and results in a fuller, more attractive plant

Thinning is better than Shearing

Shearing removes a Part of a shoot or limb.



Thinning removes the entire Shoot or limb.



Botanical Principles of Pruning

- ◆ When a cut is made back to the main trunk, lateral branch, or lateral bud, a higher concentration of hormones in these areas causes the wound to heal rapidly
- ◆ Leaving a stub or increasing the distance to a hormonal source (bud) to the wound causes it to heal slowly, or never healing
 - Insects, diseases then enter the cut portion and cause dieback
- ◆ Therefore always cut back to a bud, lateral branch or main trunk

Cut Back to a Bud

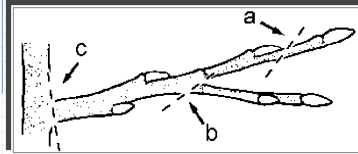
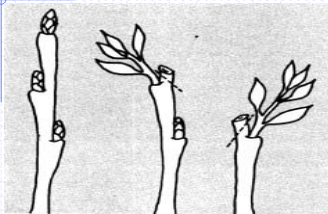


Figure 5. Always cut back to a bud (a), a lateral branch (b) or main trunk (c), and avoid leaving a stub.

Making an angled cut



Types of Pruning

- ◆ Informal Pruning
 - For Single Trunk Plants or multi-trunk plants
 - Use thinning as a method
- ◆ Formal Pruning
 - Non-selective
 - Use heading back as a method
 - Used mostly for hedges
 - Best for smaller leaved plants

Types of Pruning

- ◆ **Renewal or Rejuvenate Pruning**
 - Severely cutting back plant to restructure branching
 - Used mostly in overgrown shrubs
 - Can invigorate older plants
 - NEVER, NEVER DONE ON BOXWOOD or JUNIPERS
- ◆ **Tree Pruning or Removing Larger Limbs**
 - Sometimes called Jump-cutting

Time to Prune

- ◆ Flowers or Fruit
 - Different plants produce flowers/fruit at different times of year.
 - Need to know the particular plant
- ◆ Foliage
 - Plants grown primarily for their green foliage such as boxwood or hollies can be pruned from January until mid-summer

Time to Prune – May Rule

- ◆ If it blooms before May 1st, prune after it blooms
- ◆ If it blooms after May 1st, prune before new growth begins in the spring

Time to Prune – After Blooming

- ◆ Azalea
- ◆ Forsythia
- ◆ Deutzia
- ◆ Lilac
- ◆ Flowering Quince
- ◆ Mockorange
- ◆ Pyracantha
- ◆ Japanese Pieris
- ◆ Winter Honeysuckle
- ◆ Weigelia
- ◆ Wisteria
- ◆ Bradford Pear
- ◆ Crabapple
- ◆ Dogwood
- ◆ Flowering Almond, Cherry, Peach
- ◆ Redbud
- ◆ Saucer/Star Magnolia
- ◆ Bigleaf/Oakleaf Hydrangea
- ◆ Climbing Rose
- ◆ Spiraea – Spring blooming

Time to Prune – Before Blooming

- ◆ Camellia
- ◆ Floribunda Roses
- ◆ Grandiflora Roses
- ◆ Glossy Abelia
- ◆ Japanese Barberry
- ◆ Nandina
- ◆ Rose-of-Sharon
- ◆ Goldenrain Tree
- ◆ Chastetree
- ◆ Crapemyrtle
- ◆ Sourwood
- ◆ Sweetshrub
- ◆ Anthony Waterer Spiraea
- ◆ Fragrant Tea Olive

Time to Prune

◆ Rejuvenate Pruning or Severe Renewal Pruning

- Done just before new growth starts in the spring – late Feb. (south Georgia) or early Mar. (mid-Georgia) and mid to late Mar. (north Georgia)
- Junipers and Boxwoods should never be pruned too stubs
 - Narrowleaf plants, like Junipers, do not have latent buds on trunks for growth regeneration
 - Boxwoods are very slow growers and respond poorly to renewal pruning

Selective Pruning – Informal Single Trunk Plant

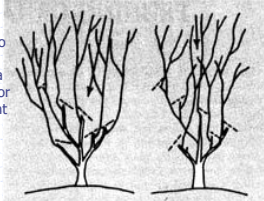
- ◆ Know what the shrub should look like in its natural state
- ◆ Visualize or plan your attach
- ◆ Begin by **selectively** removing branches (see next slide)
- ◆ Stand back occasionally and evaluate your progress

Selective Pruning – Informal Single Trunk Plant

- ◆ Begin by **selectively** removing branches
 - Make selective cuts within the canopy
 - Make angled cuts if possible just above a lateral bud or branch
 - When pruning back to a lateral, prune lateral which is 1/3 the diameter of branch being removed
 - Consider direction of new growth – prune to a bud/branch point in the direction in which new growth is desired

Selective Pruning – Informal Single Trunk Plant

Single trunk
ornamentals
Can be pruned to
Open the center
And encourage a
Spreading form or
To keep the plant
Upright.



Selective Pruning – Informal Multiple Trunk of Large Shrubs

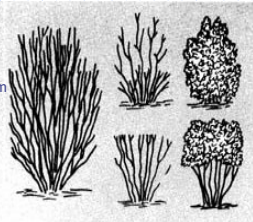
- ◆ Multiple trunk large shrubs such as Crapemyrtle, Redbud, etc.
- ◆ Annual pruning treating as single same as single trunk
- ◆ Remove disease, weak, broken, or unwanted growth to ground level
- ◆ Young branches can be removed to ground level when deemed necessary

Selective Pruning – Informal Multiple Trunk – Small Shrubs

- ◆ Cane-type shrubs like Nandina, Spiraea, Abelia, etc.
- ◆ Old branches should be selectively cut to the ground annually
- ◆ Nandinas
 - Prune 1/3 of canes to ground
 - Prune another 1/3 half-way to the ground
 - Last 1/3 is left uncut

Selective Pruning – Informal Multiple Trunk – Small Shrubs

Pruning cane-like
Small shrubs
Top shrubs have
Been selectively
Pruned while bottom
Have been sheared



Non-Selective Pruning – Formal Hedge

Shear so that it
is wider at
bottom than
top

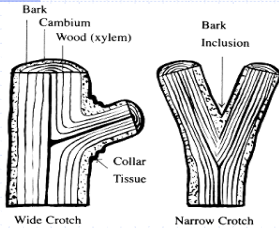
If sheared
vertically then
shading will
occur on lower
branches



Pruning -Trees

- ◆ Pruning young trees is needed to build strong framework and to overcome developing faults
 - Should be done frequently
- ◆ Remove weak crotches (less than 45 degree angle) and crossing branches
- ◆ Never top trees

Pruning - Trees



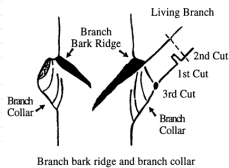
When to prune trees

- ◆ Remove dead limbs when tree is in foliage
- ◆ Established trees are pruned in winter or early spring
- ◆ Pines when pruned in spring and summer are more susceptible to insect problems – best pruned in winter

Branch Bark Ridge and Branch Collar

Branch collar is swollen area of trunk that forms around the base of a branch

If removed then cut will not heal properly



Healing Response of Pruning

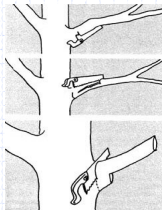
Two areas of the cambium, the *bark ridge* and the *branch collar*, function to close off the wound between the plant and the pruning cut.

For fastest healing, prune close to the main branch without injuring the bark ridge or branch collar areas

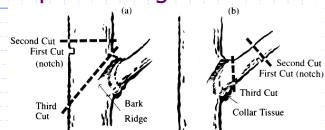
Leaving a stub will slow healing and invite decay. Wound dressings or pruning paint are cosmetic and do little to promote healing of the pruned area.

Removing Large Tree Limbs

1. Cut through 1/3 of limb on underside (1-2' from trunk)
2. Cut further out than 1st cut (distance equal to 3x diameter of limb)
3. Cut stub as close to trunk but not into branch collar. Make smooth as possible



Drop Crotching



Form of thinning used to reduce the size of large trees, involves the removal of a main branch (or leader) by cutting it back to a large, lateral branch (Fig. 8a).

Special Plants - Crapemyrtle

- ◆ Prune before new growth in spring
- ◆ Decide if it is multiple or single trunk tree
- ◆ Will tolerate heavy pruning
- ◆ Extend blooming period by removing fading flowers for trees to reset flower buds in same season

Special Plants - Camellia

- ◆ Prune to maintain form
- ◆ *Camellia japonica* is grafted onto a *Camellia sasanqua* rootstock
 - Be cautious when pruning below graft
 - Prune suckers that may arise below graft or they will dominate plant
- ◆ Prune fall and winter bloomers in March and Spring bloomer after flowering

Special Plants - Hydrangeas

- ◆ Exception to May rule
 - Summer bloomers prune after flowering
- ◆ Cut flowering canes back to within 2 ft. of ground after flowering
- ◆ If all fail to flower cut all back to within 2 ft. of ground

Special Plants - Roses

- ◆ Prune weak growing varieties lightly and vigorous-growing ones more severely
- ◆ Examine canes and remove wounded, split bark, diseased or crowding canes first

Special Plants – Hybrid Teas

- ◆ Prune out diseased/insect damage branches after last frost
- ◆ Peace, Garden Party, Tropicana, Lincoln are pruned in early spring before new growth begins
- ◆ Prune canes to 15-18" above ground
- ◆ Leave 3 to 5 healthiest, vigorous canes on each plant
- ◆ Make cut 1/4" from a bud
- ◆ Use sharp, clean pruners to make clean cut

Special Plants – Floribundas and Grandifloras Roses

- ◆ Fashion, Queen Elizabeth, Circus should be pruned heavily like Hybrid Teas
- ◆ Remove dead or diseased wood
- ◆ Cut canes leaving 3 to 5 strong healthy canes
- ◆ Cut canes to 18-24" above ground depending upon plant's vigor

Special Plants – Climbing Roses

- ◆ Varieties that bloom once a year (Blaze)
 - Cut several old canes to ground level immediately after flowering
- ◆ Varieties that bloom on-and-off
 - Remove some older canes leaving only 5-6 healthy, vigorous canes in early spring
 - Remove old, faded flower clusters