

Pruning Small & Juvenile Trees

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Topics

- How trees grow
- Why do we prune
- When do we prune
- How / how much to prune
- What tools do we use
- Practice with common plants

How Trees Grow

Tree Parts

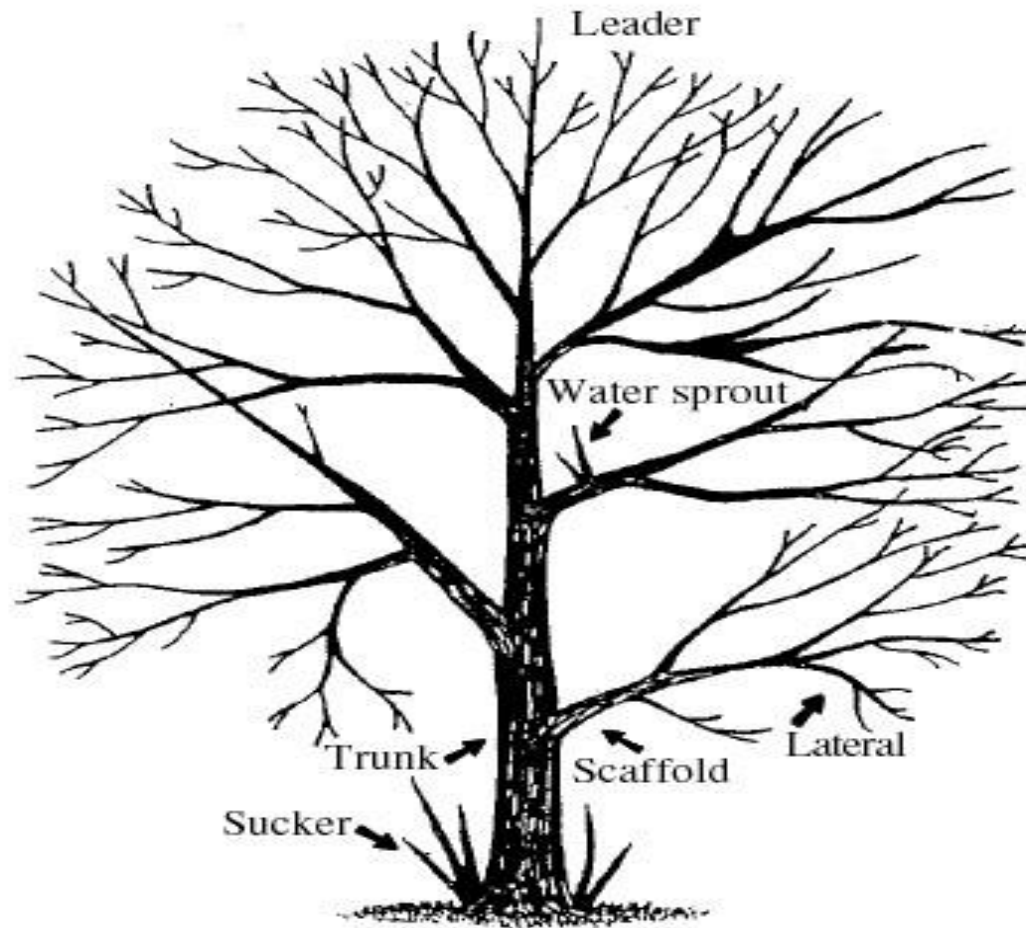
- Trunk(s), Leader
- Scaffold Branches, Lateral Branches, Twigs
- Terminal Buds, Lateral Buds, Nodes
- Water Sprout, Sucker
- Branch Bark Ridge, Branch Collar
- Leaves

How Trees Grow

Nail in the Tree Example

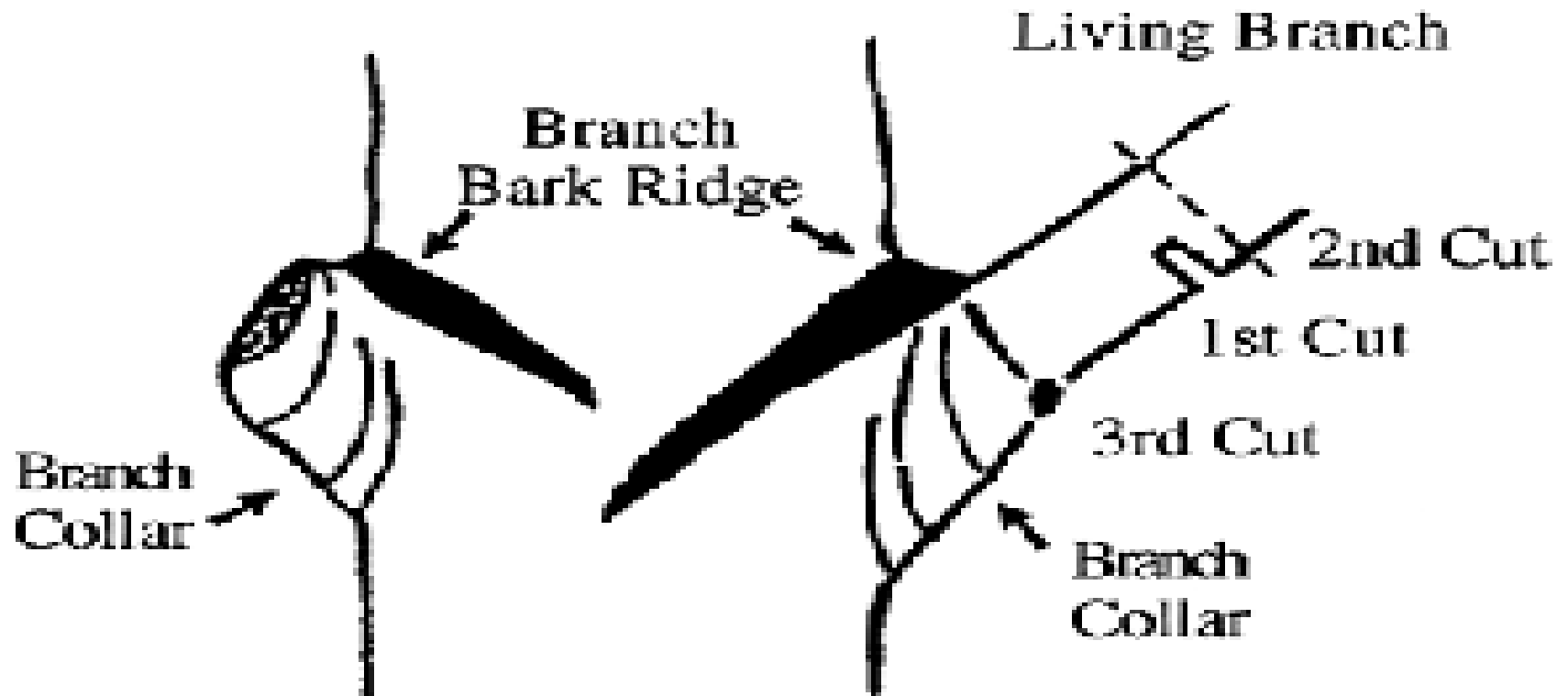


Tree's Anatomy



Typical above-ground tree framework

View of a Branch Collar



Branch bark ridge and branch collar

BRANCH COLLAR

Tissue which Forms at Base of Branch
Becomes more Pronounced as Vigor Decreases



Proper Pruning Cut



Not too close or too far from Branch Collar

Flush Cut



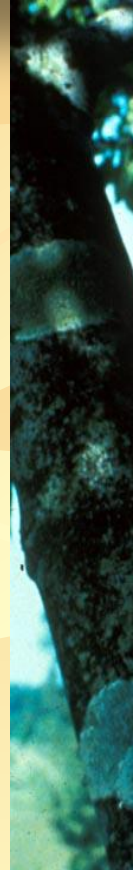
Flush Cut

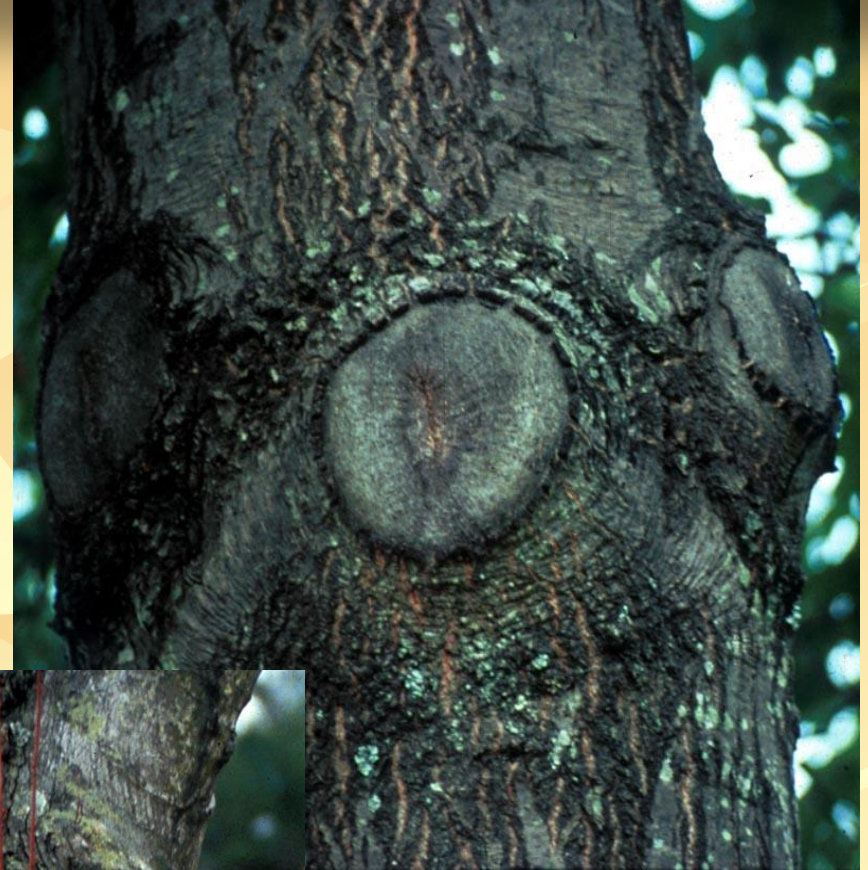


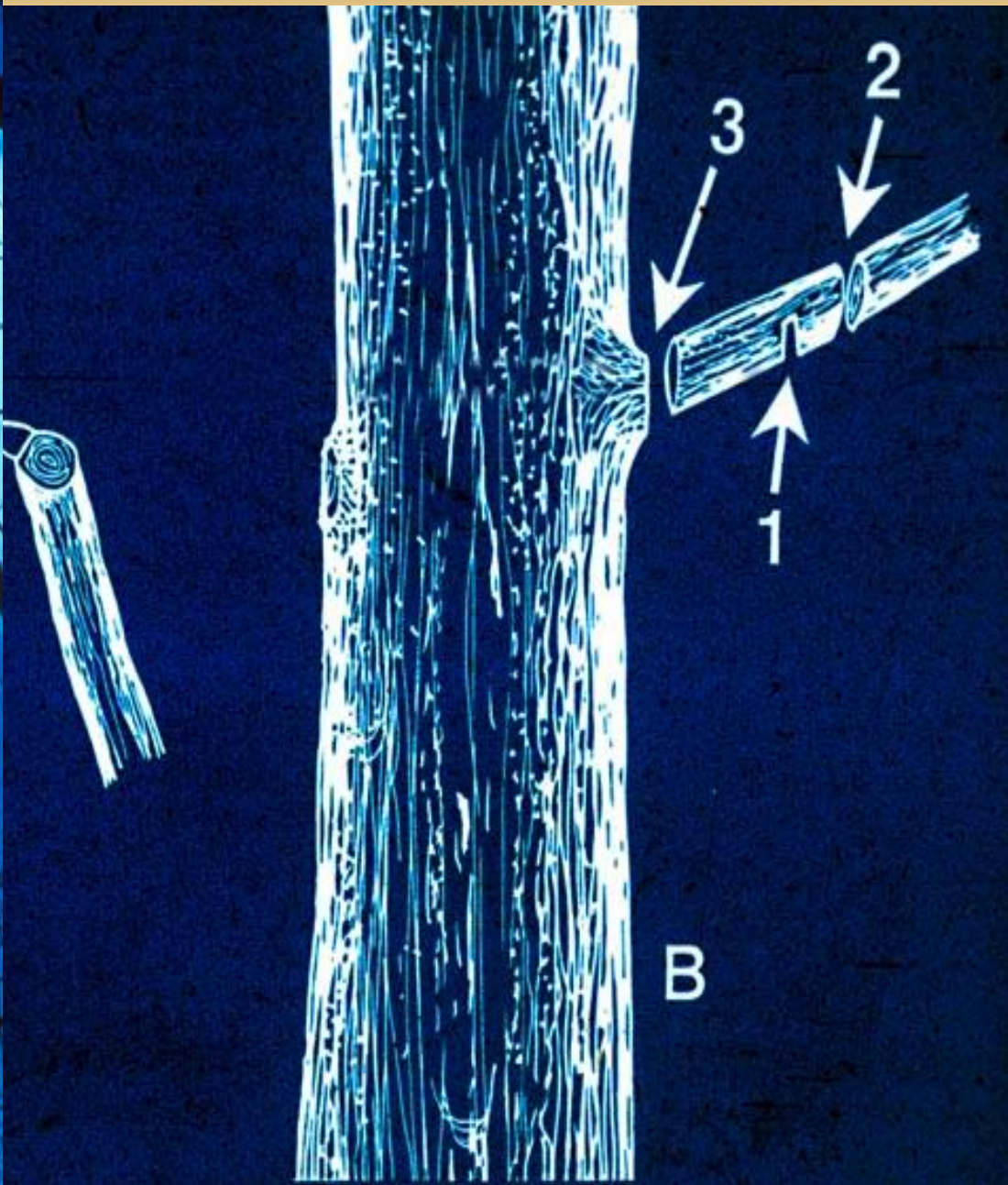
UGA1397126

Stub Cut









Pruning Closure



Why do we prune trees ?

- Cleaning - 4 D's, crossing, weakly attached branches ($< 30^\circ$), water sprouts, suckers
- Thinning - selective removal to increase light & air penetration, maintain shape
- Structure – Codominant stems, Symmetry, Limb spacing/attachment
- Raising - remove lower branches (safety ?)
- Heading - reduce size of tree

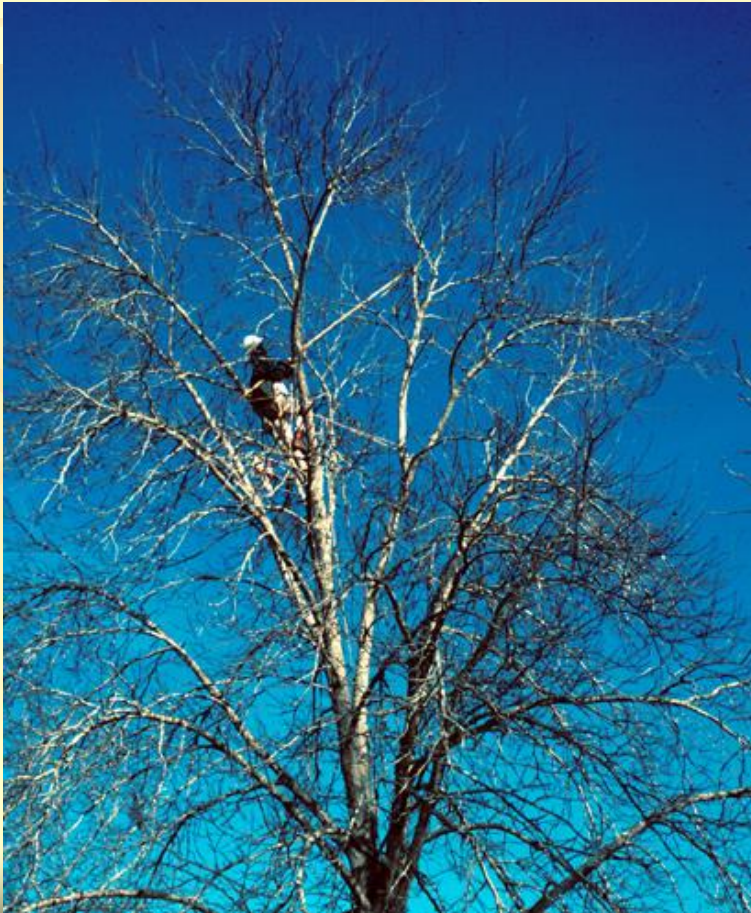
Cleaning

Remove dead, dying, diseased and conflicting branches (Pruning Diseased Limbs)

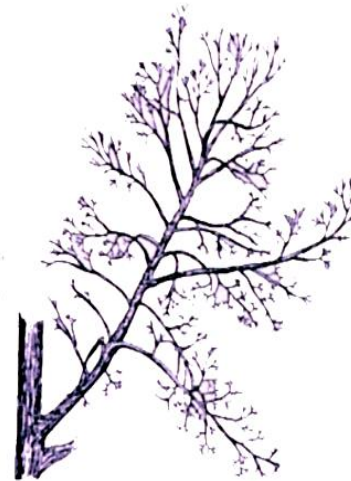
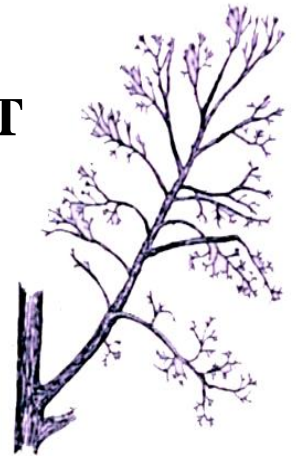


CROWN THINNING

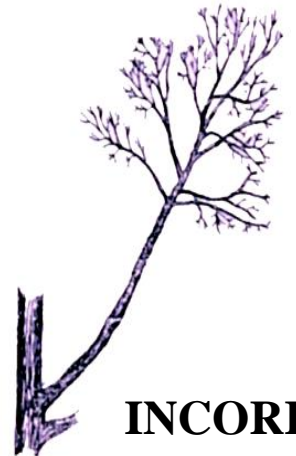
Thinning should be performed along the entire limb or leader. At least 50% of the foliage should be left on branches arising from the lower two-thirds of the limb and crown. Amount of thinning is expressed as a percentage. Specify maximum size of limb to be removed.



CORRECT



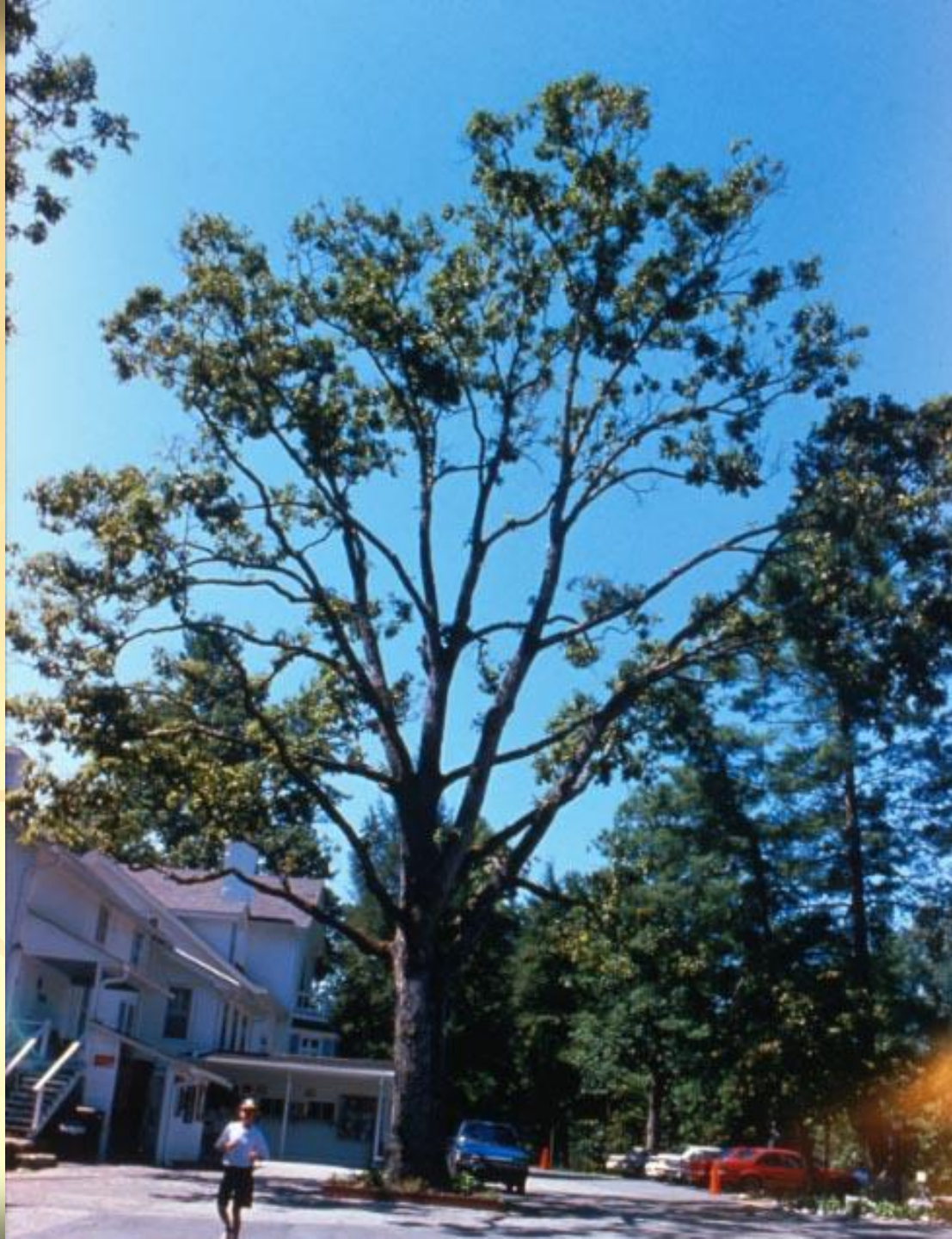
Before



**INCORRE
CT**





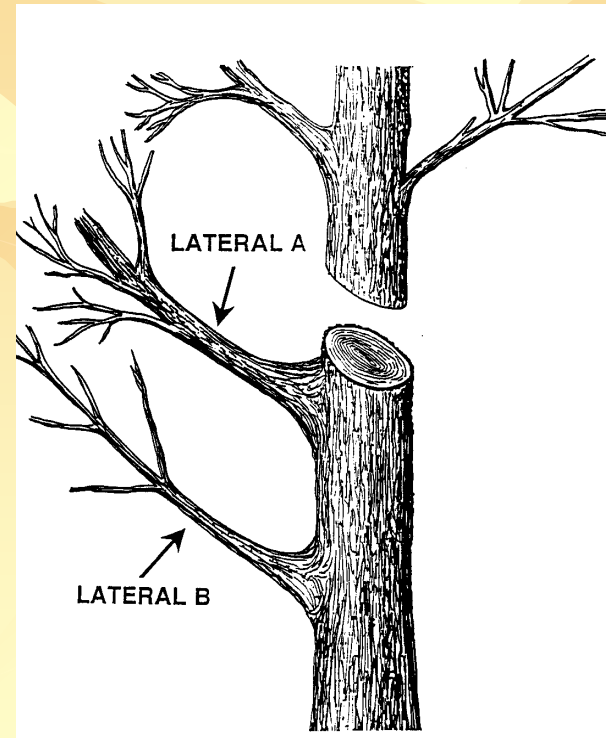


TREE RESPONSE TO EXCESSIVE THINNING



REDUCTION CUT

- **SHORTENING A BRANCH OR STEM (LEADER) BY CUTTING TO A LATERAL BRANCH THAT IS LARGE ENOUGH TO ASSUME THE TERMINAL ROLE**

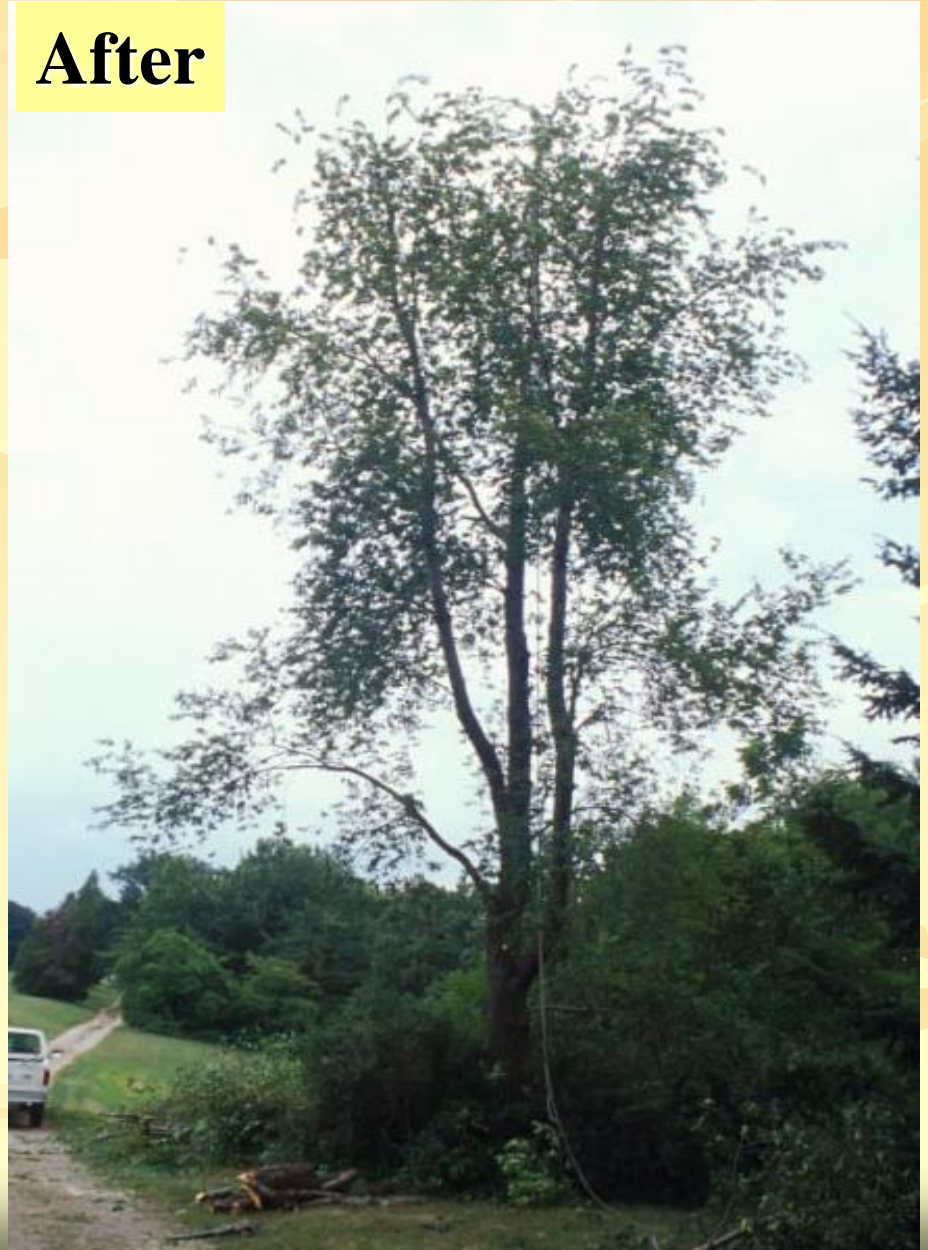


Cherry-Reduction

Before



After





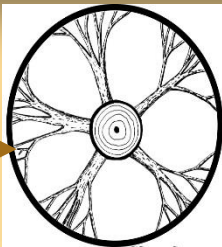








**Maintain
Radial
Symmetry**



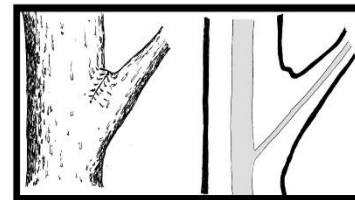
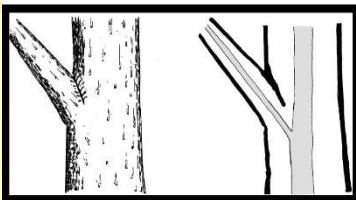
**Provide
adequate
spacing
between
branches**



**Maintain
dominant
leader: Remove
or subordinate
co-dominant
leaders**

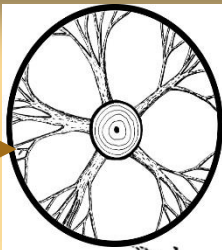
**Subordinate
lateral branches**

**Leave branches
with wide angle
of attachment.**



Structural Pruning Concerns for Young Trees

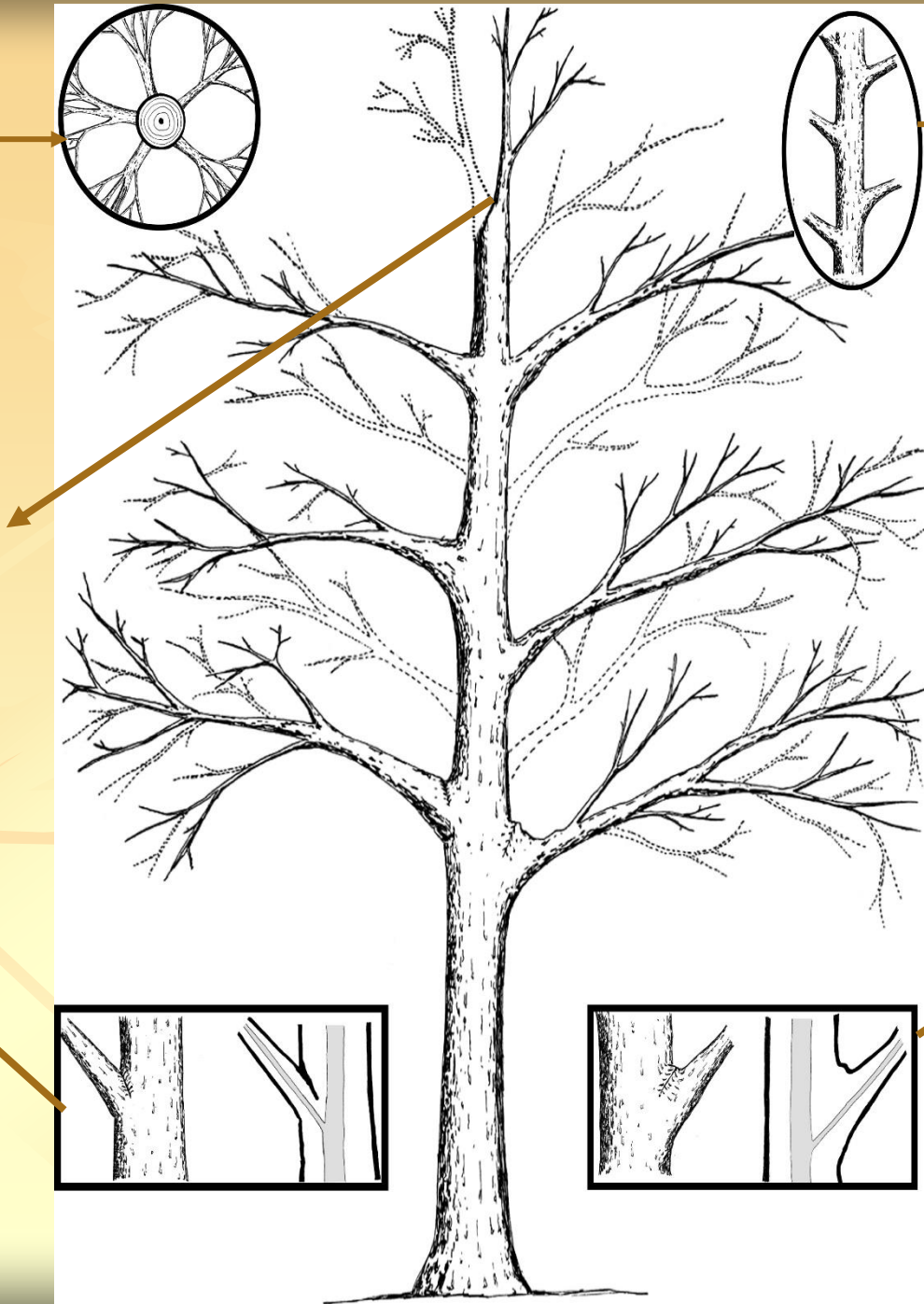
Space
branches
evenly
around
stem



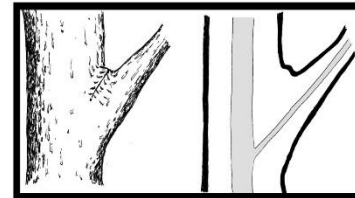
Provide
adequate
spacing
between
branches



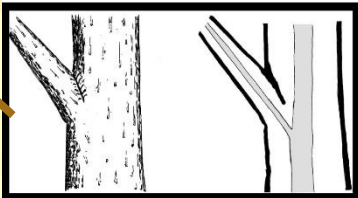
Remove or
subordinate
codominant
stems



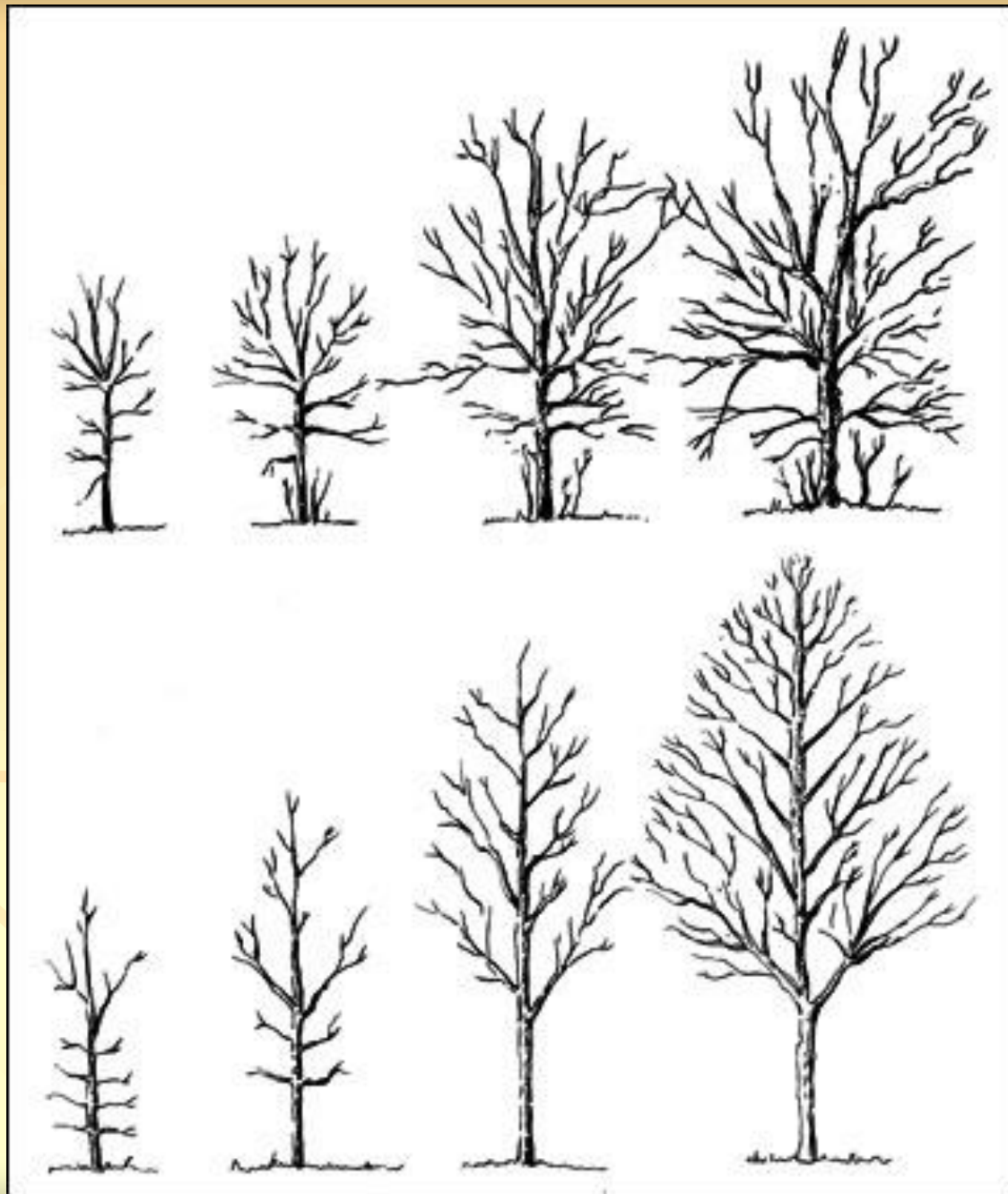
Leave
branches
with wide
angles of
attachment



Select
against
branches
with narrow
angles



Year 1



Year 10

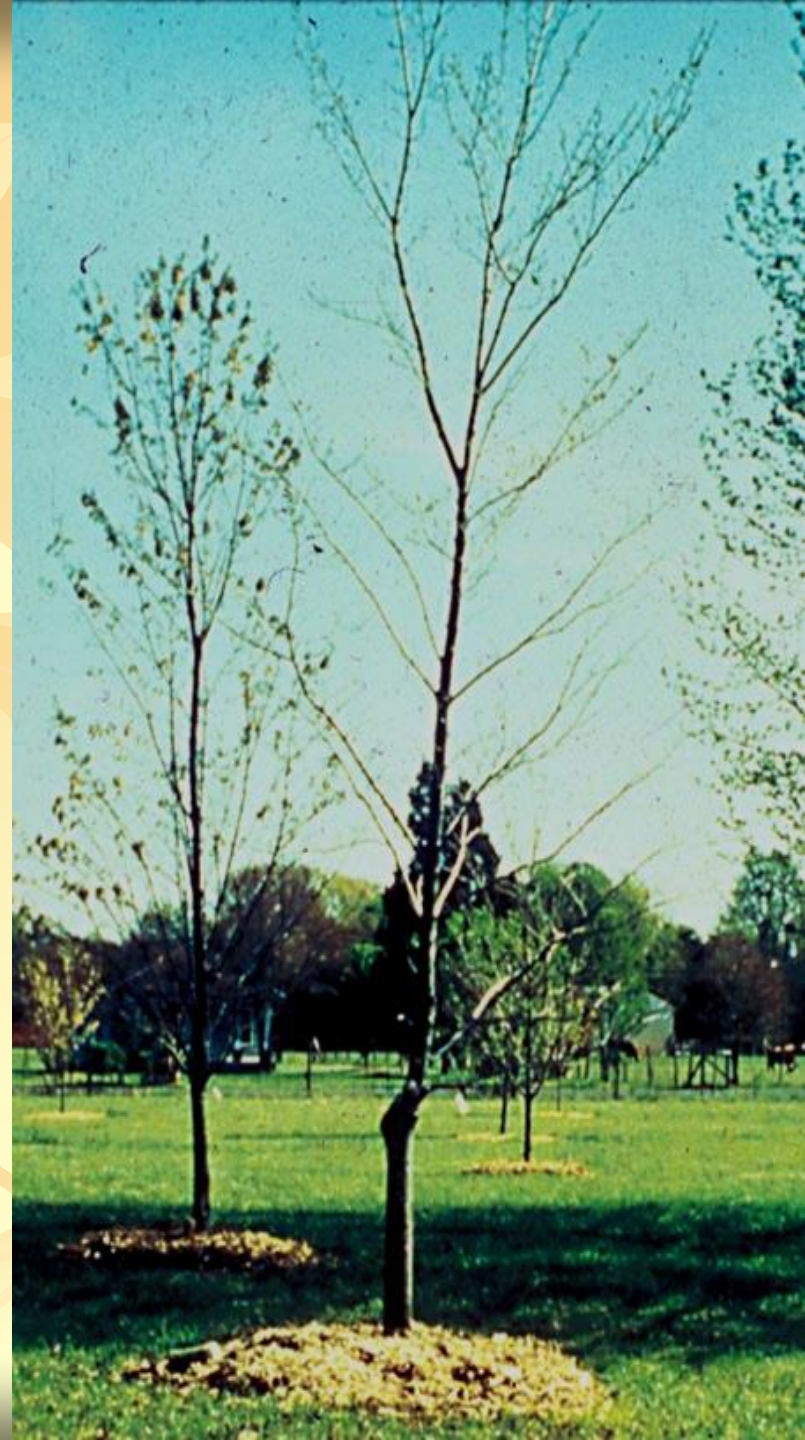


Structural Concerns

Maintain a strong central leader on species that are intended to be single stem

Excurrent Vs. Decurrent

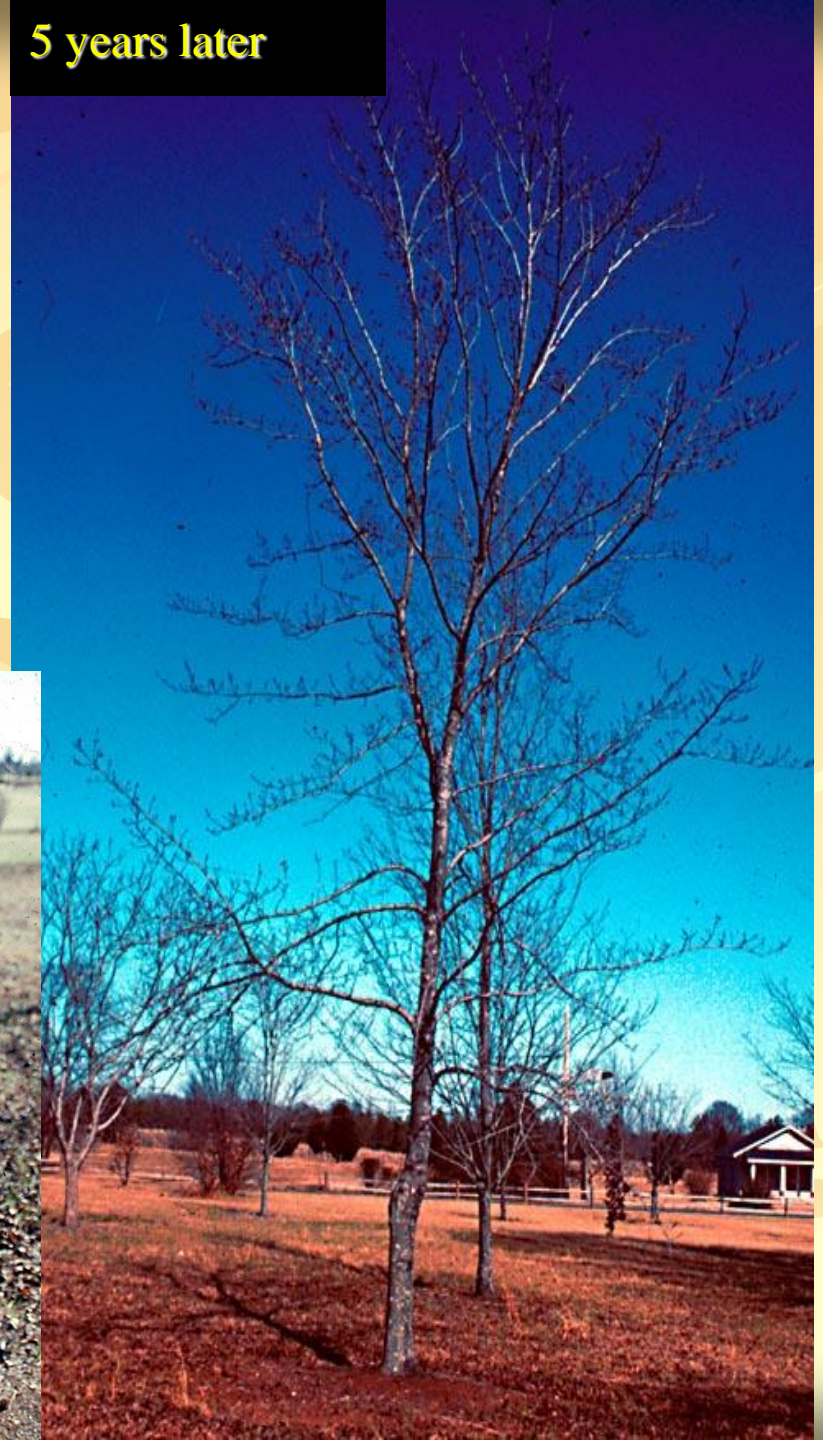
Red Maple



3 years later



5 years later

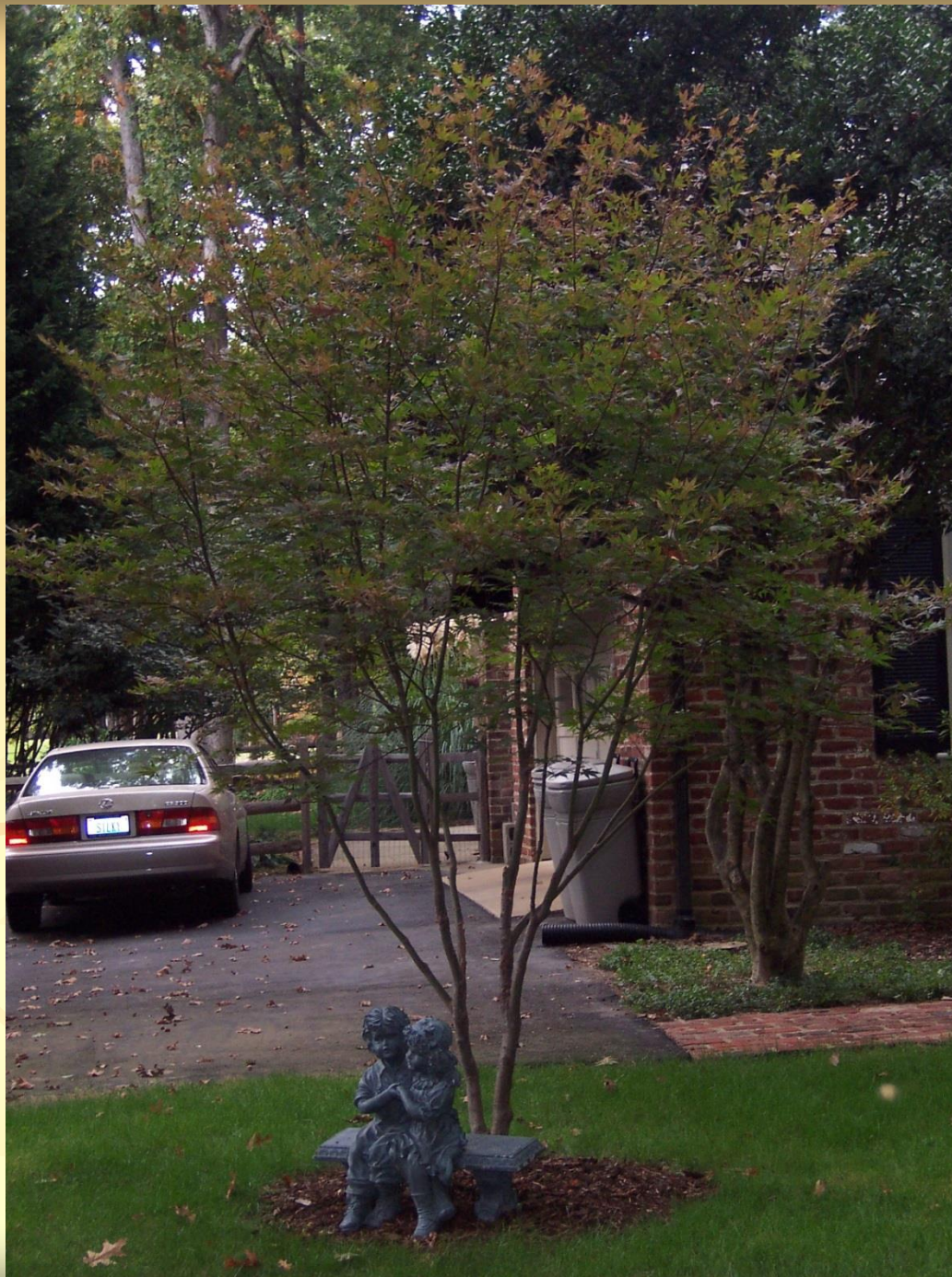






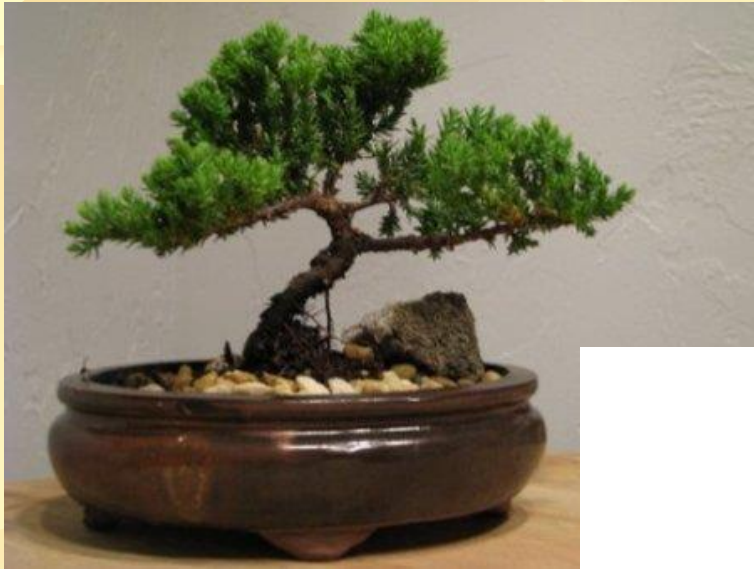
Maintain Natural Form of Plant





Specialty Pruning

Bonsai, Topiary, & Espalier



When do we prune ?

- Cleaning vs major pruning
- Consider leaf production / diseases / sap flow / cold injury / bloom time
- Check Pruning Calendar
- What are the current weather conditions?

VCE Pruning Calendar

Virginia Cooperative Extension

PUBLICATION 430-462

A Guide to Successful Pruning Shrub Pruning Calendar

Susan C. French, Extension Technician
Bonnie Lee Appleton, Extension Horticulturist

Comments:

- 1.) Flowers are produced on new (current season) wood
- 2.) Flowers are produced on wood from past season, pruning while dormant will reduce flowers
- 3.) Make pruning cuts well below diseased wood (fire blight) – disinfect shears between cuts
- 4.) Remove old stems to ground yearly to renew
- 5.) Midseason shear if a formal hedge is desired
- 6.) Do not cut into old wood that has no leaves or needles
- 7.) Spring/summer prune to remove azalea caterpillars and galls
- 8.) Fall/early winter pruning can reduce winter hardiness
- 9.) Snap candles (new growth) in half when needles are 1/2 to 2/3 their normal mature length



= Best time to prune



= Do not prune except to correct damage, hazards or structural defects

Where no



or



timing is not critical

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Comments
Abelia													1,4
Almond, Flowering													2,4
Arborvitae													6
Aucuba													2
Azalea, Deciduous													2
Azalea, Evergreen													2,7
Barberry, Deciduous													2,4
Barberry, Evergreen													2,4
Bayberry													
Beautyberry													1
Beautybush													
(Kolkwitzia)													2,4
Boxwood													5
Broom (Cytisus)													2

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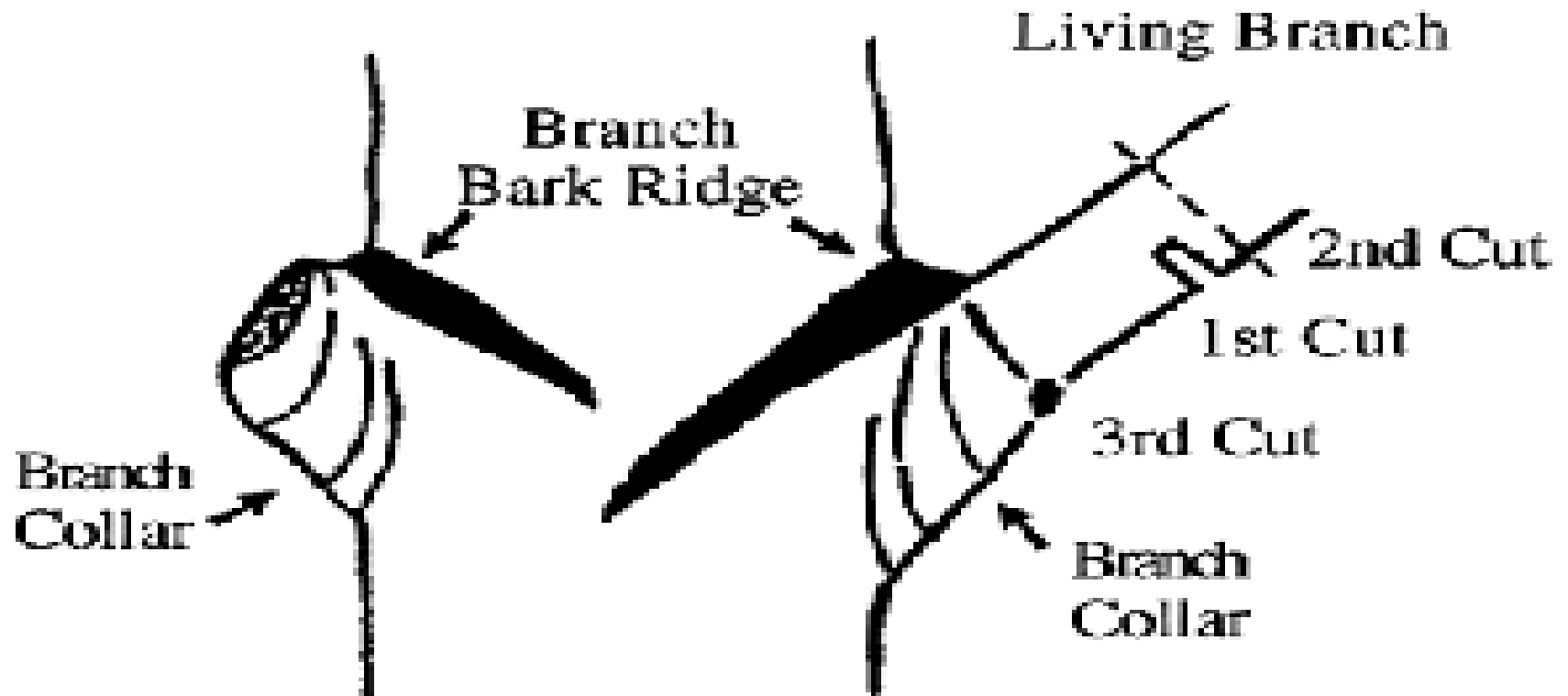


VIRGINIA STATE UNIVERSITY

How / How much to prune ?

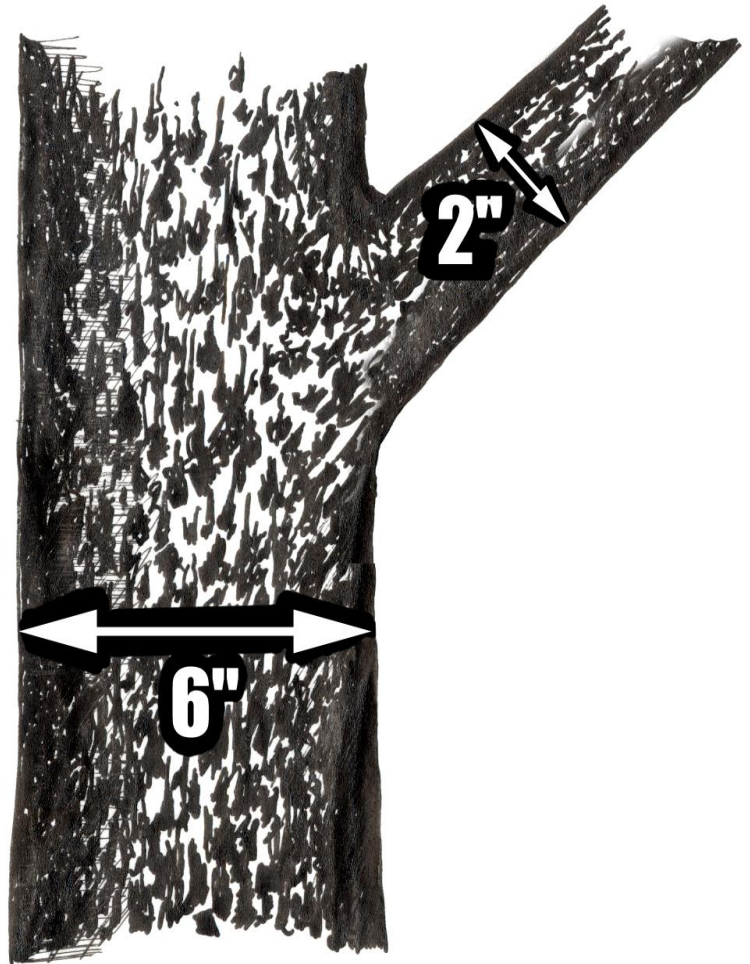
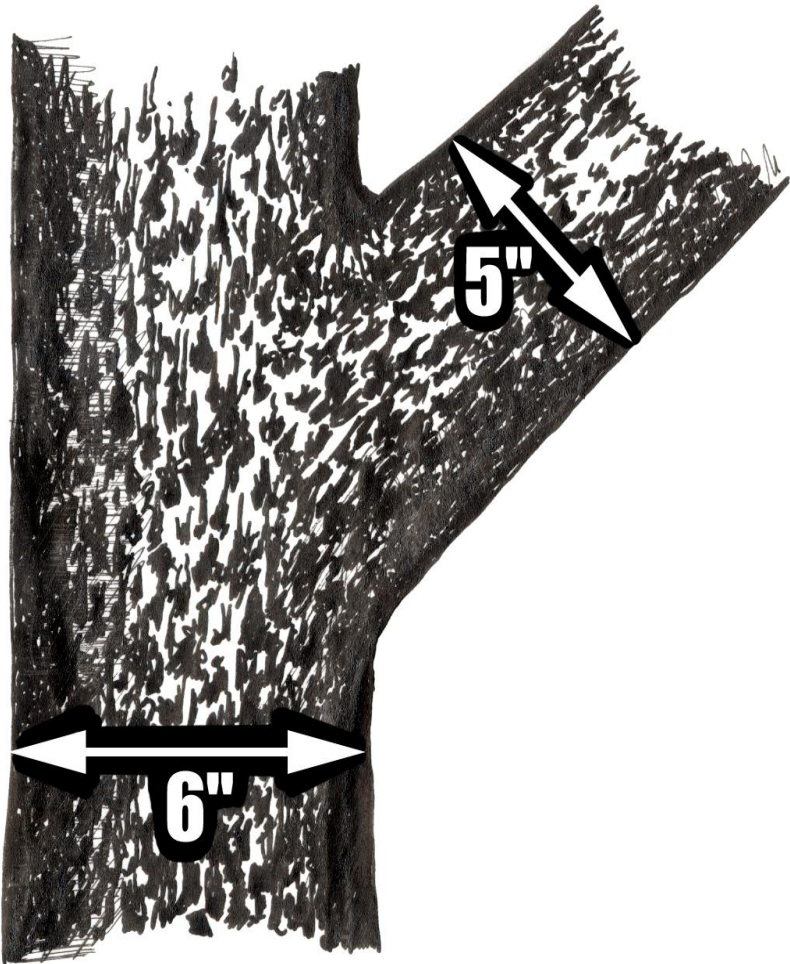
- When transplanting - weak, dead, diseased, rubbing or damaged branches
- Only what you can reach from the ground
- Limited per year for shape & structure; 3-5 year process - $\frac{1}{4}$ rule for thinning - $\frac{1}{3}$ for raising
- Young vs mature tree; many vs large cut
- Consider an arborist
- Proper cuts - to bud, to branch, to trunk
(always prune to something)

Where to make a cut



Branch bark ridge and branch collar

One Third Rule



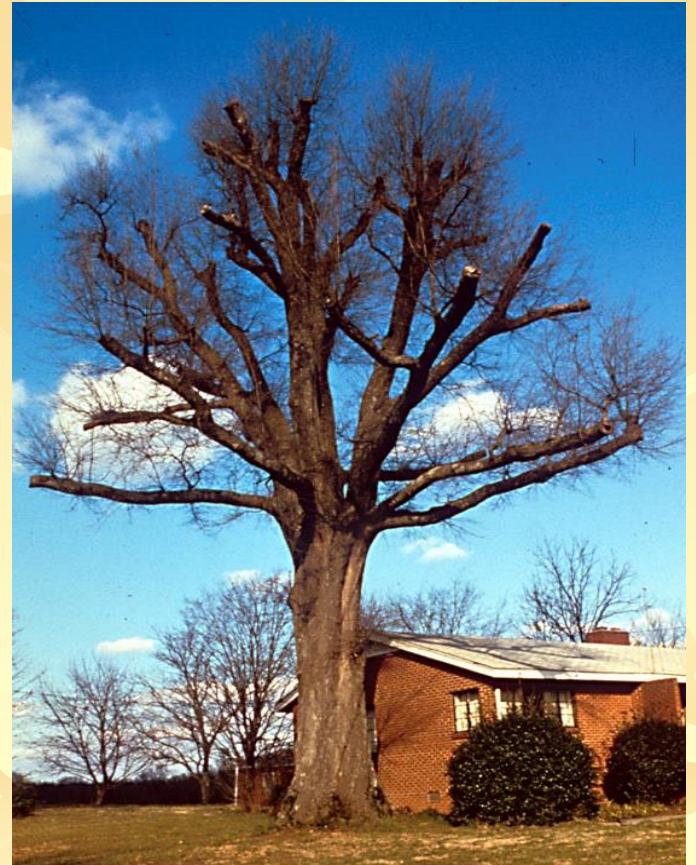


Topping Trees

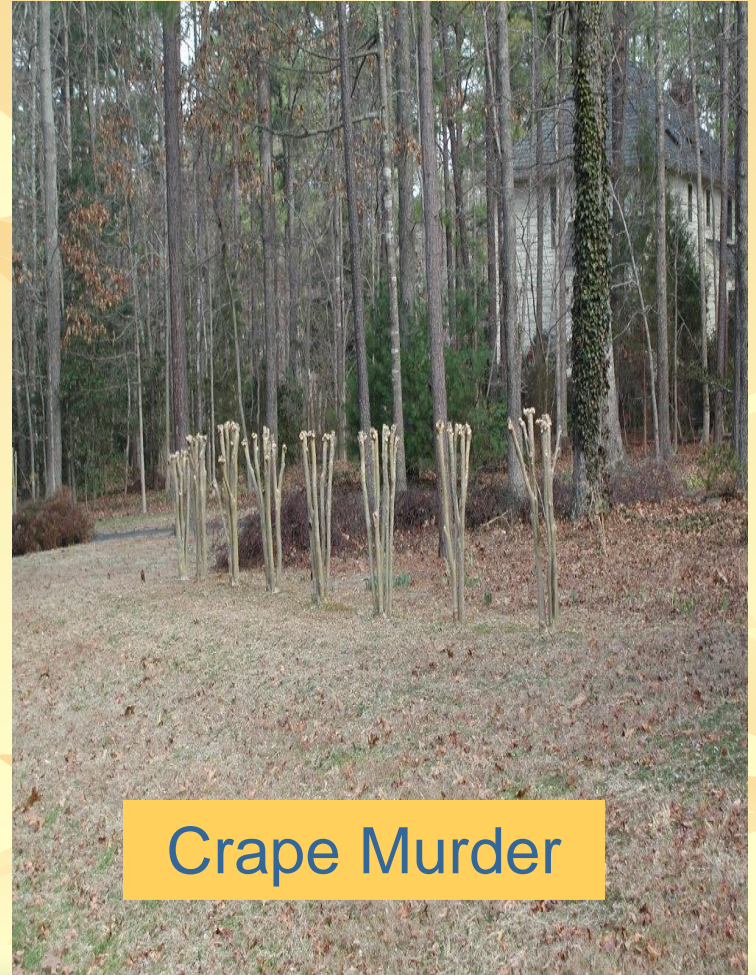
- Removes 50-100 percent of leaf bearing crown
- Can cause decay (stubs) & water sprouts
- Can lead to sunburn, bark damage
- Makes tree ugly / disfigures natural form
- Alternative - drop crotching
- Applies to Crape Myrtle !

Effects of Topping

- If the tree initially survives, fast growing sprouting branches will occur
- These weak sprouting branches will be more susceptible to future breakage
- Decay will begin to effect the topping cuts starting a downward spiral in long term tree health



Topping Disfigures Trees



Crape Myrtle

- Choose correct Cultivar
- “Crape Murder”



These crapemyrtles require yearly pruning because they are a cultivar that grows too large for this location.



All of these crapemyrtles have been improperly pruned or topped.



LIONS TAILING



Tree Butchers?



What tools do we use ?

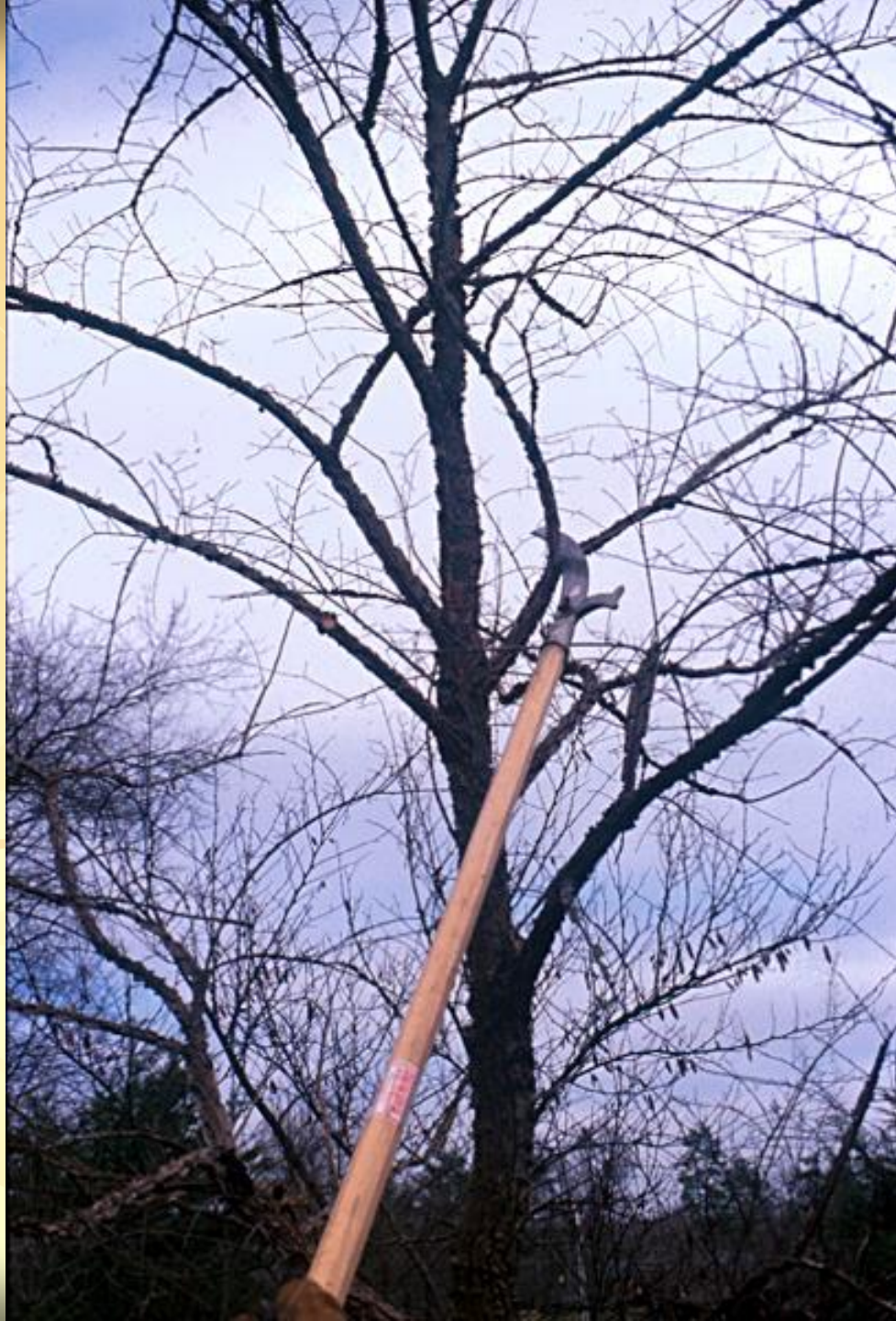
- Hand pruners
- Loppers
- Pruning saws
- Pole pruners
- Gloves, protective clothing
- Keep clean & sharp

Tri Edge Handsaw Blade



Bypass Pruner Vs. Anvil Pruner





Final Quiz

- What is ‘cleaning’ ?
- When can we ‘clean’ ?
- What does pruning encourage a tree to do?
- Why did I call this program:
‘Pruning of Small Trees’ ?

Evaluations

Thanks for Coming!

BARTLETT