

# Pruning Deciduous Trees

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## Pruning

- Reasons to Prune and Structure
- How Tree Anatomy Affects Pruning
- Make Cuts at the Branch Collar (or Near Nodes on Smaller Branches to an out-facing bud)
- 3-point and Other Cuts
- Proper vs. Flush Cuts
- When to Prune
- What to Prune
- How Much to Prune

# Pruning

- Control plant size and shape, direct and train new growth
- Remove unwanted growth
- Suckers on grafted plants
- Corrective pruning (2C's, 3D's):
  - Crossing branches
  - Crowded branches
  - Dead branches
  - Diseased branches
  - Damaged branches

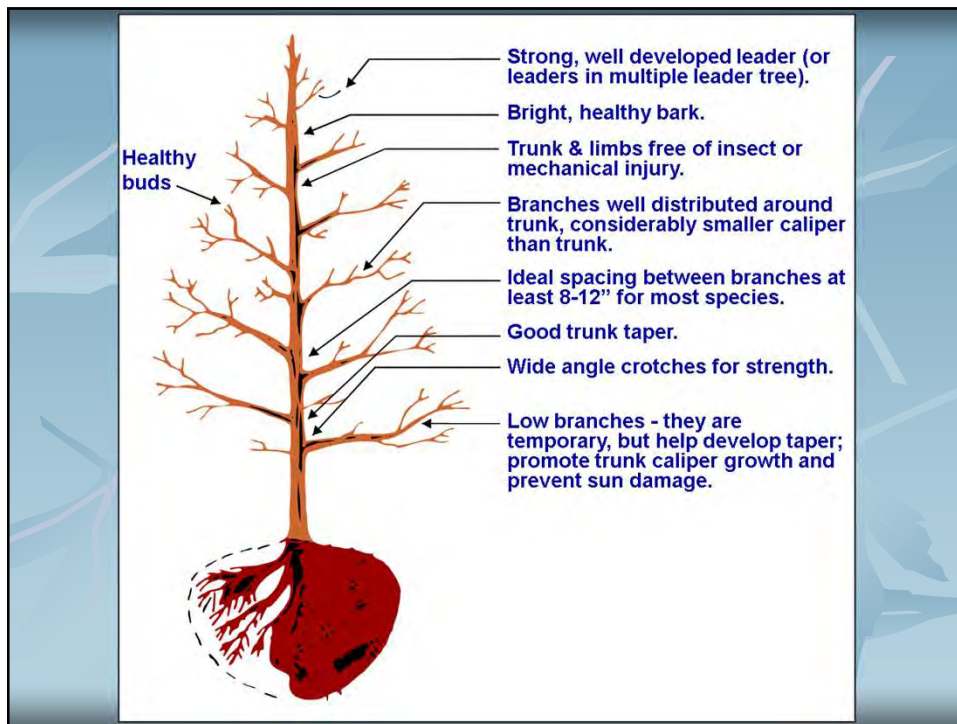
- When possible, start the pruning process when the plant is young to set it up for good structure in the future

**Family A's Tree -  
Not Pruned  
When Young**



**Family B's Tree -  
Pruned When  
Young**





## Basic Goals on Young Trees

- Remove crossing, crowded, damaged, diseased, or dead branches.
- Don't remove more than 25% at a time
- Select a leader; remove competing leaders.
- Select scaffold (side, lateral) branches and cut back or remove competing branches.







## Structure

Laterals should be spaced minimum of 12" apart  
Radiate around the tree  
Best 1/3 size of trunk  
No more than 2 at any point

**Bad**



**Good**



## Tree Anatomy

**Trunk tissue forms a  
'sleeve' around the branch**

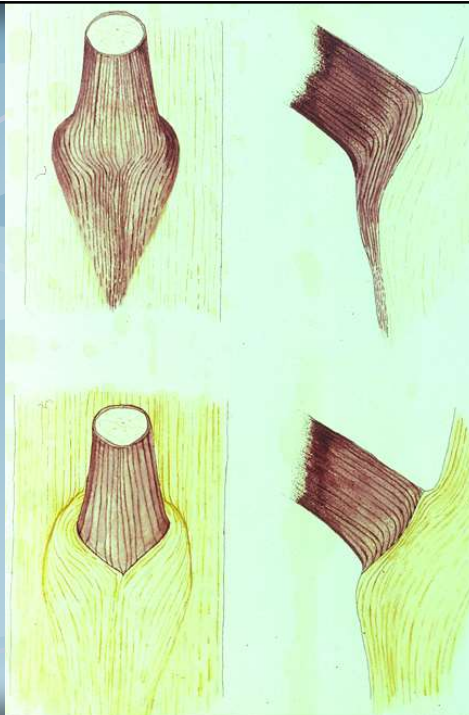


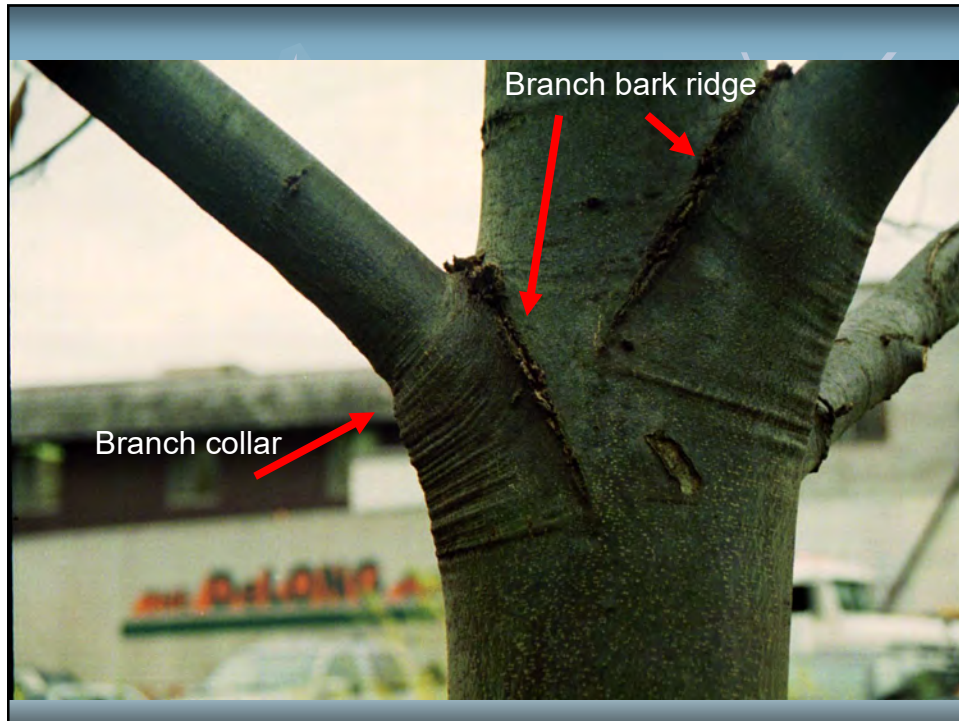
## Branch Collar...

... a swelling at the  
branch union from the  
yearly addition of tissues  
to the branch and trunk.

Branch Bark Ridge  
forms where trunk tissue  
contacts branch tissue

[https://www.youtube.com/  
watch?v=mOWI-fne2BQ](https://www.youtube.com/watch?v=mOWI-fne2BQ)







Sealing

- Callus tissue forms to cover the wound
- Smaller wounds seal better
- If branch tissue is all removed (flush cut) is hard for tree to seal the wound

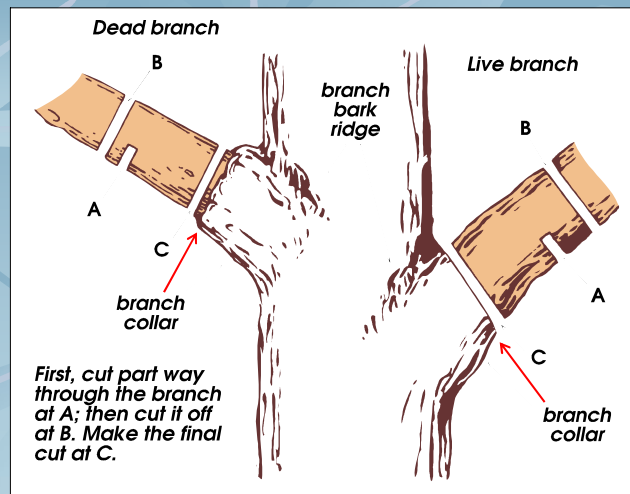


Sealed



Under a  
sealed  
cut

## 3 Point Cut and the Branch Collar

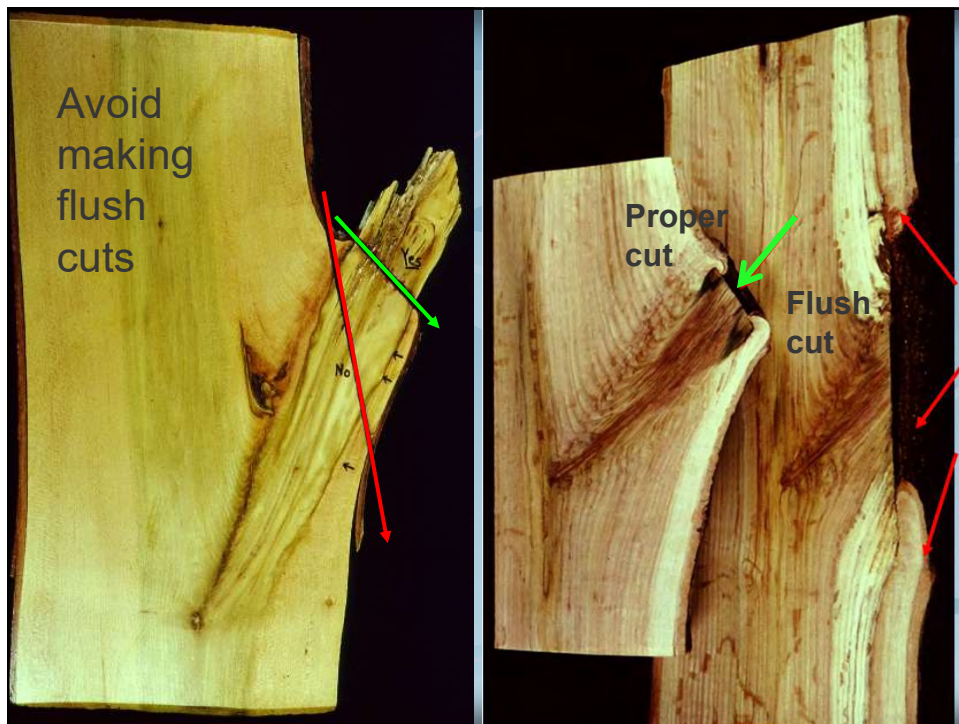


3 Cut Method  
for branches  
over 2" in  
diameter  
A = undercut  
B = branch cut  
C = Final or  
stub cut



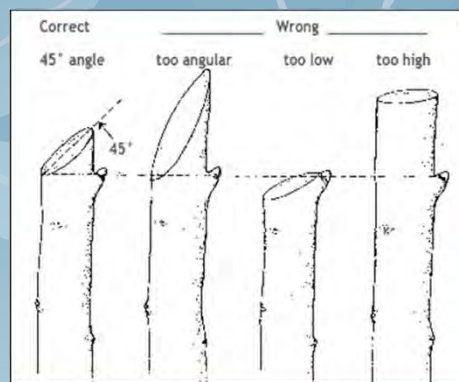
### 3 Reasons to Use a 3-Point Cut:

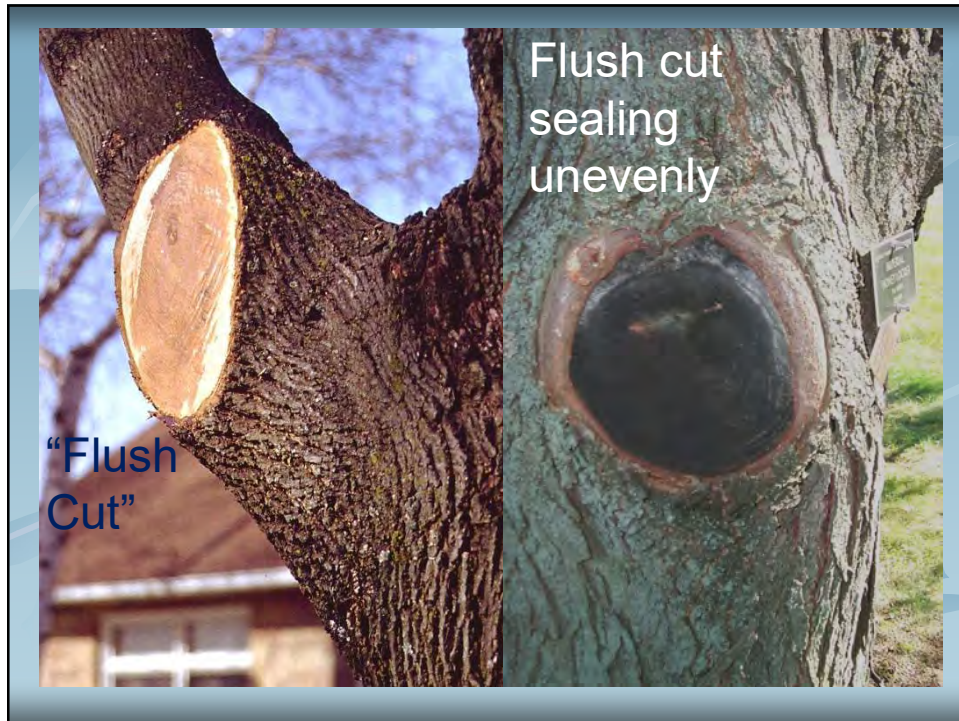
- Prevents bark ripping down the trunk as the limb falls
- Protects person doing the pruning
- Creates smallest size wound to promote better healing



## Proper Cuts

- Make clean cuts
- Use sharp, clean by-pass pruners on live tissue
- Strive for the smallest size wound
- Do not leave stubs
- Disinfect shears between plants. If pruning diseased tissue, disinfect between cuts.
- Use rubbing alcohol or spray disinfectant or 10% bleach solution





## Acceptable Major Pruning Techniques

### ■ Heading back

- Done to reduce height and spread
- Cut at lateral branch or bud to diminish size of plant
- May still need to do a 3-point cut if branch is large
- Hard prune in dormant season
- Light prune through mid-summer, no later than mid-July



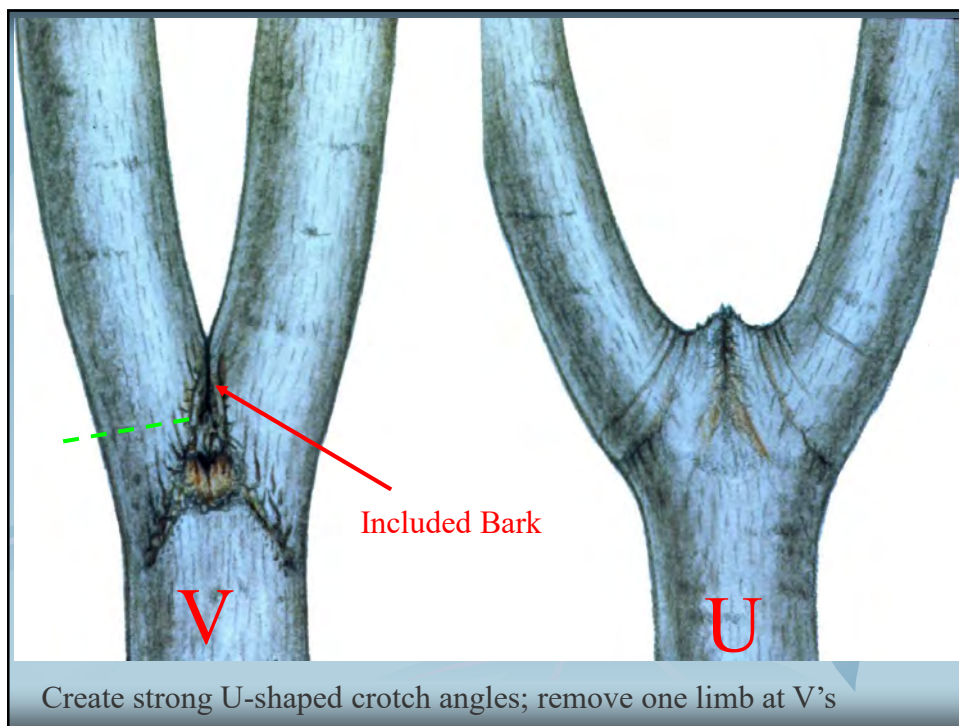
Photo Credit:  
Amy Amessoudji

## AVOID topping!

- Topping is cutting straight across the branch.
- Causes decay and weak epicormic sprout growth

<https://www.youtube.com/watch?v=UVK8QFmaS0E>





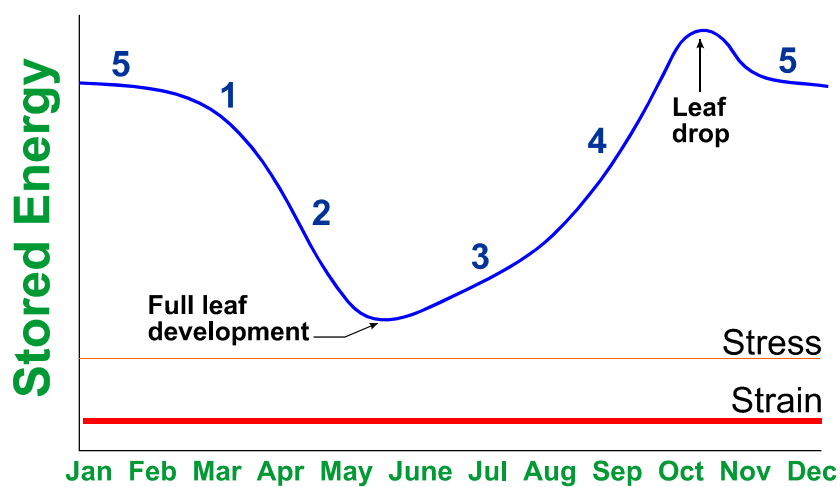


## When to Do Major Pruning

**The dormant season is best for most pruning.**

- Wounds exposed for only a short length of time before new growth begins the wound sealing process.
- Easier to make pruning decisions without leaves obscuring plant branch structure.
- Less exposure to disease, insect and physiological problems:
- Does not interfere with tree energy levels, does not cause extra stress

## When to prune...



## Tools

- By-pass hand pruners
  - Best for live tissue
  - Anvil type ok on dead tissue only
- Loppers – for branches up to 1-1/2 or 2" diameter
- Pruning saw larger than 2" diameter
  - Curved blade



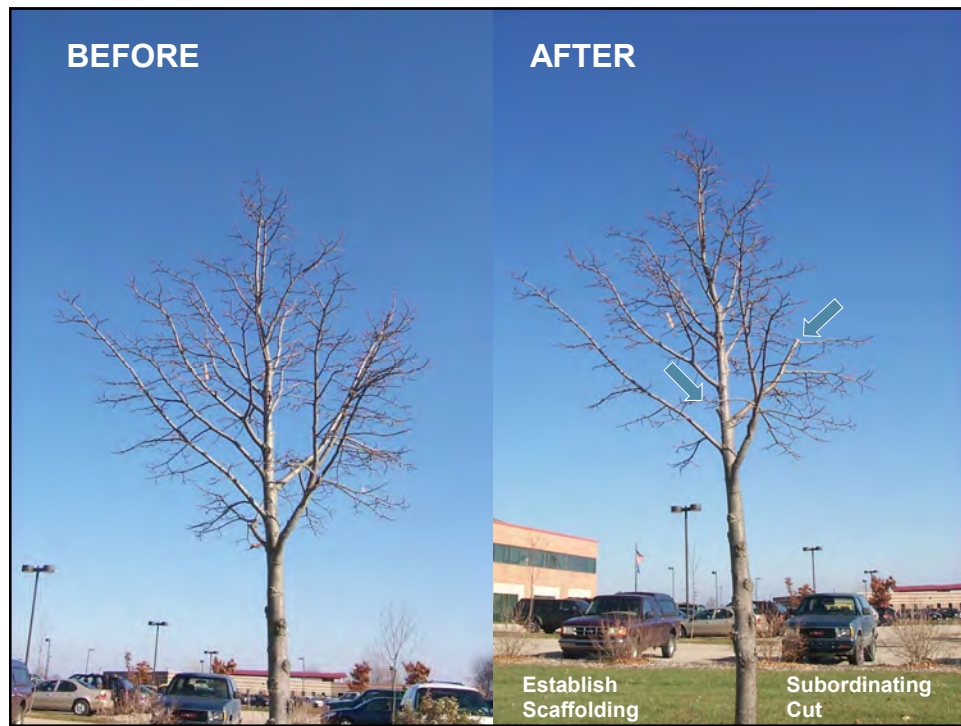
## Other Pruning Considerations

- Oak Wilt: do not prune April 15 – November
  - Rough guide: don't prune if buds are swelling
- Spring/summer pruning increases chances of fireblight on Malus, Sorbus, Crataegus, etc.
- “Bleeders” with spring pruning: Maples, Birches
- Don't use pruning paint EXCEPT if you have to repair storm damage on oaks or elms during the growing season

## What to Prune: Pruning Hierarchy

- Remove broken, diseased, rubbing, crossing, dying or dead branches.
- Select a leader and remove competing leaders.
- Select the lowest permanent branch (sometimes it doesn't exist yet!)
- Select scaffold branches and cut back or remove competing branches.
- Select temporary branches below the lowest permanent branch
- <https://www.youtube.com/watch?v=ygLDDXiWcag>





## How Much to Prune

- Prune up to but no more than 25% of canopy
- Prune branches greater than 1/3 the diameter of the trunk at the point of attachment
- Remove double or reduce competing leaders
- Poor branch unions (“V”) vs good unions (“U”)
- Dead wood doesn’t count in 25% total and can be removed any time of year
- Suckers (at base) can be removed at any time

## Pruning Summary

- Best to prune when plant is dormant (note exceptions)
- Remove less than or equal to 25%
- Make cuts at branch collar when possible
- Use pruning hierarchy and natural form of the tree to make decisions
- NEVER use pruning paint, *EXCEPT*...
- Use correct tools, disinfect

<https://www.youtube.com/watch?v=IQhmlK-0HOc>