



# TOWN OF JUPITER NATURAL RESOURCES



**Jupiter, a special place to live...**

# Diverse Natural Resources



**The Urban Forest**



**Residential Landscaping**



**Commercial Landscaping**

# Diverse Natural Resources



Loxahatchee River



Cypress Slough



Coastal Resources



Wildlife

# How does Jupiter protect these resources?

- Landscaping Code – provides for minimum planting standards, installation standards and maintenance and pruning standards.
- Vegetation and Environmental Preservation Code – provides for preservation of environmentally sensitive lands, protects existing vegetation and provides for tree preservation

# Why are there standards for landscaping and what are they?

- Standardization creates a level playing field for all and removes uncertainty;
- High standards protect both the consumers and the landscape suppliers;
- High standards ensure that quality landscape material is installed, reducing tree failure and ensuring longevity; and
- High standards ensure that the quality of life in Jupiter is protected for future generations.

# Florida grades and standards

- 1955 Passed by Florida legislature; 1965 first edition printed
- Developed for more accurate communication between buyer/seller
- 1998 – second edition; a 10 step process for tree evaluation is created



# Grading trees

- Tree quality at planting can have a great impact on longevity in the landscape
- Four grades exist for nursery plants in Florida. These include:
  - Florida Fancy
  - Florida #1
  - Florida #2
  - Cull



# Florida fancy

- Single trunk
- Branch diameter smaller than  $2/3$
- No flush cuts/open injuries
- Crown full of foliage
- Root ball is appropriately sized

by Edward F. Gilman, professor  
University of Florida



# Florida #1



- Requires some pruning to develop good structure
- Has minor trunk injuries
- Double leader in top half of tree

# Florida #2

- Trees are misshapen or require major corrective pruning
- Defects may take several years to correct
- Double leader on bottom half of the tree

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# Cull

- No clearly defined leader, defects are not correctable;
- Lack vigor;
- May have poor trunk and branch structure, circling roots, open wounds, flush cuts, or a loose root ball



by Edward F. Gilman, professor  
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# What are the benefits of Florida # 1 Trees

- Develops good trunk and branch structure;
- Increases the longevity and strength of the tree by evenly distributing weight of branches;
- Reduces tree failure in storm events;
- Creates a more uniform, aesthetically pleasing canopy;
- Less need for pruning;
- Shorter establishment period.

# Non-Florida #1, Poor Structure



- Large trees that are grown with codominant stems are prone to breaking

by Edward F. Gilman, professor  
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# Why are co-dominant stems bad?

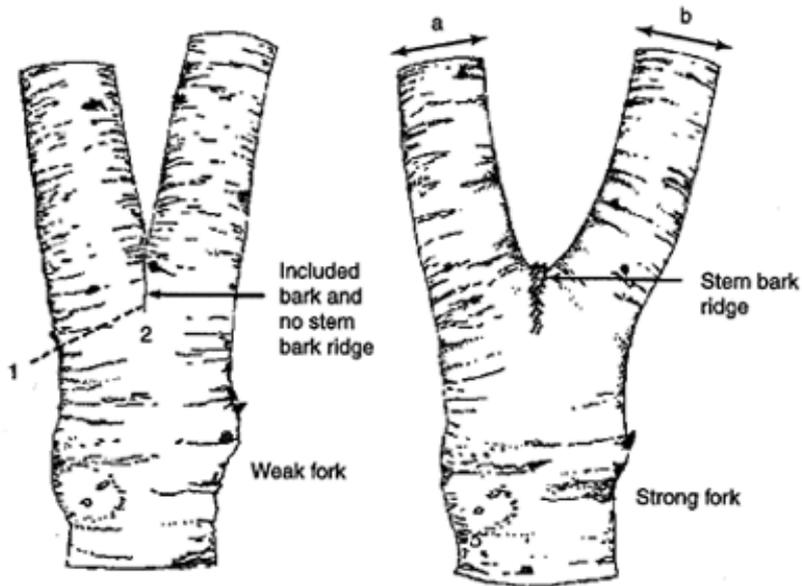
- Co-dominant stems lead to bark inclusions, which are a cracks indicating a weak connection
- As these two trunks expand in diameter, they physically push against each other which may cause the union to fail. There is little wood tissue connecting the two trunks.

by Edward F. Gilman, professor  
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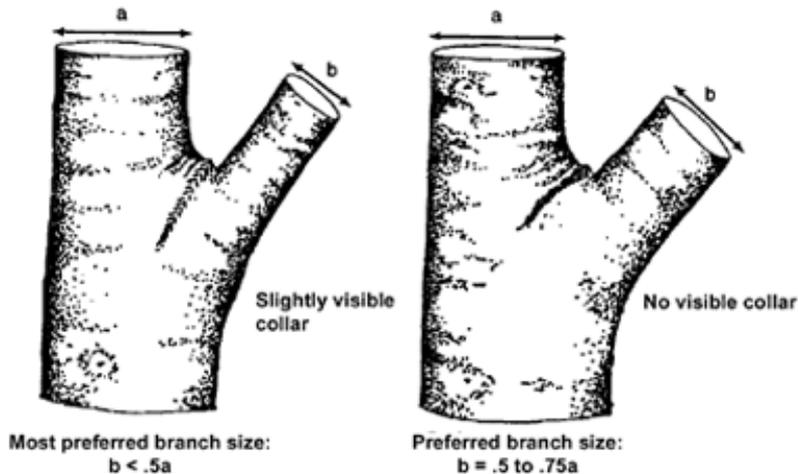
# Attachment strength

Two codominant stems



- Codominant stems are not well attached to each other, especially when included bark is present in the union

- Branches are more secure when they are small in comparison to the trunk



by Edward F. Gilman, professor  
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# Failing trunk began as a crack

- This separation began as a crack in the branch union
- Appropriate pruning could have prevented this separation
- This tree cannot be fixed and should be removed



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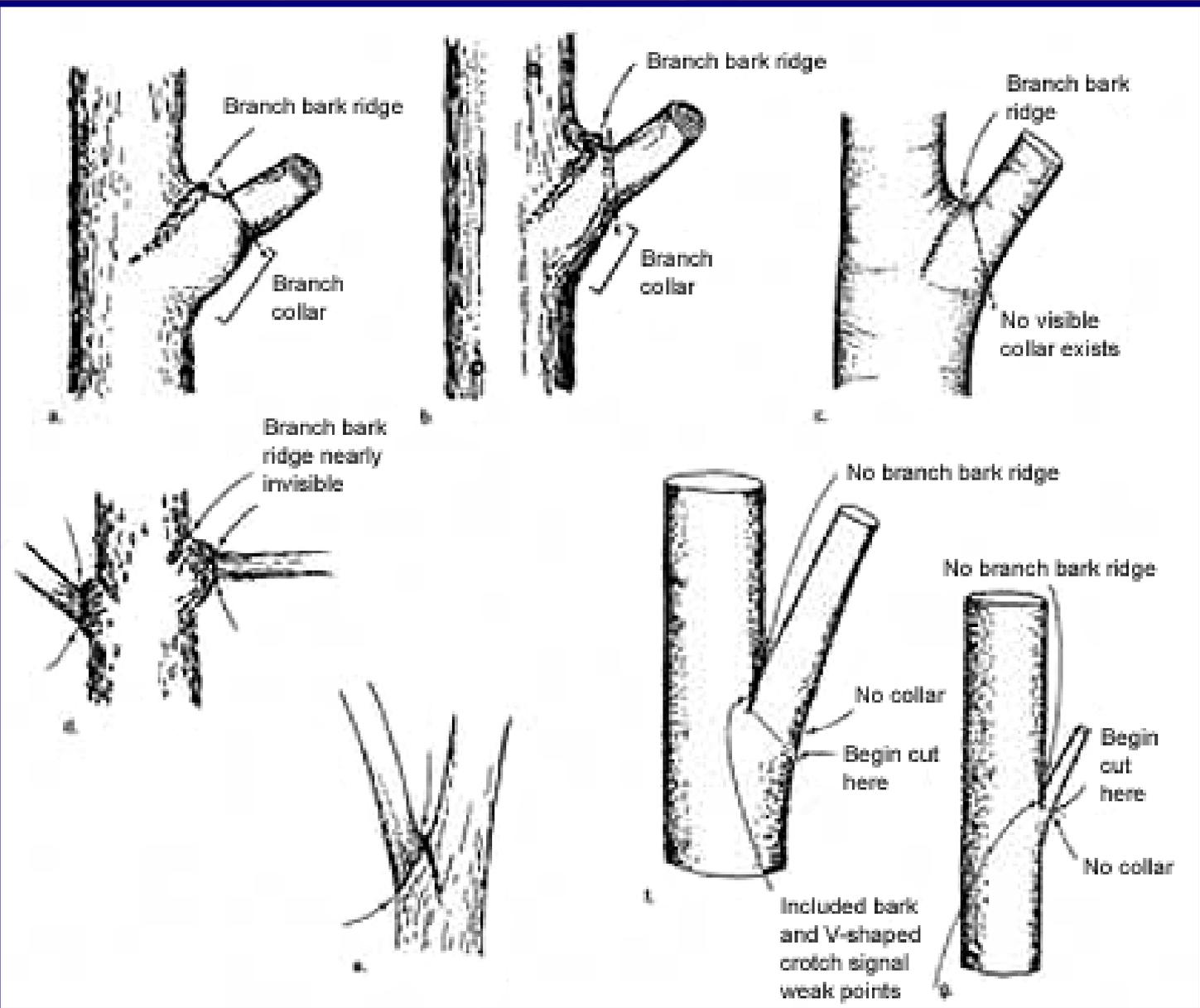
# Tree damages building



by Edward F. Gilman, professor  
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- This branch failed at its base where there was a bark inclusion
- Trees that are not properly cared for can develop defects that result in personal and property damage

# Branch union examples



by Edward F. Gilman, professor  
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# Did you know?...

- Through improper pruning, a tree which was Florida #1 at the time of planting can be turned into a poor quality tree, with multiple trunks, included bark and weak structure.
- Proper pruning will ensure that a tree develops the type of structure that will significantly extend it's lifespan and improve it's resistance to storms.

# Proper Pruning

- Improves and maintains proper tree structure;
- Removes dead and crossing branches;
- Reduces stem and branch length;
- Structural pruning increases strength;
- Reducing canopy size, correct and incorrect;
- Raising the canopy reduces conflicts with vehicles and pedestrians;
- Thinning the canopy reduces the weight of branches;
- Cleaning the canopy of dead and crossing branches reduces weight and eliminates sources of rot.

# Well Structured, Mature Shade Trees

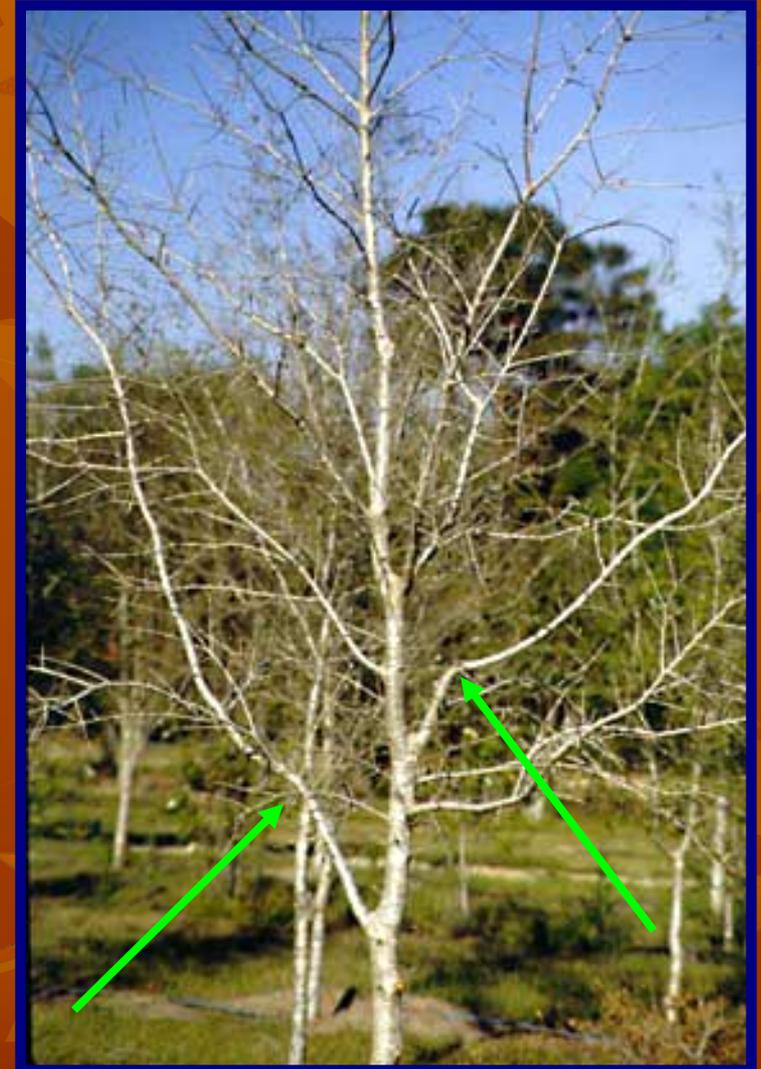


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- One trunk up into the canopy with the first limb 20 feet off the ground.
- Large branches positioned closer to the ground often droop to get in the way of vehicles and will require removal – decay can result.

# Reduction cuts in the canopy

- The reduction cut is useful for structural pruning because it slows growth on the cut stem or branch
- This reduction cut will slow the growth of the right hand stem and push more growth into the larger left hand stem
- Reduction cuts are useful for developing a dominant leader in the canopy of shade trees

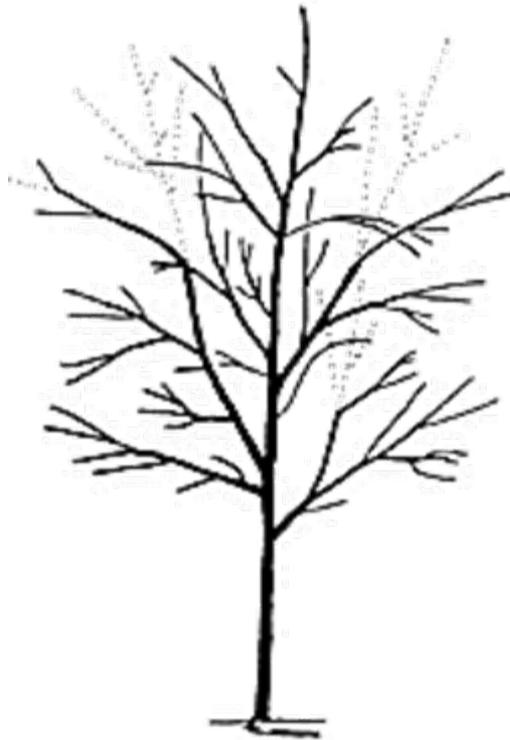


# Subordination

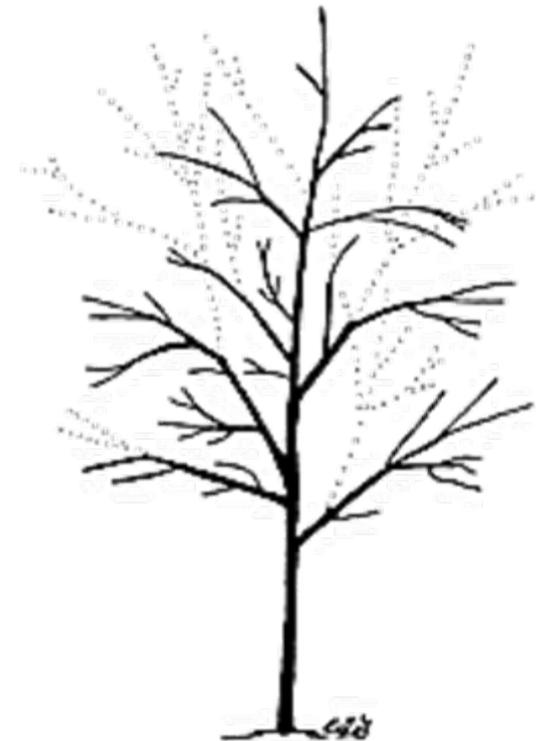
- Before pruning



- After light pruning



- After moderate pruning

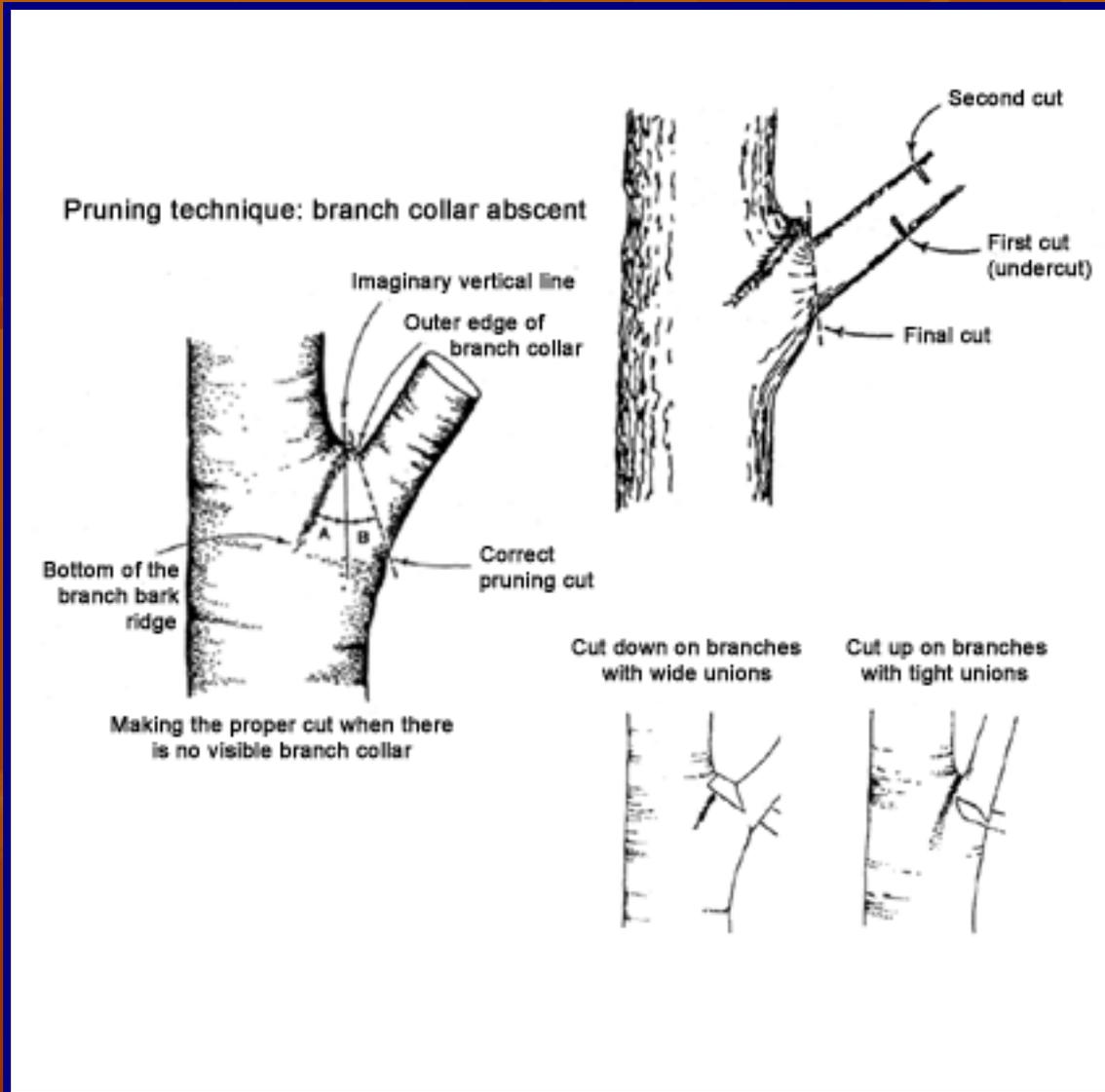


# Reduce competing leaders



- Two stems were reduced slowing their growth
- This allows the stem in the center to dominate the structure
- Repeat this every few years

# Large branch removal



- Make three cuts to remove a large branch
- Cut down through branches that have a wide angle; cut up through branches with a narrow angle

# After branch removal

- The collar is left intact after a branch is properly removed



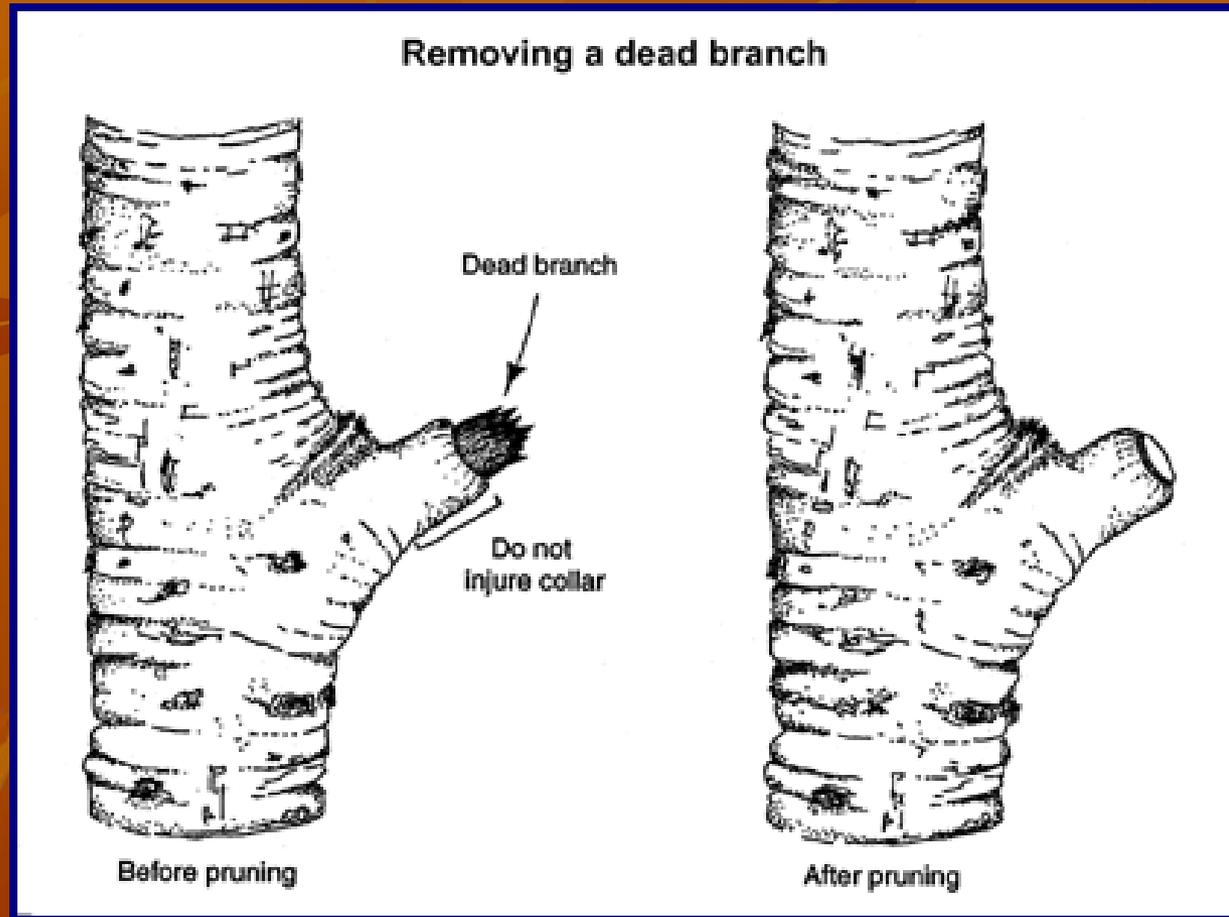
# One year later



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- One year after this branch was removed, callus and woundwood is forming in a circular pattern
- Properly removed branches will form this circular pattern or, initially, a 'U' shaped pattern

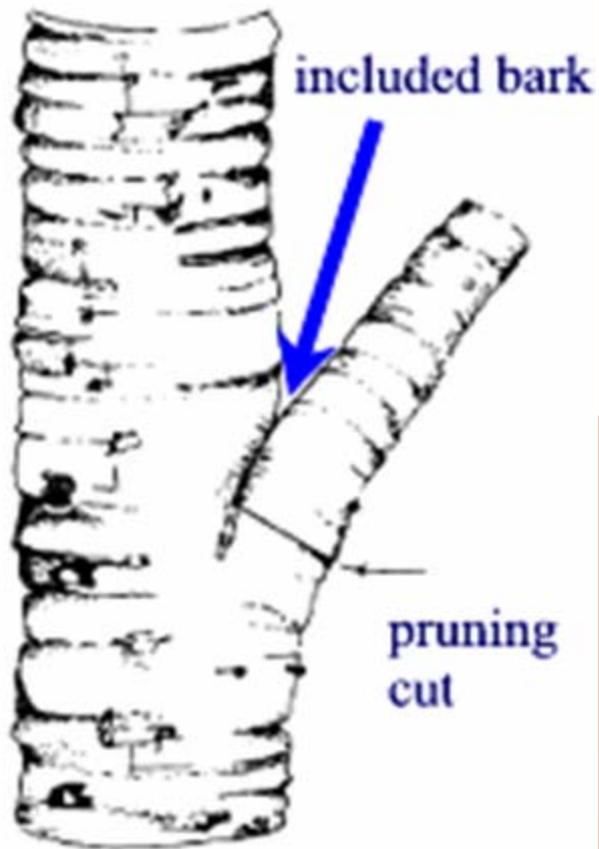
# Dead branch removal



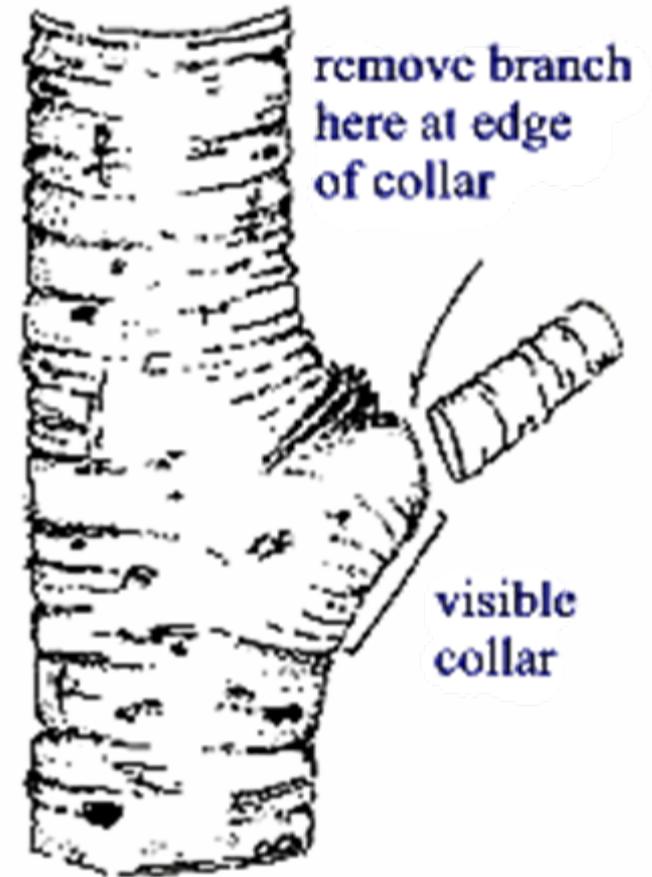
- Do not remove the swollen collar around dead branches

# Bark inclusion vs. collar

no collar and  
included bark



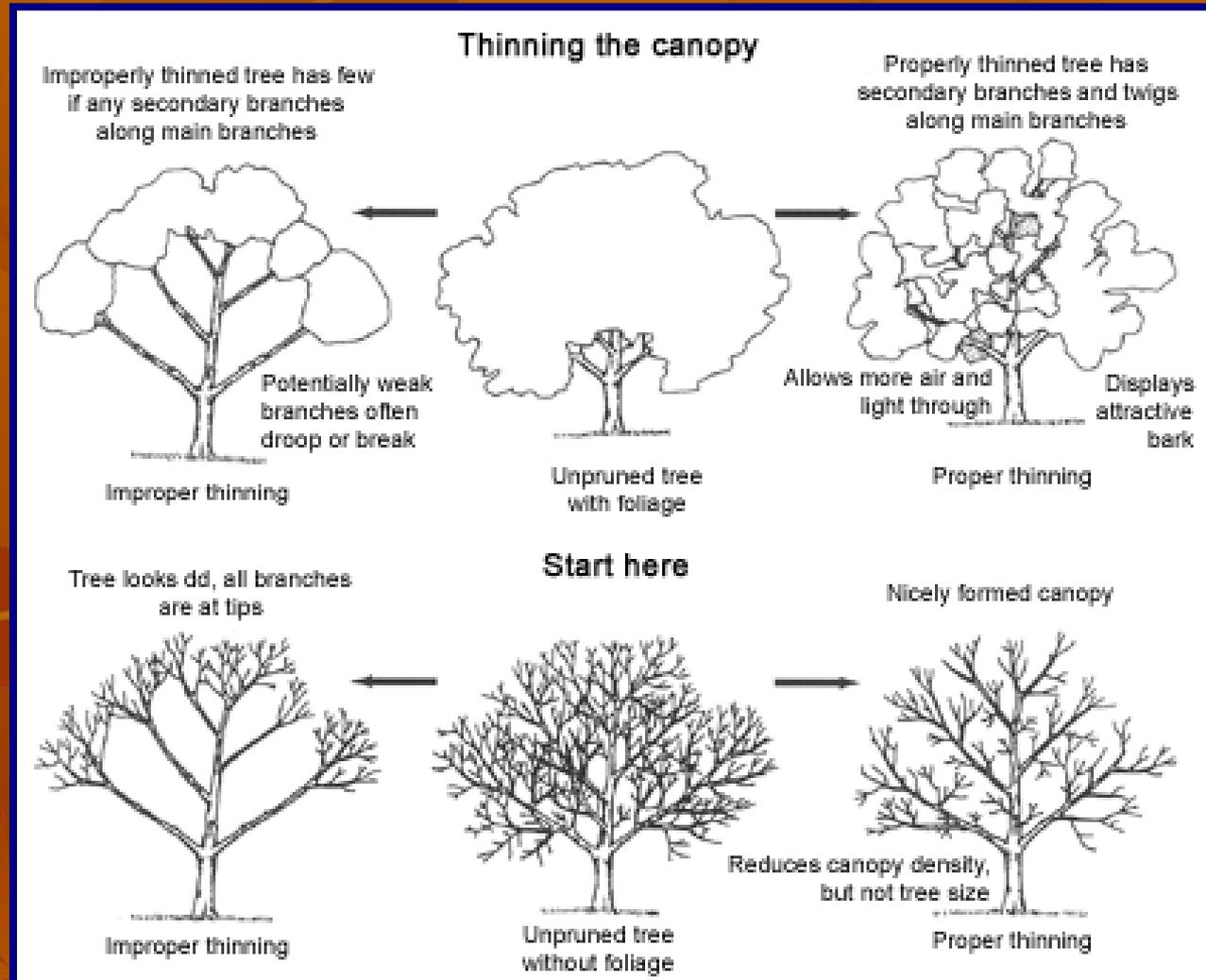
visible collar



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# Thinning the canopy

- Small diameter branches are removed from the outer edge of the canopy on properly thinned trees

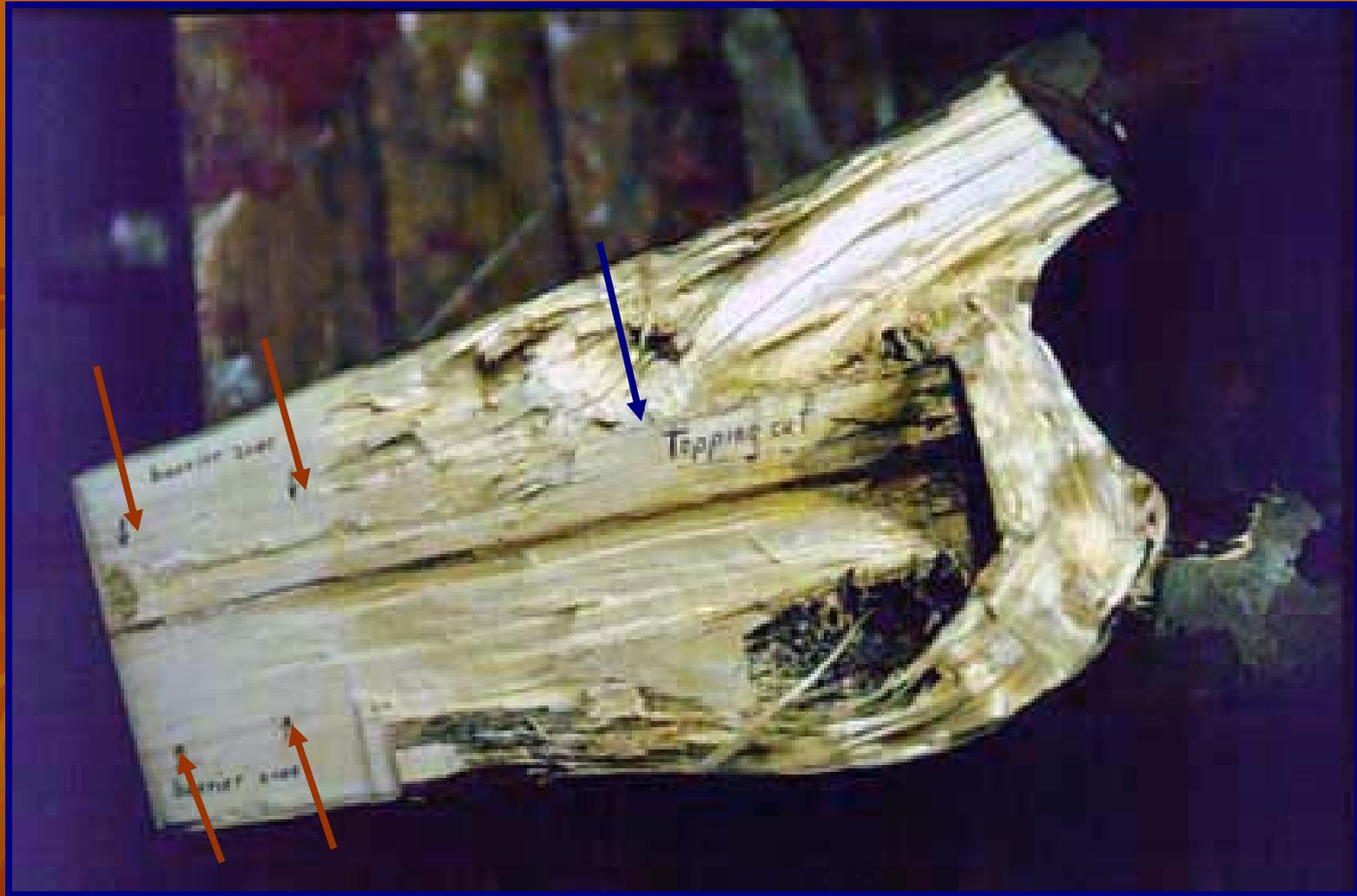


# Topping



- Not an appropriate method of reducing canopy size
- Uses heading cuts through several-year-old woody tissue
- Results in decay and weak structure

# Topping damage



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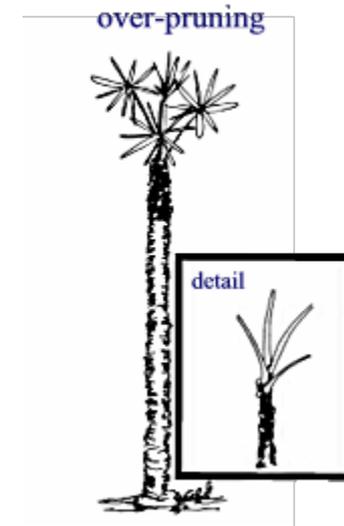
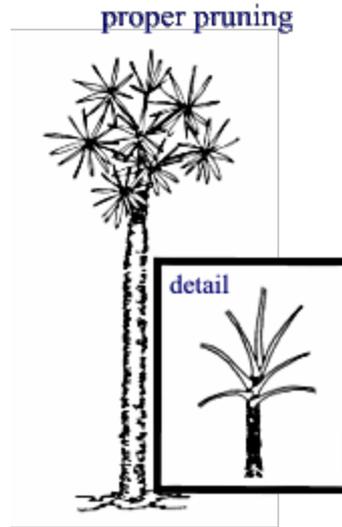
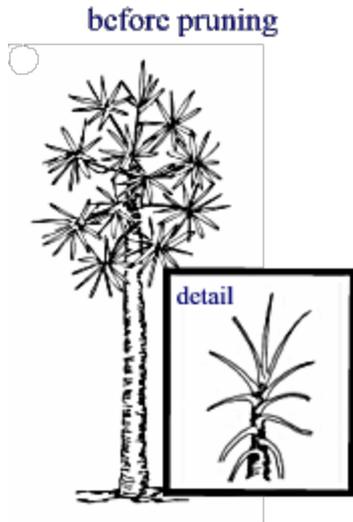
- A look inside a tree topped several years ago reveals some of the problems with topping

# Nine Reasons not to “Top” Trees

- Topping is illegal (against Town Code);
- Interferes with the tree’s ability to produce food for itself;
- Results in shock and scalding to the tree canopy;
- Leaves the cut ends of branches open to insects and disease;
- Re-growth limbs are weakly attached, joints are much more susceptible to rot;
- Results in growth that is more dense and rapid than the original growth;
- Can result in the death of the tree, base on the severity of the topping;
- Topped trees are ugly and disfigured;
- Topping increases maintenance costs because it needs to be repeated much more often than skilled pruning by an arborist.

# Pruning Palms

- It is preferable not to remove live, healthy fronds. If they must be removed, however, avoid removing fronds that are growing horizontally or those growing upward (9 o'clock and 3 o'clock). Fronds removed should be severed close to the petiole base without damaging living trunk tissue.
- Excessive removal of palm fronds reduces the palm's ability to produce food, constricting the trunk, weakening its integrity and leaving it open to damage from disease and insects.



Consider removing lower fronds that are chlorotic or dead. There is no biological reason to remove live green fronds on palms. There is no research supporting the notion that removing live green fronds reduces future pruning requirements.

Remove lower fronds that are dead or more than about half chlorotic. Do not remove green fronds or the palm could become stressed. (If you decide to remove green fronds, do not remove those growing horizontally or pointed upward.)

Over-pruned palms look terrible and could attract pests. In the detail above you can see that many upright fronds were removed. Why remove green fronds when the palm was planted for its tropical look. That tropical look results from live green fronds.

# No pruning needed

- No pruning is needed on this cabbage palm because all fronds are green



# Palm pruning



- Only the dead brown fronds in the lower part of the canopy and the dead flower stalks in the center need to be removed from this healthy cabbage palm

# Over pruning cabbage palms



- These cabbage palms were recently overpruned; too many lower fronds were removed
- This can stress the palm making it more susceptible to insect and disease attack

# Stress symptoms on over-pruned palms

- Over-pruned palms, such as this cabbage palm, might flower more in response to removing too many live fronds



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# Severe over-pruning of date palm

- In addition to looking goofy, over-pruning eventually causes a narrowing of the trunk on some palms at the point where the fronds were removed



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# Over-pruning date palms

- Date palms are often over-pruned in this fashion which causes stress on the palm by removing too much photosynthetic capacity from the canopy



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# Over-pruning date palms

- Many lower green fronds were removed on these healthy *Phoenix reclinata*
- This unnecessary practice is common in many regions where palms are grown

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# Nice pruning job



- This is not a bad pruning job on reclinata date palms
- Lower dead fronds were removed and all green fronds remain on the palm

# By becoming knowledgeable,

- You can help maintain and improve the quality of our community;
- You can help your community improve maintenance and save money by only contracting for work that is necessary;
- You can ensure that only qualified and competent landscape contractors are hired.

# Remember

- You usually get what you pay for;
- Work done right is usually only done once;
- Many unscrupulous contractors will tell you what they think you want to hear in order to get a job...Hire the contractor that knows what they are doing and tells you the truth (certified arborists).
- You usually only get one chance to prune a tree correctly.