Pruning Mature Trees

Illustrations and photos by Edward F. Gilman, Professor, Environmental Horticulture Department, IFAS, University of Florida

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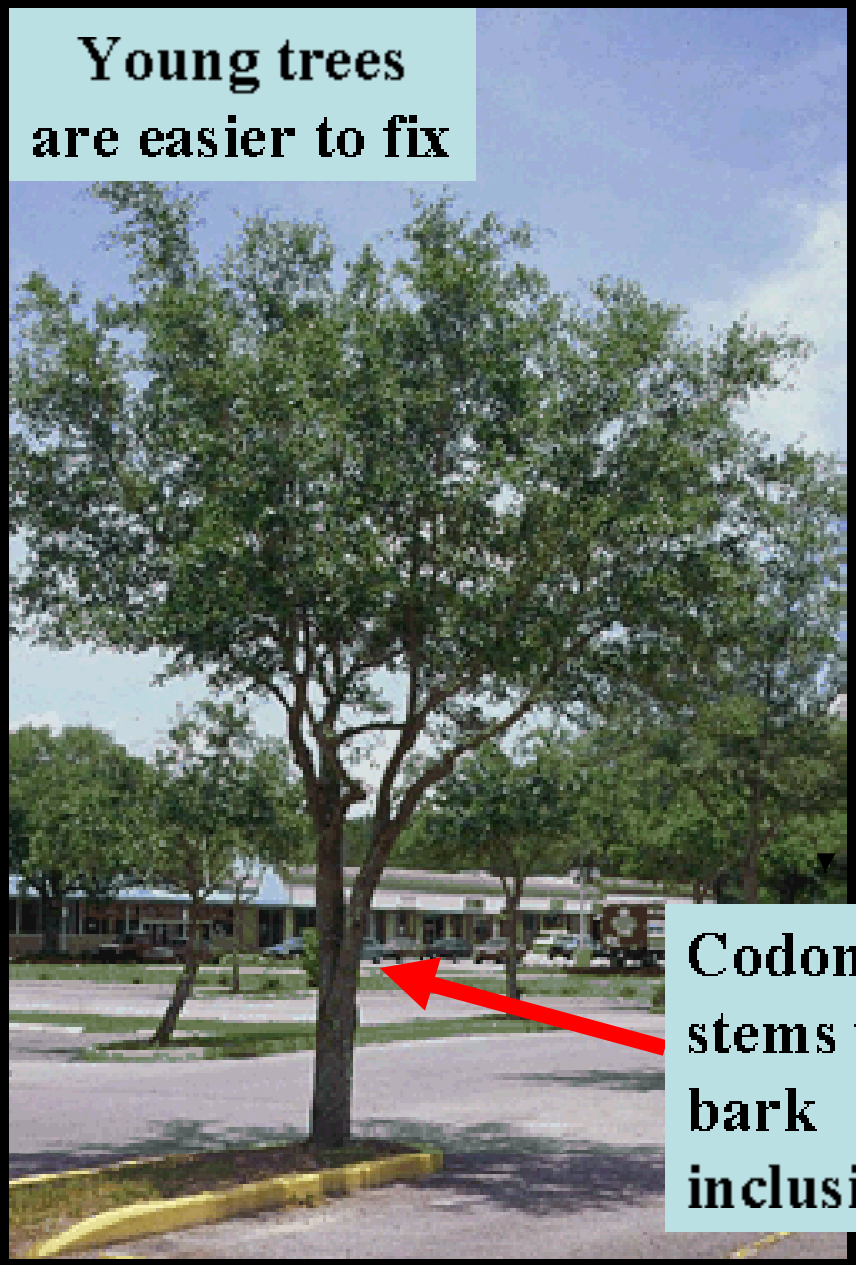
Inaction can cause structural problems

Young trees are easier to fix



Older trees are more challenging to treat

Codominant stems with bark inclusions

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Poor structure such as codominant stems often cause branch failure in storms

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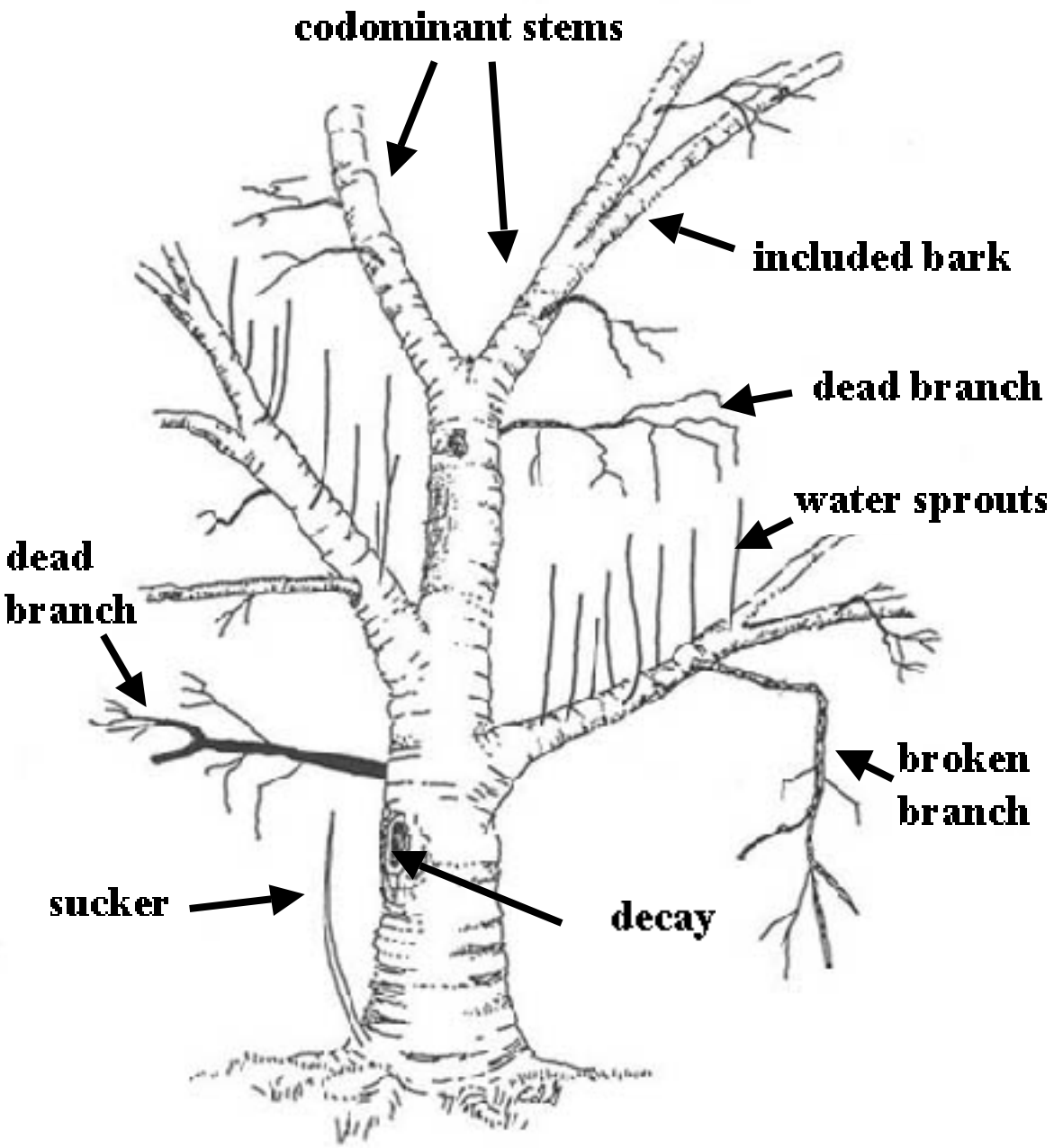

Common mature tree problems

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Preventive Pruning: mature trees

- **Set objectives**
- Determine pruning cycle and dose
- Execute pruning plan
  - make good cuts
  - prioritize trees with high risk structural issues
  - choose appropriate pruning type

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Pruning objectives:

- Reduce risk of failure – minimize storm damage
- Promote human safety
- Allow for safe passage
- Increase sun penetration to the ground
- Maintain health

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Objective: Reduce risk of failure

- Identify risks
  - Bark inclusions
  - Cracks
  - Over-extended limbs
  - Leaning trees
  - Root decay
  - Girdling roots
- Reduce conditions that could lead to catastrophic branch or tree loss.

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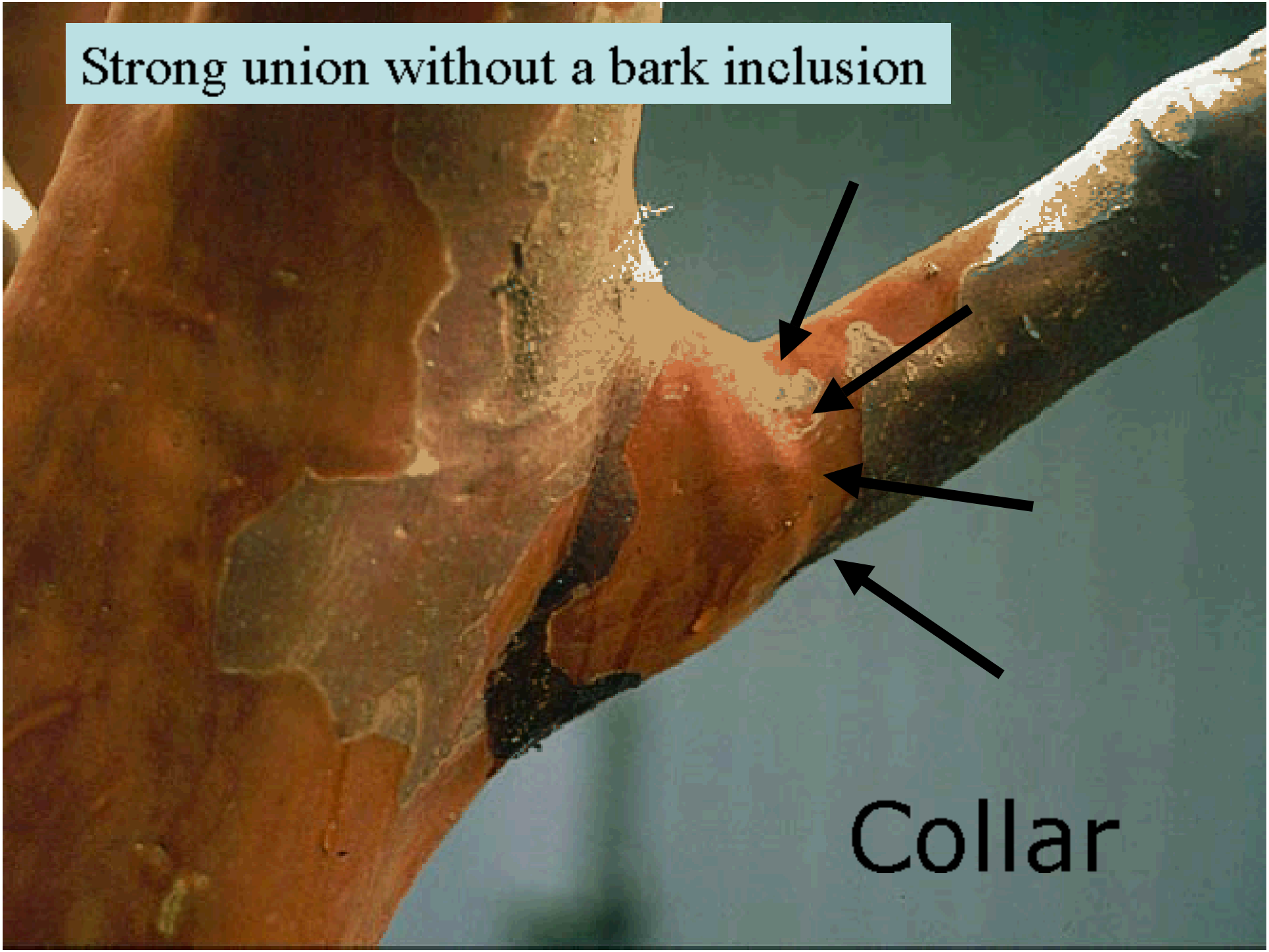

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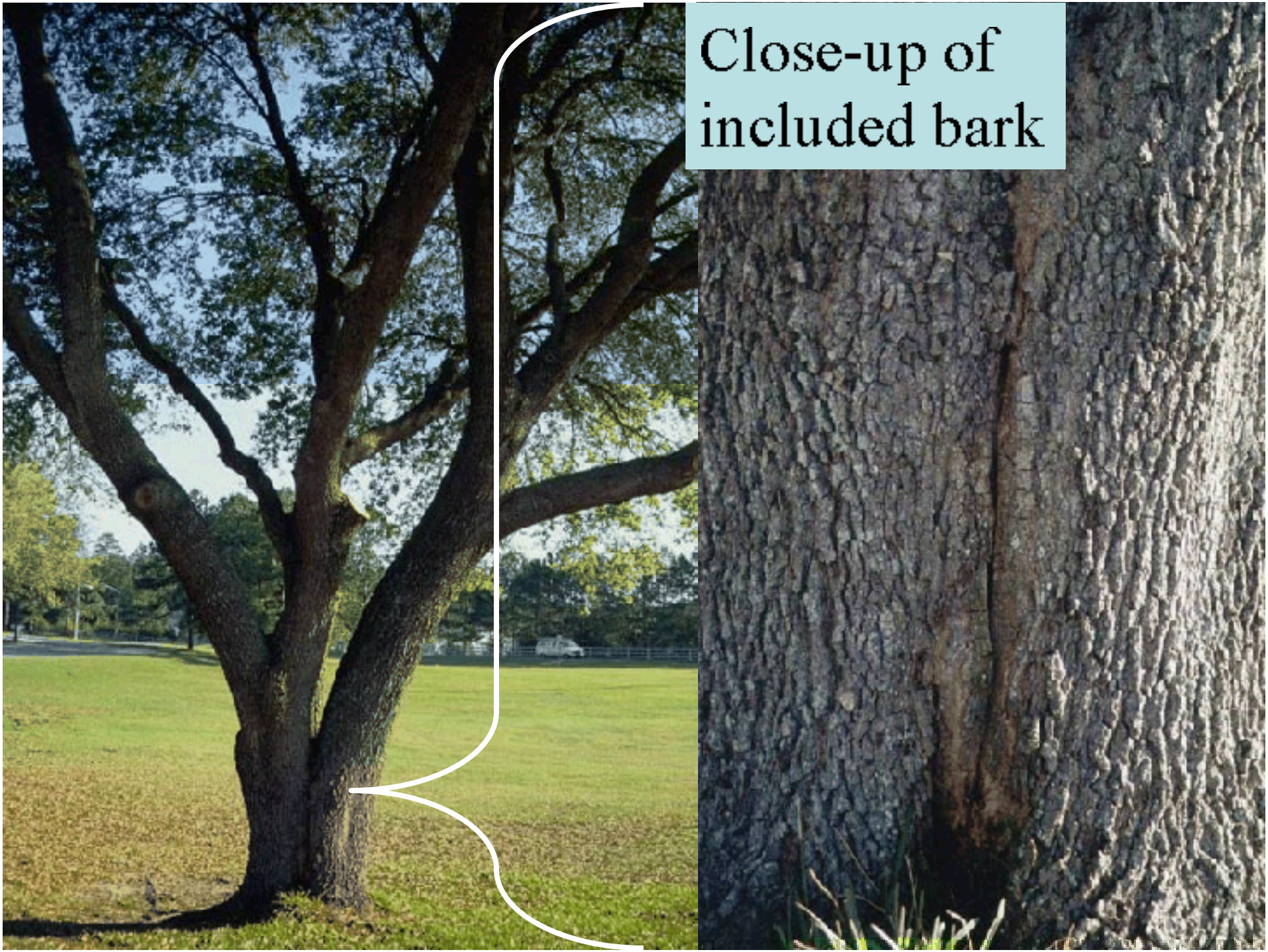

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Failure due to bark inclusion

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Severed and decayed root systems

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Objective: Promote human safety

- Avoid expensive damage

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Objective: Maintain tree health

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Risks of removing too much tissue

- Forces use of energy by initiating defense mechanisms.
- Removes energy reserves.
- Can cause cracks.
- Can cause sprouting.
- Can cause branch death.
- Can cause tree mortality.
- Reduces energy storage space.

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Preventive Pruning: mature trees

- Set objectives
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- **Execute pruning plan**
  - make good cuts
  - prioritize trees with high risk structural issues
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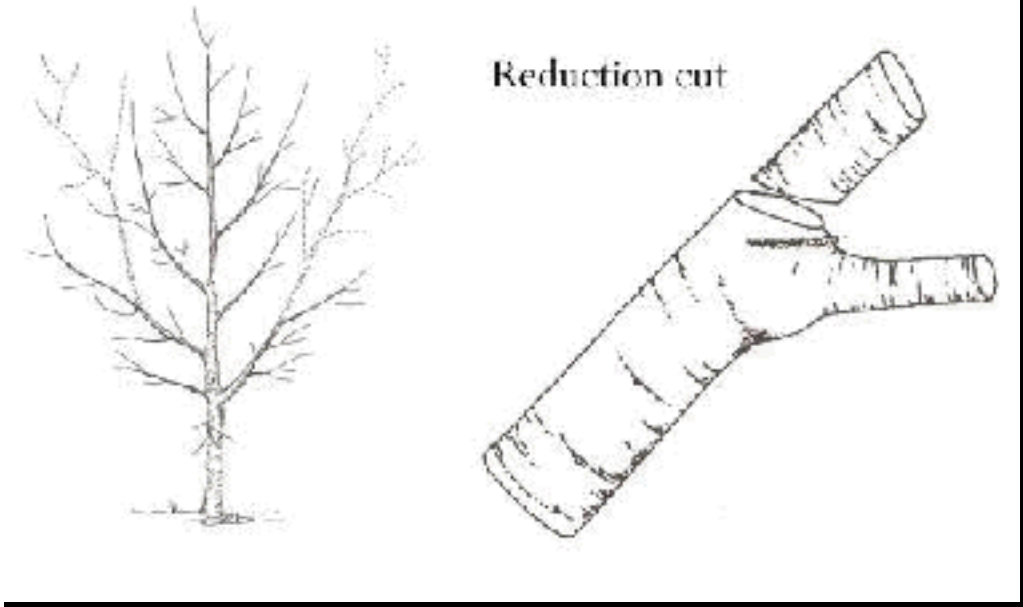
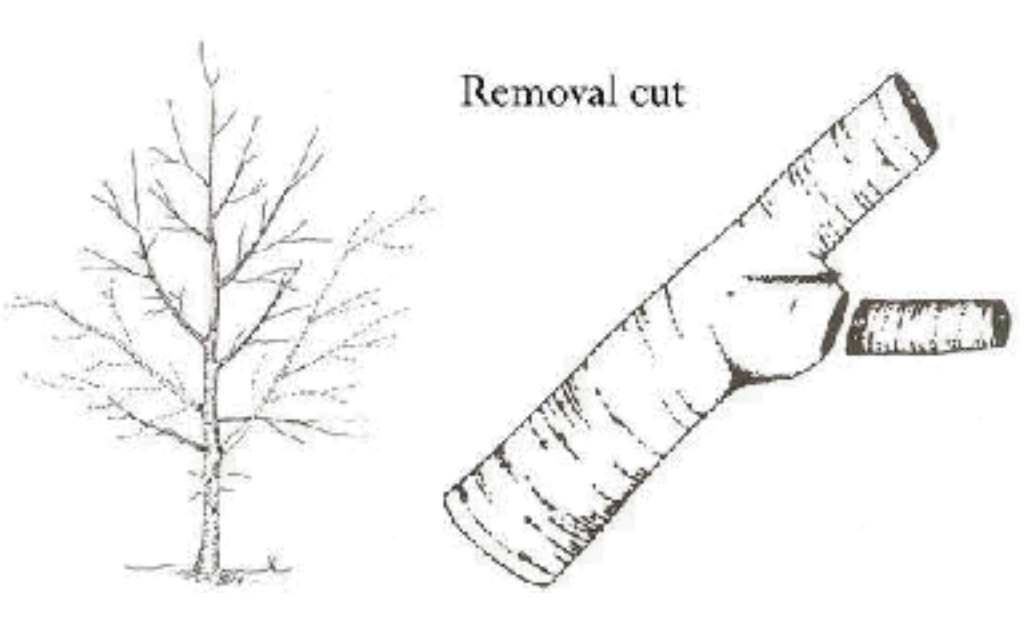
Types of pruning cuts:



Reduction cut shortens the length of a stem by pruning back to a smaller limb.



Removal cut prunes a branch back to the trunk or parent branch.

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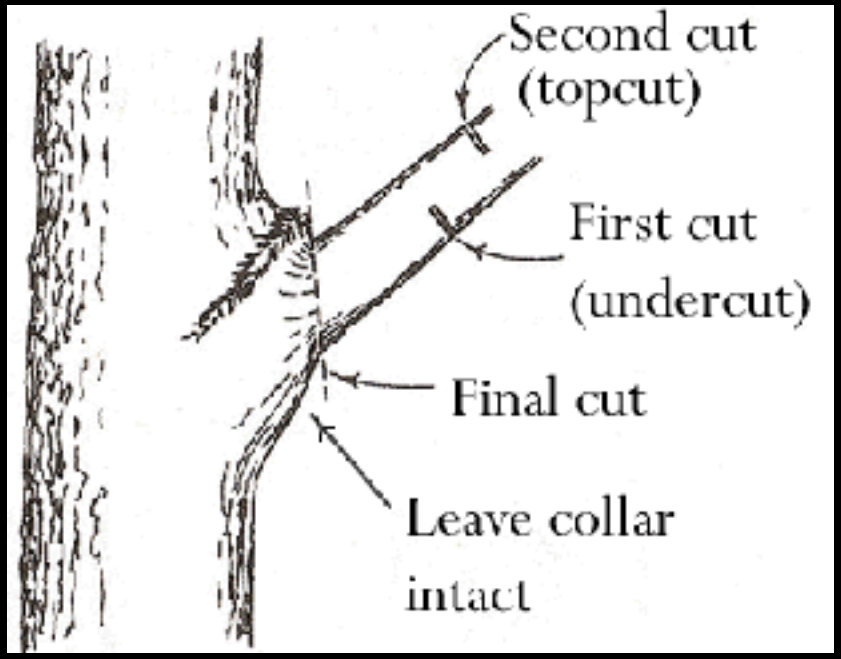
Make good pruning cuts



Step 1

Make an undercut about 12 inches from the trunk.

Step 2

Make a top cut farther out on the limb.

Step 3

Remove the stub with final cut, being careful not to cut flush against the trunk. Leave the collar intact.

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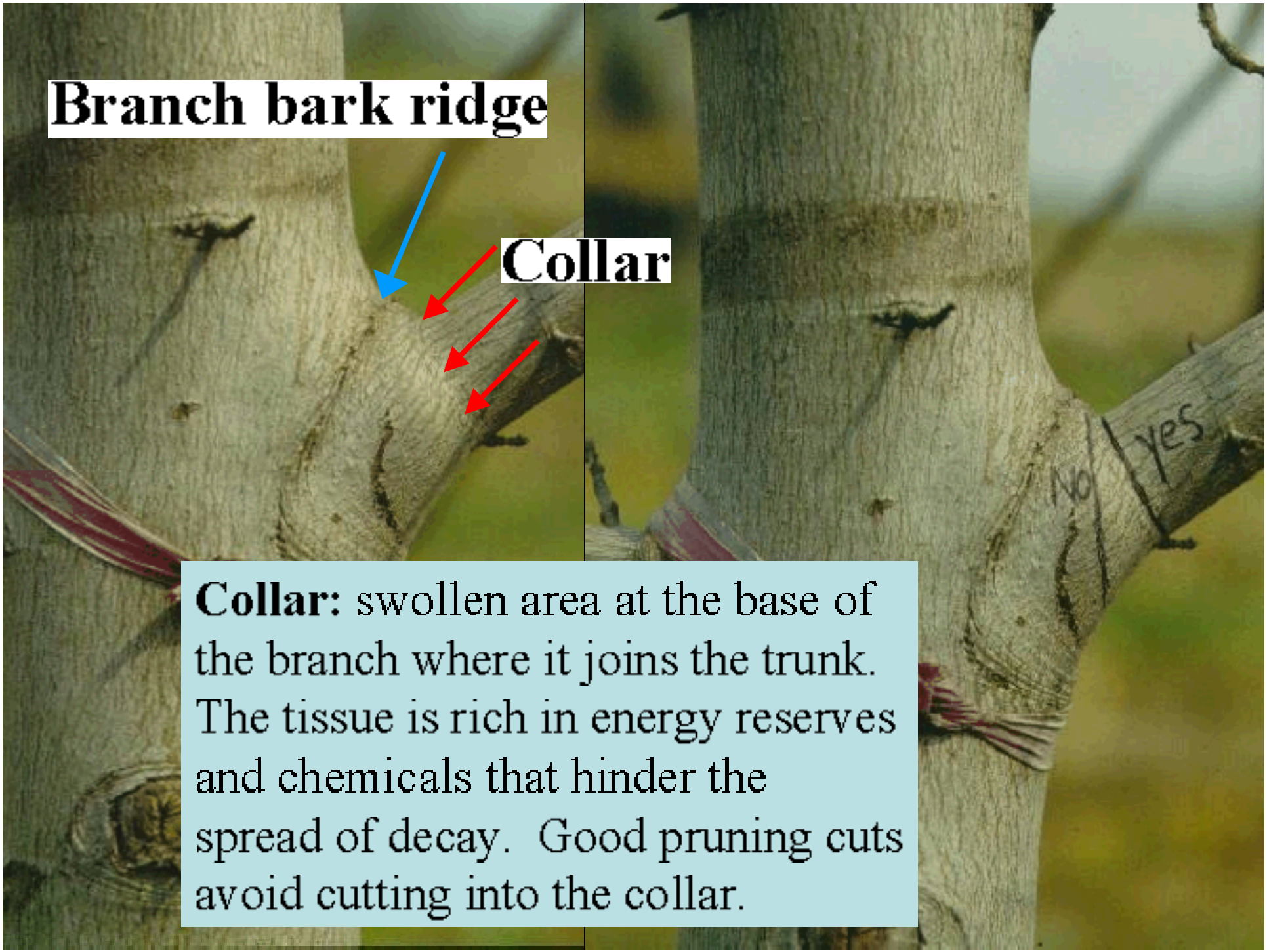

Collar: swollen area at the base of the branch where it joins the trunk. The tissue is rich in energy reserves and chemicals that hinder the spread of decay. Good pruning cuts avoid cutting into the collar.

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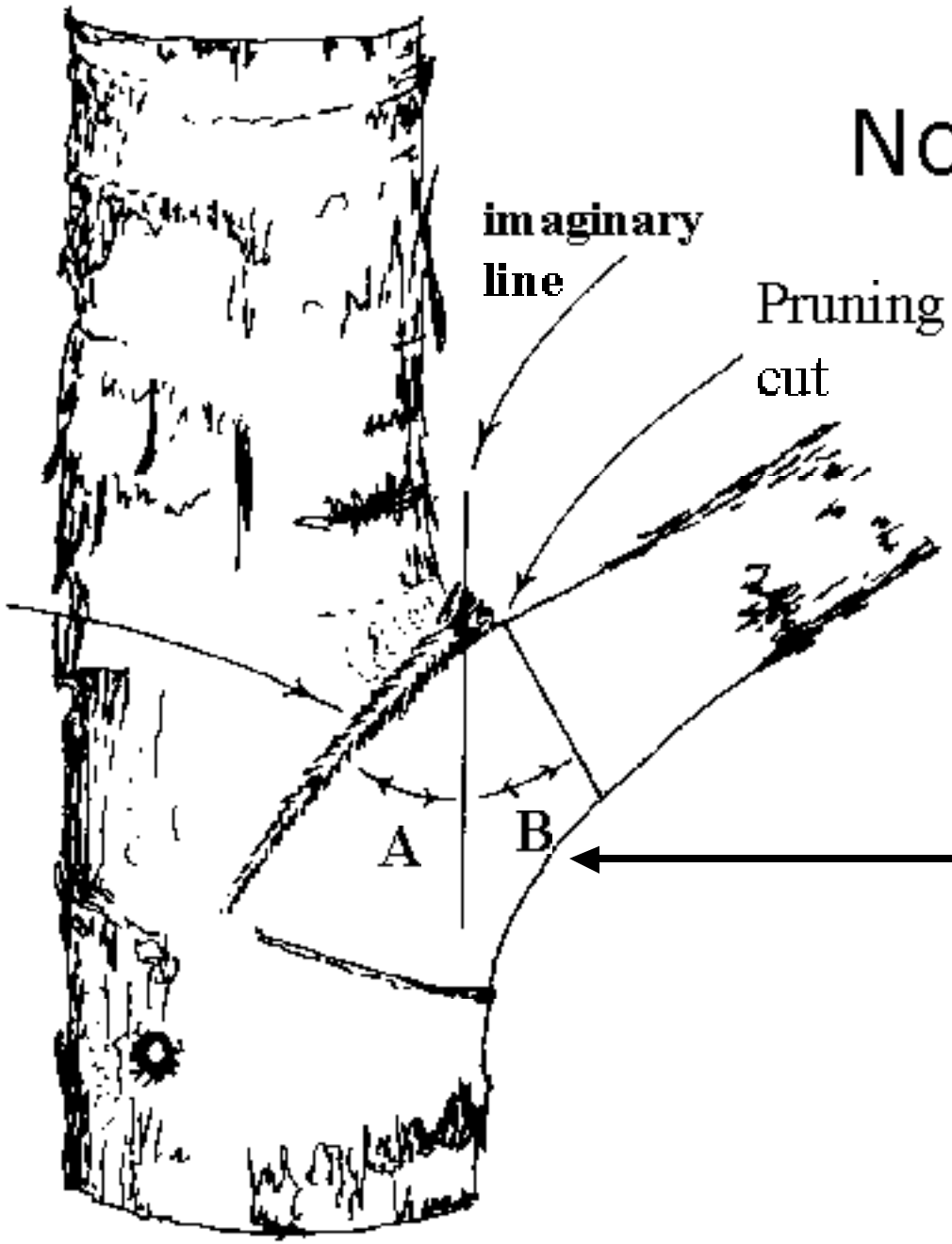

No collar visible

Angle 'A' should equal angle 'B'

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Bad cut- called a flush cut

Woundwood does not develop evenly

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Reduction

- May be necessary to direct growth
- A better option is to plant a smaller tree

Think right tree right place!

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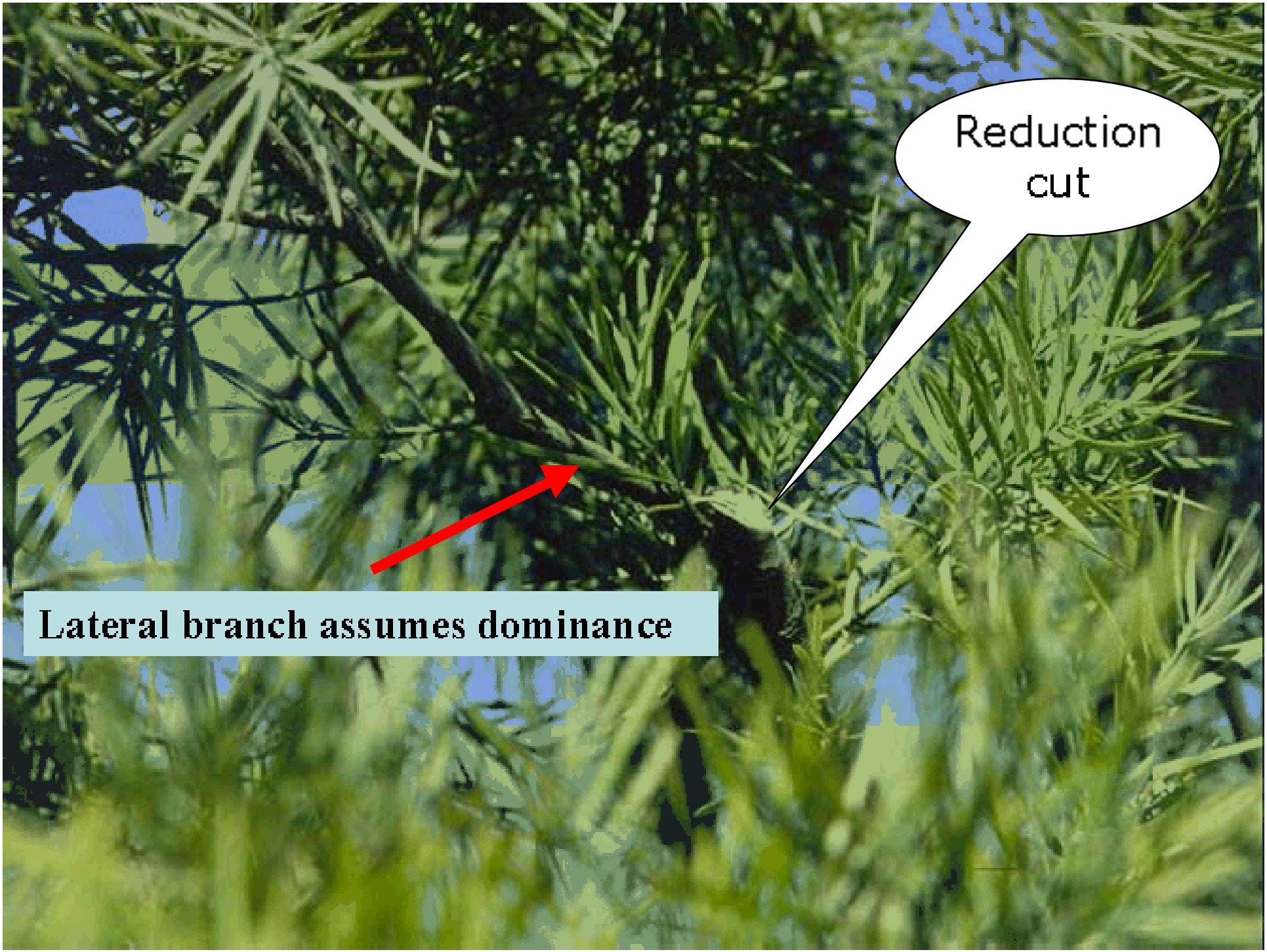

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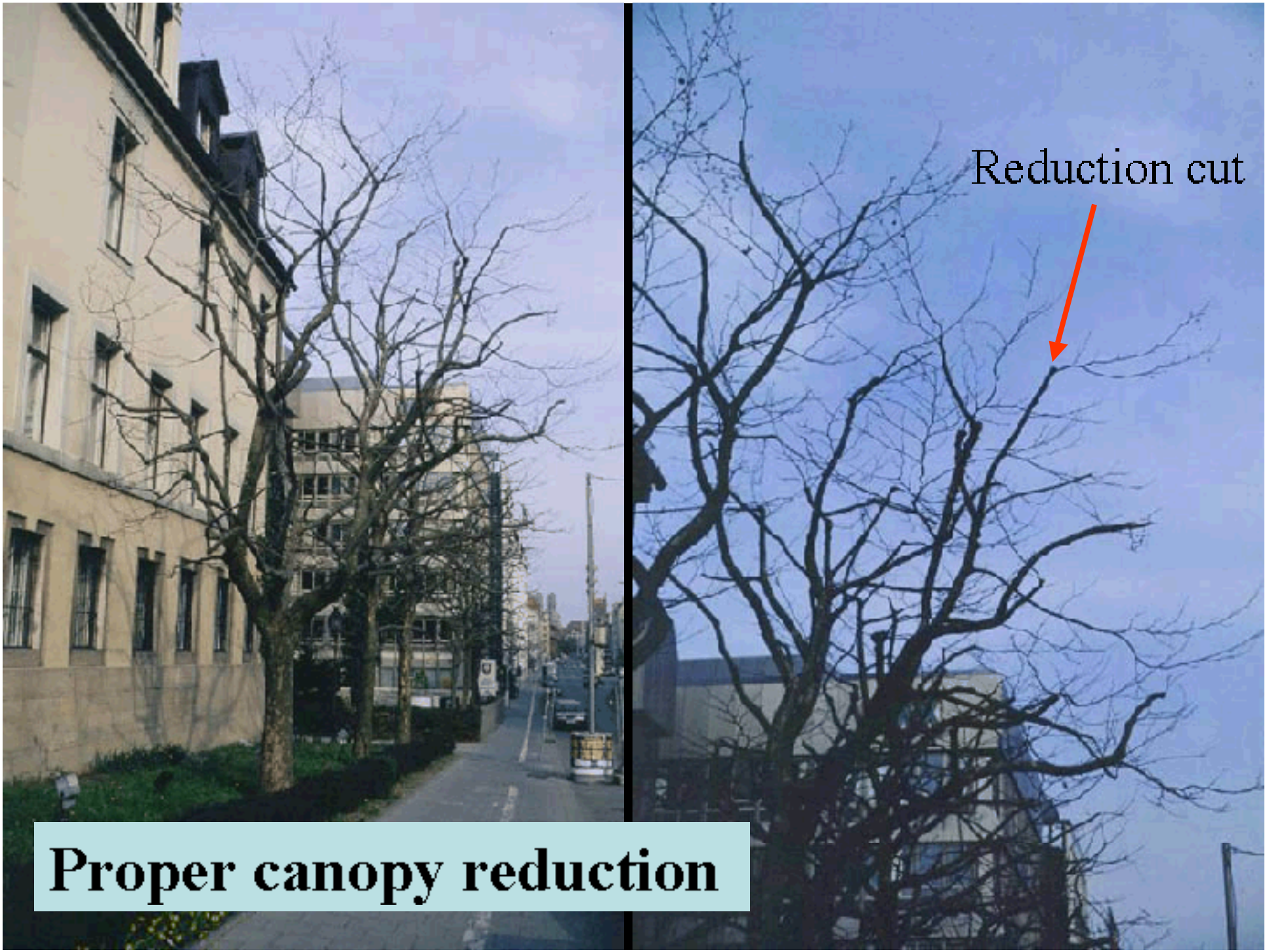

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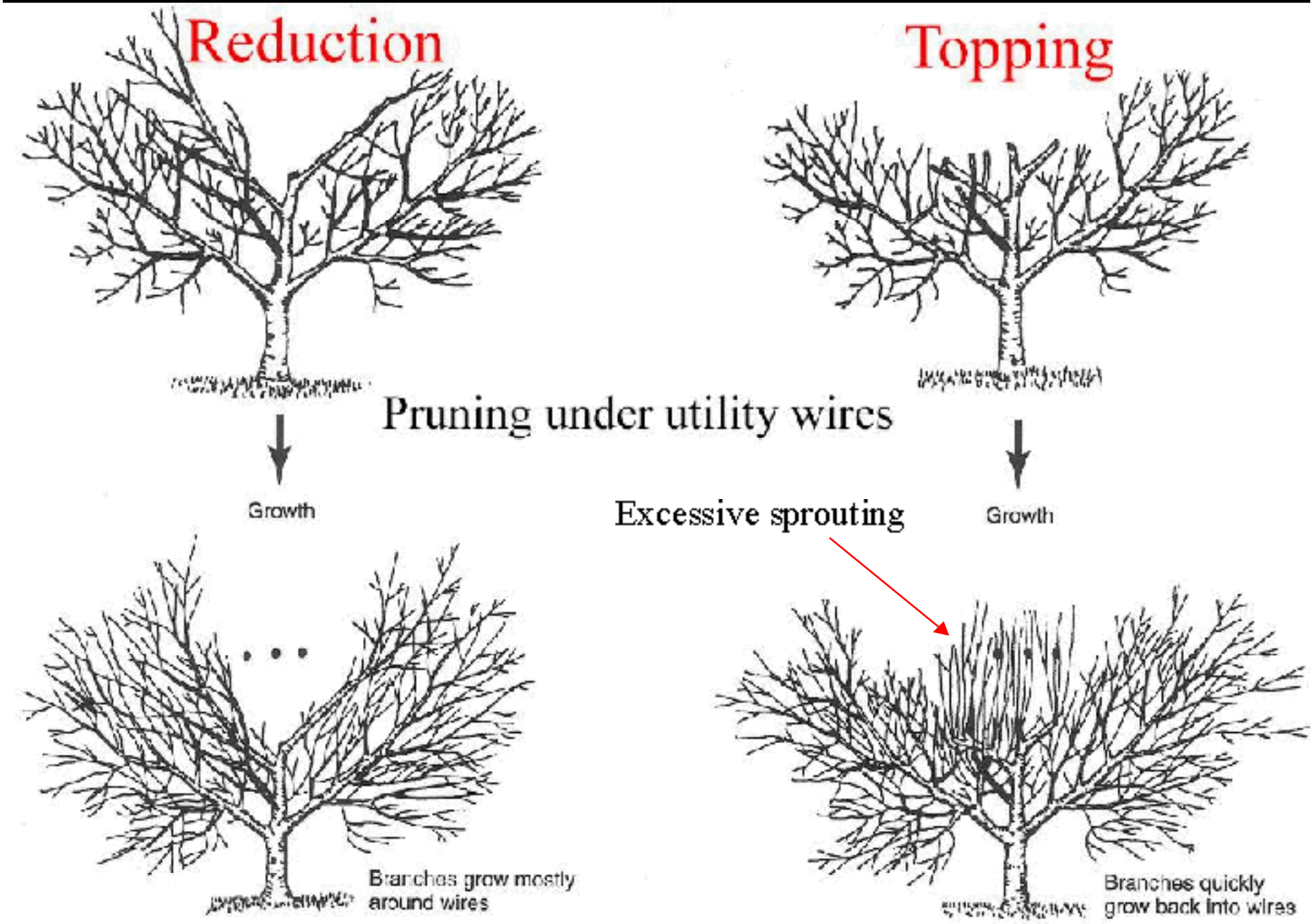

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Reduction Pruning
Proper vs. Improper (Topping)

Proper reduction

- reduces size while maintaining form
- minimizes re-growth
- cuts barely noticeable
- branch tips visible in outer canopy

Improper reduction

- drastic form change
- sprouting
- cuts very noticeable
- branch tips not visible in outer canopy
- compromises structure
- promotes defects and decay

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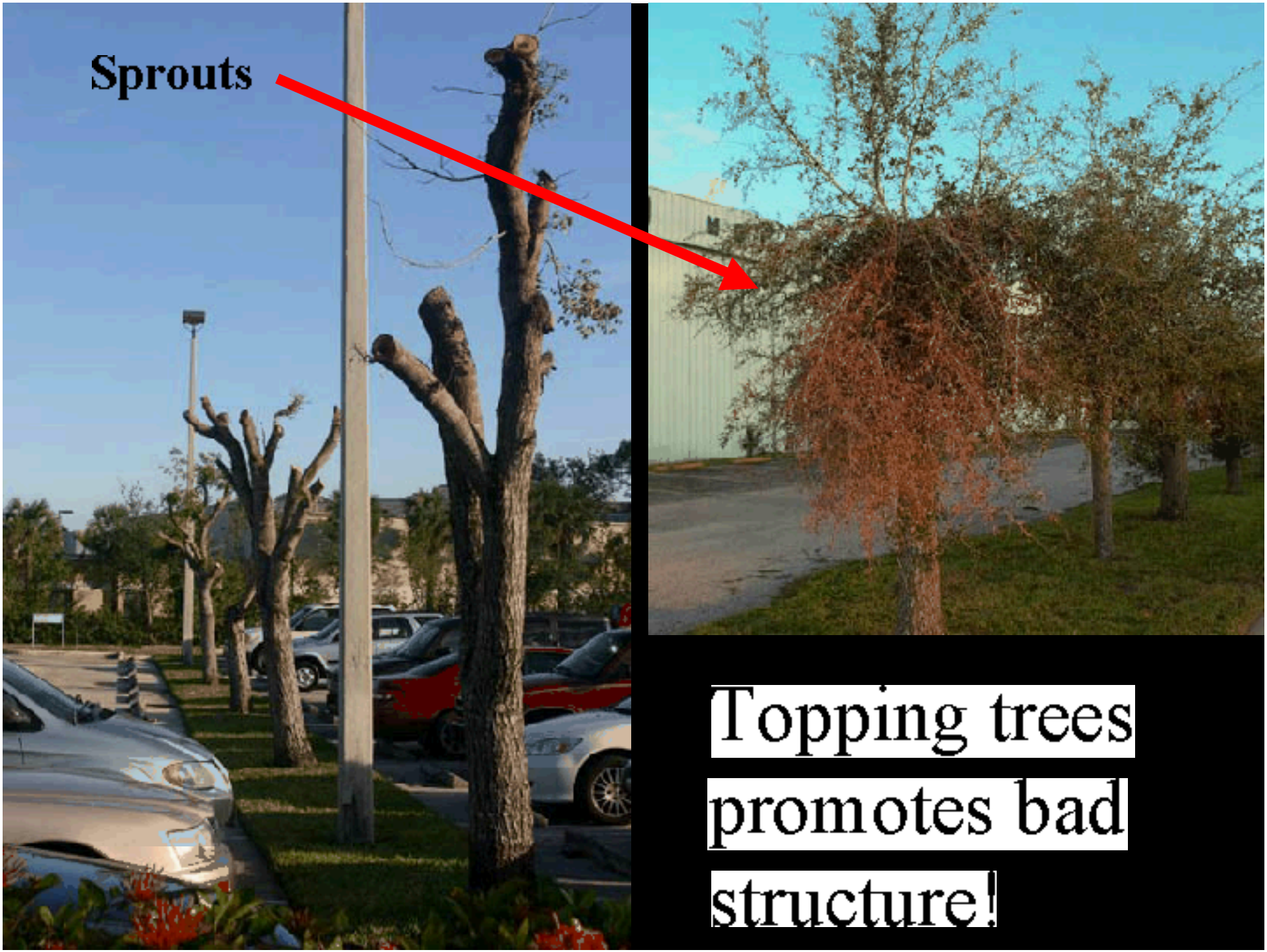

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Not all tree species can be reduced

- Consider species and plant health before reducing the canopy

- More decay can enter the tree following reduction than following removal cuts

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Pruning to: Raise

- The selective removal of branches to provide vertical clearance
- Best done over a period of years, not all at once

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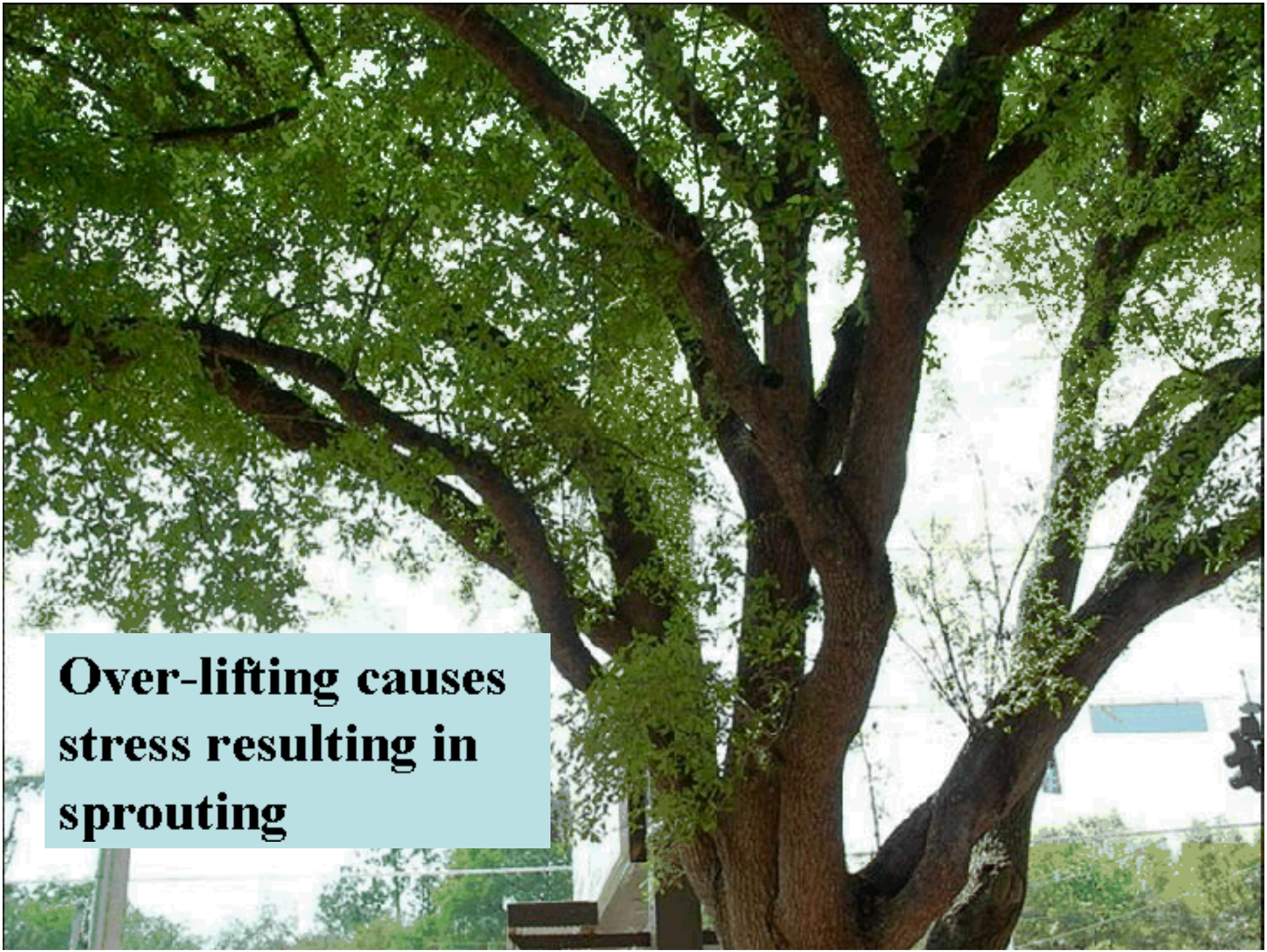

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Big cuts can result in decay and cracks.

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Sprouts develop from large pruning cuts

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Raising: a stepwise process

- Thin/reduce/remove the largest branches in the lower part of the tree.
- Leave smaller branches intact for one year.
- If necessary remove branches back to trunk one to several years later.
- Do not forget to correct any structural pruning needs.

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Remember your goals and objectives…

Produce a structurally sound tree

- Reduce risk of failure
- Promote human safety
- Allow for safe passage
- Reduce shade and wind resistance
- Maintain tree health and vigor

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