

Newark Pruning Workshop

September 18th, 2026



**Thank you to Rutgers Urban
Forestry Program!**

NJ Tree Foundation

The New Jersey Tree Foundation is a statewide nonprofit organization dedicated to planting trees in New Jersey's most underserved neighborhoods, where the need is greatest. Through tree planting, volunteerism, partnerships, and education we assist communities in improving their environment & quality of life.

NJ Tree Foundation

The NJ Tree Foundation has several programs to provide trees and educational programs to NJ residents.

North Jersey Program - Newark and surrounding areas.

South Jersey Program - Camden and surrounding areas

Central/Shore Points - reaches Trenton, Atlantic City, Asbury Park, Ewing, and more.

Education-statewide educational programs for all ages.

GreenStreets-contract work for municipalities with shade tree planting/maintenance budgets.



Definition of a Tree

A woody perennial plant, typically having a single stem or trunk growing to at least 13' and bearing lateral branches at some distance from the ground.

When identifying trees, it is important to know the different parts of the tree.



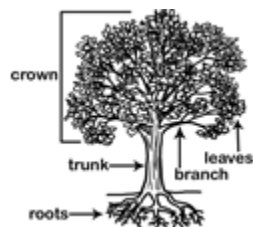
Parts of a Tree

Roots: act like straws, absorbing water and minerals from the soil. They anchor the tree and can store nutrients for future use.

Trunk: supports the tree and acts like a plumbing system, moving water and nutrients from the roots. The outermost layer is called the bark.

Branches: move the food from the leaves to other parts of the tree.

Leaves: are used to create food through photosynthesis



Parts of a Tree

Flowers: are your tree's way of reproducing. Flowers contain pollen and tiny eggs. After pollination and fertilization, your flower turns into a fruit.

Fruit: provides a covering for the seeds. Fruit can be fleshy like an apple or hard like a nut.

Note - Conifers (pine, spruce, fir, etc) do not have flowers, but cones do protect the seed.



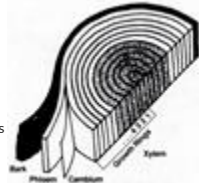
Parts of a Tree

Bark - outer layer which protects the cambium

Cambium - the *living* layer of actively dividing cells located just inside the bark that produces a new growth ring each year.

Phloem is formed to the outside and eventually becomes bark. Carries sugar produced by photosynthesis in the leaves down to the rest of the tree.

Xylem is formed to the inside and eventually becomes wood. Carries water from the soil up to the leaves to use in photosynthesis.



ISA, 1998. *Tree Climber's Guide*



Compartmentalization

Wounded trees are not capable of replacing wounded tissues.

Trees do not "heal", they "seal"

Compartmentalization: when trees create barrier zones to contain defected wood, protecting the integrity of the tree



Pruning

Proper pruning will maintain the health and integrity of your tree, preventing costly maintenance down the road

Improper pruning can damage your tree, cause it to grow abnormally, and leave it susceptible to disease.

Young tree pruning requires **two hand tools**: bypass pruners and folding saws.

Hand saws have a pull action, do not use other saws like table saws which will chew up living wood.

Anvil pruners are not recommended for pruning green branches-can crush/destroy live branches.



When to prune

Winter:

- Lower limbs
- Crossing branches
- Parallel branches
- Any other structural pruning

Anytime:

- Dead, diseased, damaged branches
- Pedestrian hazards
- Suckers/water sprouts

Remember: a tree needs its leaves for photosynthesis (food). Do not remove more than 25% of the tree at any time!

Main Pruning Objectives

- Improve Structure
- Risk Mitigation
- Provide Clearance
- Maintain Health
- Improve Aesthetics



Water Sprouts/Suckers

When a tree is under stress, it can sprout "tree suckers" from the base and the rest of the canopy.

Suckers along the base of the trunk of the tree are unsightly and take nutrients away from the rest of the tree. They also grow very fast and aren't as structurally sound as branches that have grown at a normal rate.



Preventing Suckers

It is far easier to prevent suckers than it is to manage them. Once they develop, they will come back every year.

Do not remove more than 25% of the tree's canopy at any time. The tree needs its leaves to make food.

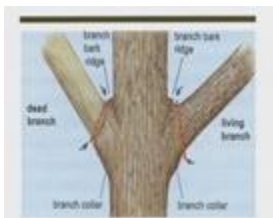
***Suckers in the canopy can be left to grow, focus on removing the ones at the base of the trunk.**



How to Prune

Prune just outside of the branch bark ridge and branch collar.

Remember - trees don't heal, they seal! We want to make the least harmful cut possible.



Want to prevent this?



3-Step Cut



- 1) Make a cut on the underside of the branch, only about 1/4 through - this acts as a stop gap
- 2) Make a full cut a few inches past the undercut
- 3) Make the full pruning cut

Most useful for large branches, where the weight may cause the bark to peel back to the trunk

Bad Pruning Cuts



Natural target pruning with goal of raising the crown

Used to improve visibility and/or reduce pedestrian hazards



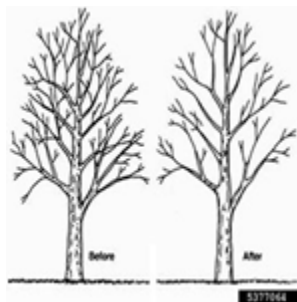
Target pruning needed



Conflicting Branches

Most young tree pruning is about maintenance - we want to correct the issue while the tree is young, before it becomes difficult (and costly!) to fix

Generally we want to keep the branch that's larger/doing better, but there is often no 'correct' branch to prune!



Crossing/Parallel Branches

Crossing branches can rub against each other and eventually grow together.



Co-dominant Stems

Branch bark ridges should be visible!

A weak union can lead to one stem peeling off from the other

A 'U' shaped branch union is typically better than a 'V'



Source: Ed Gilman, Florida Chapter ISA Prescription Pruning

Included Bark

Included bark occurs when outer bark becomes enclosed inside attachment as branches grow - can appear fused together, but is not!

Instead of forming strong connective wood (as indicated by a branch bark ridge), bark becomes trapped between the two stems

As the stems grow, the trapped bark acts like a wedge that forces the two stems apart, increasing the likelihood of a sudden break



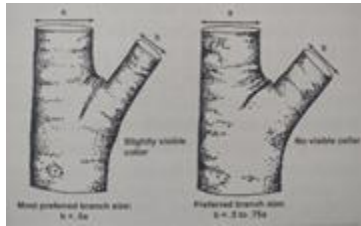
www.simplytreecut.blogspot.com

Aspect Ratios

Branch Aspect Ratio - Diameter of the branch compared to the diameter of the trunk/leader above the union (1:2, 3:4, etc.)

- First number indicates branch diameter
- Second number indicates leader diameter

Larger aspect ratios (branch is more than half the diameter of the trunk) are often weakly connected and are a priority for pruning



Source: Ed Gilman, Florida Chapter ISA Prescription Pruning Manual

Reduction Pruning for Young Trees



Maintain Health

Removing:

- infested
- infected
- damaged
- rubbing branches

Removing diseased branches can prevent it from infecting the rest of the tree

Sanitize pruning equipment with alcohol after pruning diseased branches, and be sure to remove any infected/infested material from the area



Aesthetic Pruning

Aesthetic pruning is done for cosmetic reasons and should be done in the winter, when your tree does not have leaves.

All trees have a "form." Choose a tree with the form you want. Pruning a tree into a shape that is unnatural for that tree is **NOT recommended**. It can weaken your tree.



Risk Mitigation

Removing branches that are:

- dead
- diseased
- dying
- broken
- cracked
- outside of the normal crown shape
- hanging
- decayed

Reduces the likelihood of branch failure

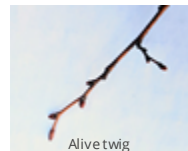


How to Identify a Dead Branch

- No Buds
- Lack of Fine Twigs
- Brittle Twigs
- Brown Under Bark
- Lack of/Peeling Bark
- Dull vs Shiny



Dead twig



Alive twig

Maintain Health

Removing:

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Do NOT Top Trees!



New shoots develop profusely below a topping cut.



Avoid Lion-tailing

Lion-tailing involves cutting back inner lateral branches and only leaving foliage at the ends

This puts more strain on the ends and makes it more susceptible to breakage, and leaves the inner tree susceptible to sunscald

Focus on pruning exterior branches, not twigs

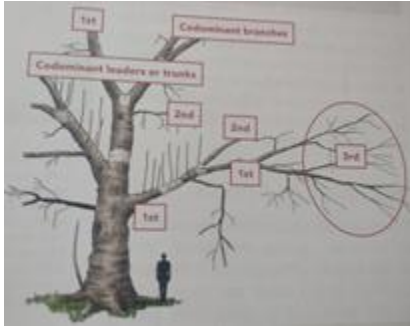
Twigs are thin, flexible, and have leaves growing directly on them



Source: Sacramento Tree Foundation

Branch Order

Focus pruning on 3rd order branches!



Source: Ed Gilman, Florida Chapter ISA Prescription Pruning

Good Pruning Cuts



Bad Pruning Cuts



Good Pruning!



Good Pruning!



Mulch

Mulch retains soil moisture, reduces weed growth, improves soil quality over time, and beautifies your tree pit.

Mulch should be applied in a 3" layer surrounding your tree's root zone.

Be sure to keep the mulch 3" **AWAY** from the base of your tree.

Mulch volcanoes promote trunk rot and can harm your tree over time.



Image Source: Sarah Cox, Purdue University









Thank You!

Any Questions?