

PRUNING



This is part of a series on growing fruit!

March 6th @6pm - Growing Grapes

March 20th @6pm - Small Fruits and Berries

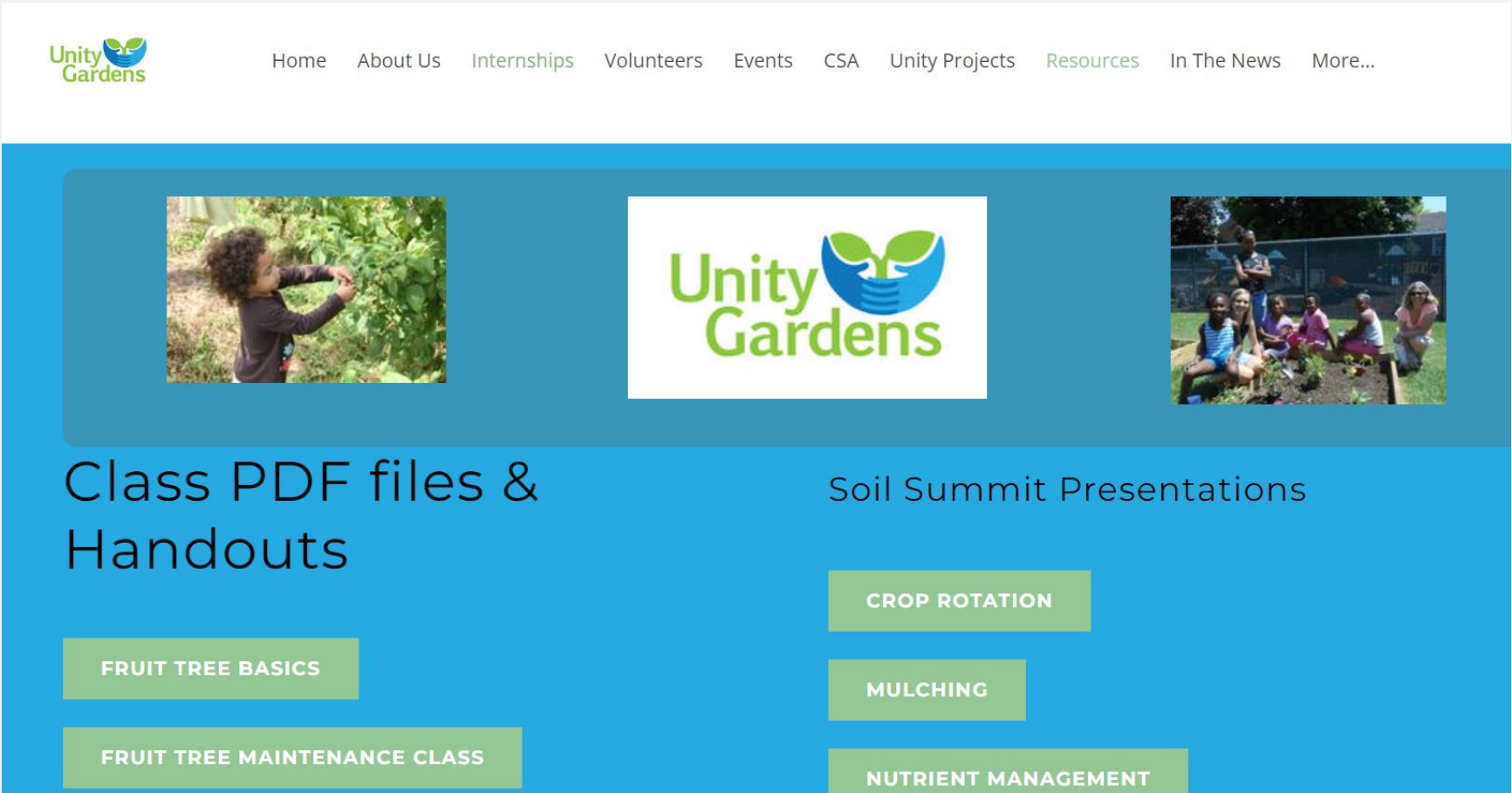
April 3rd @6pm - Holistic Spray Program

April 10th @6pm - Orchard Companions

April 24th @6pm - Fruit Propagating

Previous class: Fruit Tree Selection




Slides will be available on the resources tab of our website



The screenshot shows the Unity Gardens website with a navigation menu and a blue content area. The navigation menu includes: Home, About Us, Internships, Volunteers, Events, CSA, Unity Projects, Resources, In The News, and More... The blue content area features three images: a child in a garden, the Unity Gardens logo, and a group of people in a garden. Below the images are two main sections: 'Class PDF files & Handouts' and 'Soil Summit Presentations'. The 'Class PDF files & Handouts' section contains three buttons: 'FRUIT TREE BASICS', 'FRUIT TREE MAINTENANCE CLASS', and 'CROP ROTATION'. The 'Soil Summit Presentations' section contains three buttons: 'MULCHING' and 'NUTRIENT MANAGEMENT'.

Unity Gardens

Home About Us Internships Volunteers Events CSA Unity Projects Resources In The News More...



Class PDF files & Handouts

FRUIT TREE BASICS

FRUIT TREE MAINTENANCE CLASS

Soil Summit Presentations

CROP ROTATION

MULCHING

NUTRIENT MANAGEMENT

Growing Summit!

UNITY GARDENS
GROWING
SUMMIT 2024

Unity  Gardens

Free Garden
Classes

MARCH 9TH 2024
9:00AM TO 4:00PM
MAIN BRANCH LIBRARY
DOWNTOWN SOUTH BEND

Public
Library
ST. JOE COUNTY

Join us for this fun and educational event
With over 20 free classes, vendor booths,
and demos
at the Community Learning Center
305 South Michigan St.
South Bend IN 46601

www.theunitygardens.org

CLASSES

schedule and room number information available on our website

Sustainability Classes

Reinvent Your Waste
Basics of Solar
Watersheds & Ways to understand water quality using
Macroinvertebrates
Climate Action Planning
Food Waste and Greenhouse Gases
Off Grid Solar

Gardening Classes

Shade Gardening
All About Strawberries
Ask the Expert- Small Fruit Growing
Organic Gardening
Basic Tree Pruning
Plant Propagation
Seed Saving 101
The Dirty Truth: Unearthing the Secrets of Healthy Soil

Kid's Classes

Digging into plants and Nutrition For Kids
It is Tough Being Green: Smelling
Fishing For Family Fun / by Reelin Family Fun
Butterflies and Pollination

Native Plant Classes

Invasive Plants
Gardening with Native Shrubs and Flowers for Wildlife
How To Be Really Cool When Growing Native Plants
How Small Inclusions Of Native Plants Can Have a Big Impact

And More:

Making Krauts & Kombucha
Regenerate Indiana: Land and People Made Whole
Documentary and Discussion

Why Should I Prune My Tree?

Tree Health

Sunlight penetration/airflow

- dries out the tree faster which prevents disease, fungus, and weak bark

Strong branches

- your branches won't crack during storms or with heavy fruit load or when people climb on it

Remove branches that are broken, diseased, damaged, or will cause damage to the tree later on

Desired Structure



Keep it a manageable size for harvest and maintenance

You can also prune in specific ways to fit your yard and your aesthetic

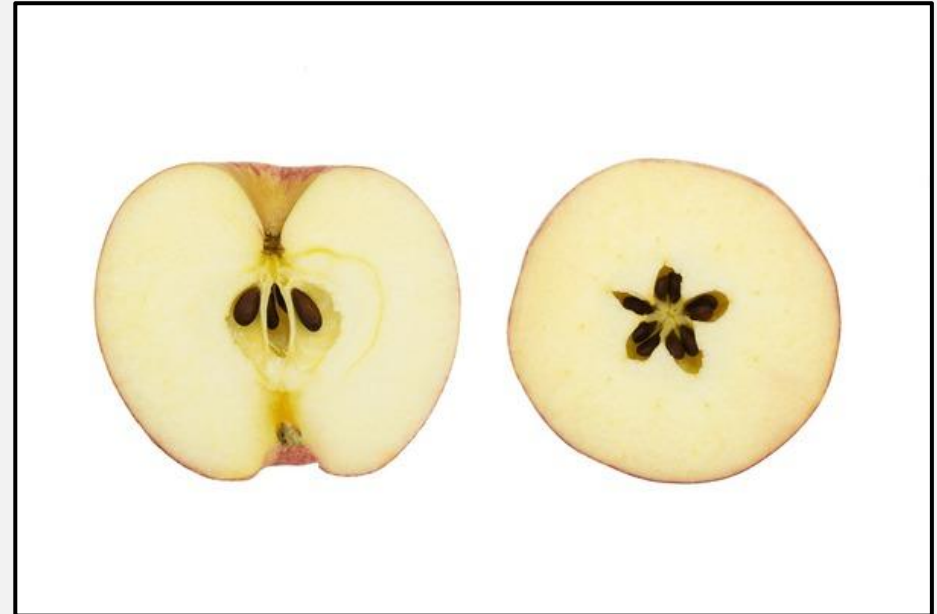
You'll also likely need to prune for what you want your tree to serve

- if you'll be moving around your tree, you don't want low branches
- if you have kids who want to harvest with you, you want to keep low branches

Improve Fruit Quality

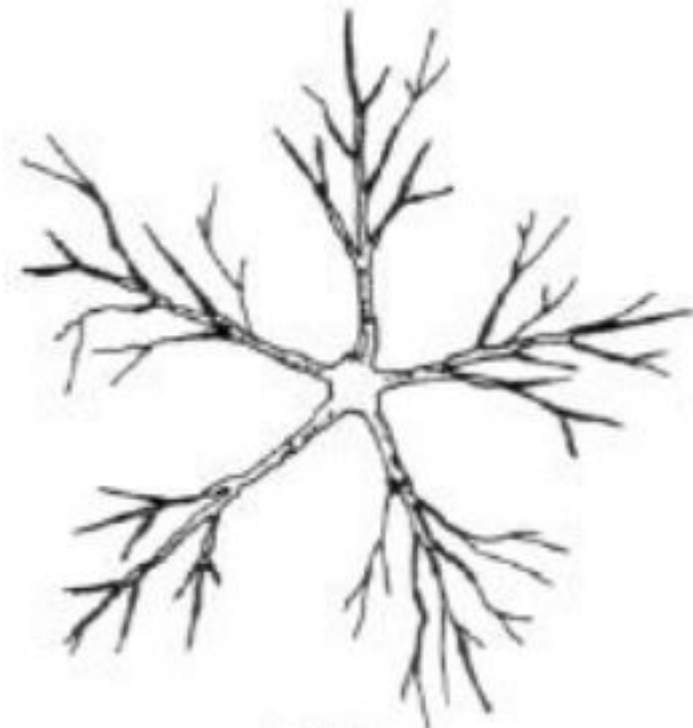
Good pruning increases fruit set, ripening and quality

- there's more energy in the tree overall
- better sunlight penetration improves ripening
- healthier trees fend off diseases/pests that would affect fruit



What does good pruning look like?

Clearing out the tree



This



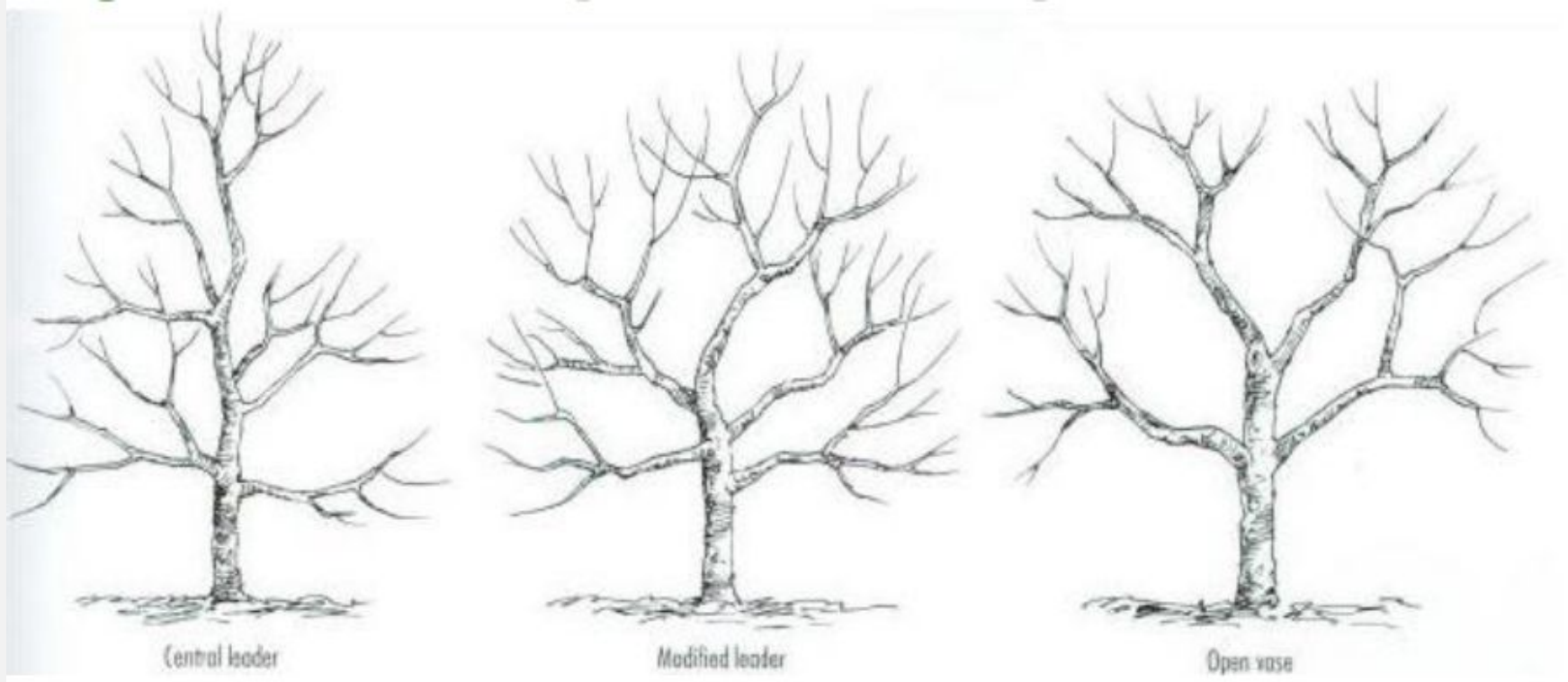
Not This

What type of pruning are you doing?

Central Leader

Modified Leader

Open Vase



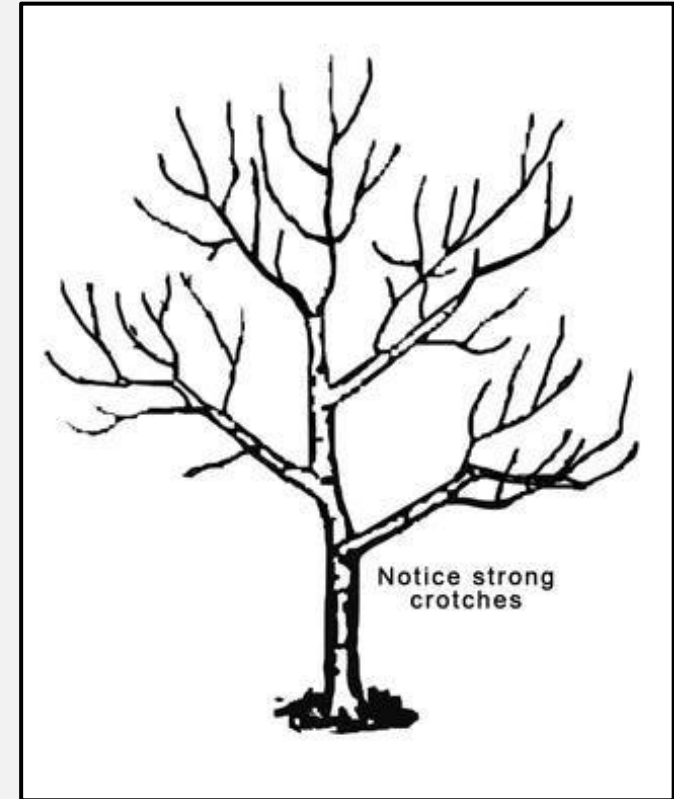
Central Leader

Apples

Pears

Sweet cherries

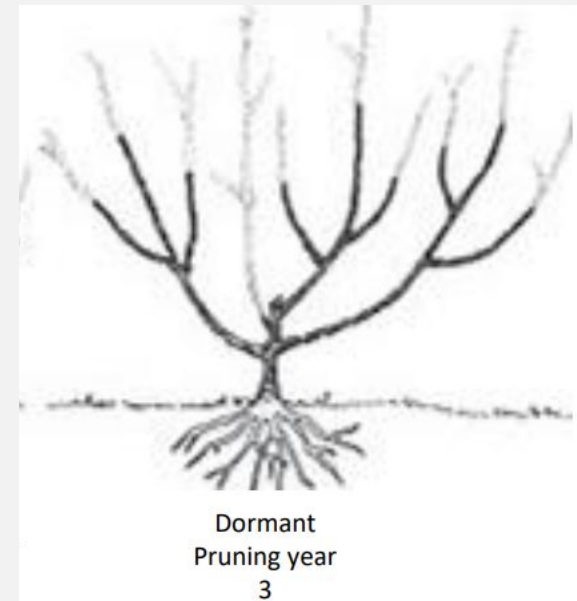
Tart cherries



Open center

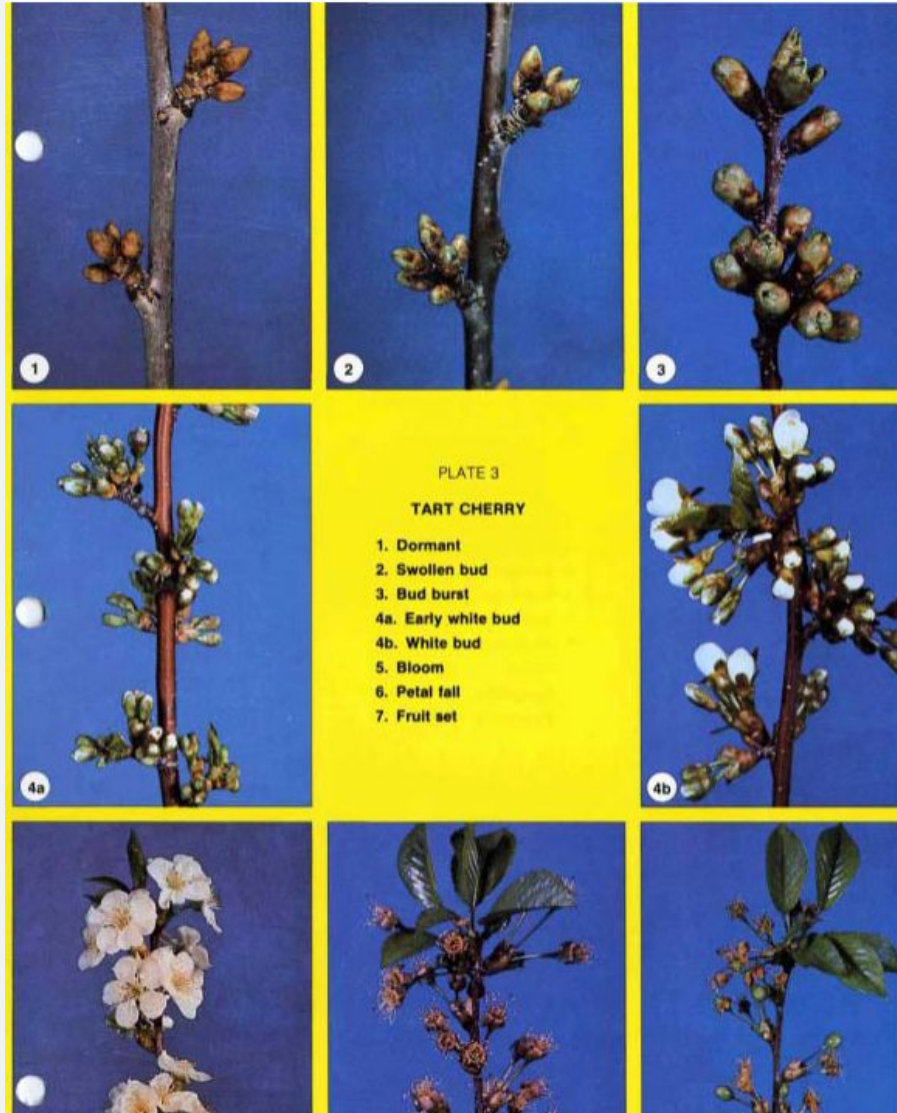
Peaches

Tart cherries



When to Prune

Late winter/early spring



- Most of your pruning is done in late winter/early spring
- This is during the dormant season, so it's easier to see the overall tree structure, it's not interfering with your harvest for the season (you're not pruning off buds/fruitsets that the tree has already put energy into)
- Prune after threat of hard freeze, which can damage open tree wounds that you'll cause when pruning
- Prune before the tree breaks dormancy and begins producing fruit
- Do not prune in freezing weather, do not prune when it's wet outside
- If you have multiple types of trees, prune the sturdier ones first, leave peaches/younger trees/things on the edge of our growing zone last
- [Dormancy in Fruit Trees \(Cornell\)](#)

Do NOT prune in fall/early winter

Every time you prune, you create open wounds on the tree

If you prune late in the fall season, these wounds will not heal sufficiently before cold weather and be affected by the heavy freezes

This will significantly shorten the lifespan of your tree, don't do it!

Pruning Rules of Thumb

Do Not Prune Off More than 30% of the tree in a
year

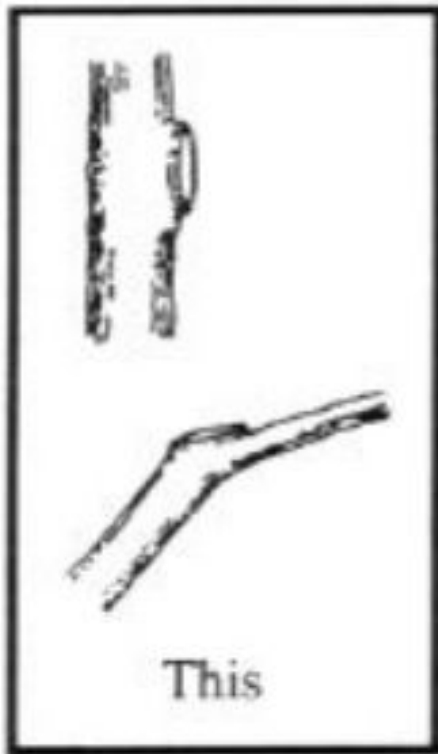
- Anymore than 30% of the tree and the tree will have trouble healing
- You're significantly removing resources for the tree to create its own food, which hinders the healing process
- If you're working on a neglected tree that needs more than 30% cut back, you can space out large cuts over multiple seasons
- **EXCEPTION:** peaches, you can cut up to 50% for peaches because they only fruit on second year wood and grow vigorously

Prune with Sharp & Clean Tools

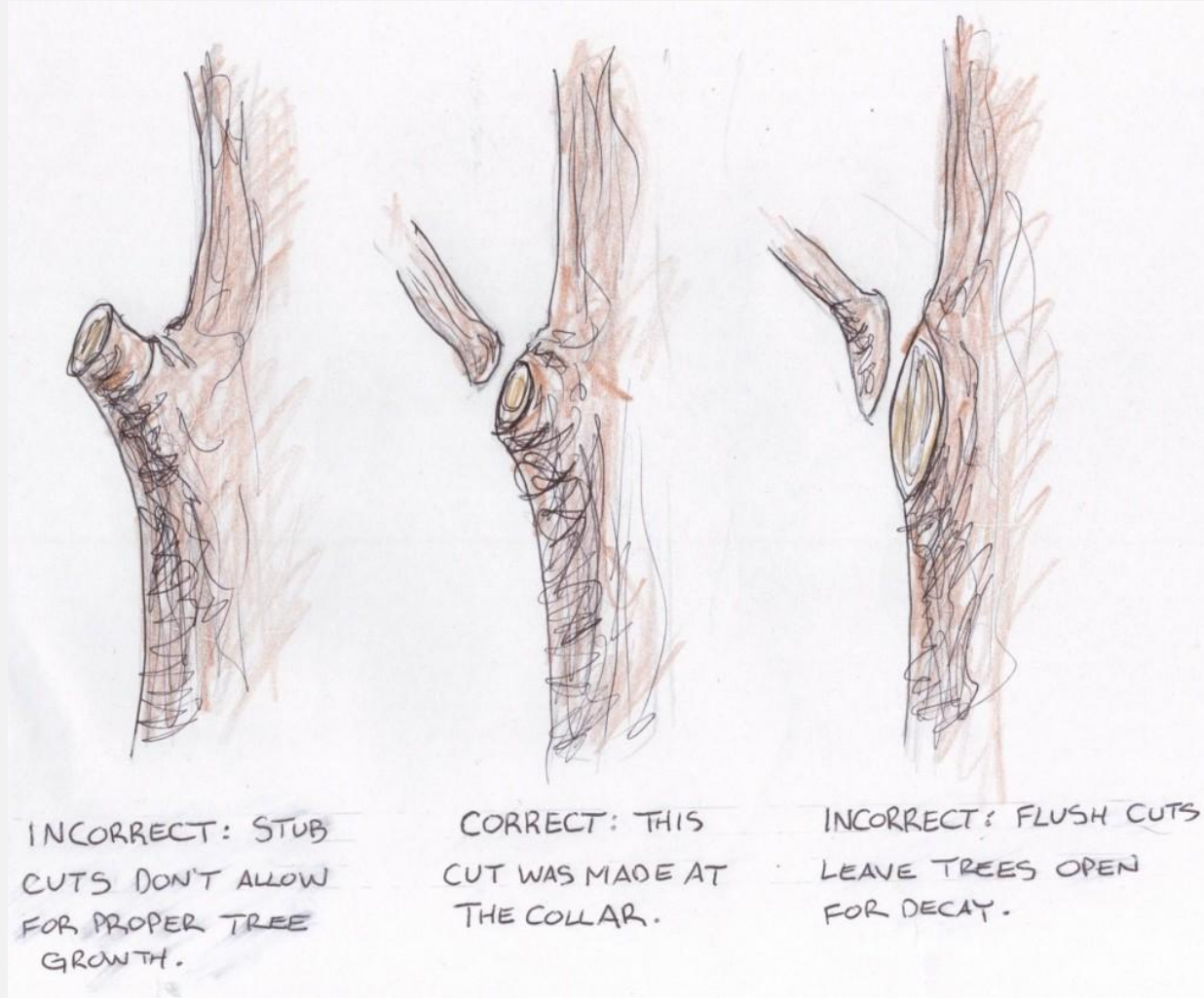
- sanitize between cuts (10% bleach spray works well)
- keep your tools sharp for clean cuts (ragged cuts are prone to infection/disease/etc)
- match cut size to tool
- electric tools will likely leave messy cuts and shake your tree
 - there are specific electric tools for pruning but those are mostly used in commercial orchards by experienced arborists because it's very easy to overprune or make bad cuts



Leave branch collar, but not a nub



Another example of the proper cutting technique



Vegetative vs. Fruiting Buds

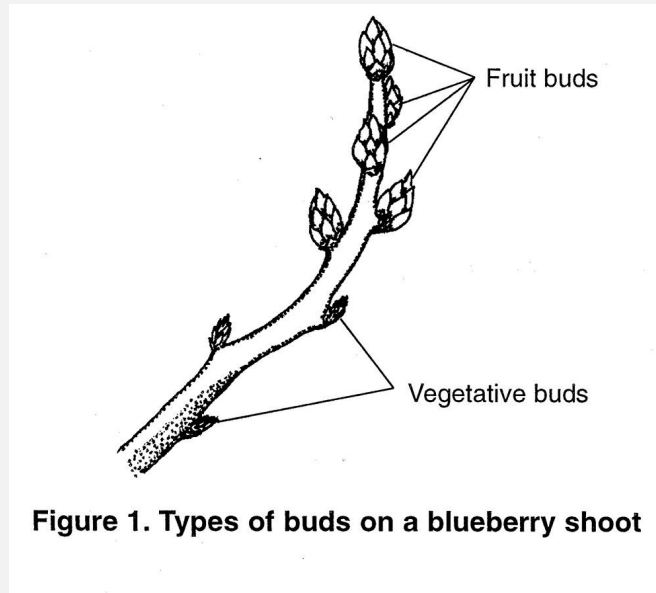


Figure 1. Types of buds on a blueberry shoot



Types of Pruning Cuts

Heading/Thinning

Heading: cutting a branch back to an outgoing branch/bud

Thinning: cutting a branch all the way back to the trunk, helpful for cleaning out a tree or removing watersprouts, or removing branches that are going entirely the wrong direction



Heading Cuts



Correct

Water runs off easily. Wound heals quickly



Wrong direction

Water will run onto bud causing rotting



Too close to bud

The bud may die



Too flat

Holds water which can rot bud



Too much stub

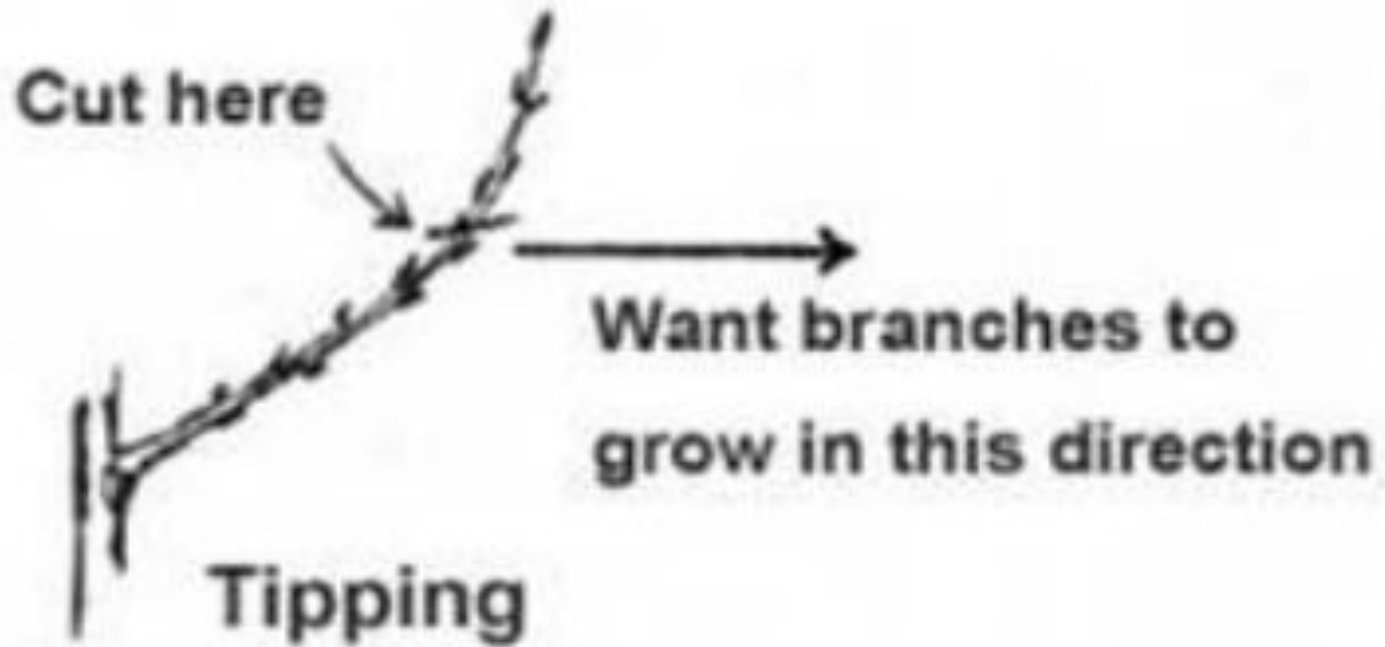
Die back occurs as wound doesn't heal easily. Infection can occur



Too large a wound

Infection enters wound easily

Heading Cuts



What Do I Actually Prune?

Starting Questions

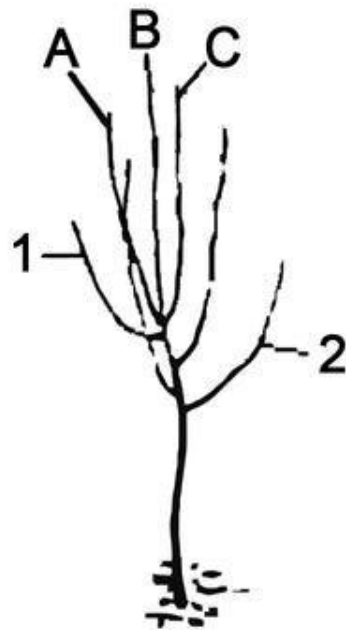
What type of tree is it, what structure are you attempting to create?

How old is it?/How big is it?

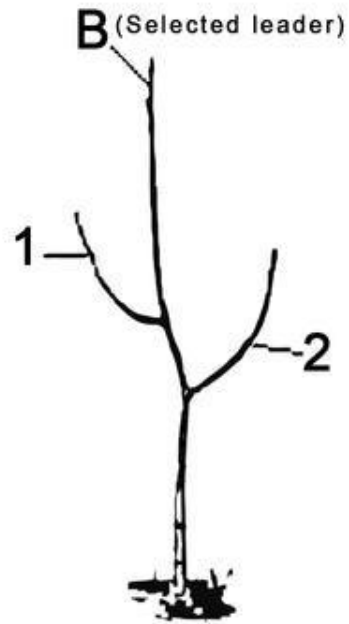
- mostly selecting for your ideal structure later on
- open center (ideally 3 scaffolds with strong angles originating closely together)
- central leader (ideally 4 scaffolds with strong angles interspersed up the tree)

Central Leader

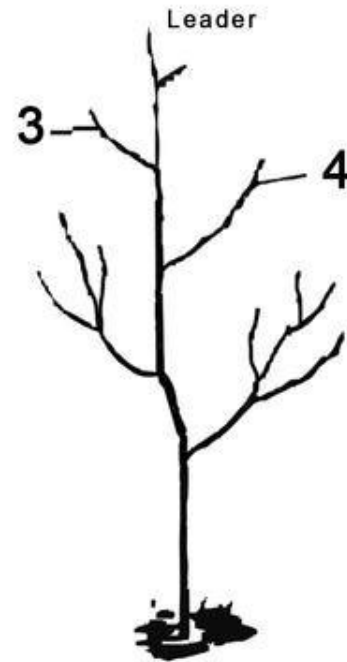
Three competing leaders



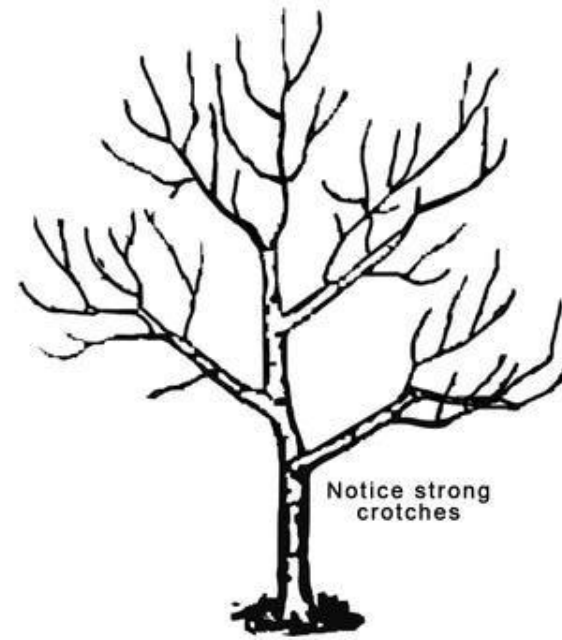
Tree received from nursery



Pruned at planting

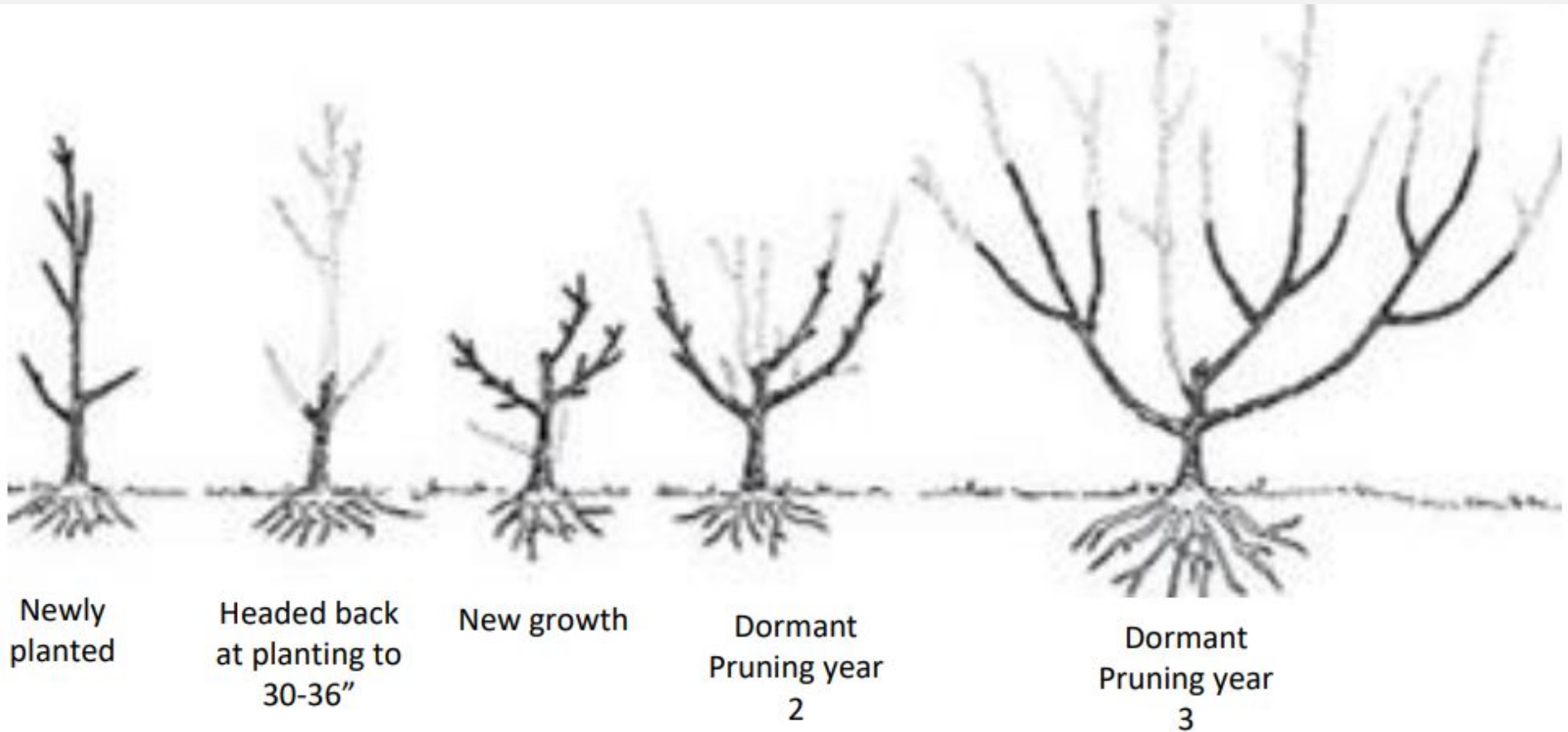


1 year later



6-8 years later

Open Center



Strong Angles

60-90 degree angles

good structure for the tree to bear heavy fruit and not crack later on

also usually sets up the tree for growing in a horizontal rather than vertical direction, so more of the branch is hit by the sun and ripens



Why do narrow angles crack?

Bark inclusion - leads to dead bark, rot, and eventually weak spots in the bark that will crack very easily



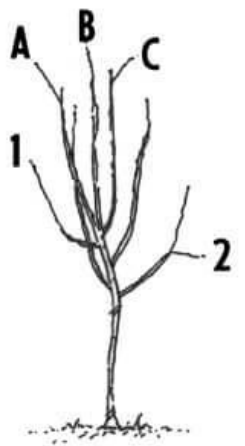
Strong



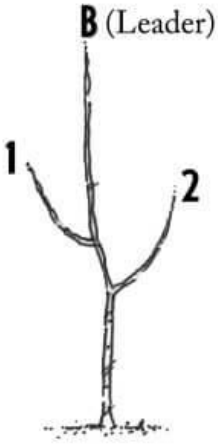
Weak

Looking
at this
in
practice

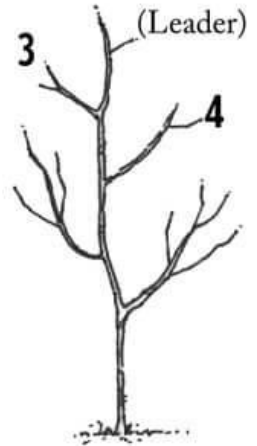
Young tree from planting



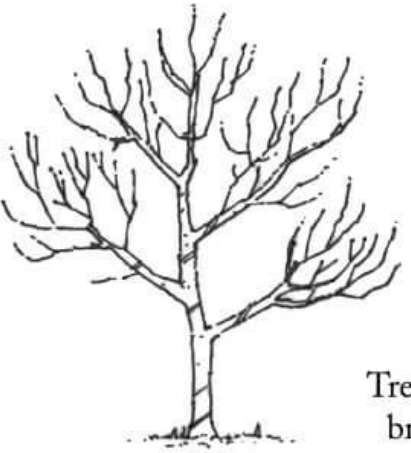
Pruned at planting



One year later

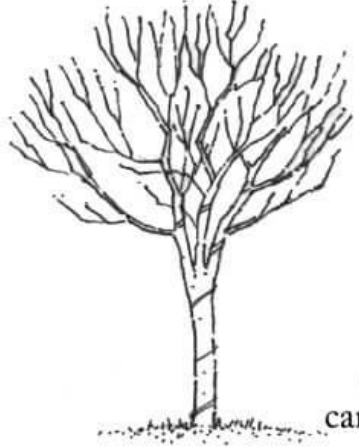
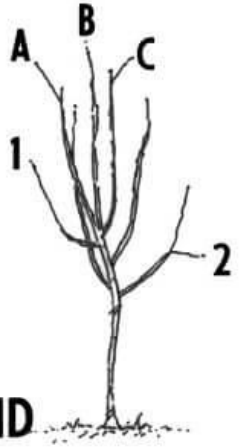


Six to eight years later



Tree has stronger
branch crotches

PREFERRED



Tree has narrow
crotch angles and
can split more easily

TRY TO AVOID

What if I let a narrow angled branch develop?

- thin the branch completely
- head it back to an outgoing bud to take the weight off so it doesn't crack as easily (if you've done lots of pruning) and remove it in a later season
- this depends on how much pruning you're doing on the tree and the size of the branch that's developed



**Undercut
to prevent
tearing**



**Top cut to
remove limb
weight**



**Plunge cut to
prune back
to trunk**

Are narrow angled branches completely useless?

No! You can use limb spreaders

- buy these or use clothespins or make your own

make sure to check on them over the season, if at any point the bark is growing up over it, you'll have to remove it

this only works when branches are flexible enough to bend/shape



Summer Pruning

Summer Pruning

- cleaning up water sprouts and suckers
 - this is vegetative growth that will not bear fruit and will grow aggressively
 - clean it up when it's small for smaller wounds and so it doesn't siphon energy away from the rest of the tree
- pruning for height
 - pruning has a dwarfing effect no matter when you prune, but pruning in summer heightens this dwarfing effect and will take off growth that would've increased the height of the tree

Watersprouts



- Vegetative growth that usually develops in crotches or around heavy pruning cuts
- Usually growing straight up
- Unlike fruiting branches that will have a branch to trunk ratio of like 1:3, watersprouts will often develop a 1:1 branch to trunk ratio
- This will not bear fruit as is
- Mostly we prune these out
- if you have a blank space in a tree and you'd like branches there, you can also head back watersprouts to an outgoing bud to develop a fruiting branch

What happens if I leave watersprouts?

They will get really big (like grow 5-6 ft in a season)

- siphon off lots of energy to develop vegetation rather than fruit

They will crowd your tree, interrupting airflow, sun penetration

They are more targeted by diseases like fire blight that attack vigorous growth

They're prime food for aphids

You can prune forgotten water sprouts out in the winter

Root suckers



Root suckers are from the rootstock, not the actual fruit tree

They'll grow up tall and take energy away from the fruiting tree, they usually are vigorous growth

Remove them when you see them!

If you miss them in summer pruning, they can be removed in winter pruning

Pruning for Height

If your tree is at a height you'd like to maintain or is taller than you like, you can prune for height in the summer

This usually means trimming off the ends up tall branches to an outgoing bud (heading cuts, not thinning cuts)

If it's much much taller than you like, you can do this over several seasons

Pruning over the next couple years

Prune to Maintain your Structure

- Maintain your current scaffolds and develop new scaffolds
- Prune branches that interfere with this like branches growing straight up or towards the center
 - Branches growing straight up are most likely watersprouts, or branches that you can prune to grow out instead
 - They won't produce much fruit growing straight up
 - Branches growing towards the center will interrupt airflow and sunlight penetration

Dead Stuff

- Prune off anything dead
 - Dead stuff will have a brown cross-section and snap easily
- Use heading cuts here to cut back to the live sections of the tree
- Use the heading cuts in a way that will encourage the tree to grow in a direction you like



Branches Growing Down

- Will usually be shaded out by other branches and therefore won't bear fruit
- Also more likely to break in storms
- Exception: I might leave some for big trees in free pick orchards for kids to reach!



Diseased/Damaged

- Any cracked branches, any branches that may be infected
- Prune it off so it won't affect the rest of the tree



Rubbing Branches

If you maintain structure, you should be able to avoid rubbing branches

Pulls away bark and introduces disease into the tree

One is also likely going an unfortunate direction

Can use a thinning cut to remove the whole branch or a heading cut to redirect one of the branches



© Barbara W. Ellis

Pruning Neglected Trees

Remember, you can't prune more than 30% in a season

1. Start with diseased/damaged/dead branches
2. Take out root suckers
3. Figure out what structure you're aiming for
4. Find the limbs that can be developed into a good modified structure
5. Remove narrow angles
6. Thin/head back for height and structure

This can be a work in progress, make heading cuts and big cuts far away from each other