



# The Backyard Orchard — Pruning —

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**University of California**

Agriculture and Natural Resources ■ Master Gardener Program



# Master Gardener Mission

“To extend research based knowledge and information on home horticulture, pest management, and sustainable landscape practices to the residents of California and be guided by our core values and strategic initiatives.”



# Advice to Grow By...Ask Us!

## In Person

- Tour our Demo Gardens
- Library Talks
- Speakers' Bureau
- Community Events
- Field Trips
- Adult Education Schools
- Plant sales

## Online

- Help Desk
- Tips & Events newsletter
- Online Plant Clinic
- Virtual workshops
- YouTube
- Garden Help Pages at [mgsantaclara.ucanr.edu](http://mgsantaclara.ucanr.edu)



# Introduction

This presentation and additional resources are available on our website:

[mgsantacruz.ucanr.edu/fruit-tree-pruning](https://mgsantacruz.ucanr.edu/fruit-tree-pruning)



# Pruning Agenda

- Overview, pruning principles & basics
- 10 Basics of pruning
- Pruning systems; tree structure



# Orchard Considerations

(From The California Backyard Orchard)

- Site
- Tree selection
- Prep/Planting
- First year care
- Irrigation
- Pollination
- Pruning & Training
- Fertilization
- Fruit thinning
- Pests & Disease
- Harvest



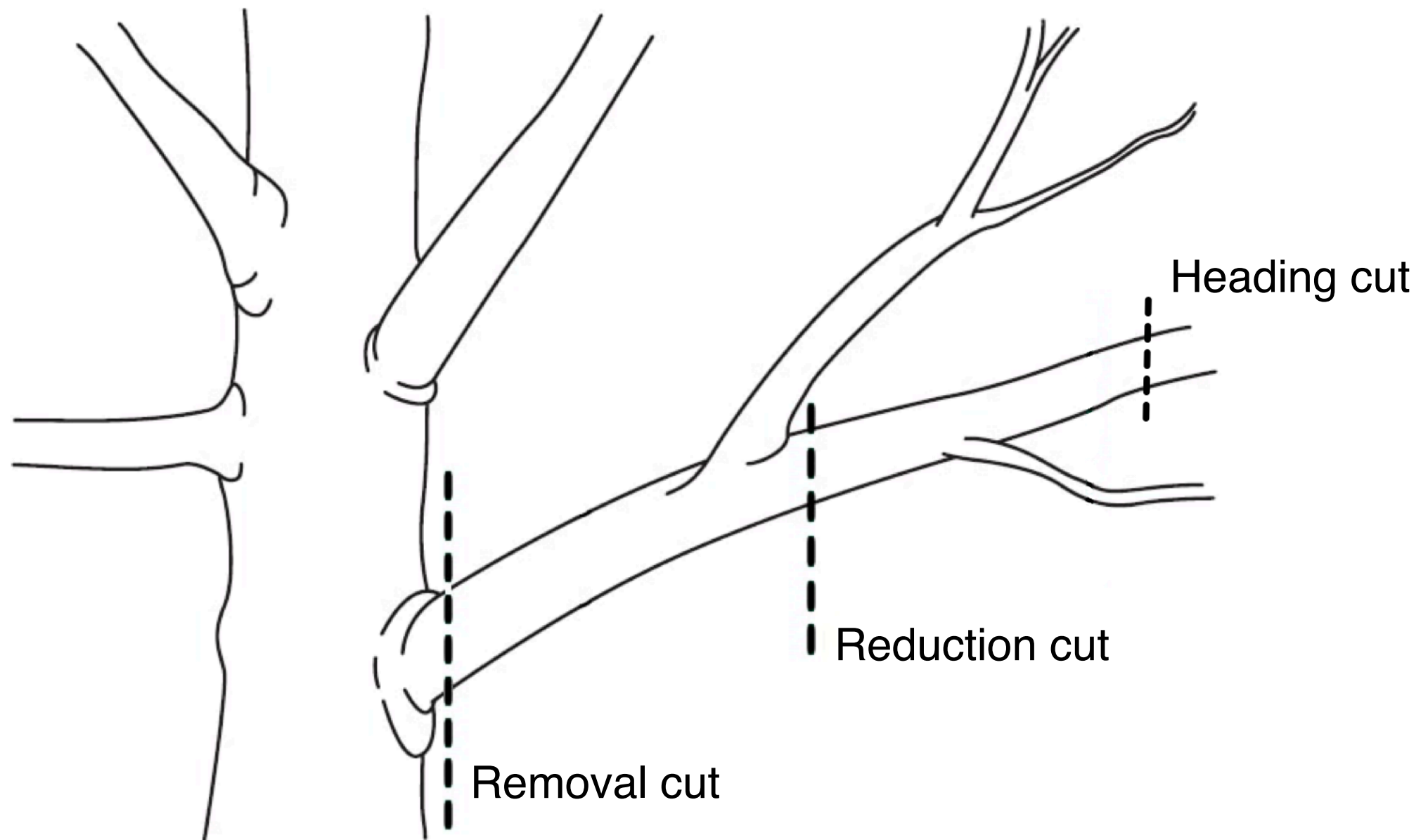
# Reasons for Pruning

- Control size for easier care — a primary home consideration
- Develop strong limb structure
- Distribute sunlight evenly throughout the tree
- Remove undesirable wood (disease, deadwood, crossing branches)
- Regulate fruit bearing – removes excess fruitwood
- Renew fruitwood – to continue strong buds and flowers



# Pruning Principles

Pruning is a dwarfing process used to control tree form and function. There are three types of cuts:

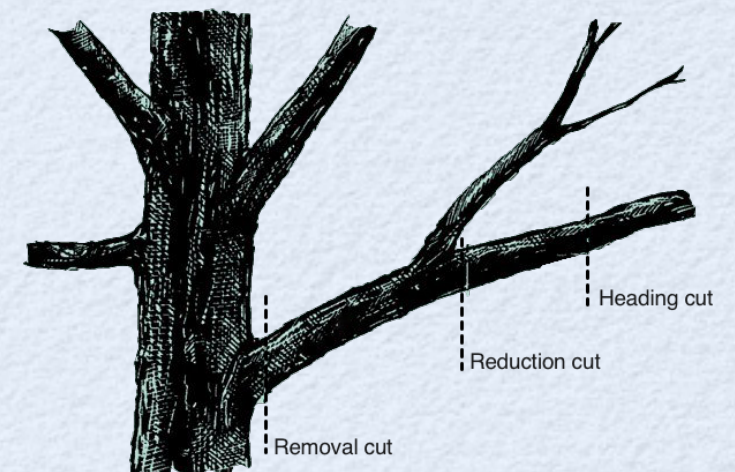




# Pruning Principles

Description of each type of cut:

- **Removal:** removes a branch from the trunk or parent branch just outside the collar. Least likely to spur new shoots.
- **Reduction:** shortens a branch back to a lateral branch sufficient size ( $\frac{1}{3}$  diameter or more). This directs energy into the lateral, shortening the branch. May spur new shoots.
- **Heading** (topping/tipping): shortens a branch without regard to position or diameter of lateral branches. Used to spur growth of buds in the area of the cut.

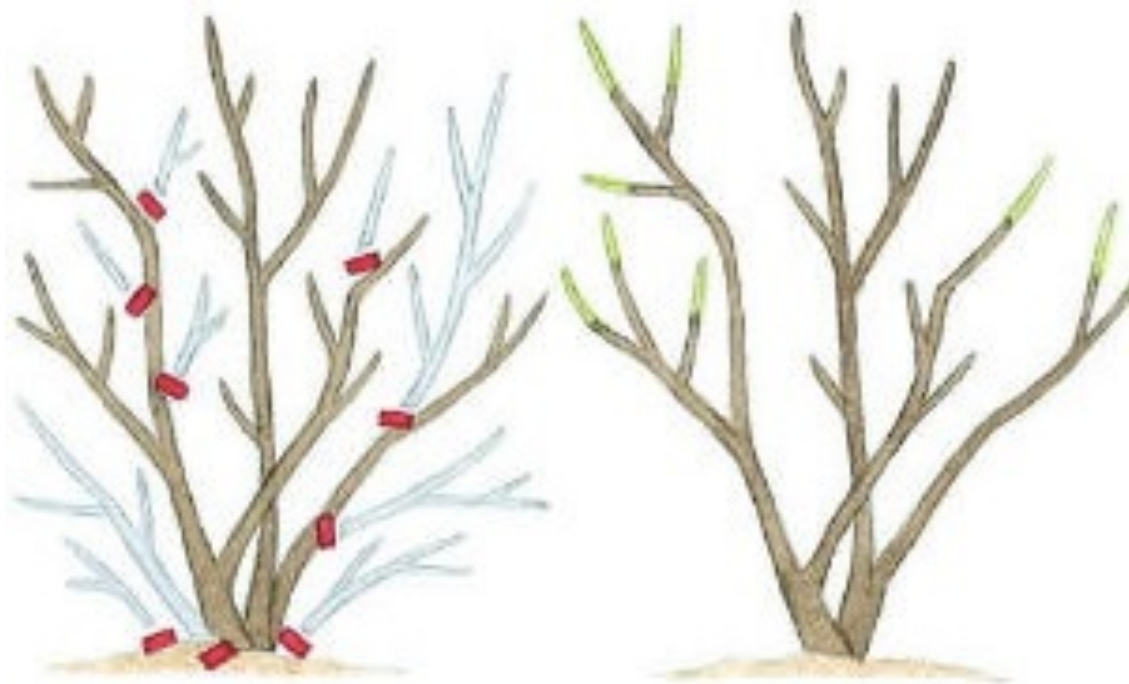




# Pruning Principles

Impact of pruning cuts on new sprouts:

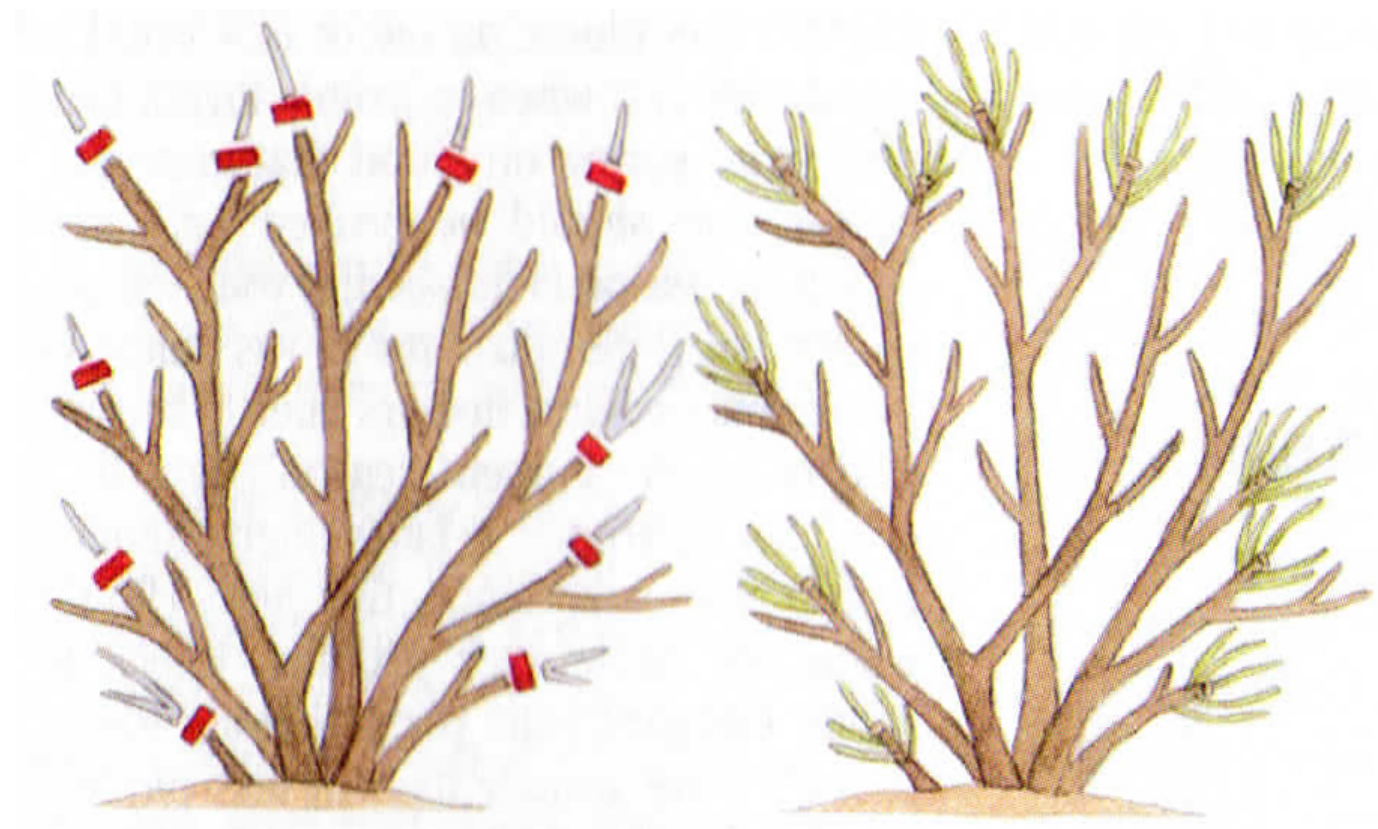
## Removal and Reduction



Before

After

## Heading



Before

After



# Pruning Basics

- Avoid the “new pruner effect”
  - ▶ Not cutting enough; too worried about damaging the tree, or losing potential fruit
- Pruning combines both art and science
  - ▶ The ten principles will help with the science part
  - ▶ You need practice to develop the art



# 10 Pruning Basics – #1

1. Prune fruit trees when the leaves are off (dormant).
  - ▶ Easiest to see what you're doing
  - ▶ Invigorates remaining buds
  - ▶ Exception for apricot & cherry
  - ▶ Summer pruning has pros and cons, is most used to slow down overly vigorous trees or trees that are too large, but slows fruit development and risks sunburn

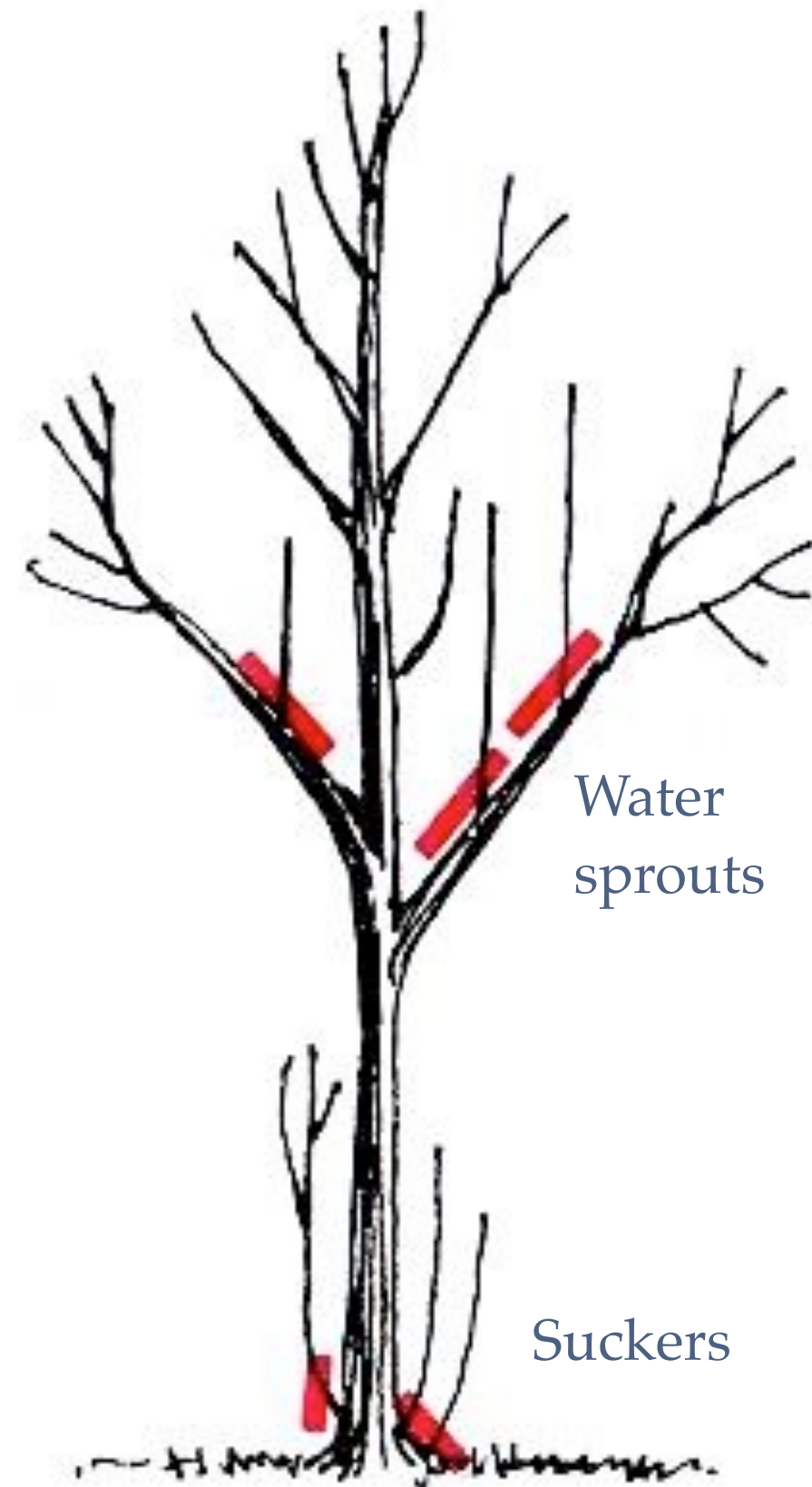




# 10 Pruning Basics – #2

## 2. No brainers:

- ▶ Remove diseased or broken branches
- ▶ Remove suckers, water sprouts and most competing branches growing straight up into the tree
- ▶ Downward bending branches eventually lose vigor and produce only a few small fruit; cut off the part hanging down





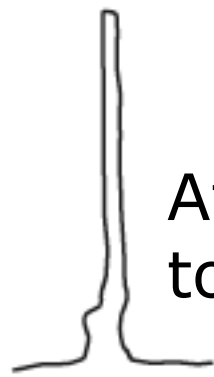
# 10 Pruning Basics – #3

3. Right after planting a new tree, prune to 24–30" high and cut remaining side shoots to 1–2 buds. Paint the tree with white latex paint.

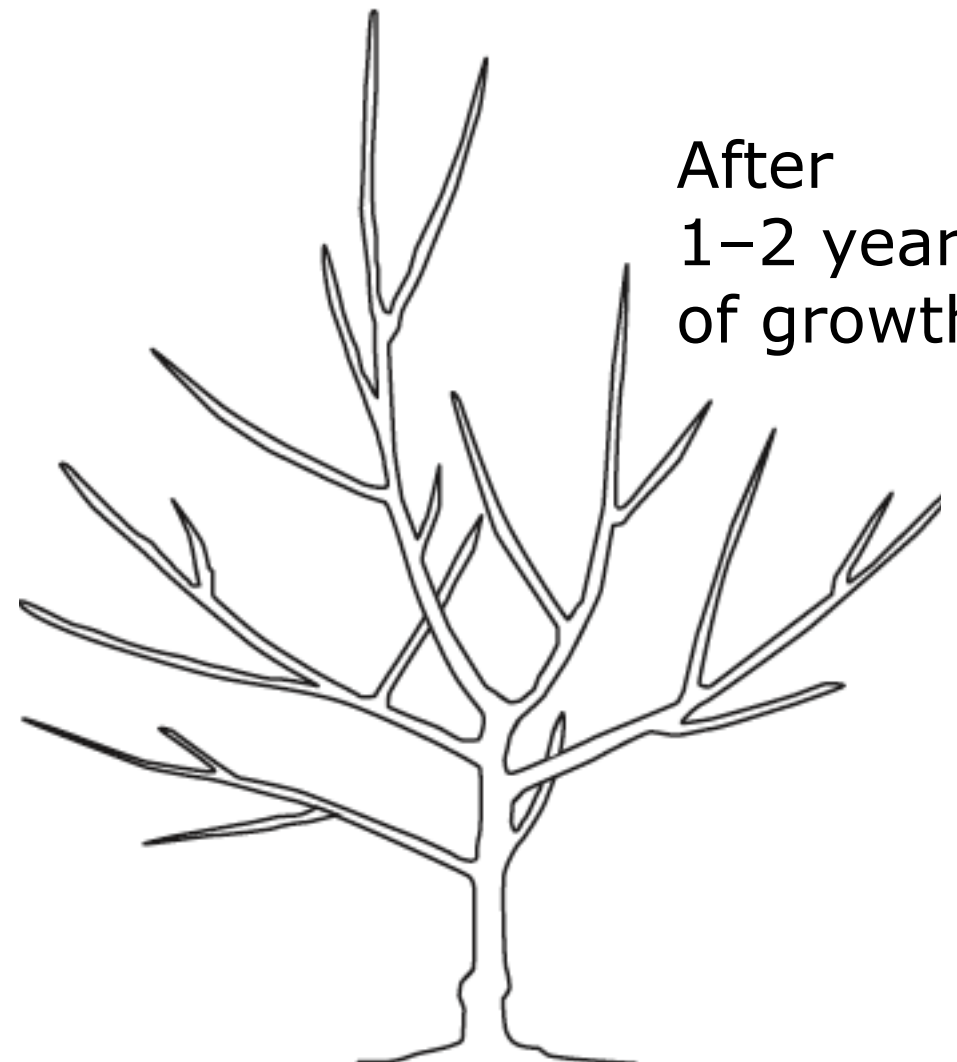
As planted



After  
topping



After  
1–2 years  
of growth





# 10 Pruning Basics – #3





# 10 Pruning Basics – #3





# 10 Pruning Basics – #3





# 10 Pruning Basics – #4

4. Young trees should be pruned fairly heavily and encouraged to grow rapidly for the first 3 years without much fruit
- ▶ Leave most of the small horizontal branches untouched for later fruiting
  - ▶ Vigorous growing young trees can be pruned much less or not at all and encouraged to fruit with branch bending



# 10 Pruning Basics – #5

5. Upright branches generally remain vegetative and vigorous. Horizontal branches generally are more fruitful.

- ▶ A good combination of the two is necessary, for fruiting now and in future years
- ▶ Branches bent to  $45^{\circ}$  to  $60^{\circ}$  achieves this balance



Spreaders



Tie Downs



# 10 Pruning Basics – #6

6. When deciding where to cut, remember:

- ▶ **Heading cuts** encourage sprouting:
  - Topping a vertical branch encourages vegetative growth
  - Tipping horizontal branches is done to renew fruiting wood and to thin off excessive fruit
- ▶ **Removal and reduction cuts:**
  - Removing vertical branches opens the tree to more light
  - Reducing horizontal branches may remove fruit, but it may prevent a branch from breaking from a heavy fruit load



# 10 Pruning Basics – #7a

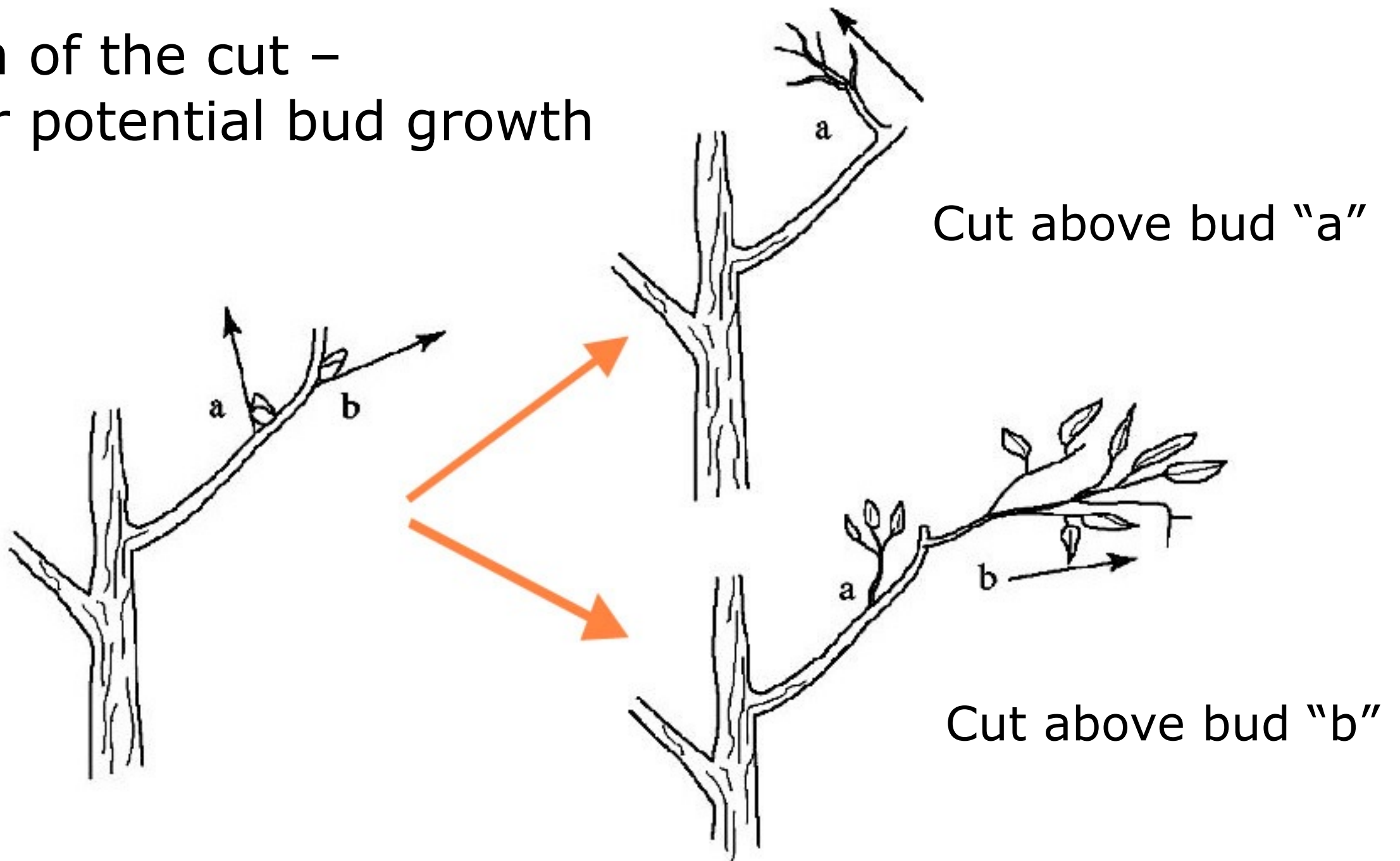
7. Cut location: new growth occurs where you make the cut; the cut only affects the buds within 1–8" of the cut — not farther down the branch
- ▶ The more buds cut off the more vigorous the new shoots will be
  - ▶ Heading cuts on vertical growth will result in the most new shoots, typically with very narrow angles
  - ▶ Reducing a branch at a lateral may also spur shoot growth, but not as much





# 10 Pruning Basics – #7b

Location of the cut –  
consider potential bud growth





# 10 Pruning Basics – #8

## 8. Prune to expose lower branches to sunlight

- ▶ Sun exposed wood remains fruitful and produces the largest fruit
- ▶ Shaded branches eventually stop fruiting and will never produce without drastic topping and renewal of the entire tree



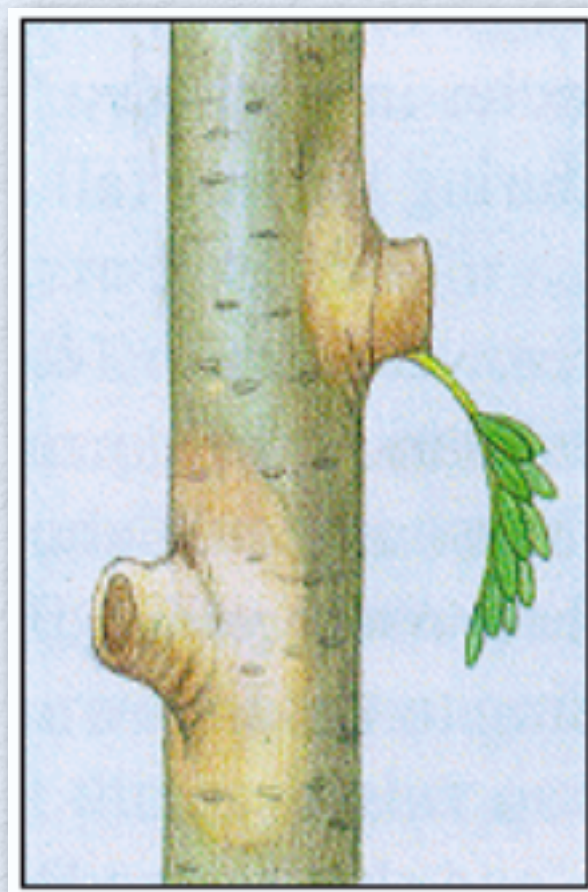


# 10 Pruning Basics – #9a

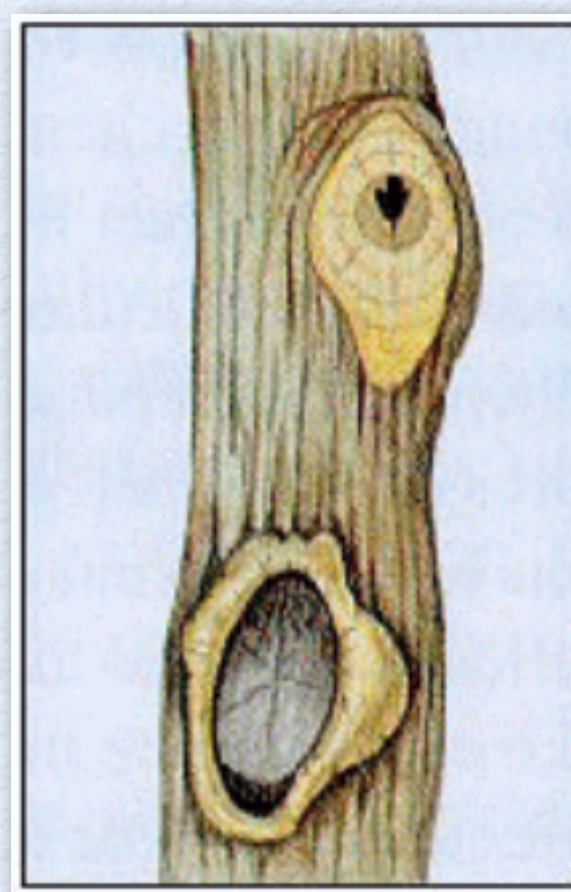
## 9. Make clean cuts



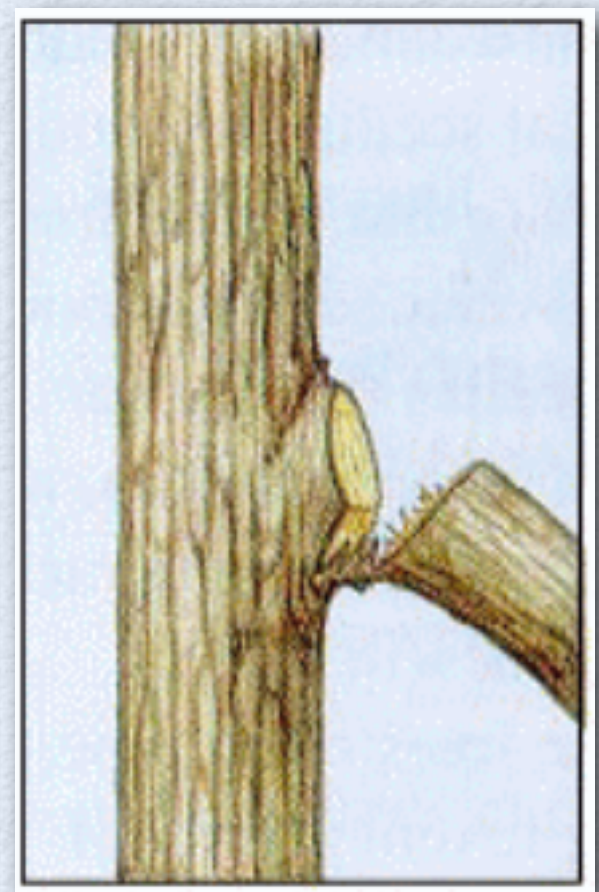
Clean cut



Stub cut



Flush cut

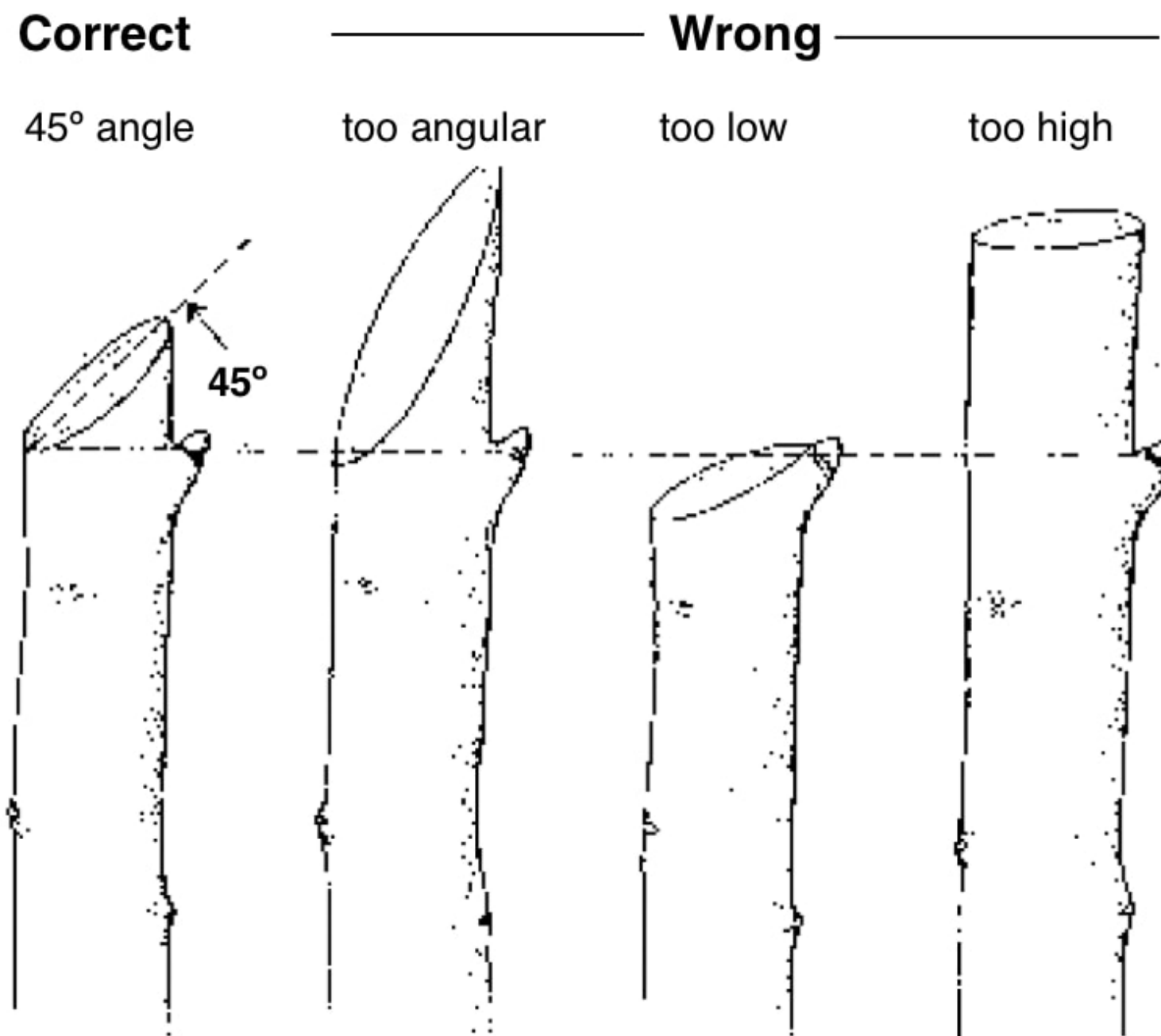


Ripped cut



# 10 Pruning Basics – #9b

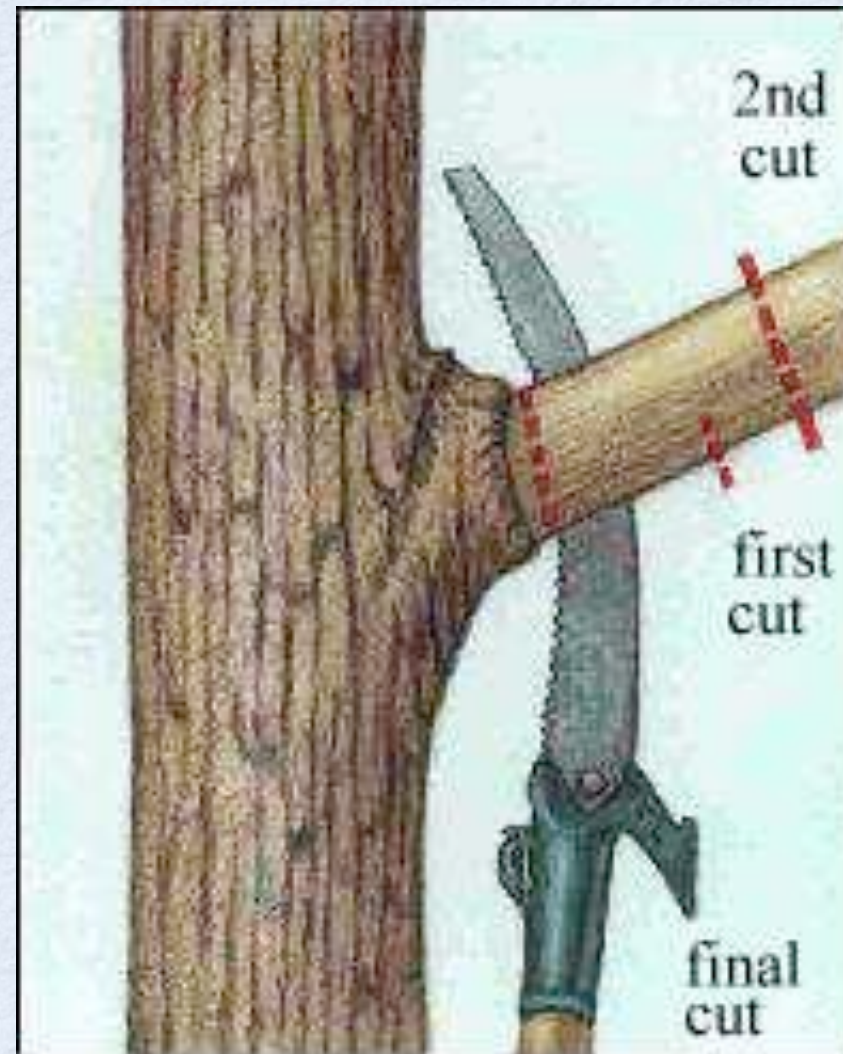
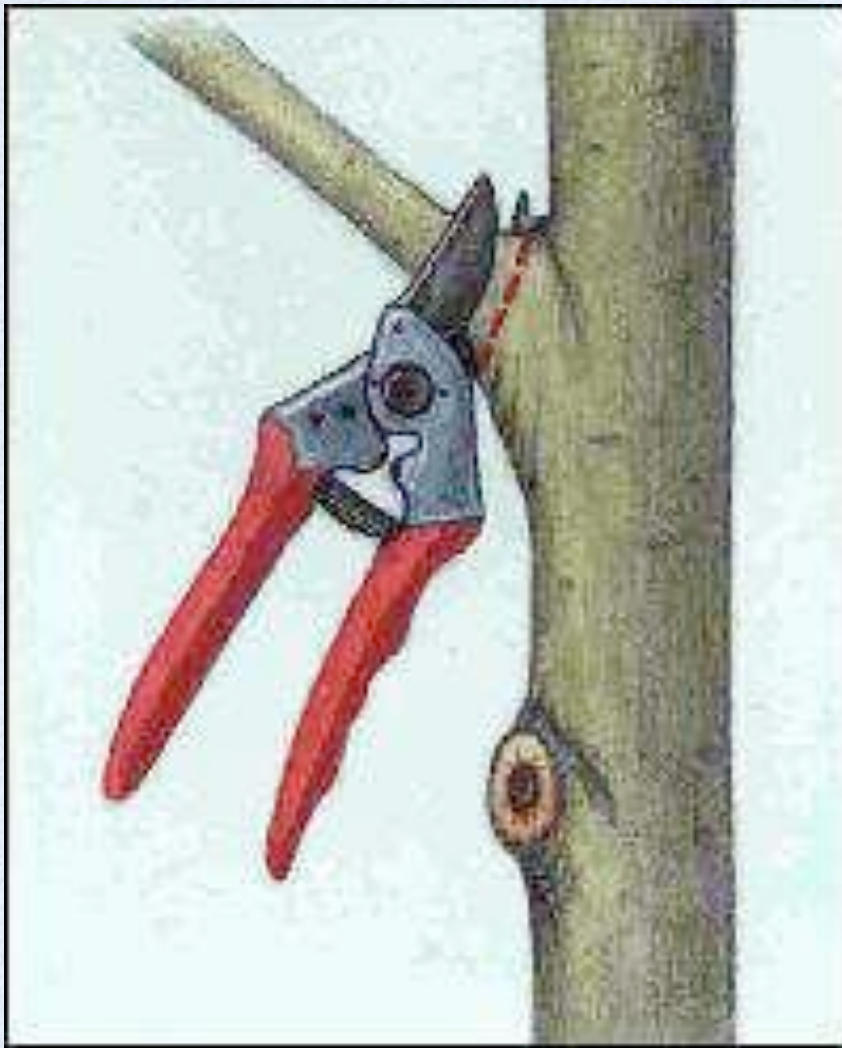
9. Angle of cut ( $\sim 45^\circ$ ) and distance from bud ( $\sim 1/4''$ )





# 10 Pruning Basics – #9c

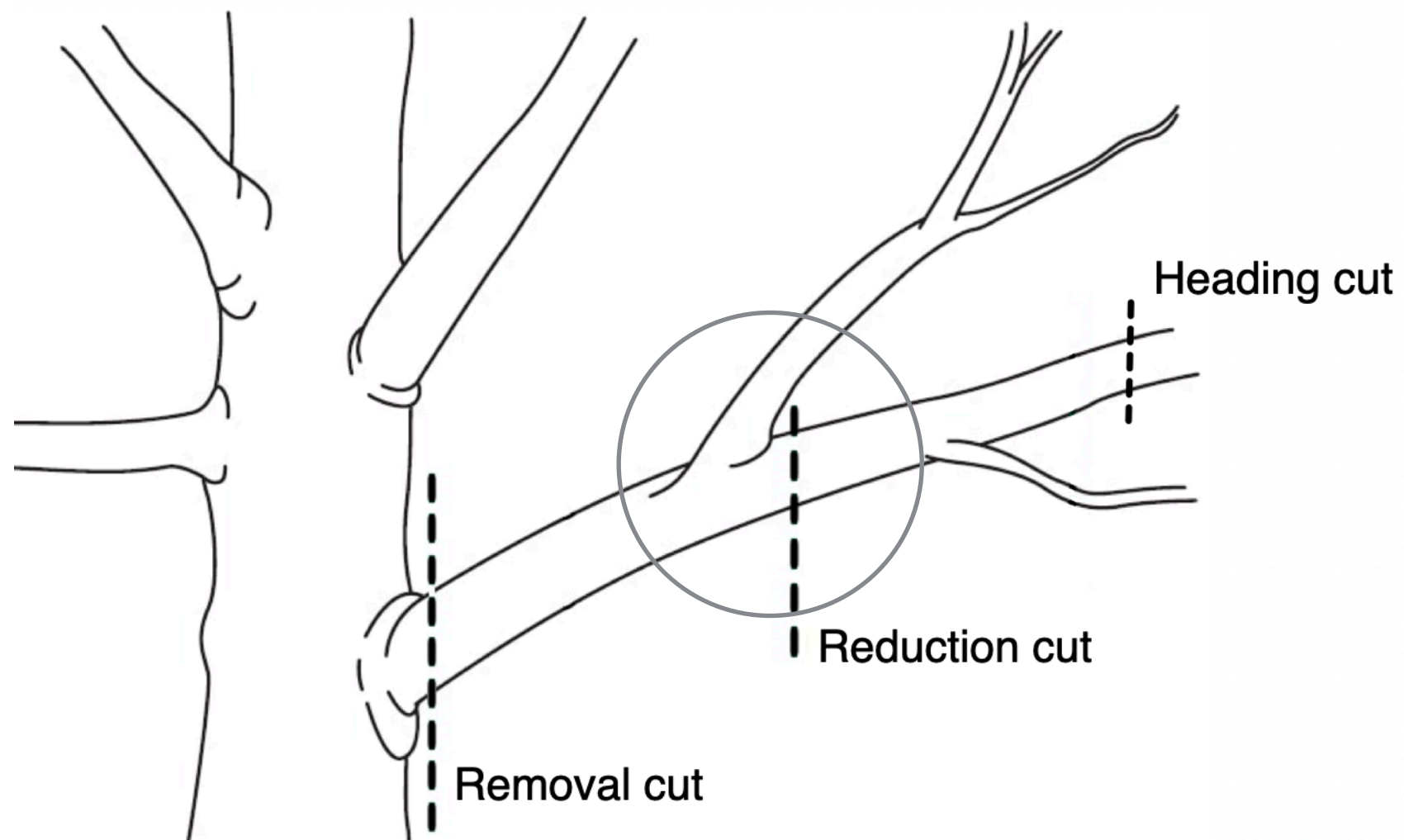
## 9. Cutting small versus larger branches





# 10 Pruning Basics – #9d

When reducing: shorten a branch to a side branch that is at least one-third the size of the one being cut





# 10 Pruning Basics – #10

## 10. Know your plant:

- ▶ Peach, nectarine, and blueberry bear on last year's shoot growth
- ▶ Cherry, apple, pear and plum bear on spurs
- ▶ Apricot, and pluot bear produce short spurs on two year wood and older, bear some fruit on one-year-old wood
- ▶ Figs produce fruit on one year old wood
- ▶ Quince and persimmon bear on new growth
- ▶ For citrus, just keep branches pruned up off the ground
- ▶ Grapes bear most heavily on new growth off of 1-year-old wood
- ▶ Kiwi: flowers develop on current and last-season shoots; older wood rarely produce flowers.



# 10 Pruning Basics – #10b

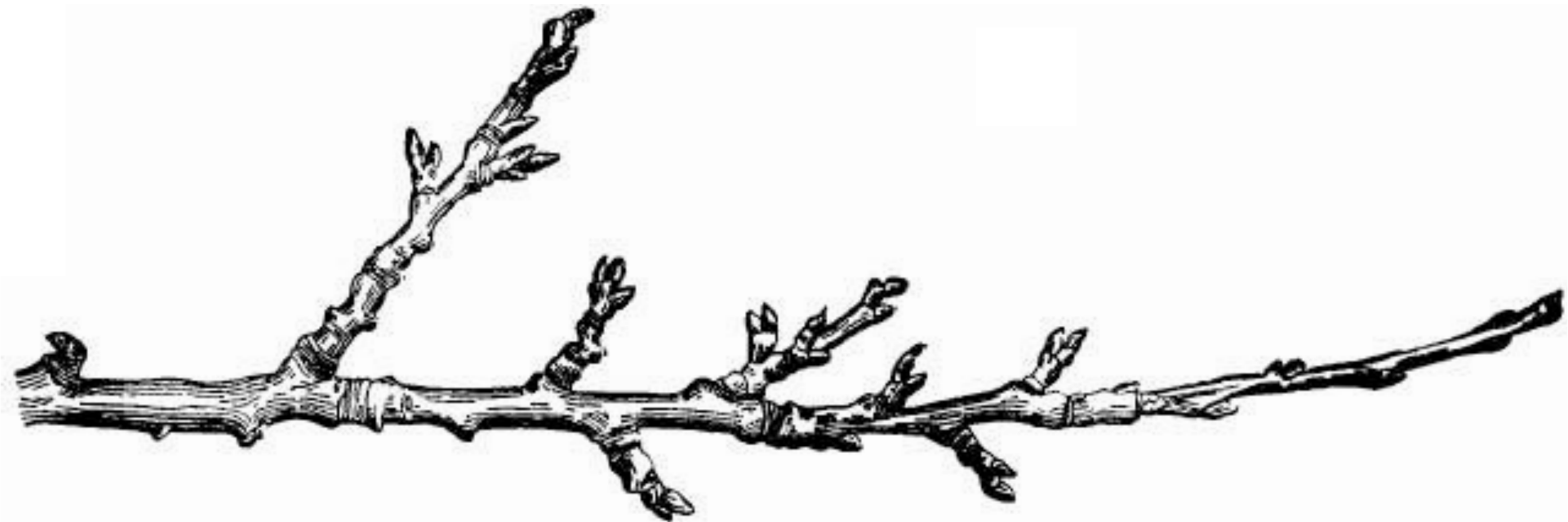
Apple leaf bud vs. fruiting spur





# 10 Pruning Basics – #10b

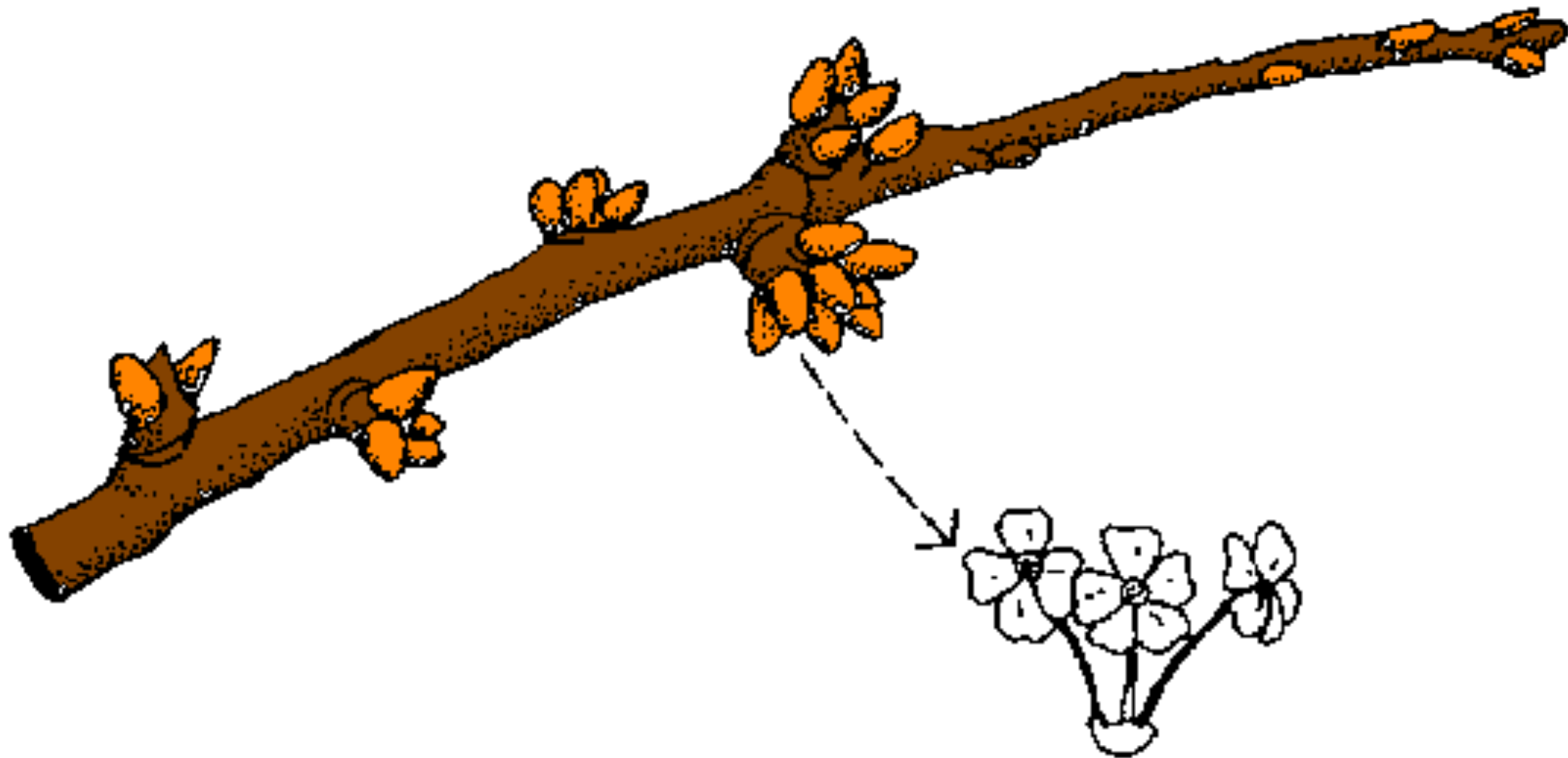
Older apple spurs





# 10 Pruning Basics – #10c

Apricot, cherry, plum spurs are similar





# Pruning Tools





# Pruning Tools

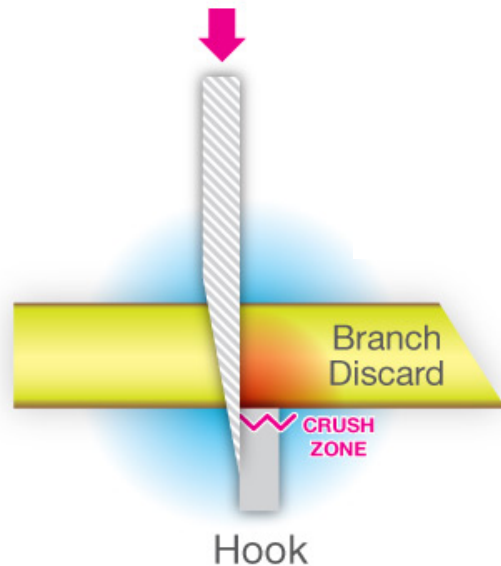
- Good tools for the job will not guarantee success, but are recommended for long term use. Price is a general reflection of quality
- Three tools are essential for pruning:
  - Hand pruning shears
  - Folding or fixed handled pruning saw
  - Lopping shears (loppers) with 24- to 30-inch handles
- Caution! Folding ladders and extension ladders are unsafe—not designed for unstable ground or tree work
  - An orchard (tripod) ladder is the only ladder considered acceptable and safer



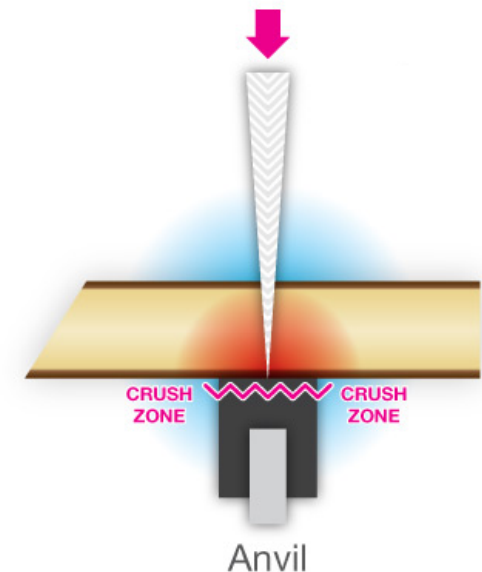
# Bypass vs. Anvil Pruners



**Bypass pruners** make a cleaner cut, and reduce the risk of damage to the tree and should be the tool of choice.



**Anvil pruners** are better for cutting up dead and removed wood.

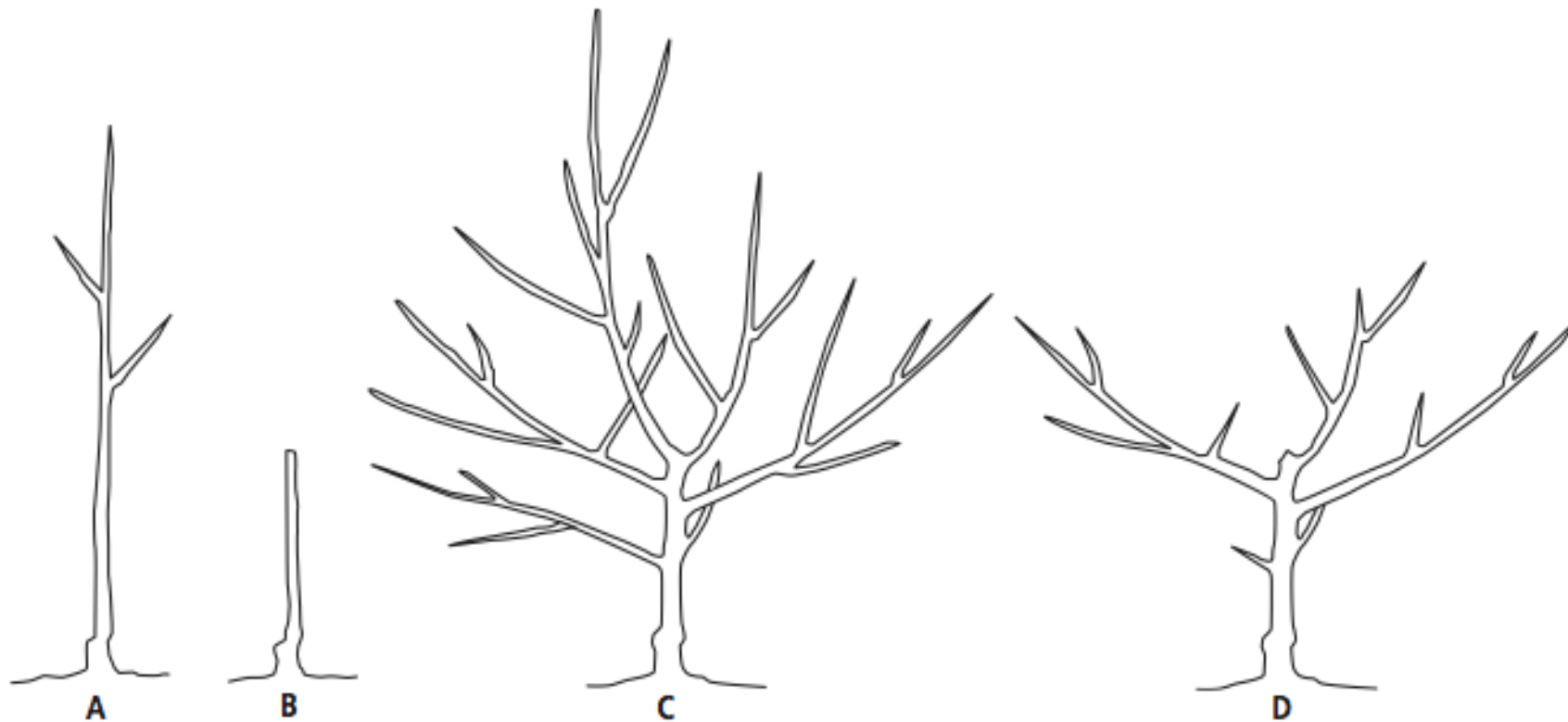




# Training/Pruning Systems

## Open Center or Vase Shaped

- ▶ Can be used on all fruit and nut trees
- ▶ In the first year select three to four limbs distributed evenly around trunk. Leave small branches on these limbs for early fruiting and sunburn protection. Head limbs half their length, should be 24-30".
- ▶ At the second year select one or two limbs on each primary. Head these back to  $\frac{1}{2}$  their length (24-30"). Remove other limbs

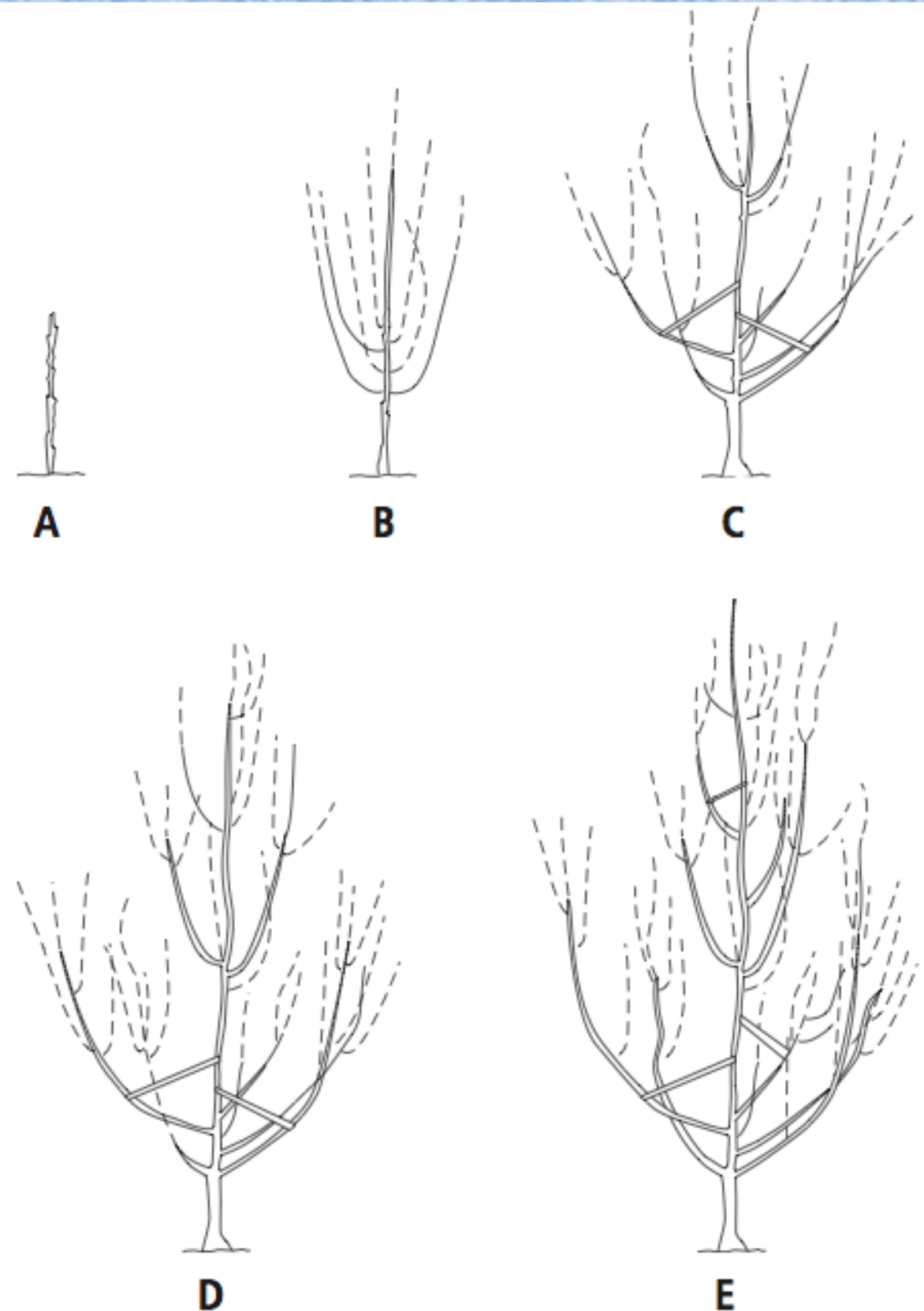
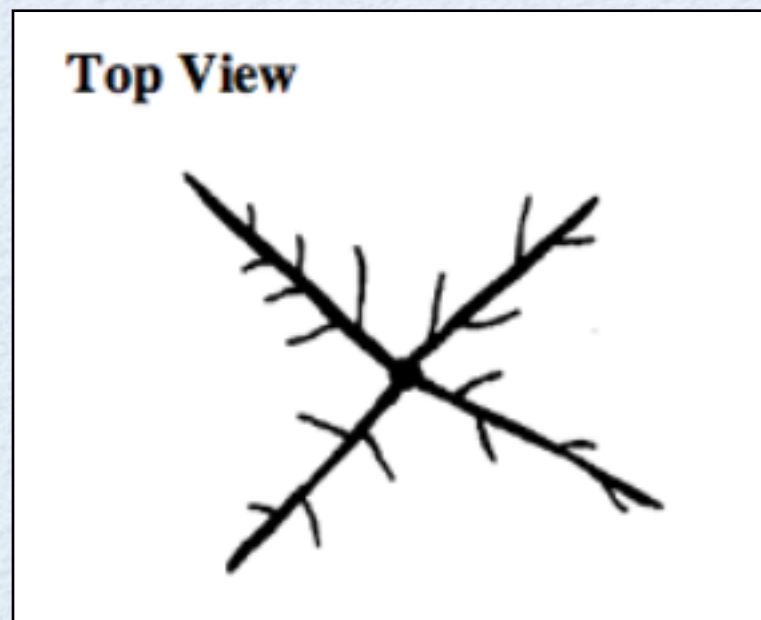




# Training/Pruning Systems (continued)

## Central Leader

- ▶ Makes a small tree
- ▶ Select lateral branches, spaced evenly around tree, two to three feet apart vertically
- ▶ Laterals may need training to 45° angle





# Pruning Summary

- Understand the basics, of pruning and plants
- Practice, practice, practice
- Do some research and ask questions
- Our website:  
[mgsantaclara.ucanr.edu/fruit-tree-pruning](https://mgsantaclara.ucanr.edu/fruit-tree-pruning)





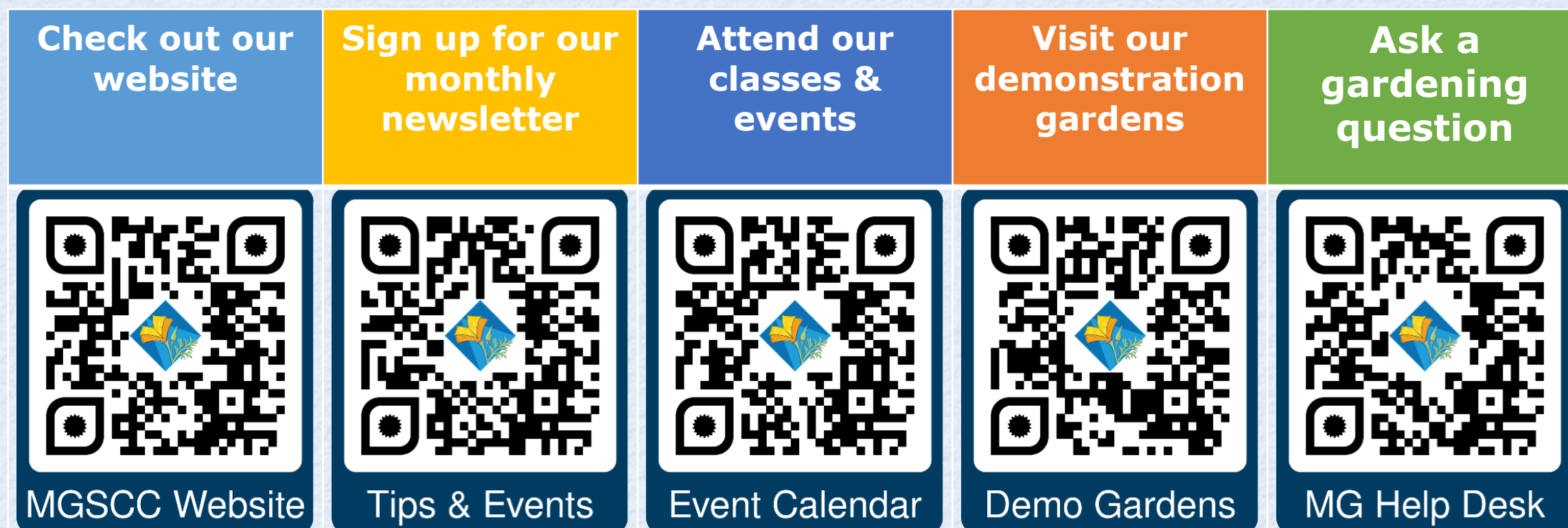
# Tips for More Information

- UC Home Orchard: [homeorchard.ucanr.edu](http://homeorchard.ucanr.edu)
- Search UC ANR websites, for example:  
how to prune <type-of-fruit> site:ucanr.edu
- Then search all education sites:  
how to prune <type-of-fruit> site:edu
- Consider looking for videos before pruning your tree(s)
- California Rare Fruit Growers Wiki:  
[crfg.org](http://crfg.org)
- Contact the Master Gardener Help Desk:  
[mgsantaclara.ucanr.edu/helpdesk](http://mgsantaclara.ucanr.edu/helpdesk)



# Keep in Touch

**Take a picture and keep it handy on your smartphone!**



[mgsantaclara.ucanr.edu](https://mgsantaclara.ucanr.edu)



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# Pruning

## Thank You!

Happy Gardening



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