

# The Backyard Orchard — Pruning

UCCE Master Gardener Program of Santa Clara County

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UCCE Master Gardener

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# The Master Gardener Mission

“To extend research based knowledge and information on home horticulture, pest management, and sustainable landscape practices to the residents of California.”



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



# Demonstration Orchards

- Martial Cottle Park
- Emma Prusch Farm Park
  - High density orchard
  - International orchard
- Guadalupe Historic Orchard



Demo gardens on our website



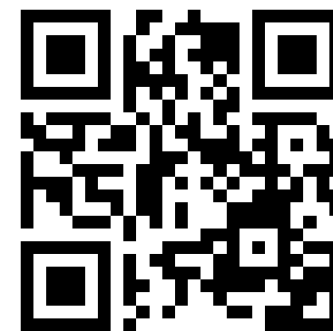
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# Pruning Agenda

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



Presentation slides  
and pruning resources

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



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# Pruning Overview



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# Orchard Considerations

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

<https://homeorchard.ucanr.edu/>



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# Reasons for Pruning

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



# Pruning Principles — Types of Pruning Cuts

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

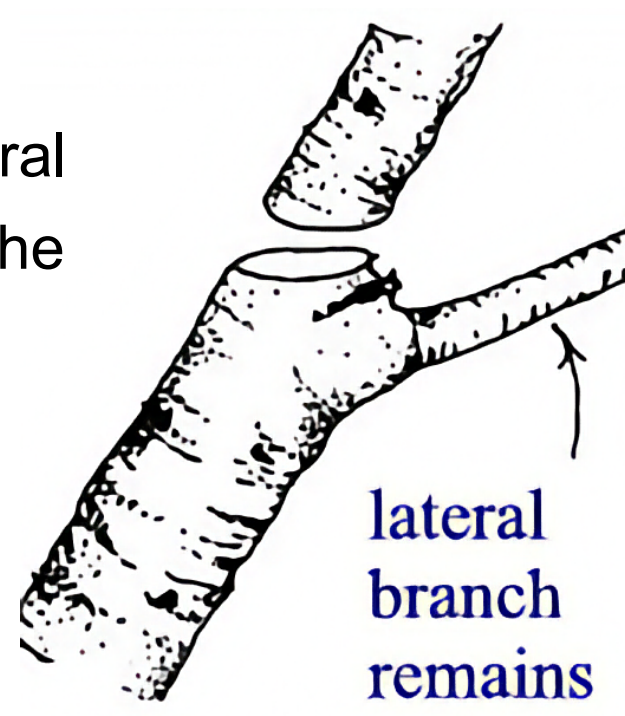
- **Reduction**
- **Removal**
- **Heading**



# Pruning Principles — Types of Pruning Cuts

## Reduction Cut

- Shorten a branch to a “large enough” lateral
- “Large enough” = at least 1/3 the size of the part being removed
- Sometimes referred to as a thinning cut, or a bench cut



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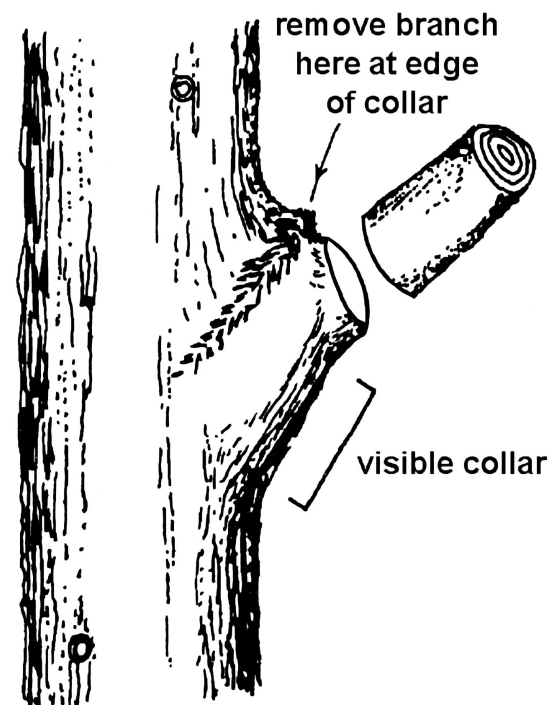
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# Pruning Principles — Types of Pruning Cuts

## Removal Cut

- Removes branch at collar
- Clean cut at collar reduces chance of new shoots at the cut
- Sometimes called a thinning cut



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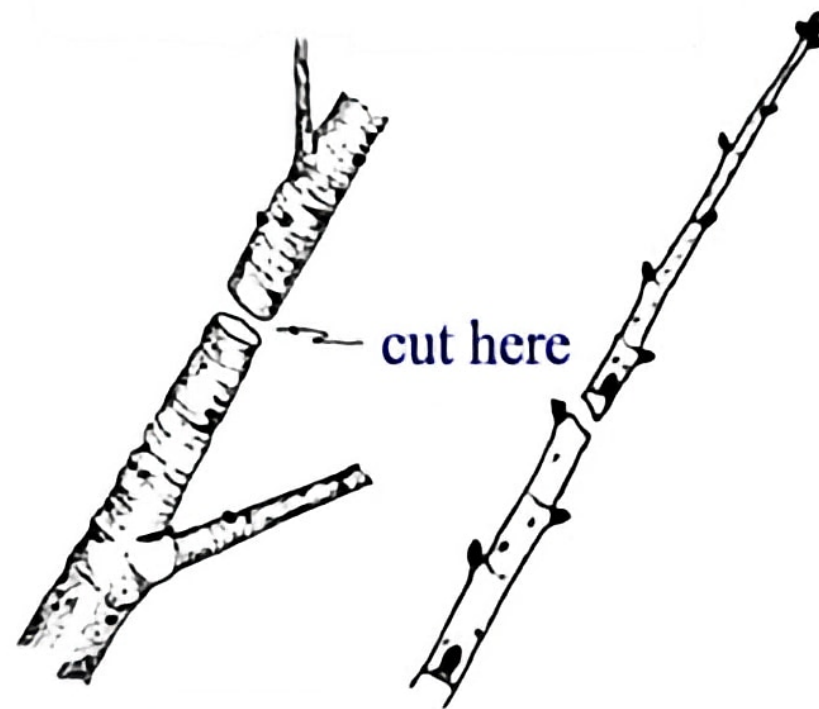
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# Pruning Principles — Types of Pruning Cuts

## Heading Cut

- Cut back to a bud or to an indiscriminate position
- Also called topping/tipping



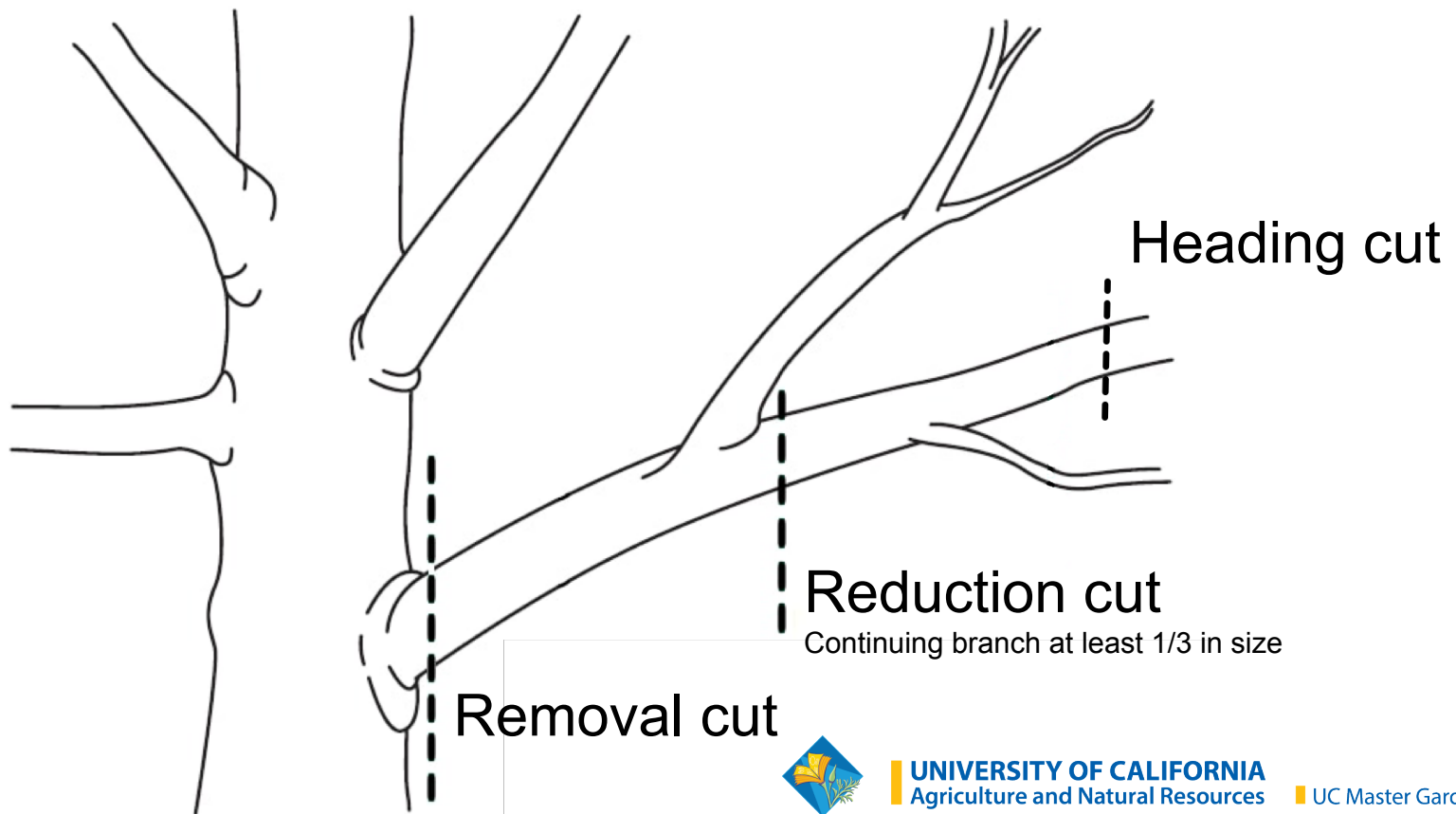
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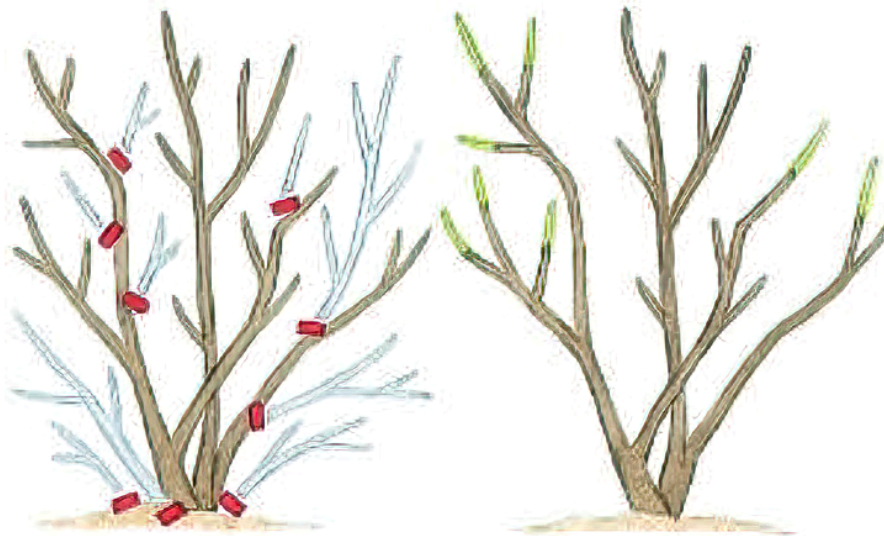
# Pruning Principles — Types of Pruning Cuts



# Pruning Principles

## Thinning

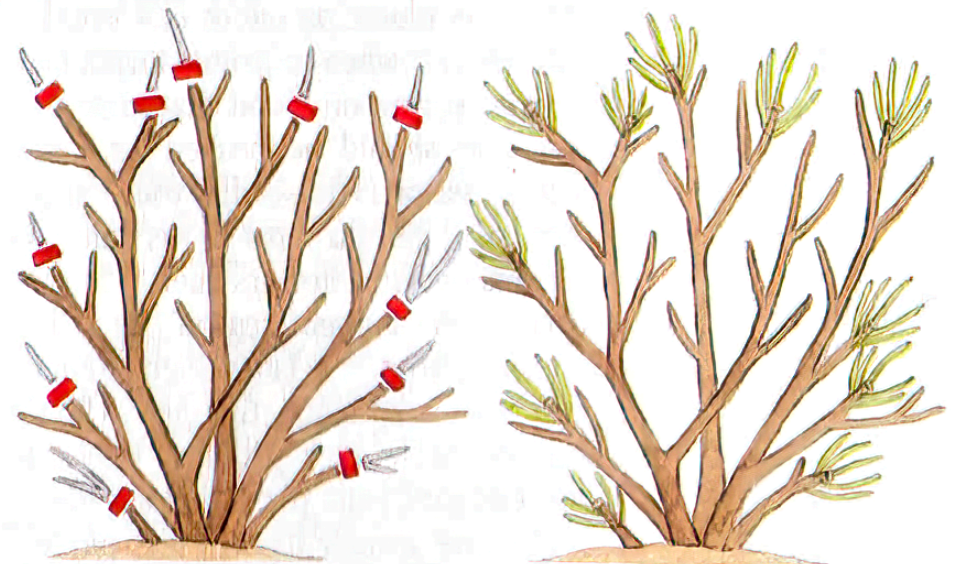
Combination of removal and reduction



Before

After

## Heading



Before

After

# Pruning Basics

- Pruning combines both art and science
- Avoid the “new pruner effect”
  - Not cutting enough; too worried about damaging the tree, or losing potential fruit



# 10 Basics of Pruning

Adapted from: Ten Basics of When and How to Prune Fruit Trees  
By Paul Vossen, Farm Advisor, Sonoma County



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# 10 Pruning Basics – #1

## Prune fruit trees when the leaves are off\*

- Easiest to see what you're doing
- Invigorates remaining buds
- 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

\* Exception for apricot & cherry

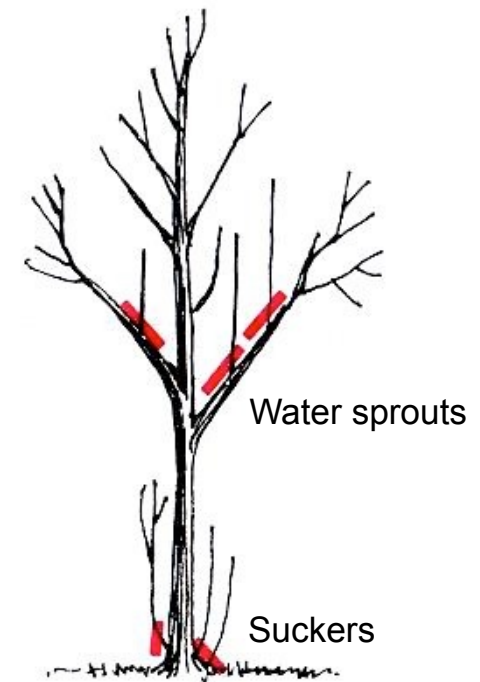


# 10 Pruning Basics – #2

## No brainers

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

University of Idaho



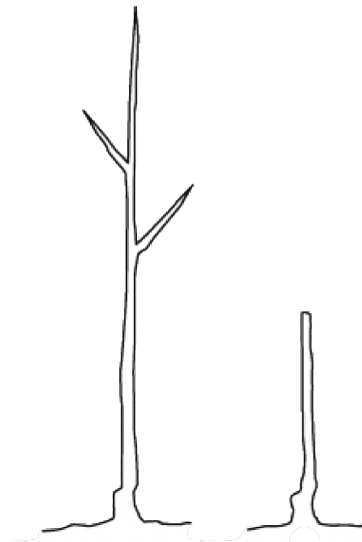
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# 10 Pruning Basics – #3

## Right after planting a new tree

Cut it off to short stick 24 to 30 inches high and cut any side shoots remaining below that to 1-2 buds. Paint the tree with white latex paint.



UC ANR Publication 8057



# 10 Pruning Basics – #4

## Young trees

### Low vigor

- Prune 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

- Can be pruned much less or not at all and encouraged to fruit with branch bending



# 10 Pruning Basics – #5

## Horizontal vs. vertical branches

- 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° to 60° achieves this balance





# 10 Pruning Basics – #5

## Horizontal vs. vertical branches



Spreaders



Tie Downs





# 10 Pruning Basics – #6

## Deciding where to cut

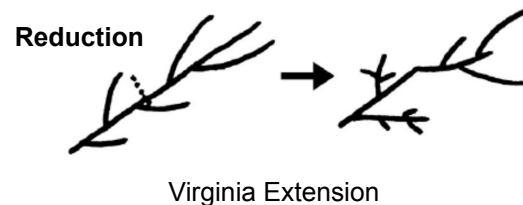
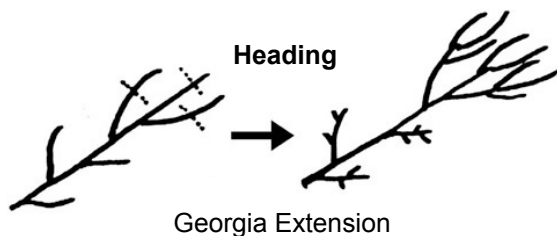
- Heading cuts
  - Topping a vertical branch encourages vegetative growth
  - Tipping horizontal branches is done to renew fruiting wood and to thin off excessive fruit
- Reduction and removal cuts
  - Cutting vertical branches opens the tree to more light
  - Removing horizontal branches may remove fruit



# 10 Pruning Basics – #7

## Cut location

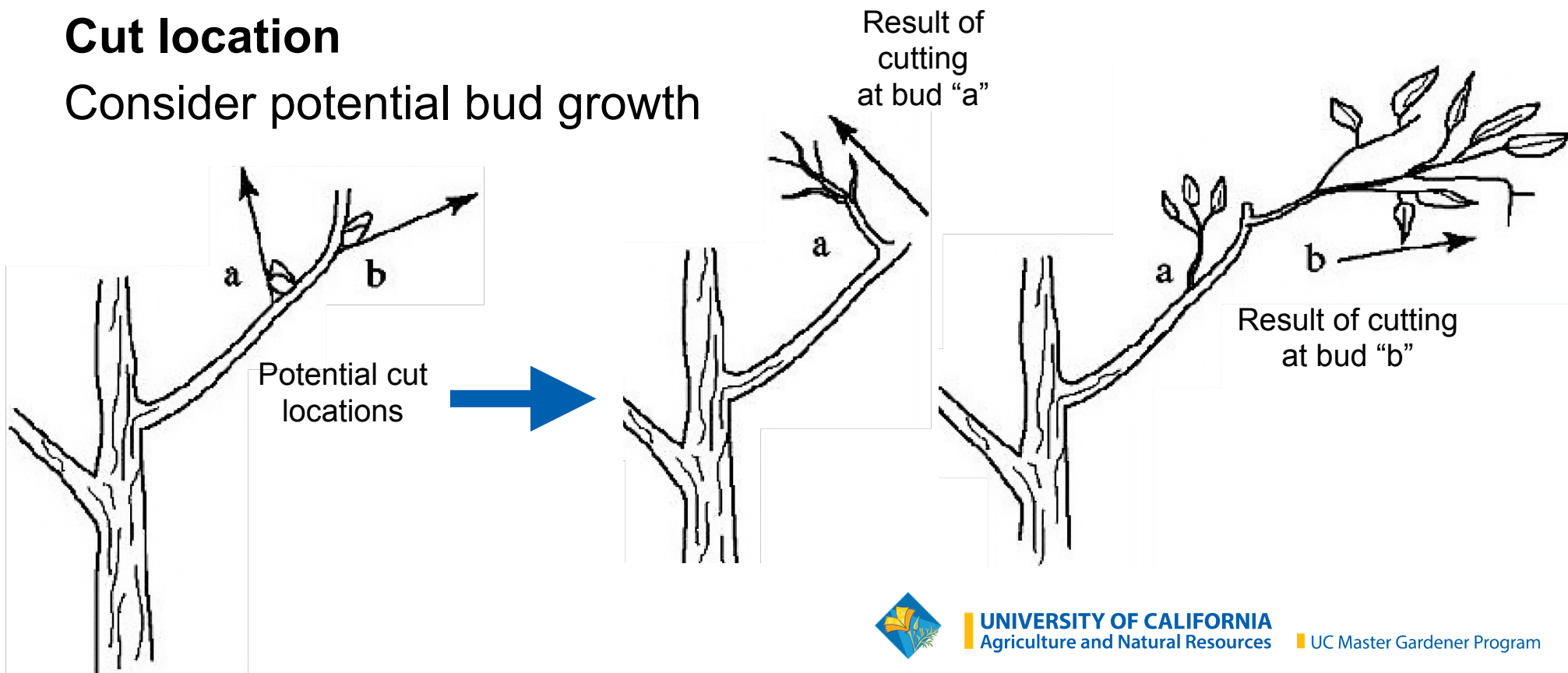
- New growth occurs where you make the cut; the cut only affects the buds within 1–8" of the cut — not farther down the branch
- The more buds cut off, the more vigorous the new shoots will be
- Heading cuts on vertical growth result in the most new shoots, typically with very narrow angles
- Removing/reducing can also spur new shoots, but not as much



# 10 Pruning Basics – #7

## Cut location

Consider potential bud growth



# 10 Pruning Basics – #8

## **Prune most in the top of the tree**

- 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 – #8

**Prune most in the top of the tree**





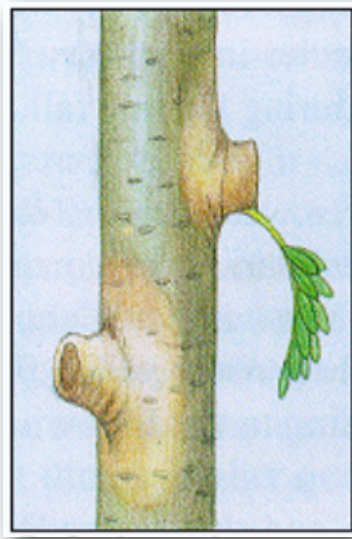
# 10 Pruning Basics – #9

Illustrations: USDA Forest Service

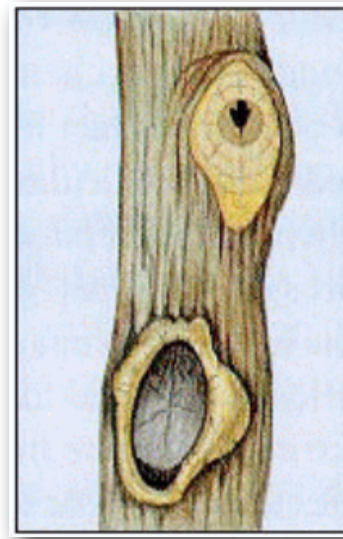
## Make clean cuts



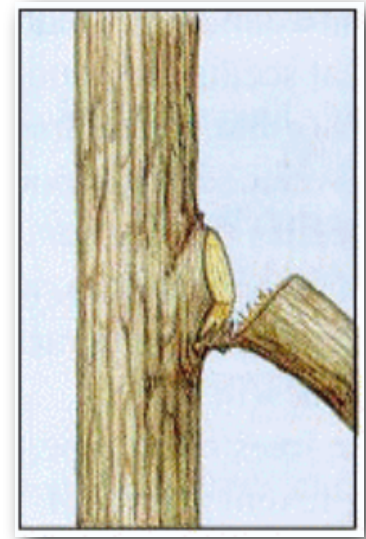
Clean cut



Stub cut



Flush cut



Ripped cut



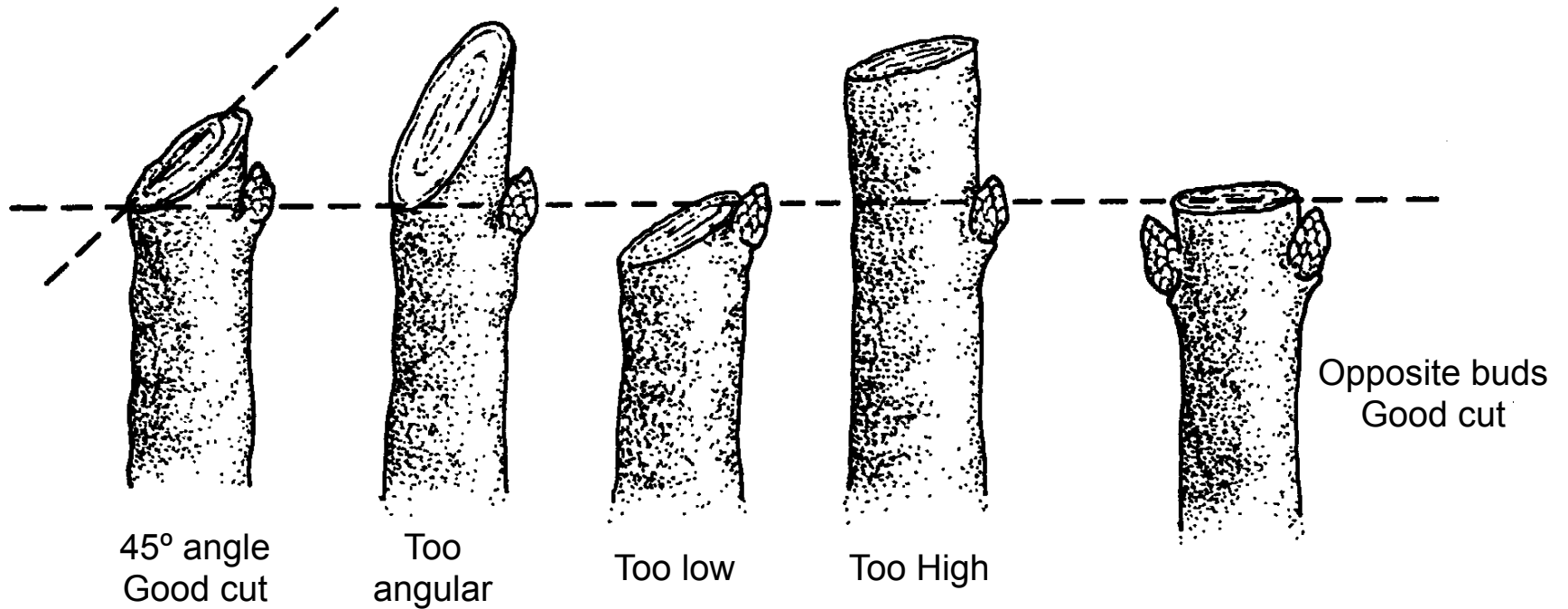
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# 10 Pruning Basics – #9

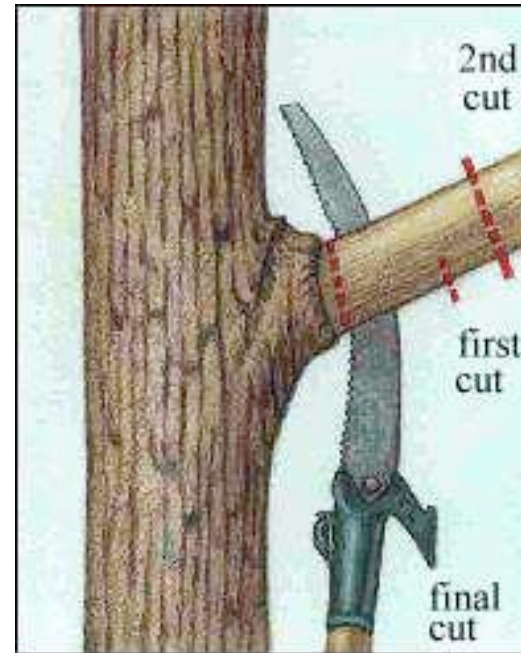
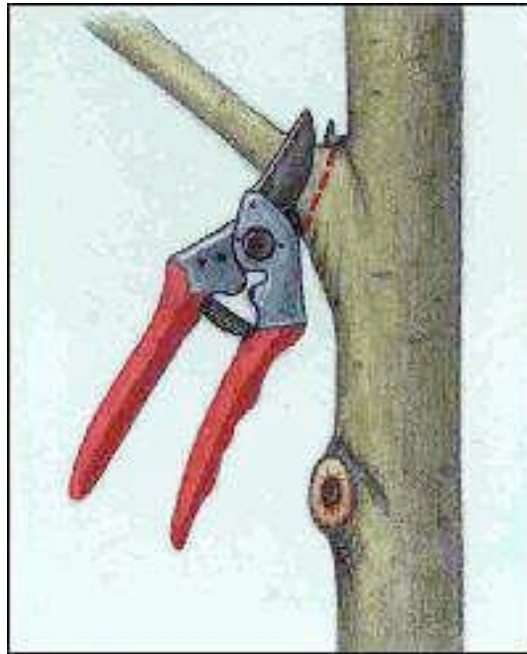
## Make clean cuts



# 10 Pruning Basics – #9

## Make clean cuts

Small branches can be pruned with a single cut



Use three cuts for larger branches

# 10 Pruning Basics – #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, persimmon, and pomegranate 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 – #10

**Know your plant — Apple leaf bud vs. fruiting spur**



# 10 Pruning Basics – #10

**Know your plant — older apple spurs**



# 10 Pruning Basics – #10

**Know your plant — apricot spurs**



L. H. Bailey Standard Cyclopedia of Horticulture



# 10 Pruning Basics – #10

**Know your plant — cherry spurs**





# Pruning Tools



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# Pruning Tools



# Pruning Tools

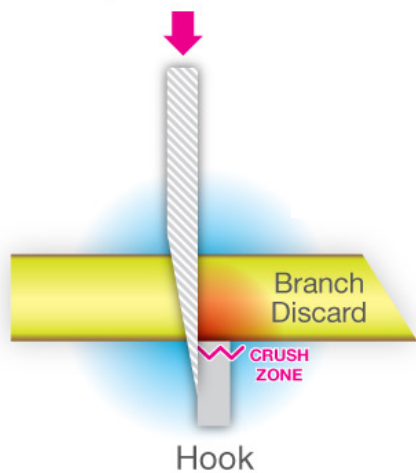
- Good tools for the job will not guarantee success, but are recommended for long term use. Price is a general reflection of quality
- The three most useful tools:
  - Hand pruning shears
  - Folding or fixed handled pruning saw
  - Lopping shears (loppers) with 24- to 30-inch handles
- Caution! Folding 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 safe



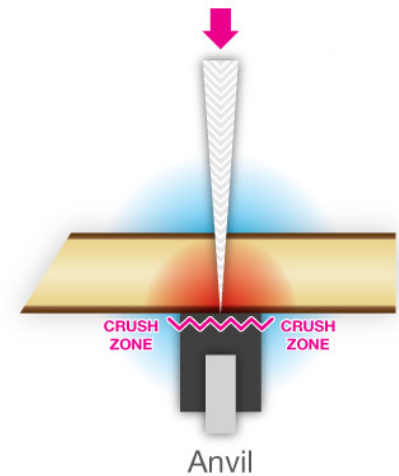
# Bypass vs. Anvil Pruners



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



**Anvil pruners** →  
Better for cutting up dead and removed wood



# Pruning Systems



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# Training/Pruning Systems —Open Center or Vase Shaped

Can be used on  
all fruit and nut  
trees

First year: three to  
four limbs evenly  
distributed around  
trunk.

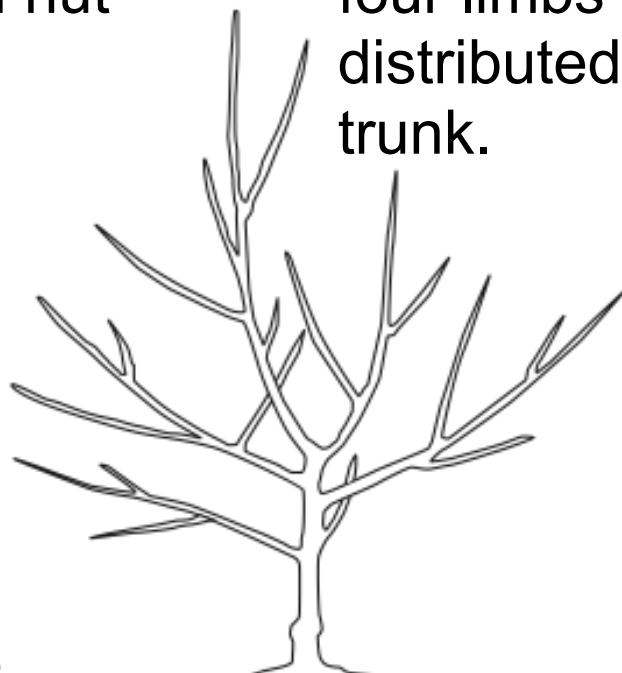
Second year:  
select one or two  
limbs on each  
primary.



A



B



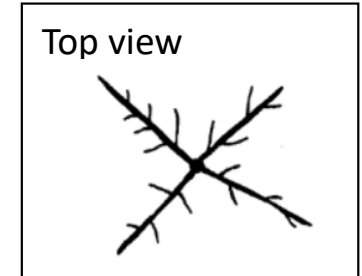
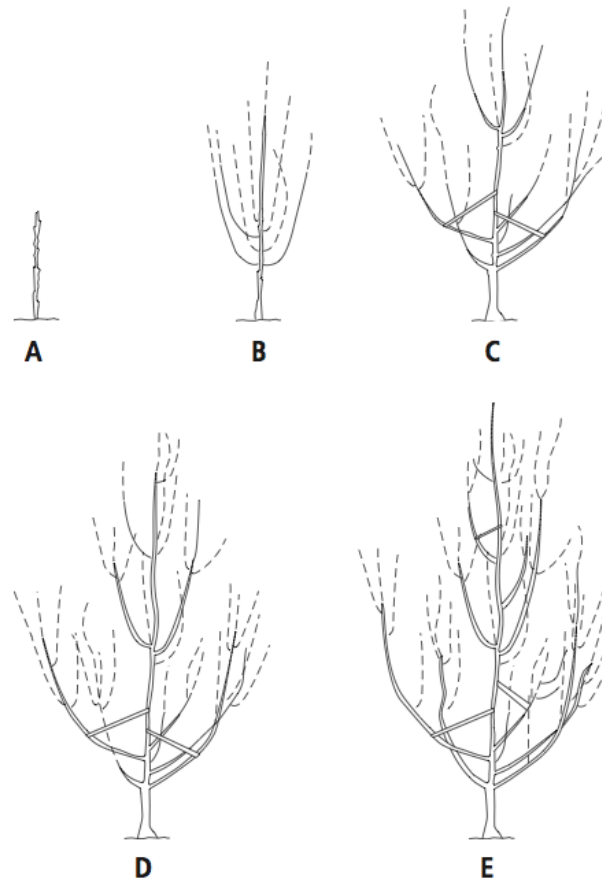
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# Training/Pruning Systems — Central Leader

- 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 your plants
- Practice, practice, practice
- Do some research and ask questions:
  - California backyard orchard: [homeorchard.ucanr.edu/](http://homeorchard.ucanr.edu/)
  - Ask if you have questions! [mgsantaclara.ucanr.edu/](http://mgsantaclara.ucanr.edu/)
- [mgsantaclara.ucanr.edu/fruit-tree-pruning](http://mgsantaclara.ucanr.edu/fruit-tree-pruning)



# Questions?



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# Thank you!

Happy Gardening

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 MGSCC Website	 Tips & Events	 Event Calendar	 Demo Gardens	 MG Help Desk

