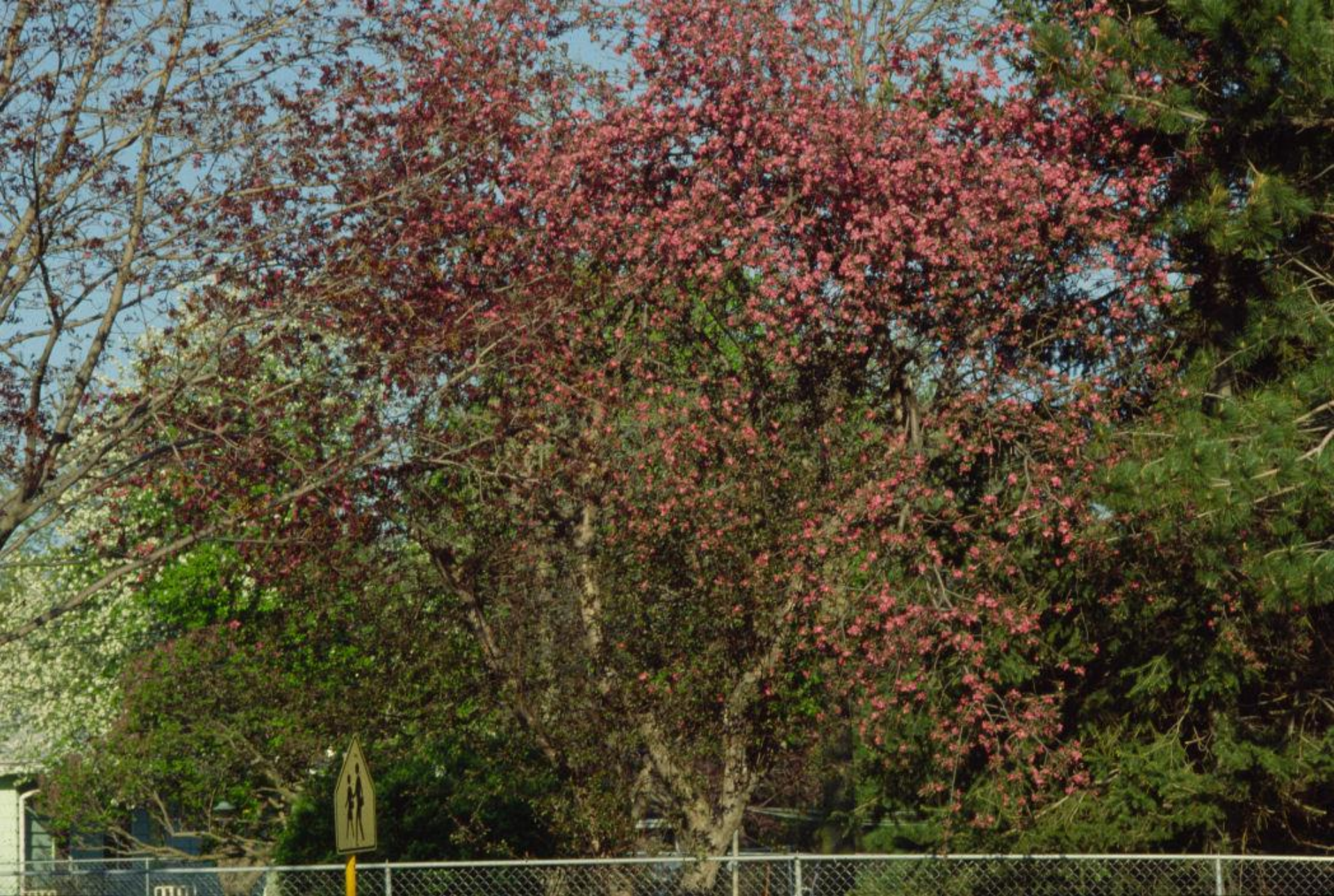


Managing Your Young Fruit Trees

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Agriculture Agent

May 14, 2020



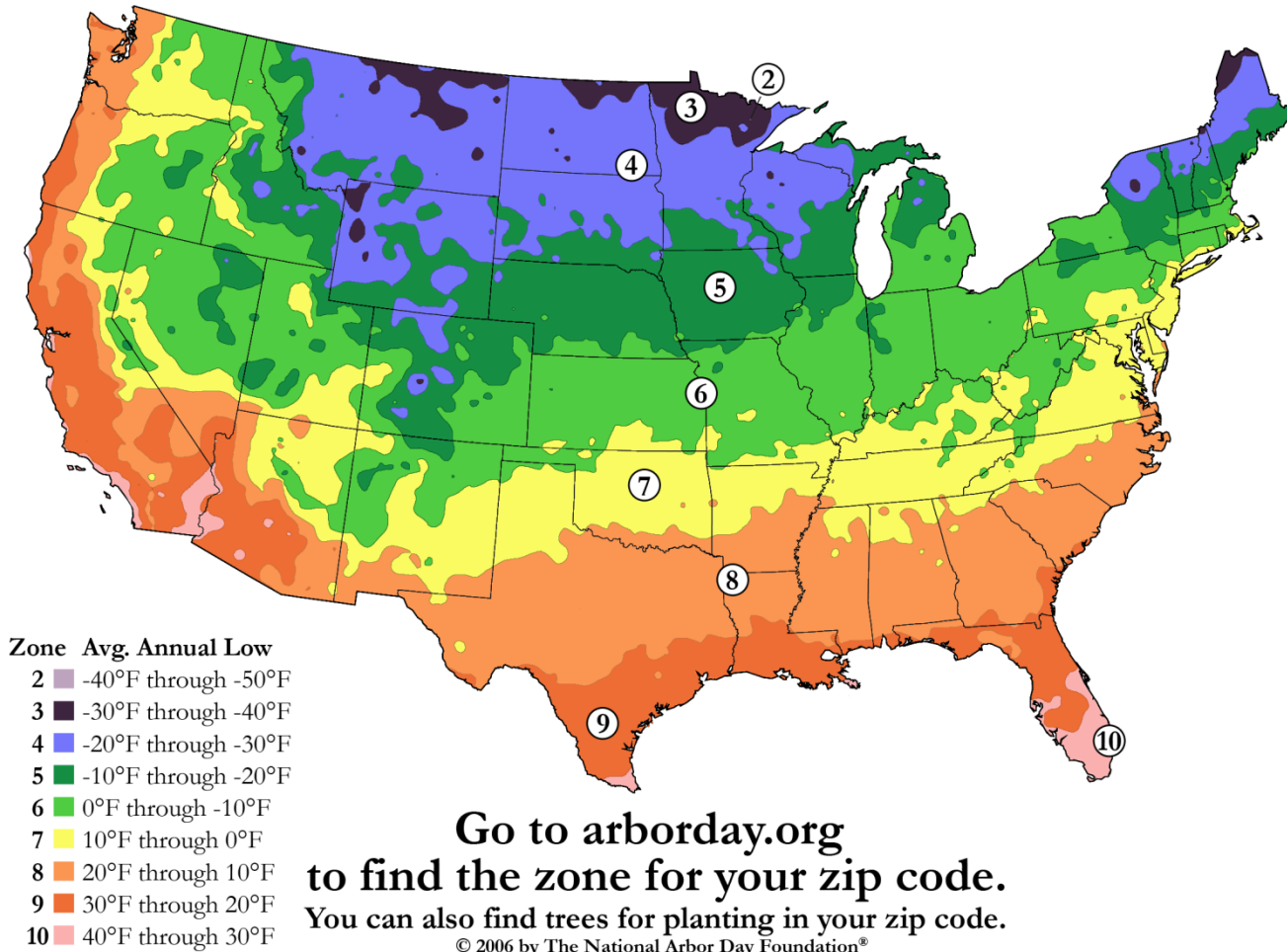


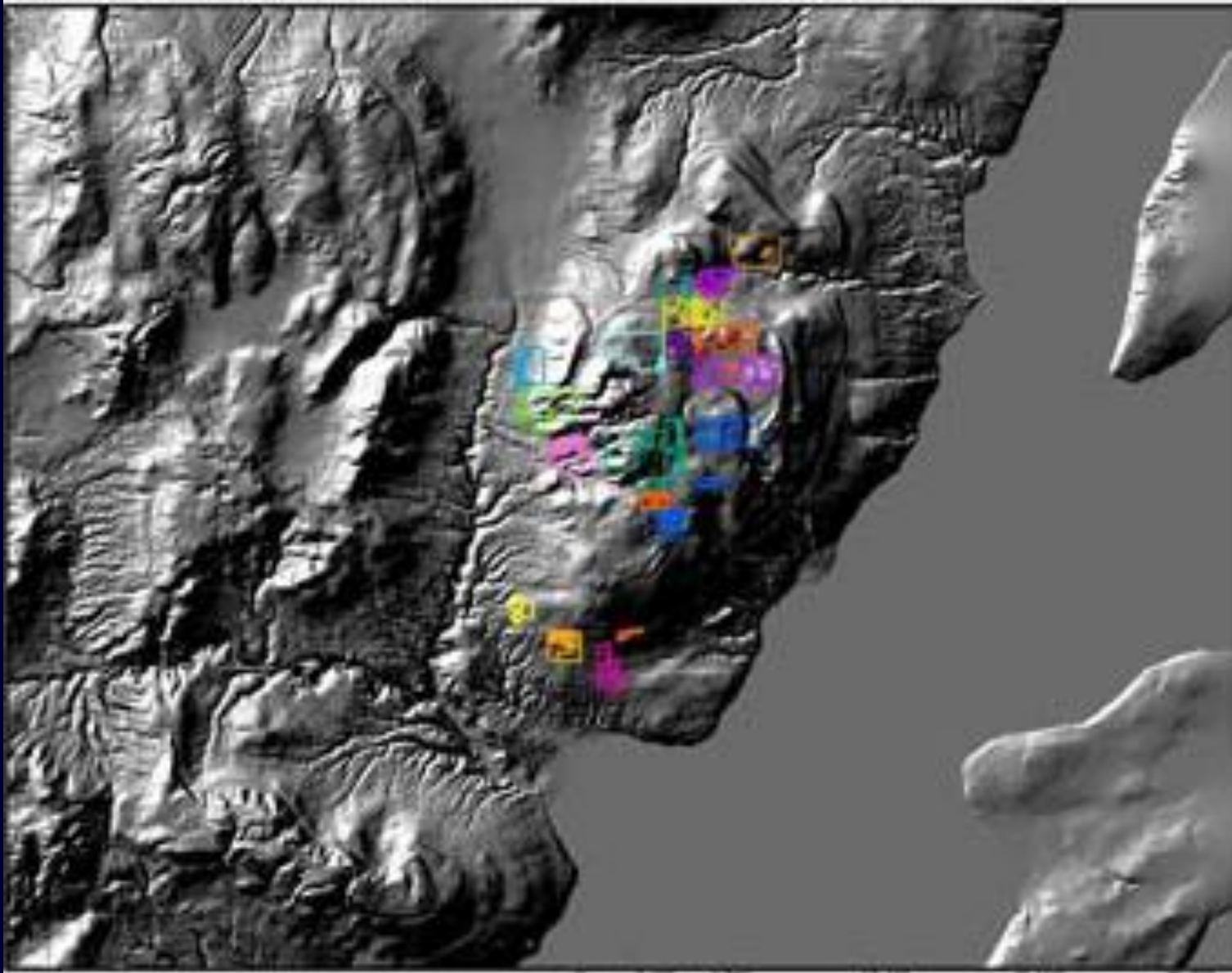
Limitations to Tree Fruit in Northern Wisconsin

- Winter minimum temperatures
- Heating degree days
- Spring frosts
- Deer, bear, rabbits, mice
- Cold wet soils

Plant material hardy to Zone 3 or 4

2006 arborday.org Hardiness Zones Map





Tree Fruit Crops

- Apples
- Pears
- Cherries
- Plums

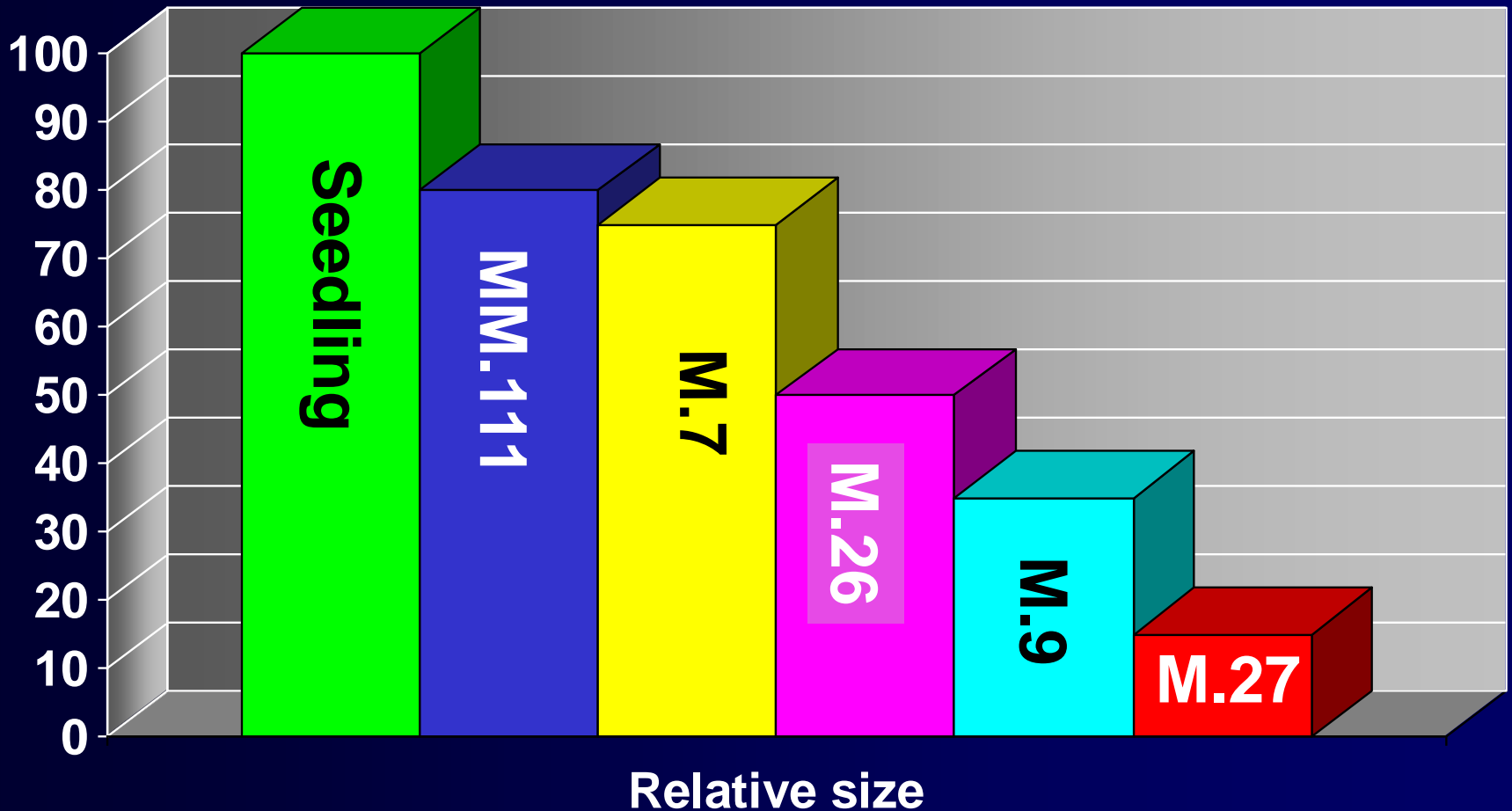
Peaches, apricots, paw-paw, quince: buyer beware

Apples

Rootstocks

**Tree fruit rootstocks
control tree size**

Apple Rootstock Size



MM.111

REDCORT MM III

M.7



M.26



M.9



M.27

SsS/EMLA 27



Recommended rootstocks

- **Apples**
 - Dwarf—M.9, Bud.9, M.26
 - Semi-dwarf—G.30, M.7, M111
 - Standard—Not recommended unless you want to out-grow the deer

Varieties

Zestar

Honeycrisp

SnowSweet

Red Free, Jonafree, Liberty, Prima, Priscilla, Sweet Sixteen, Honeycrisp

Cherries

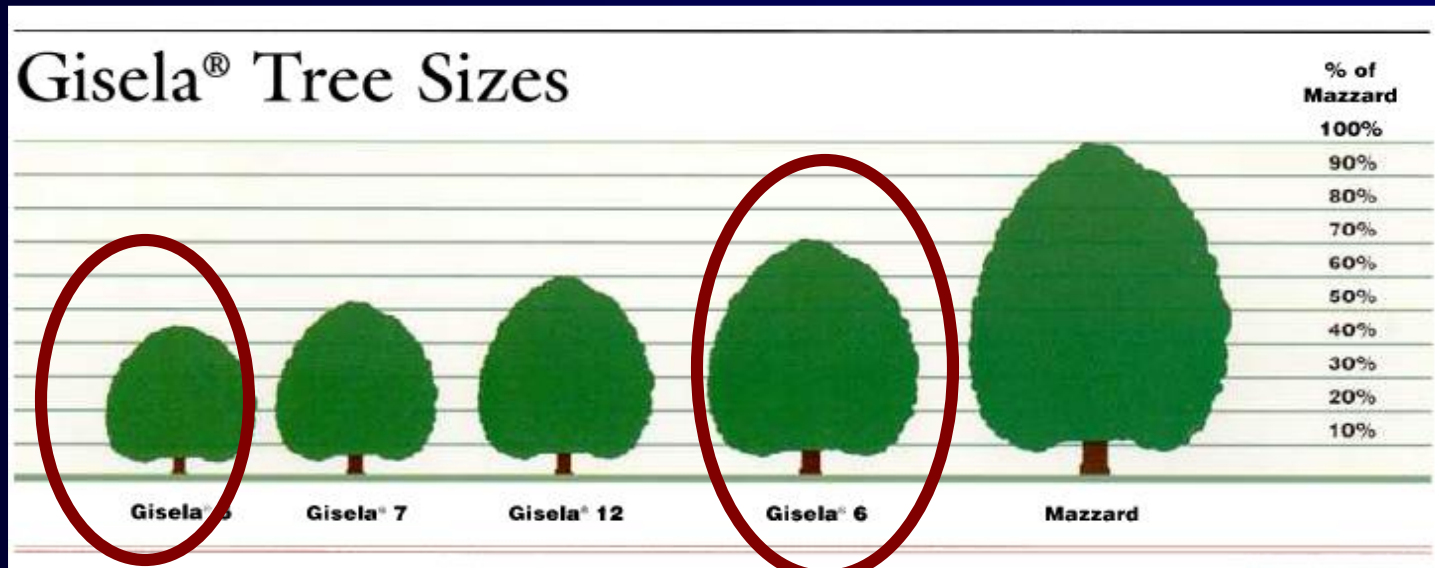
Recommended rootstocks

- **Tart Cherry**
 - Mahaleb
- **Sweet Cherry**
 - Mazzard or Gisela

Tart Cherry Varieties

- Montmorency
- Meteor
- North Star
- Nanking, Sand Cherries

Sweet Cherry Rootstocks



Sweet Cherry Variety Selection

Ulster



Emperor Francis



Lapin



Cavalier

Gold



Plums

- Red European Plums (require a pollinizer)
 - Underwood, Pipestone, Superior
- Blue European Plums (self-fertile)
 - Mount Royal, Stanley


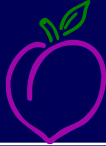
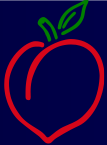
Pears

- Require aggressive pruning and training
- Parker, Summercrisp, Gourmet, Luscious, Flemish Beauty, Patten, Golden Spice, Ure, Bartlett
- Must have more than 1 cultivar for pollination

Pollination Requirements

Crop	Required	Not required	Beneficial
Apple			
Pear			
Asian Pear			
Tart cherry			
Sweet cherry			
Peach/ nectarine			

Pollination Requirements

Crop	Required	Not required	Beneficial
Apricot			
Euro.Plum			
Hybrid plums			

Preventing Animal Damage

- Do it nice or do it twice
- Rabbit/Mice
- Deer





Deer Strategy

- Fence the orchard
- Fence the tree
- Outgrow the deer
- Or, throw your money away





Planting Your Tree

Potted or Bareroot

- Bareroot is preferred
- Buy as much tree as you can afford
 - Whips, feathered, stem caliper
- Avoid pot-bound trees
- Avoid bareroot in a pot









Don't jam
the roots into
the hole, dig
it bigger







A photograph of a young tree sapling planted in a hole. The hole is filled with dark, rich soil. At the base of the sapling, there is a pool of water, likely from a recent watering. The surrounding ground is a mix of dark soil and some dry grass. In the background, there is a patch of green grass. The text "Water Immediately!" is overlaid in yellow on the right side of the image.

**Water
Immediately!**



A donut not a volcano



Protect the Graft Union















**Graft
Union**

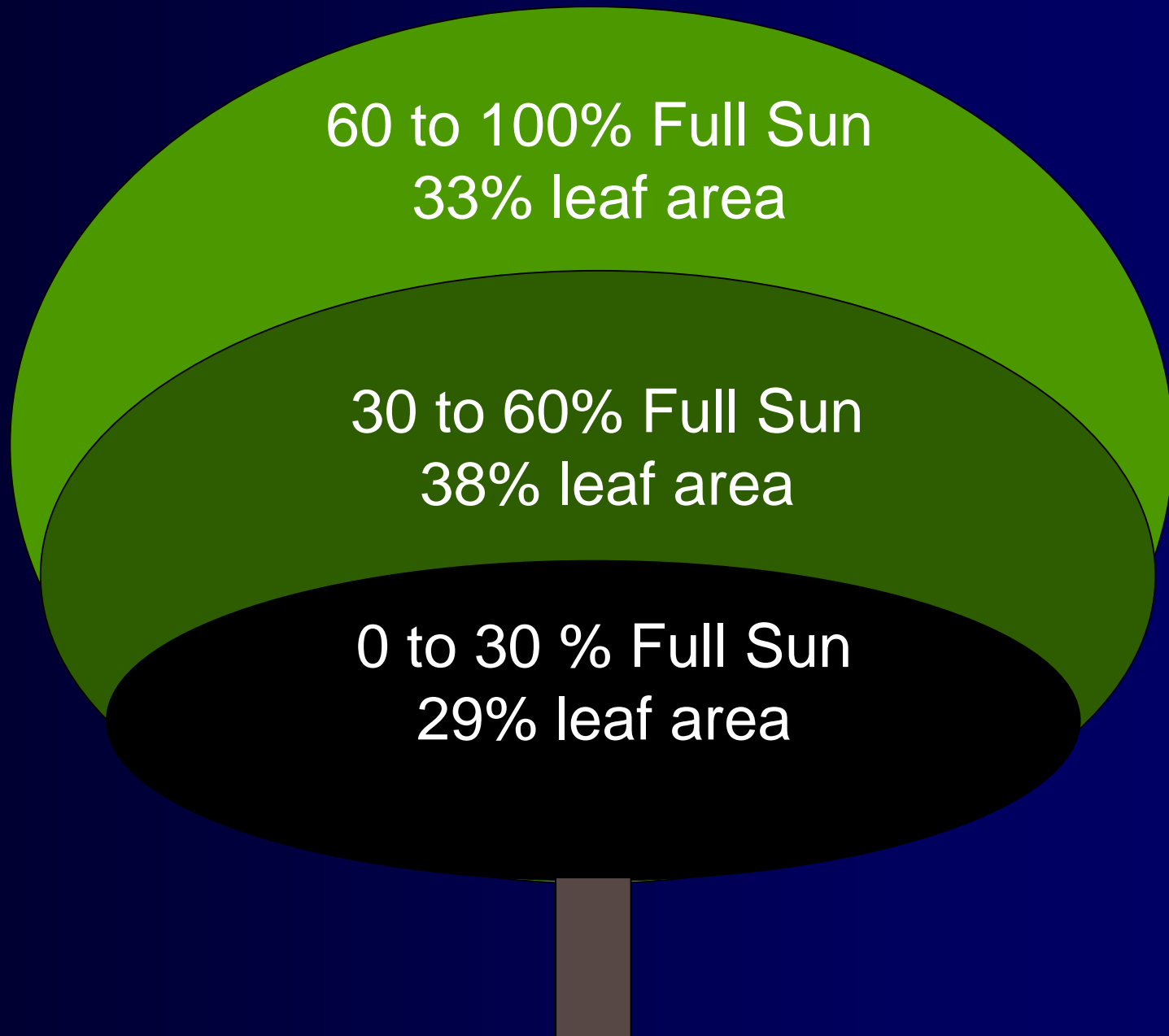


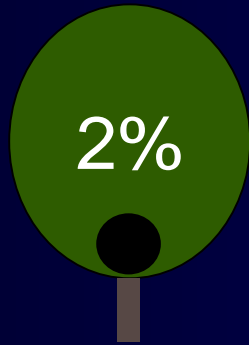
PRUNING AND TRAINING

Vertical Growth

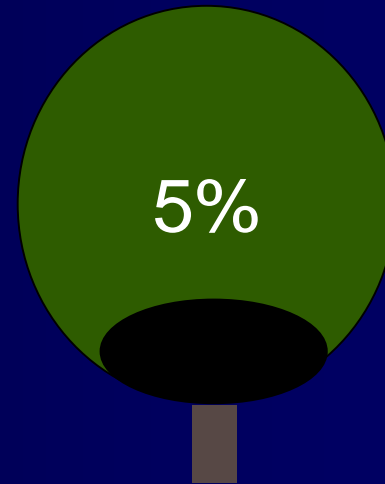
- A tree being a tree
- Very vegetatively vigorous
- Not fruitful



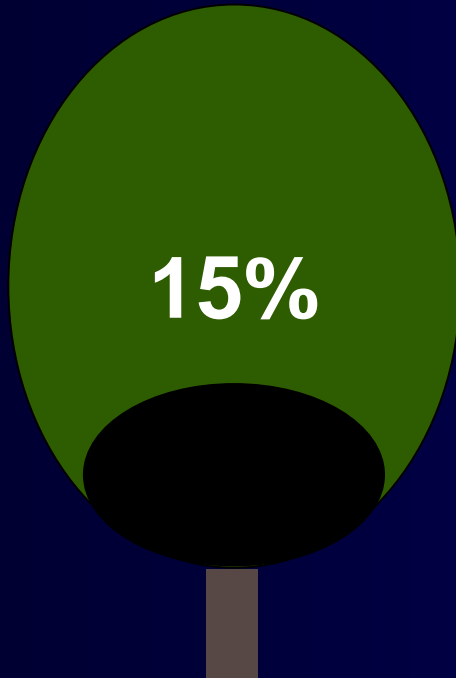




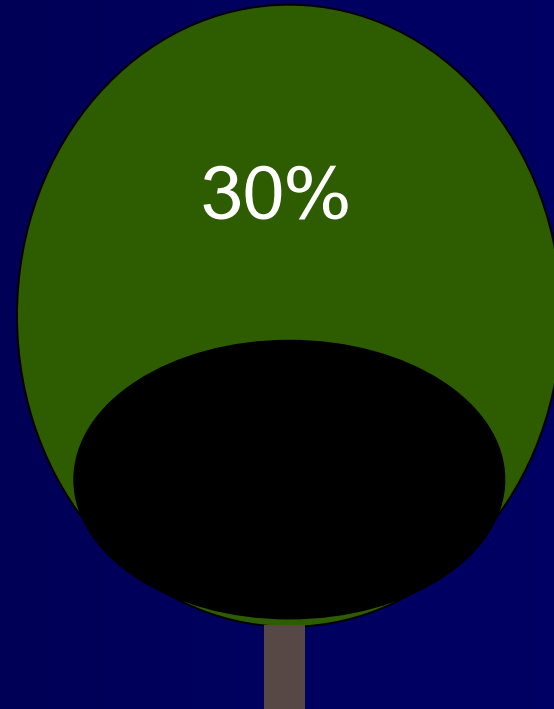
Dwarf 8'



Semi-dwarf 12'



Semi-Standard 16'



Standard 20'

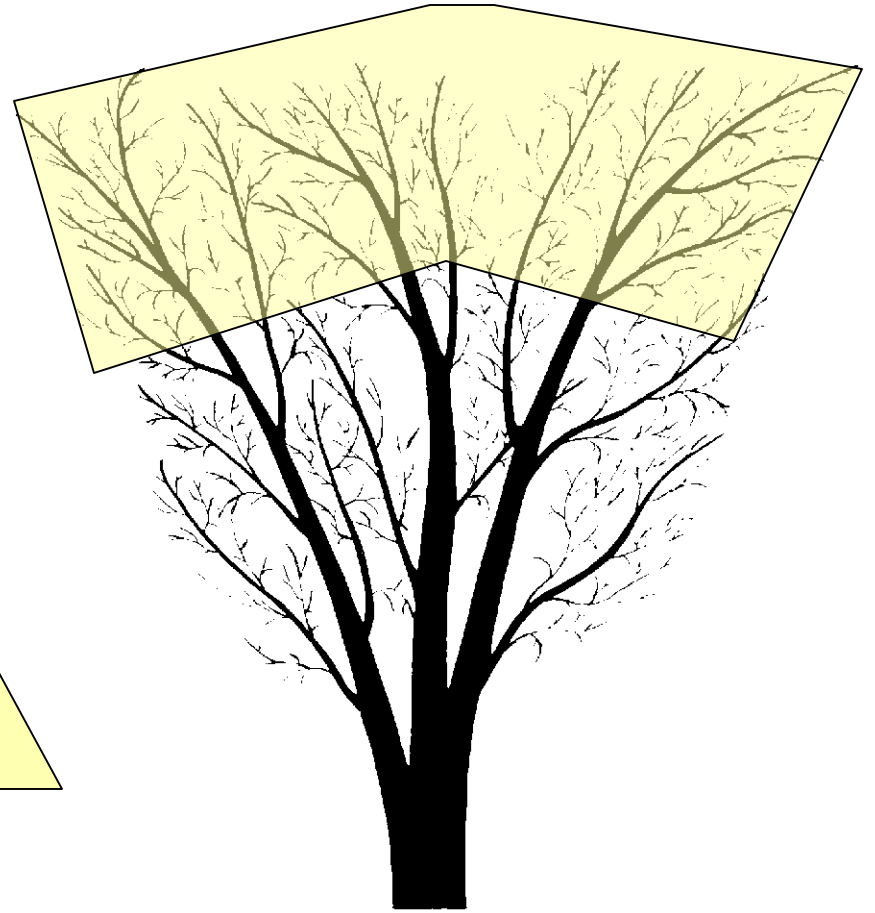
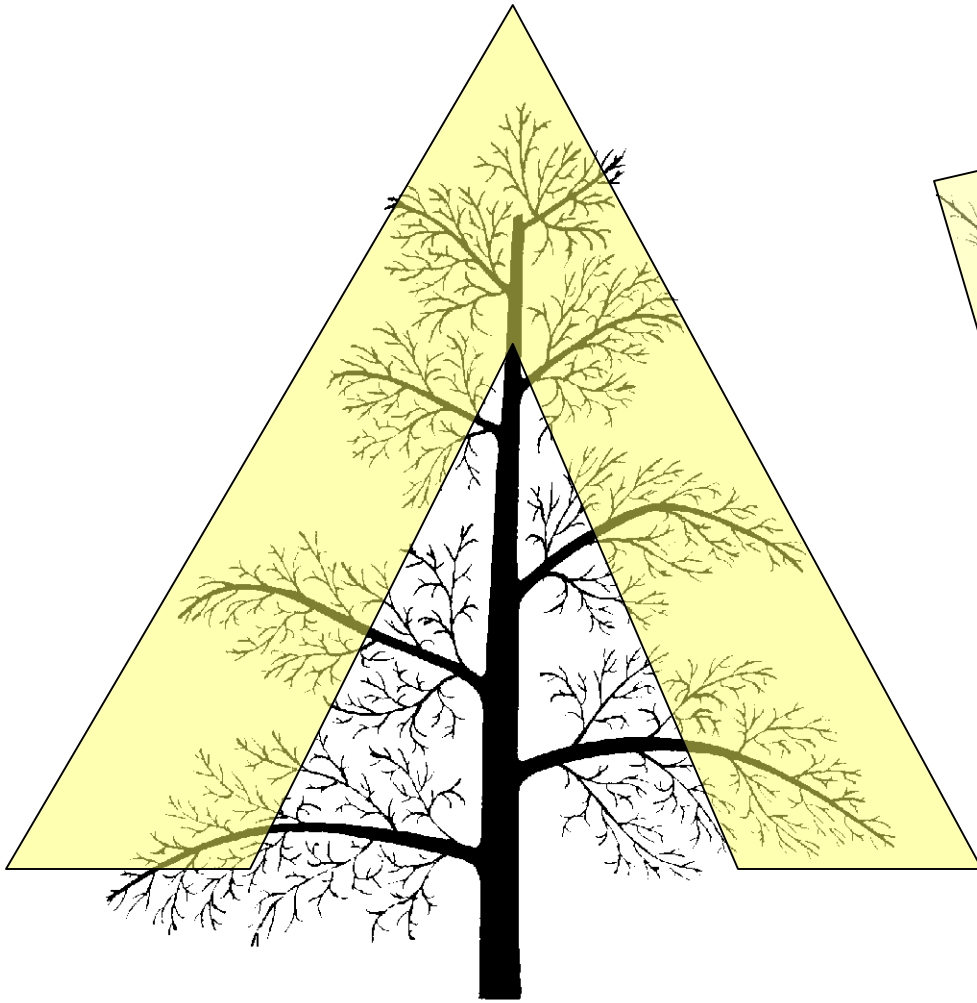


Horizontal growth

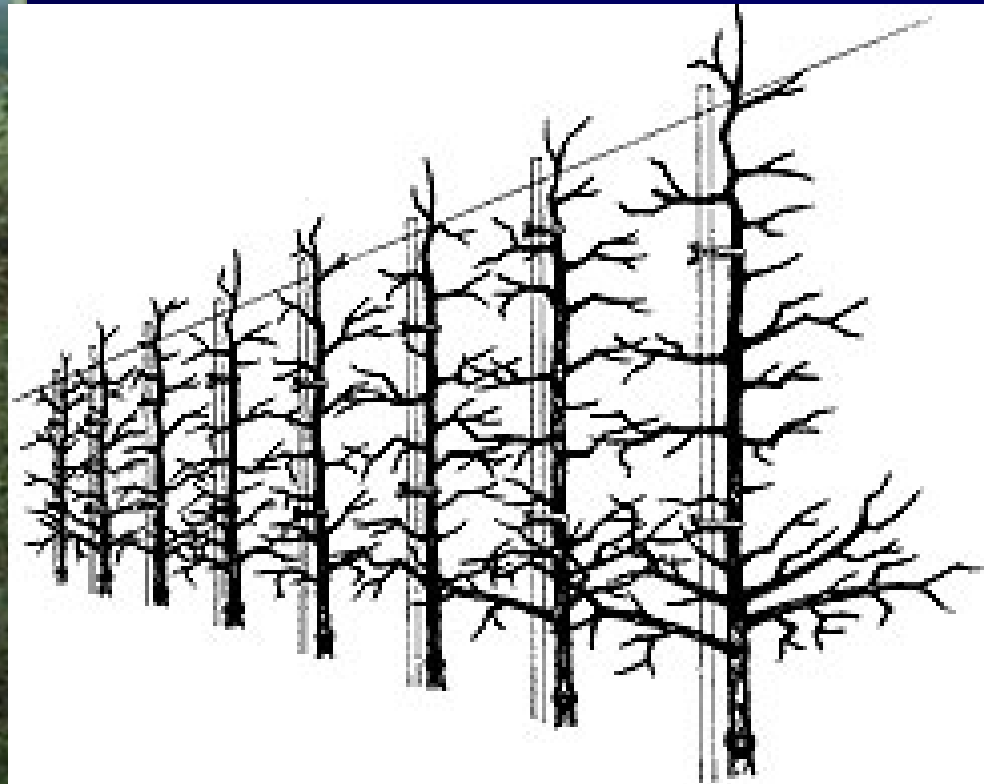
- Not vegetatively vigorous
- Very fruitful



Tree Shape Influence



Ideal Tree Form

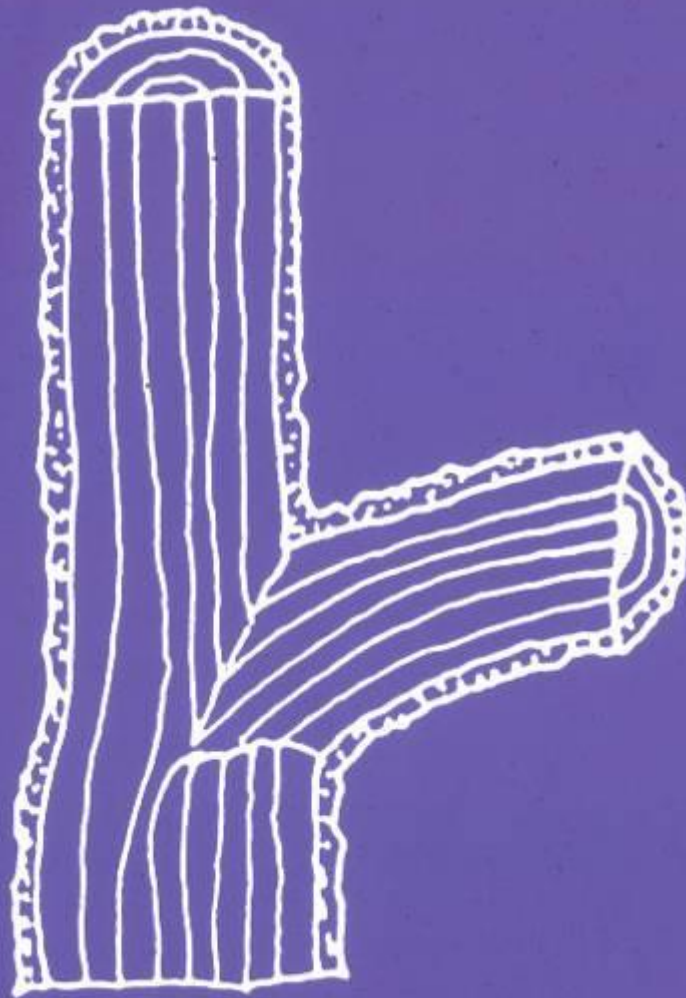


Training Techniques

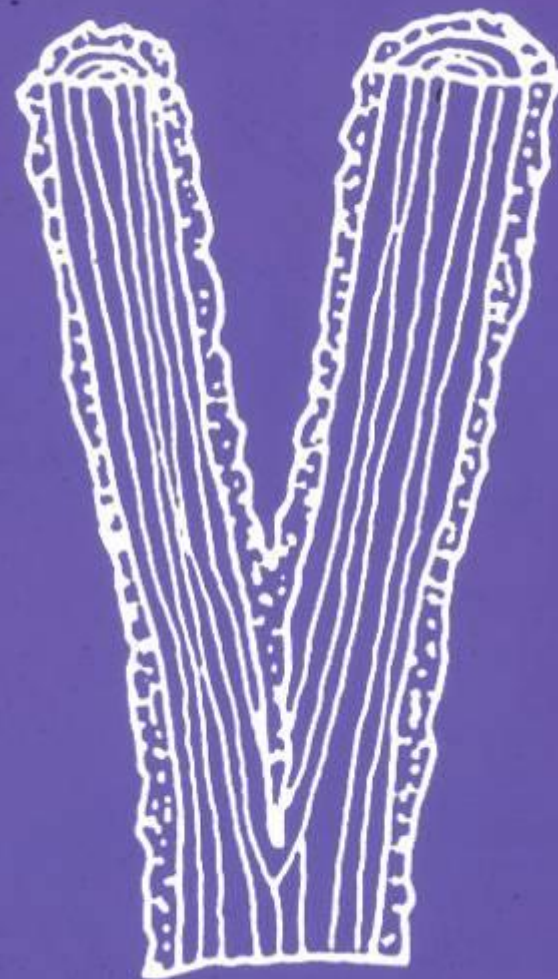
- Spreading
- Bending
- Trellising
- Tying



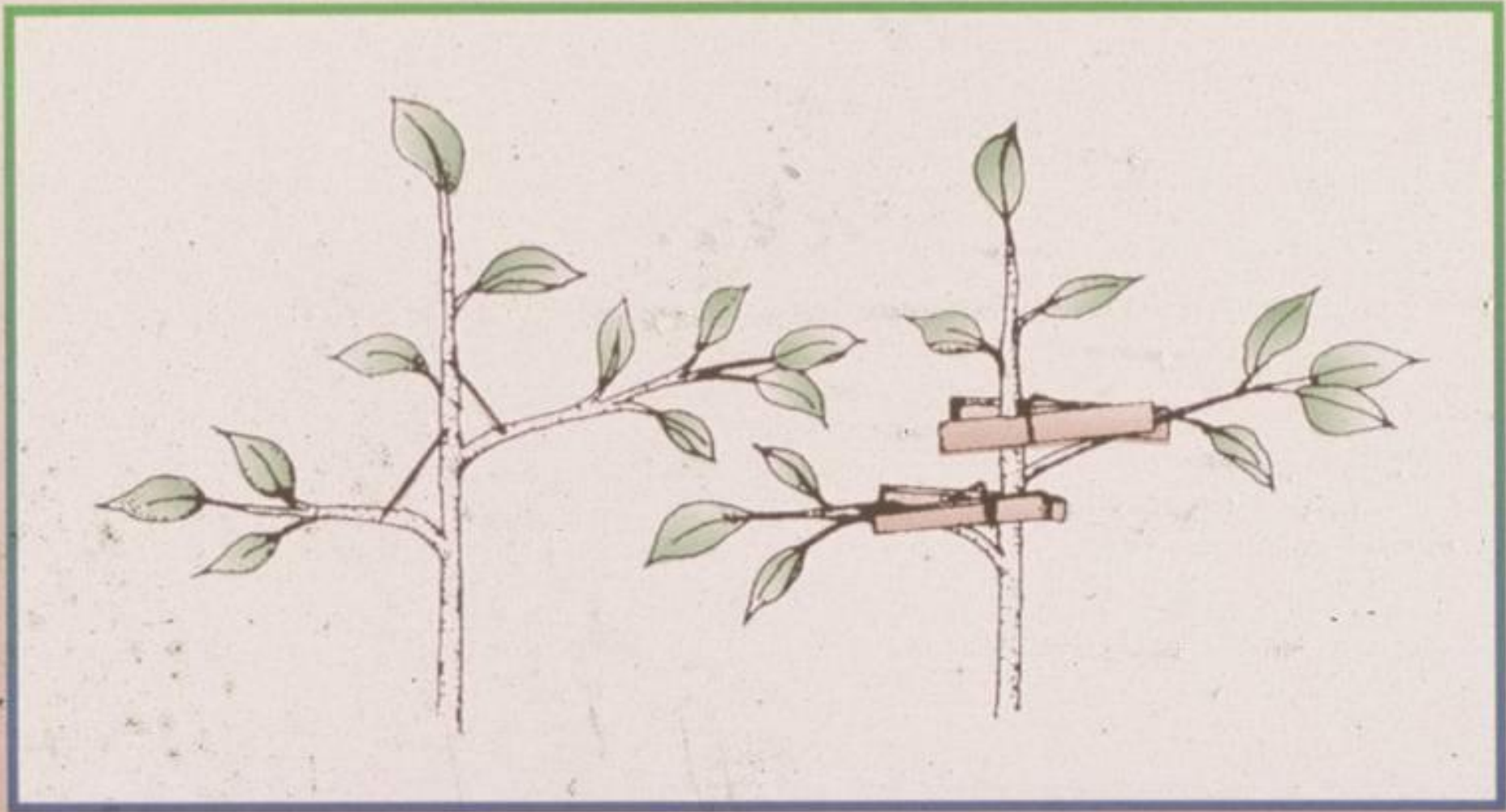




Right—strong crotch

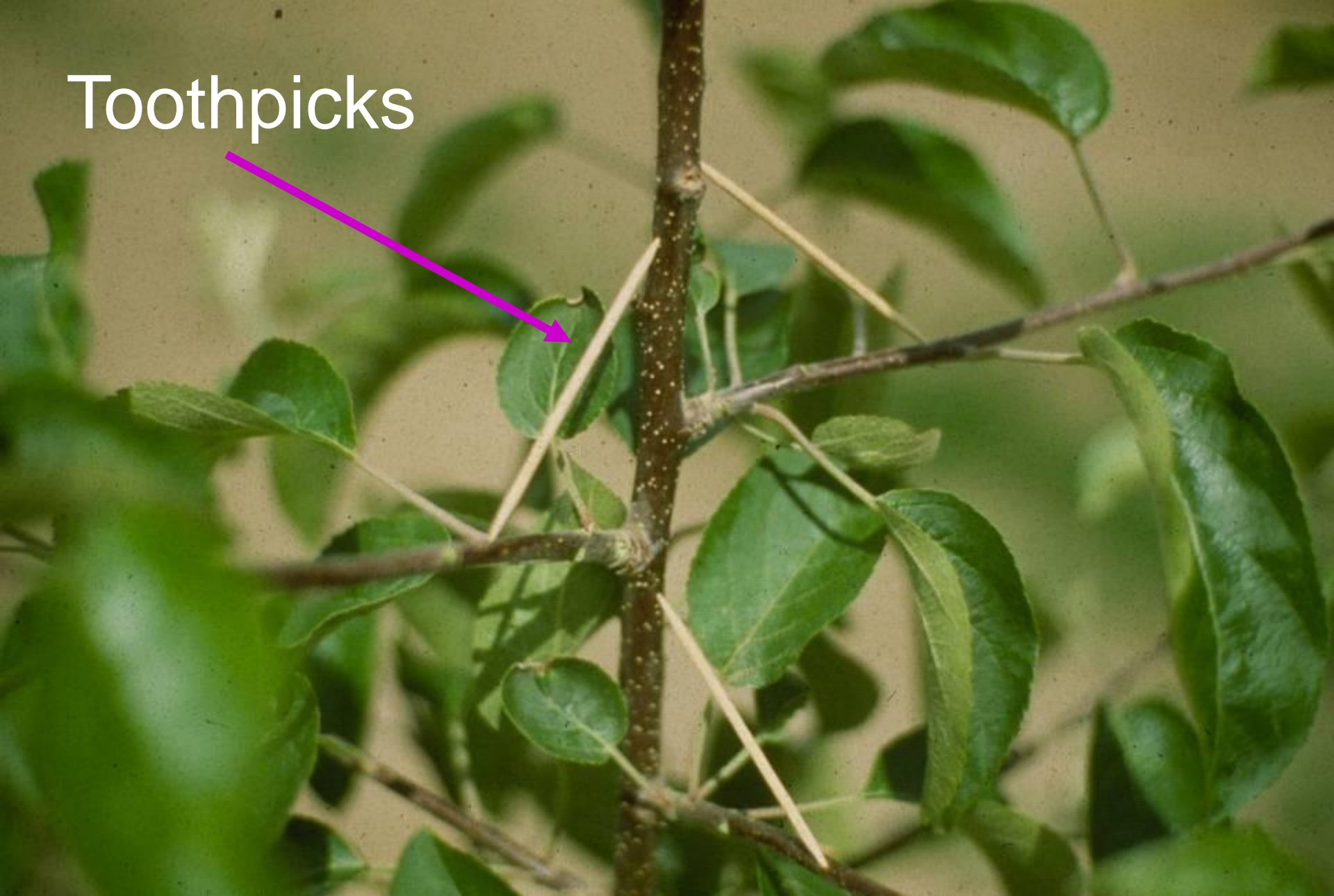


Wrong—weak crotch





Toothpicks



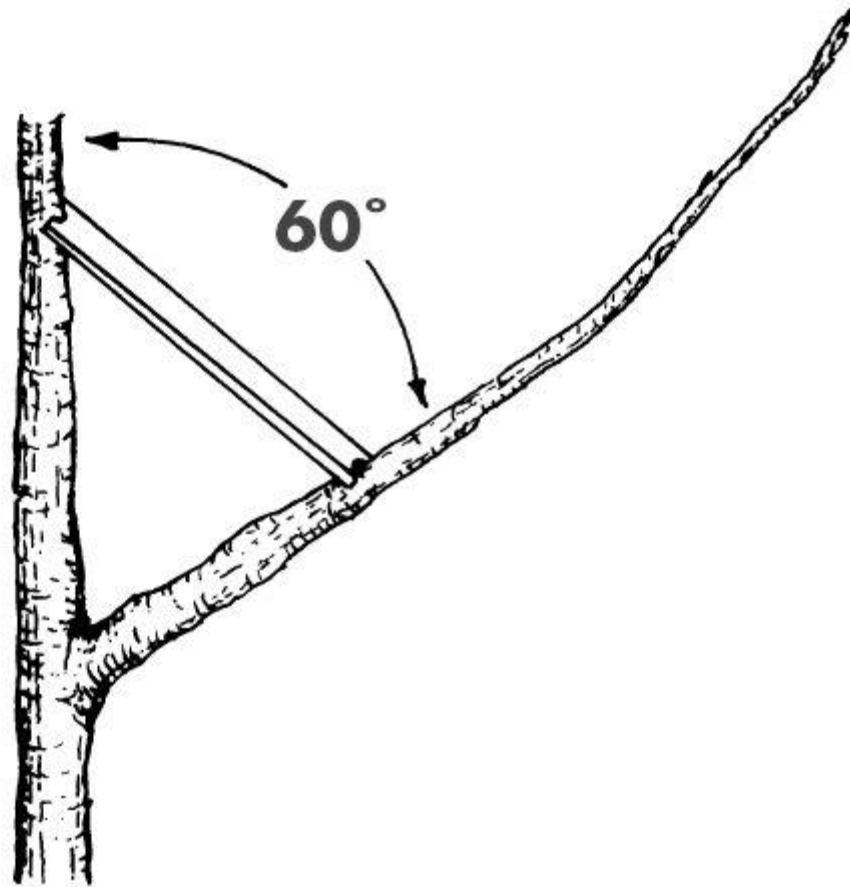


Figure 4: Wooden spreader.





**Normal
Response**



**Clothes pin
growth 3-4"**



**Clothes pin
response**

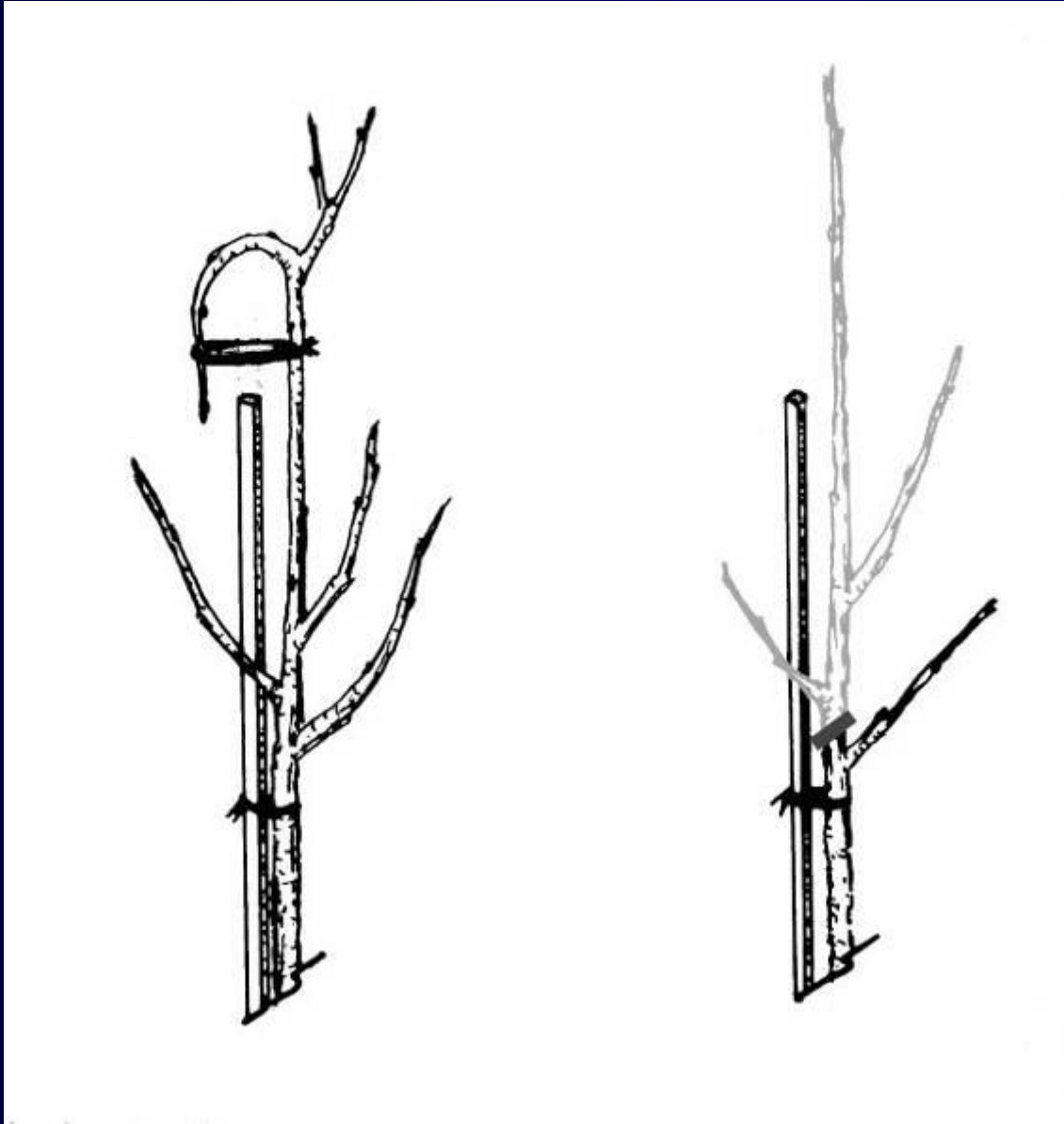








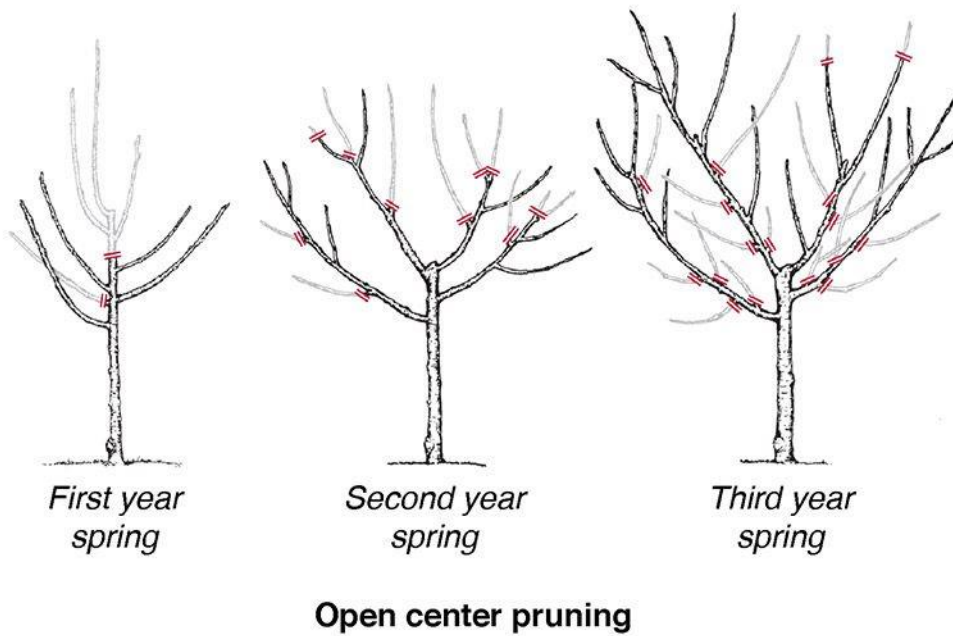
Managing Tree Height







Open Vase

















Y-Trellis



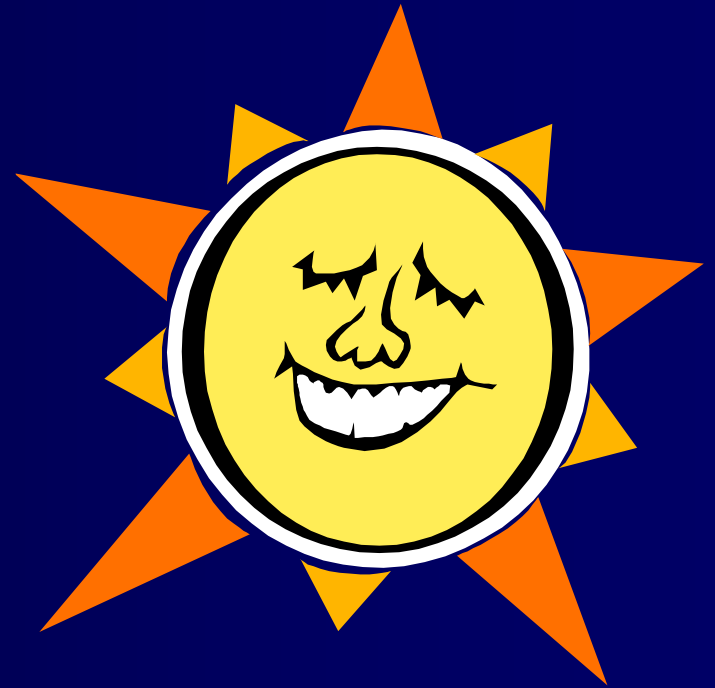












**Pruning is really
light management**

Types of wood removed during pruning

- **Suckers**—arise from roots
- **Water sprouts** —strong upright growth in tree interior
- **Spur** —short lateral branch
- **Leader** —the primary vertical axis of tree
- **Scaffold** —major lateral branch

Suckers





Water sprouts

Spur





The image shows a young tree with a central leader and several scaffold branches. The tree is positioned in front of a white backdrop that has a height scale on the right side, ranging from 20 to 270. A white arrow points to the central leader, and another white arrow points to one of the scaffold branches. The tree's trunk is wrapped in white material. A small tag with the text 'SS/OAR' is visible on the central leader. The background is a clear blue sky.

Central Leader

Scaffold

Types of pruning cuts

- Heading cut
- Thinning cut
- Bench cut
- Chain saw cut

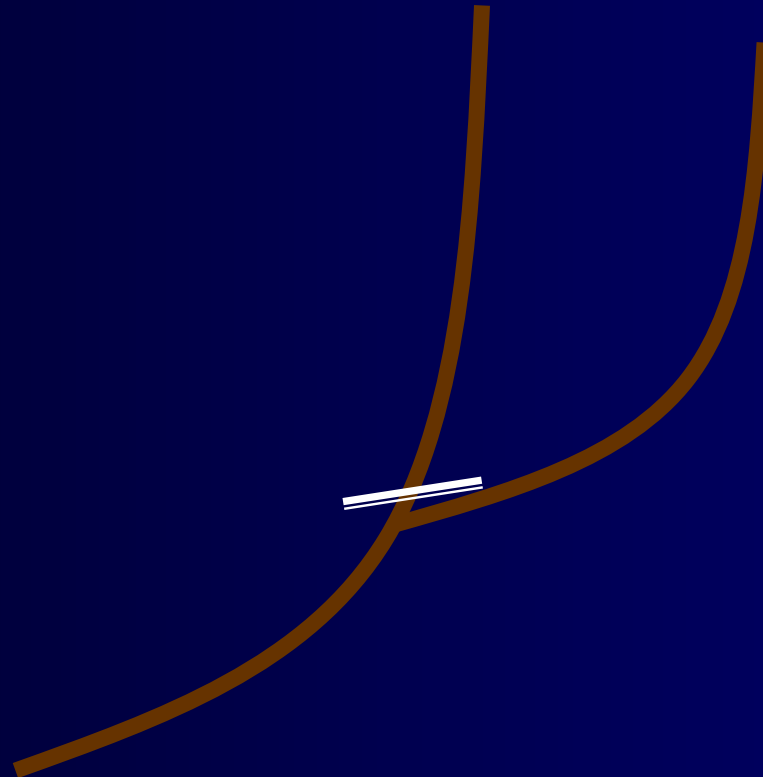
Heading Cut



Thinning cut



Bench Cut



When to prune?

- **Dormant season**
 - Late February to late April
 - Not before January

Pruning Procedure

- Remove water sprouts and suckers
- Remove broken and damaged branches
- Remove weaker of crossing branches
- Thin to one branch per growing space
- Evaluate often (step back)

Nutrition Principles

- All nutrients don't come from the soil each year
 - Perennial plant parts hold nutrients
- Soil test preplant
 - Add required P & K preplant
- Tissue test

Mineral Nutrition

- 1 oz actual N per year of tree growth
 - More for stone fruits
- $< \frac{1}{2}$ lb actual N per tree per year
- 15-20 inches of new growth on young trees
- 8-12 inches on bearing trees