



WELD COUNTY
COLORADO STATE UNIVERSITY
EXTENSION

Fruit Trees

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CSU EXTENSION – WELD COUNTY

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My Background

- Morehead State University's Browning Apple Orchard
- Wallingford, Kentucky
- Approx. 3000 total trees before renovation
- Over 1600 apple trees still in production
- Over 25 different varieties, both eating and cider types





Why Fruit Trees?

Seasonal beauty

Shade

Delicious fruit!

Need a hobby...

- ❖ Trees need special training
- ❖ Annual Pruning
- ❖ Management for insects and disease

Considerations Before Planting

Room for the tree to grow

How to deal with messy fruit drop

Time to work with the tree several times per year



What variety should you grow?



Fruit size

Taste

Culinary use

Bloom period


Ripening season

Disease resistance

Pollen compatibility

Apple Chart

Best Culinary Uses for Popular Apple Varieties

	Snacking	Salads	Pies	Sauce	Baking	Freezing
 Braeburn	E	G	G	G	G	G
 Cameo	E	E	E	E	E	G
 Cortland	E	E	E	E	E	G
 Empire	E	E	G	G	G	G
 Fuji	E	E	G	G	G	E
 Gala	E	E	G	E	G	E
 Ginger Gold	E	E	G	G	G	N
 Golden Delicious	E	E	E	E	E	E
 Granny Smith	E	E	E	E	E	E
 Honey Crisp	E	E	E	E	G	E
 Idared	G	G	E	E	E	G
 Jonagold	E	E	G	E	E	G
 Jonathan	G	G	E	G	E	G
 McIntosh	E	G	E	E	N	G
 Newtown Pippin	G	G	E	E	G	G
 Cripps Pink	E	E	E	E	G	G
 Red Delicious	E	E	N	N	N	N
 Rome Beauty	G	G	E	E	E	G

KEY:

E = excellent

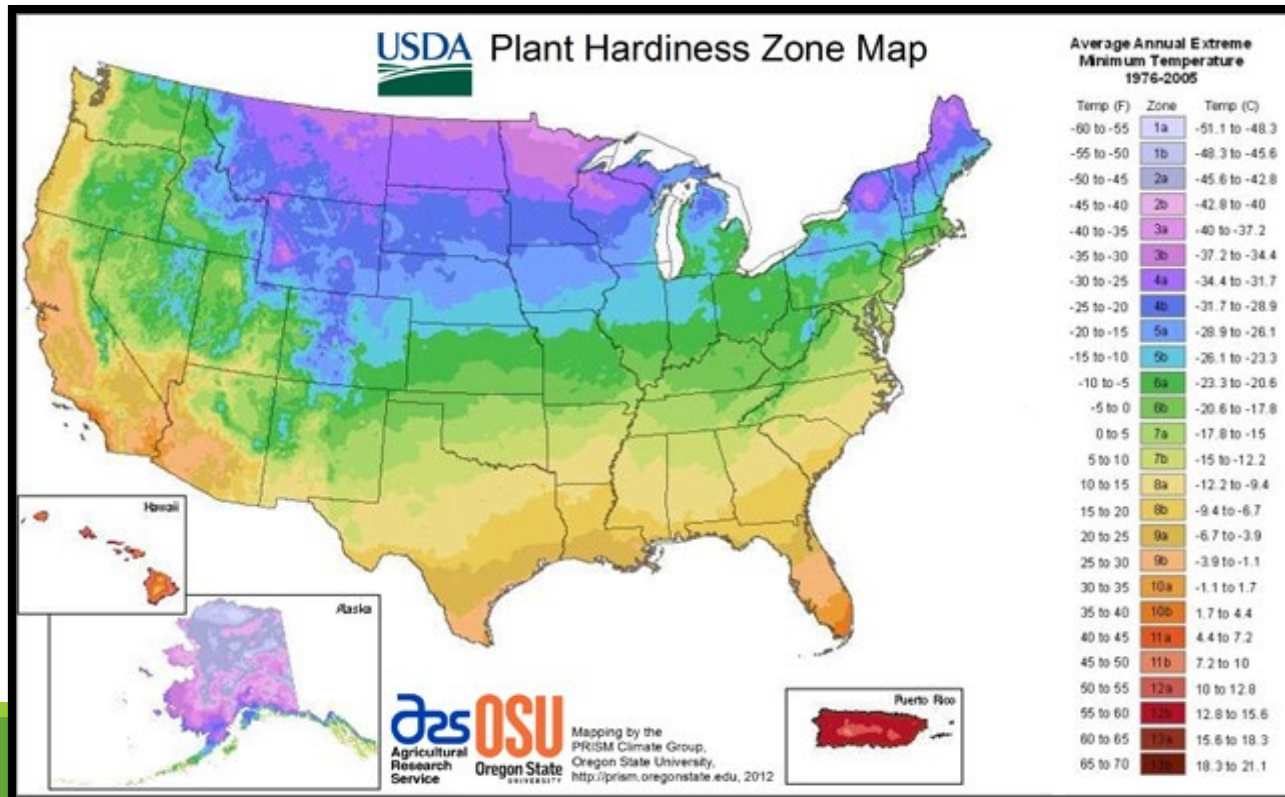
G = good

N = not recommended

Apple Variety	Blooms	Ripens	Hardiness	Fireblight Resistance	Flavor	Texture	Uses
Frostbite	Mid	October	Zone 3	Unknown	Sweet	Firm	Cider
Goodland	Mid	Late September	Zone 3	Moderate	Juicy	Crisp	Eating Fresh
Haralred	Late	September-October	Zone 3	Very	Tart	Firm	Baking, Pies
Haralson	Late	Early October	Zone 3	Very	Tart	Firm	Baking, Pies
Hazen	Early	Late August	Zone 3	Moderate	Mild	Soft	Eating Fresh
Honeycrisp	Mid	Late September	Zone 4	Resistant	Sweet	Crisp	Eating Fresh
Honeygold	Mid-Late	Early-Mid October	Zone 4	Susceptible	Sweet	Crisp	Eating Fresh
McIntosh	Mid	Late September	Zone 4	Resistant	Tart	Firm	Eating Fresh
Norland	Early	August	Zone 2	Moderate	Mild	Soft	All Purpose
Northern Lights	Mid	Mid September	Zone 3	Moderate	Mild	Soft	All Purpose
Prairie Magic	Mid	Mid September	Zone 3	Moderate	Sweet	Crisp	All Purpose
Red Baron	Mid	Late September	Zone 3	Resistant	Sweet	Crisp	All Purpose
Red Duchess	Early	Mid-Late August	Zone 3	Resistant	Tart	Soft	Pies, Sauce
Snow Sweet	Mid	Mid-Late September	Zone 3	Moderate	Sweet-tart	Crisp	All Purpose
State Fair	Early	Mid-Late August	Zone 3	Susceptible	Juicy	Crisp	All Purpose
Sweet 16	Mid	Mid September	Zone 3	Susceptible	Sweet	Crisp	Dessert
Wealthy	Early-Mid	Mid September	Zone 3	Susceptible	Tart	Firm	Dessert
Wolf River	Mid	Early-Mid September	Zone 3	Moderate	Juicy	Tender	Cooking
Yellow Transparent	Early	August-September	Zone 3	Susceptible	Mild	Soft	Pies
Zestar	Early	Late August	Zone 4	Moderate	Sweet-tart	Crisp	Eating Fresh

Hardiness – the big limiter

- Ability of tree to withstand low temperatures in winter
- Cultivars developed for upper Mid-West and Northeast USA generally okay.



Hardiness

- Spring warm ups cause bud break, trees de-harden
- Time when they're most vulnerable to winter kill
- Level of bud death varies with bud stages



FIGURE 11.1.1
GROWTH STAGES IN
APPLE

1 Dormant

2 Silver tip

3 Green tip

4 Half-inch green

5 Tight Cluster

6 Pink

7 Bloom

8 Petal Fall

9 Fruit set

Phenology - a branch of science dealing with the relations between **climate and periodic biological phenomena** (such as bird migration or plant flowering)
Merriam-Webster definition

Spring Frosts



Table 2. Critical Springtime Temperatures

Fruit	Swollen Buds	Buds Showing Color	Full Bloom	Green Fruit
Apples	20-21°F	24-28°F	27-29°F	29°F
Apricots	23°F	25°F	28°F	31°F
Cherries	25°F	28°F	28°F	30°F
Peaches	23°F	25°F	27°F	30°F
Pears	23°F	27°F	29°F	30°F

Pollination Definitions

- **Pollination:**

the transfer of pollen from the anthers to the stigma of a flower.

- **Self-pollination:**

when the transfer of pollen occurs within the same variety.

- **Cross-pollination:**

when the transfer of pollen occurs between two varieties.



Pollination

Apricots, sour cherries, peaches, nectarines, European plums and prunes are generally **self-pollinated** (*pollen from most cultivars will pollinate itself*).

Apples, sweet cherries, pears, and Japanese plums are generally cross-pollinated.



Planning a home orchard



Planning a home orchard

Growing season

- CO = 70 to 185 days

Choose cultivar from 70 to 150 days to maturity, late bloomers

Make sure you have adequate space for the chosen tree type

Temperature extremes:

- -20F = some tissue death
- below -40F = plant death



Late spring frosts are biggest problem with backyard fruit production



Planning a home orchard

Soils – well drained, loam is best.

Light – Full sun. Heavily shaded areas may produce higher sugars but fruit bruises easily



Planning a home orchard

Terrain – gently rolling to allow air moderation and circulation. Avoid low spots or near fences/wind blocks

Avoid locations near south or west facing walls of buildings, or they bloom early and get nipped by frost!



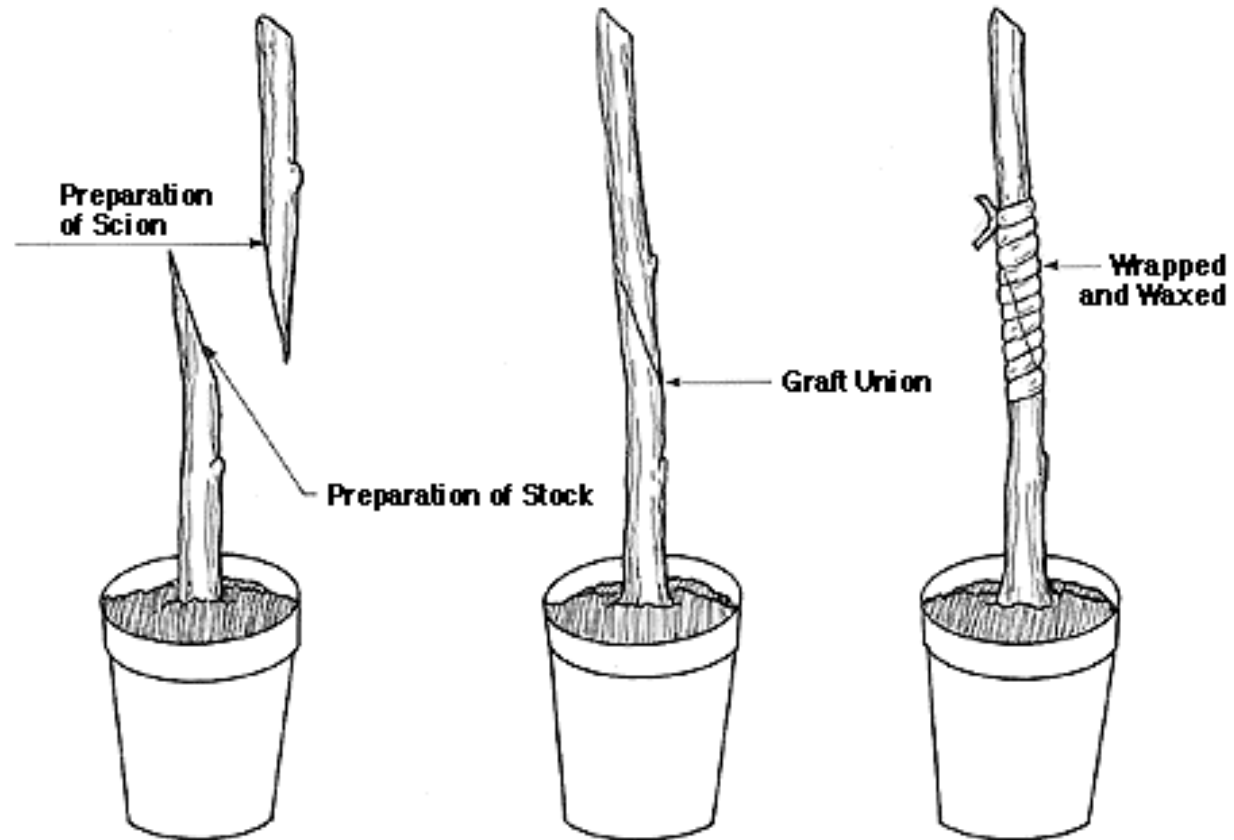
Planning a home orchard

- Do a soil test at least one year prior and correct any soil problems prior to planting
- Select certified stock (true to name, virus- and pathogen-free), northern sources
- Ideally, use young trees
- Use dwarfing rootstock

Fruit trees are grafted

Scion = top

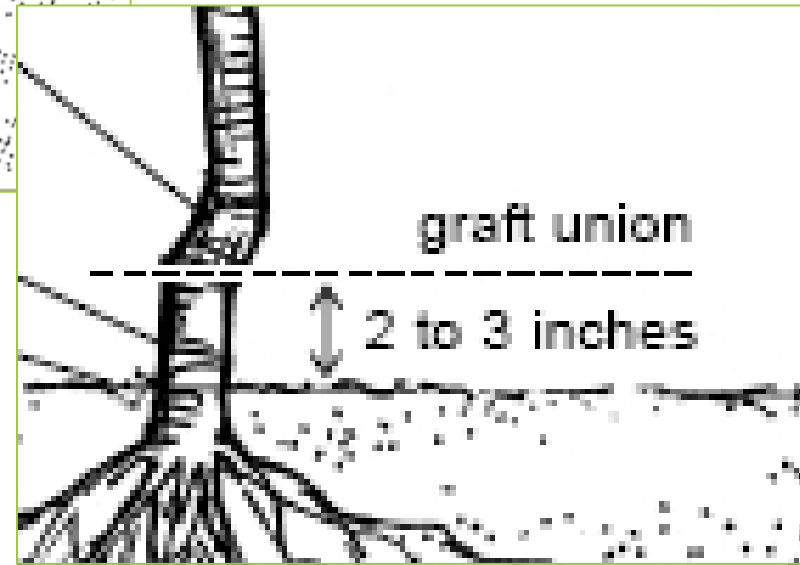
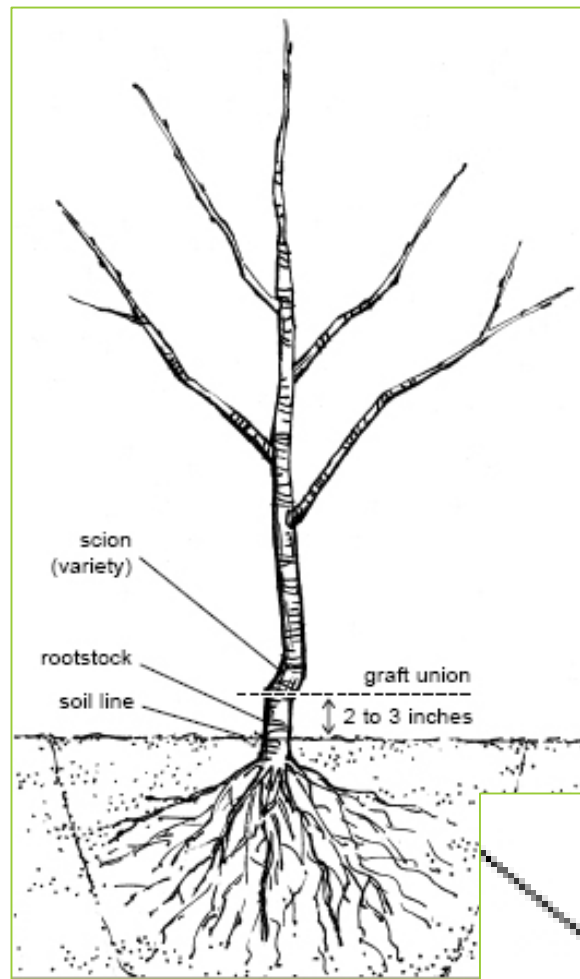
Rootstock = bottom



Fruit trees are grafted

Scion = top

Rootstock = bottom



Rootstocks

Controls size of tree

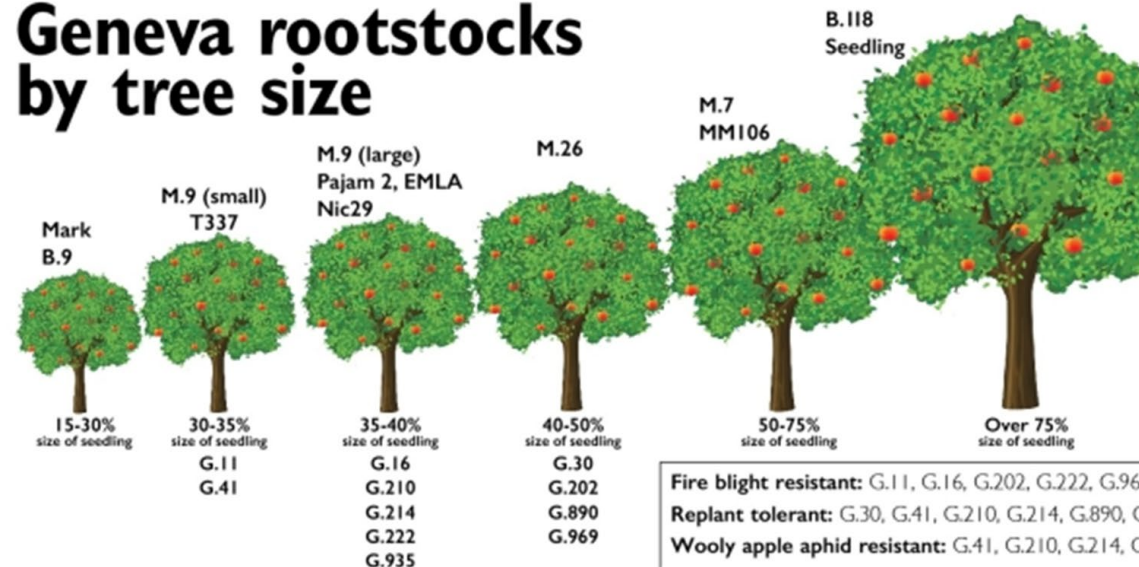
Disease resistance

Age of fruit production onset

Tolerance to environmental conditions

Top portion of the tree is called the scion.

Geneva rootstocks by tree size



Cultivar	Propagatibility:			Resistance to:			
	Liner	Tree	Cold Hardy:	Replant Disease	Fire Blight	Crown/ Root Rots	Wooly Apple Aphid
MARK	Very good	Excellent	Moderate	Low	Low	Moderate	None
B.9	Very good	Very good	Moderate	None	High	High	None
G.65	Fair	Fair	High	TBD	High	High	None
M.27	Fair	Fair	TBD	TBD	TBD	TBD	TBD
G.41	Fair	Very good	High	High	High	High	High
M.9 T-337	Good	Good	Low	Low	None	High	None
G.11	Good	Good	Moderate	Moderate	High	High	None
G.16	Good	Good	Moderate	Partial	Mod-High	High	None
M.9 NIC 29	Good	Good	Low	Low	None	High	None
M.9 PAJAM2	Good	Good	Low	Low	None	High	None
M.9 EMLA	Good	Good	Low	Low	None	High	None
G.935	Good	Very good	High	High	High	High	None
G.969	Excellent	Excellent	TBD	Tolerant	High	High	High
G.214	Good	Very good	High	High	High	High	High
G.210	Very good	Very good	TBD	High	High	High	High
G.222	Very good	Very good	Low	Low	High	High	High
G.814	Very good	Very good	High	Tolerant	High	High	None
B.10	Good	Good	High	TBD	High	TBD	None
M.26	Very good	Very good	Low	None	None	None	None
G.30	Fair	Fair	High	High	High	High	None
G.890	Very good	Very good	High	High	High	High	High
G.202	Very good	Very good	High	Tolerant	High	High	High
M.7 EMLA	Very good	Very good	Moderate	Moderate	Low	Moderate	None
M.106 EMLA	Very good	Very good	Moderate	Low	Low	None	None
B.118	Very good	Very good	High	Low	Moderate	Moderate	None

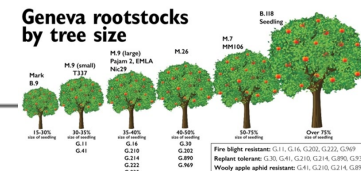
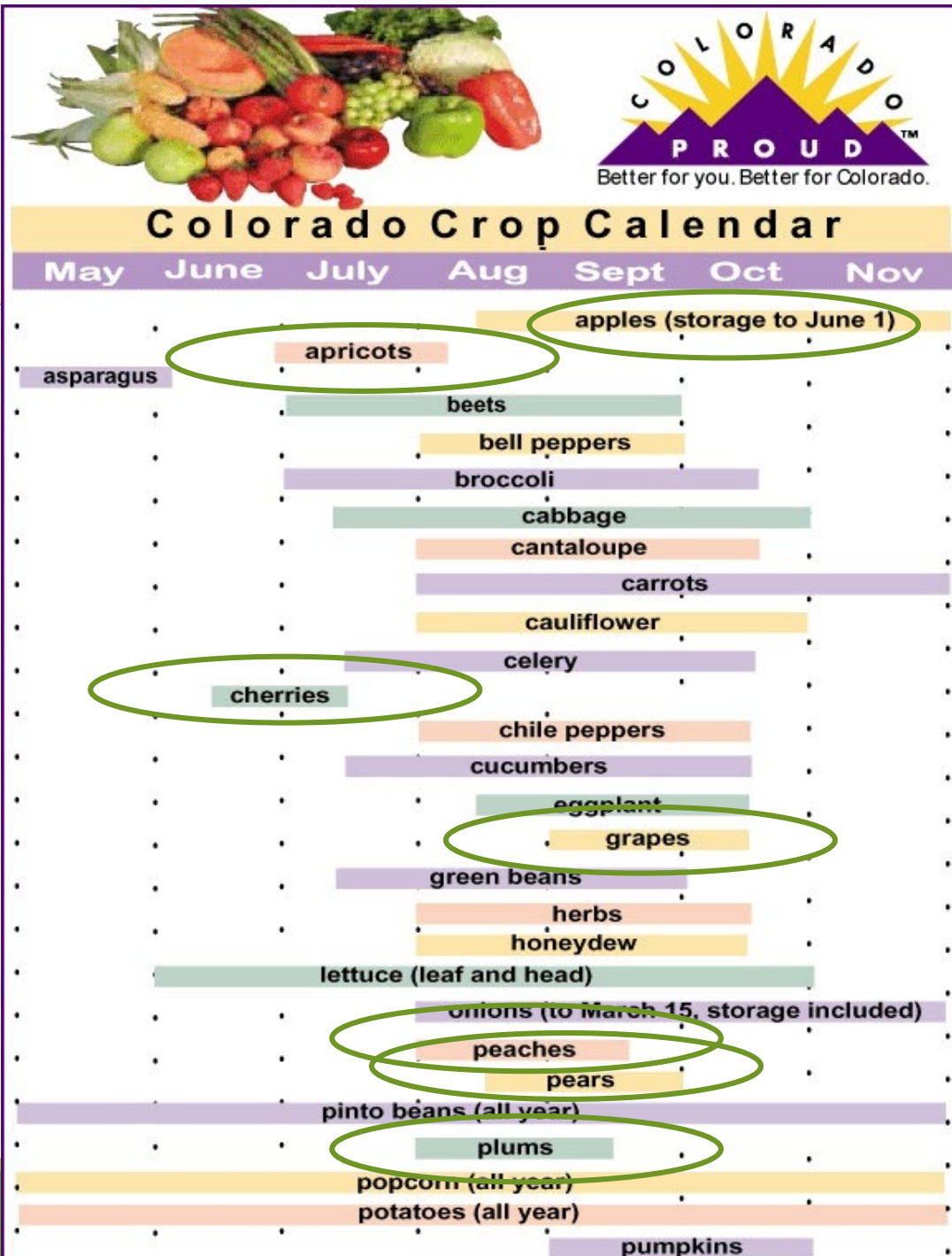


Table 1. Typical Size of Fruit Trees

		Typical Spread (Pruned)	Typical Height (Pruned)	Unpruned Spread and Height with No Competition
Apple¹	Standard Semi-dwarf ² Dwarf ²	20 feet 10 feet 6 feet	20+ feet 12-15 feet 5-10	40 feet by 40 feet
Pear	Standard Dwarf ³	18 feet 12 feet	15 feet 12 feet	40 feet by 25 feet 25 feet by 15 feet
Peach and Nectarine	Standard Dwarf ⁴	20 feet 8-10 feet	15 feet 5-10 feet	25 feet by 25 feet 8 feet by 4-6 feet
Apricot	Standard Dwarf ⁴	20+ feet 8 feet	15 feet 6-8 feet	30 feet by 30 feet 6-8 feet by 6-12 feet
Sweet Cherry	Standard Dwarf ⁵	30 feet 4 feet	25 feet 6-8 feet	30 feet by 40 feet 4-8 feet by 6-12 feet
Sour Cherry	Standard Dwarf	18-24 feet 8-10 feet	15 feet 6-8 feet	30 feet by 20 feet 8-10 feet by 20 feet
European Plums and Prunes	Standard	20 feet	15 feet	25 feet by 30 feet
Japanese Plums	Standard	18 feet	15 feet	25 feet by 30 feet

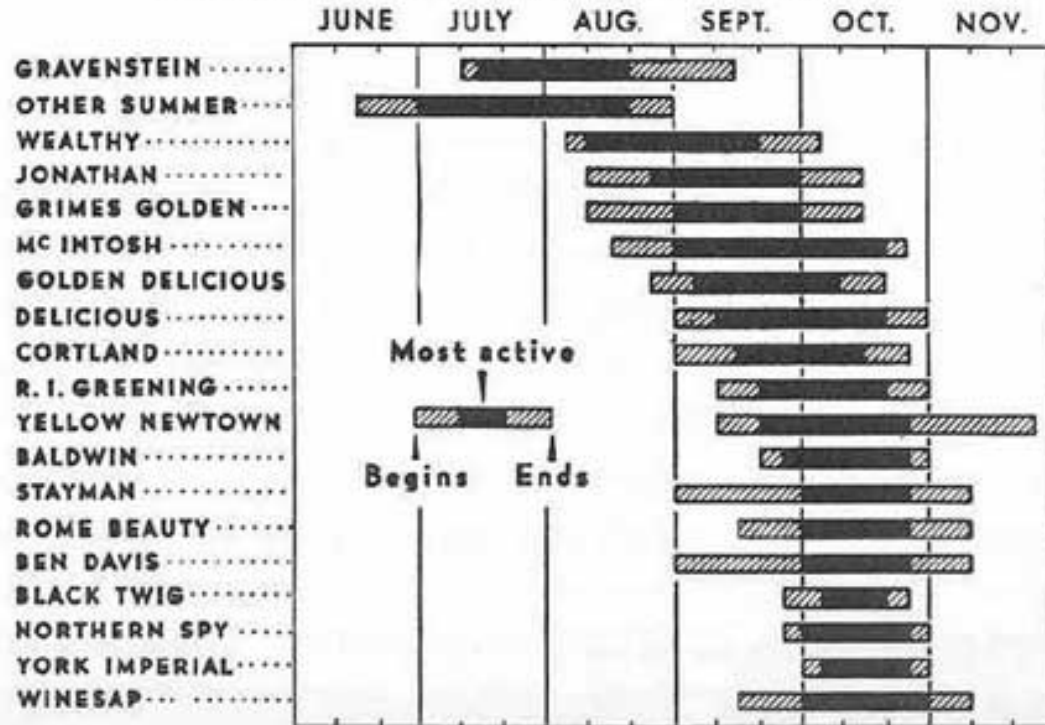
Harvest



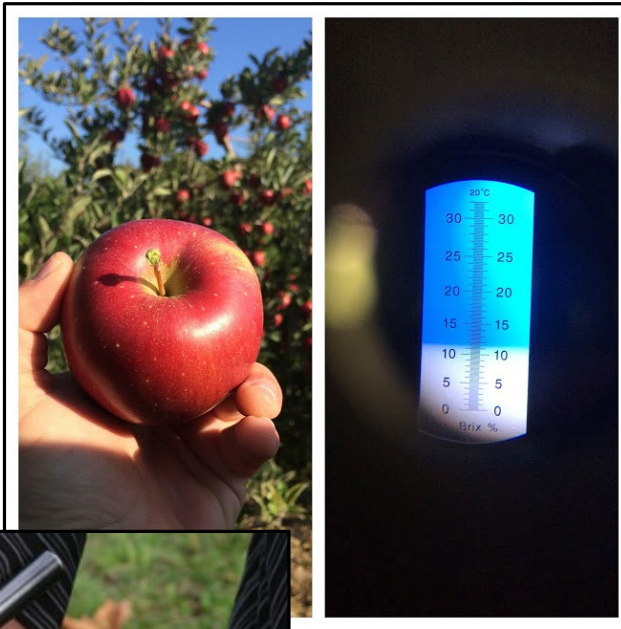
Harvest

APPLES: HARVEST PERIOD BY VARIETIES

On Basis of Usual or Average of Recent Years



Harvest



Fruits				
Fruits	Poor	Average	Good	Excelelent
Apples	6	10	14	18
Avacados	4	6	8	10
Bananas	8	10	12	14
Blueberries	8	12	14	18
Cantaloupe	8	12	14	16
Casaba	8	10	12	14
Cherries	6	8	14	16
Coconut	8	10	12	14
Grapes	8	12	16	20
Honeydew	8	10	12	14
Kumquat	4	6	8	10
Lemon	4	6	8	12
Limes	4	6	10	12
Mangos	4	6	10	14
Oranges	6	10	16	20
Papayas	6	10	18	22
Peaches	6	10	14	18
Pears	6	10	12	14
Pineapple	12	14	20	22
Raisins	60	70	75	80
Raspberries	6	8	12	14
Strawberries	6	8	12	14
Tomatoes	4	6	8	12
Watermelon	8	12	14	16

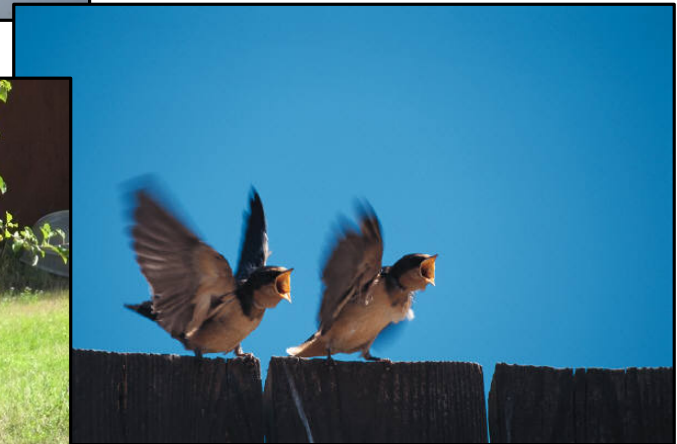
Wildlife considerations

Rabbits

Birds

Deer

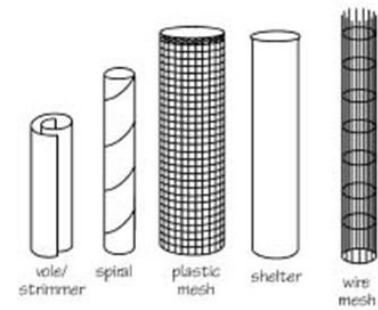
Bears



Voiles!



Tree Guards



Stressors lead to plant pests





Pruning Fruit Trees

Why Prune?

Removal of Dead, Diseased,
Damaged Branches (*3 D's*)

Removal of Suckers, Watersprouts

Improve Tree Strength and Shape

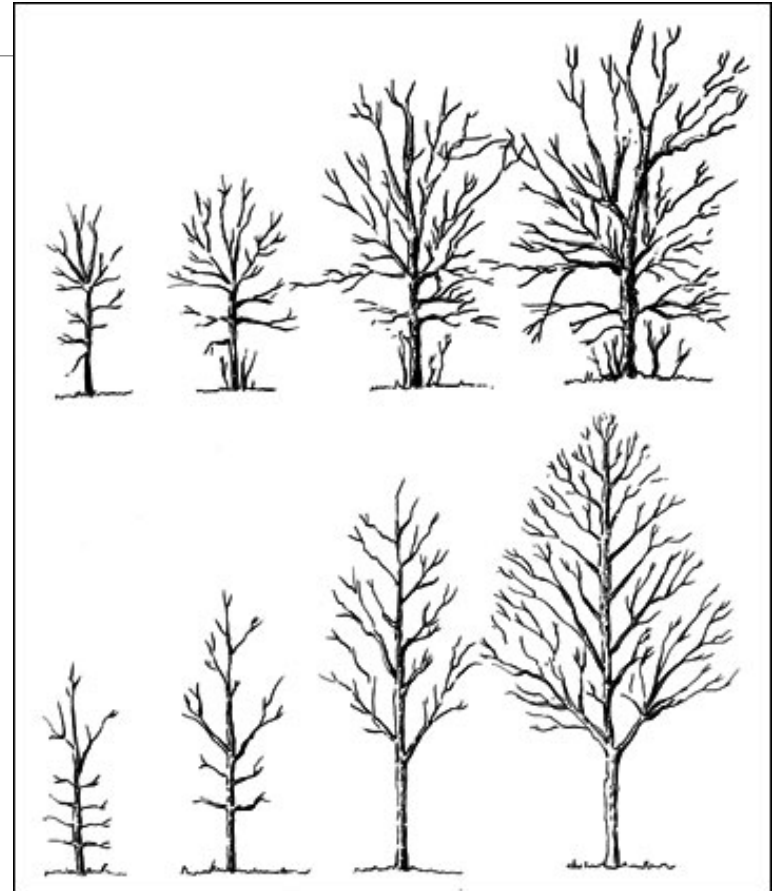
Promote Branching

Increase Air Circulation

Increase Light Availability

Increase Spraying Efficiency

Improve Fruit Quality!!!



extension.missouri.edu/p/mg8

What if I don't prune?

- Removal of large branches later
- Larger cuts are more risky
- Neglected trees suffer more damage from fruit load and storm damage



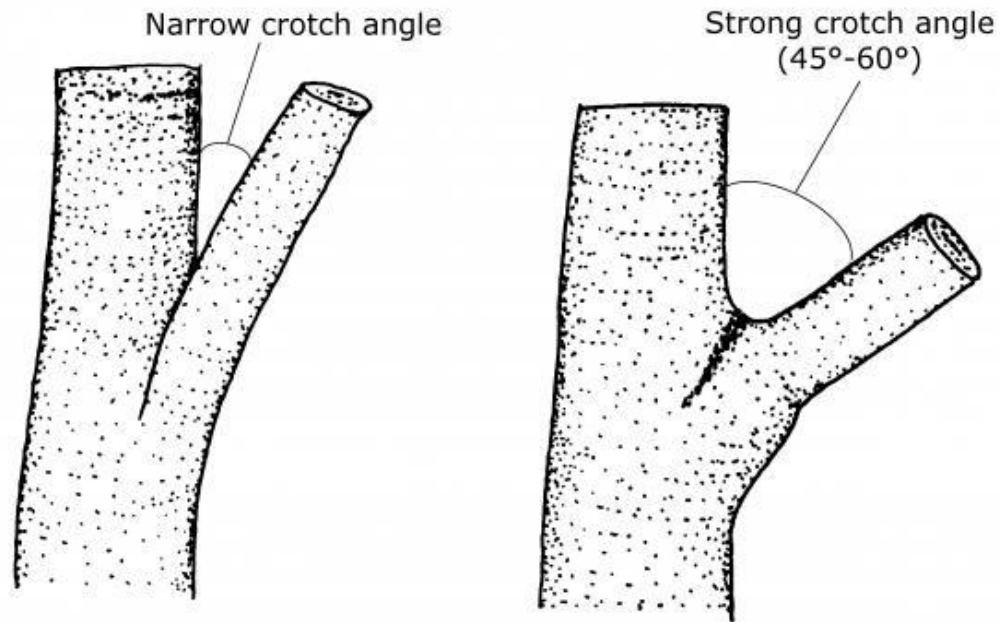
Too Much Pruning

Encourages excessive shoot growth

Increases potential for pests and disease

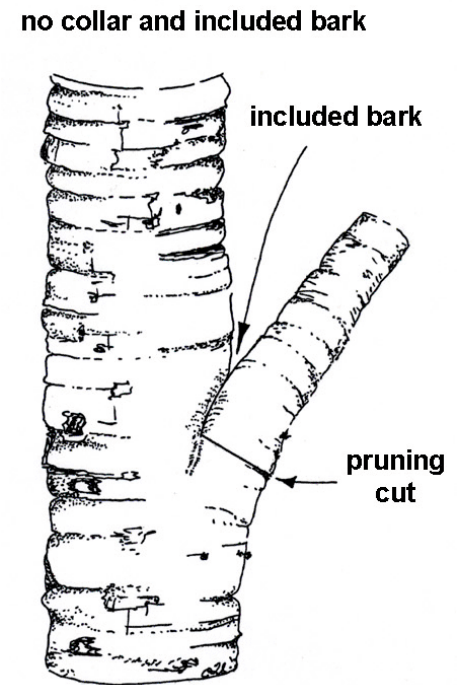
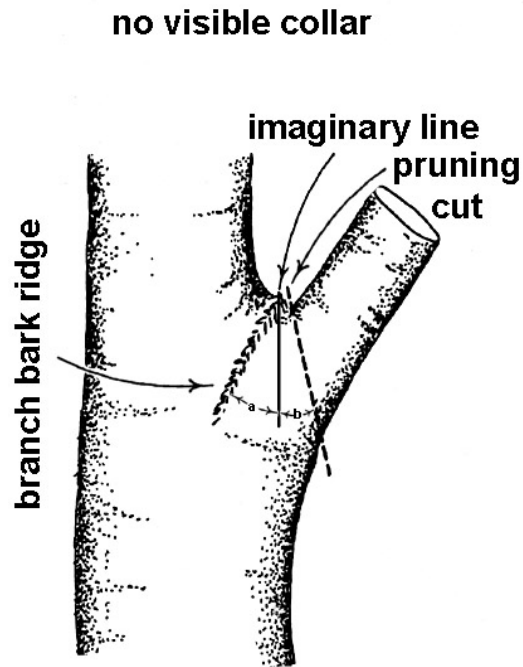
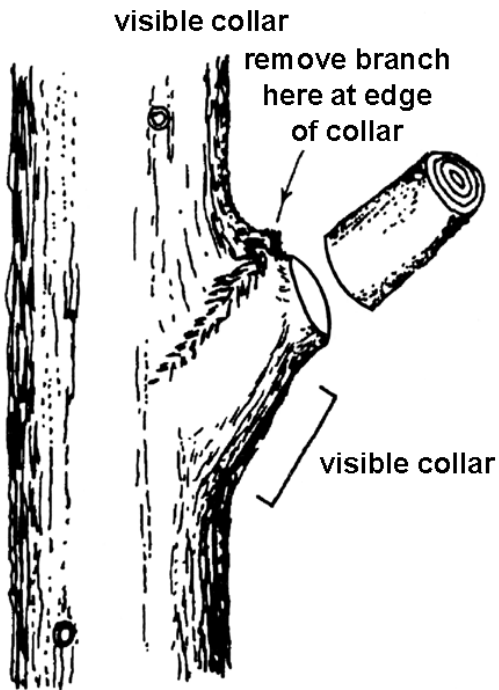


Proper Way to Make Pruning Cuts

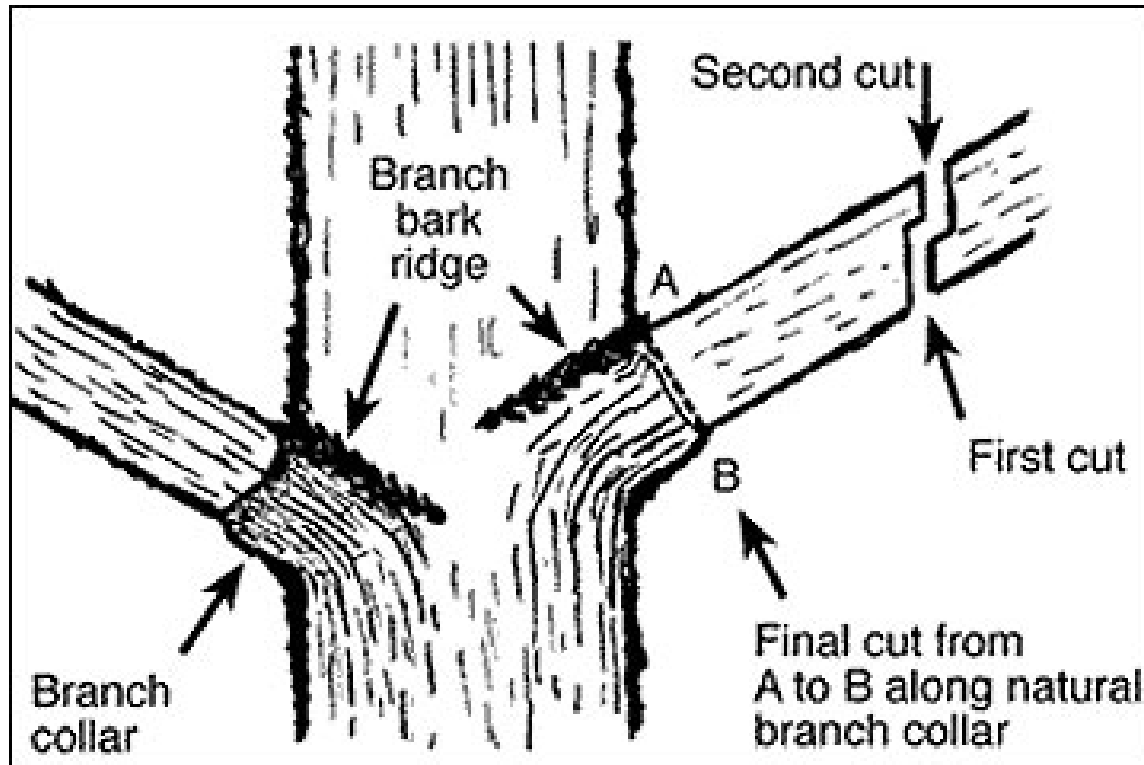


content.ces.ncsu.edu/extension-gardener-handbook/15-tree-fruit-and-nuts

Proper Way to Make Pruning Cuts



Proper Way to Make Pruning Cuts



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Proper Way to Make Pruning Cuts



Cut too close to bud



Bud withers as cut end dries back during healing



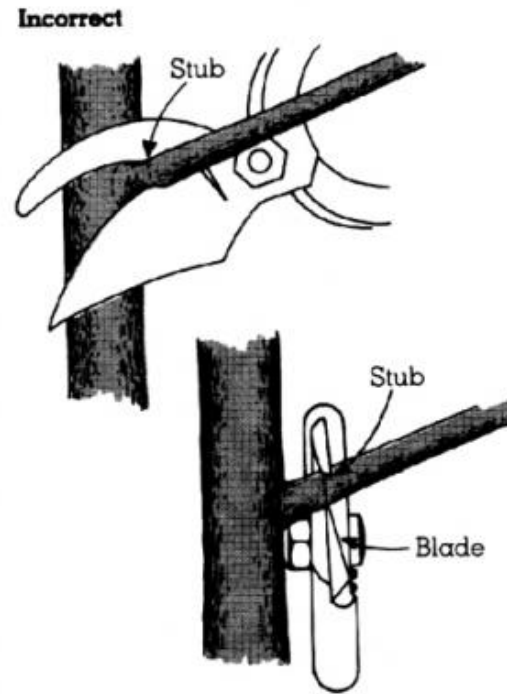
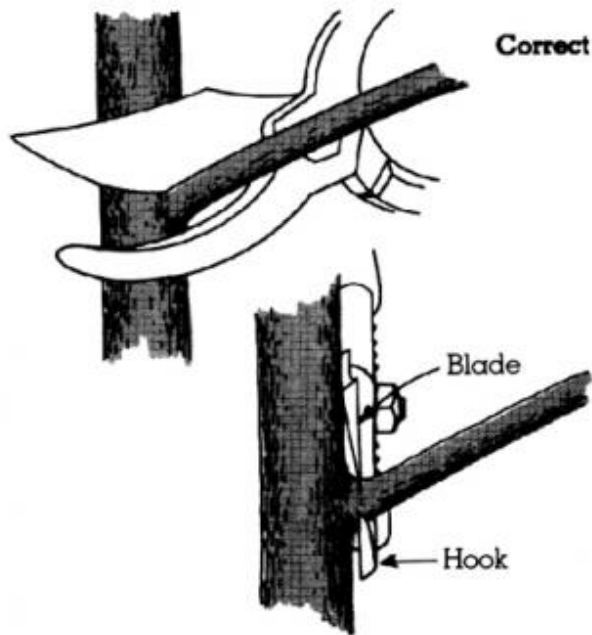
Cut proper distance from bud



Bud unaffected by drying during healing of cut

Proper Way to Make Pruning Cuts

How to position pruning shears



Types of Pruning Cuts

Heading

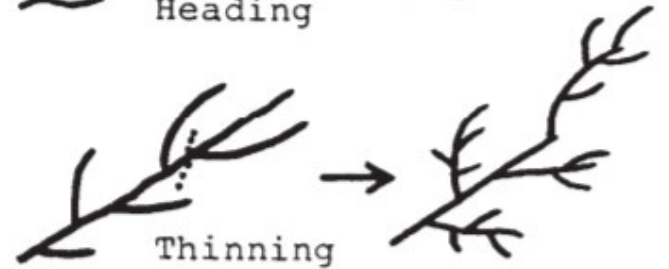
Removal of the end of a stem

Removal of auxin encourages lower buds to branch



Thinning

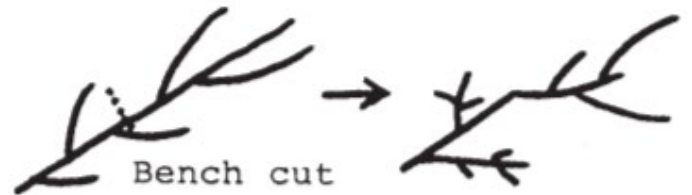
Removal of a branch back to its origin

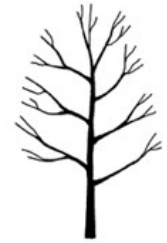


Bench Cut

Form of heading cut but just above a side branch

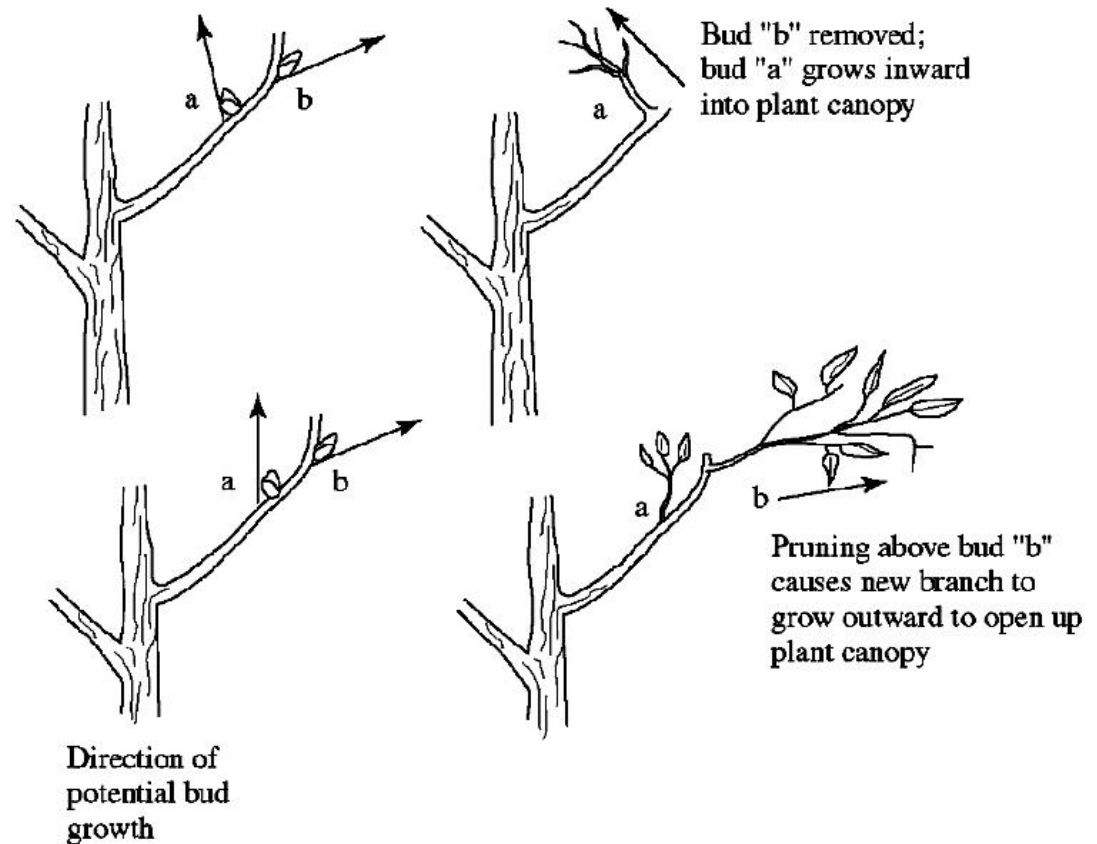
Harder cut further back



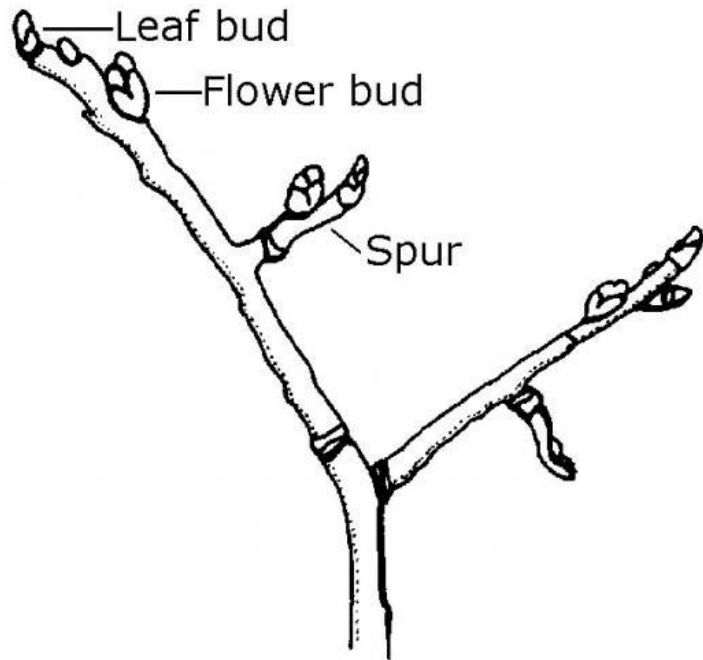


Pruning Young Trees

- Head or thin secondary branches on scaffolds to encourage growth outward
- Remove crossing branches



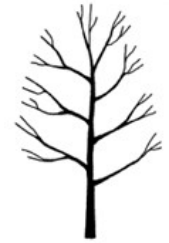
Leaf Bud vs Flower Bud



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waldeneffect.org/blog/Flower_buds_vs._leaf_buds/



Pruning Young Trees

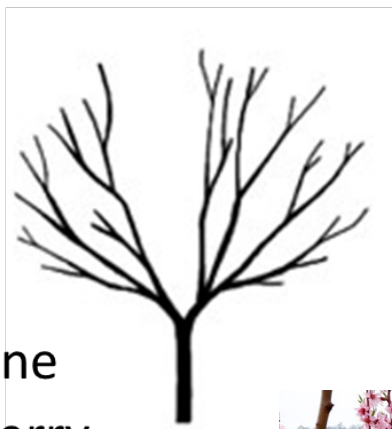
- Select 3-5 wide angled lateral branches
- Remove others
- 2-6" apart along central leader
- Evenly distributed around the tree



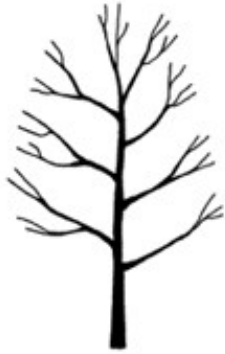
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Open Center Pruning

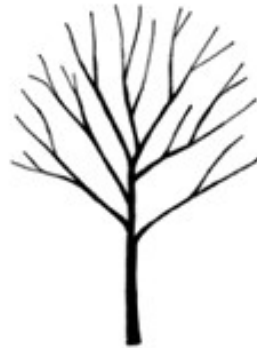
- Peach
- Nectarine
- Tart Cherry
- Japanese Plum
- Apricot



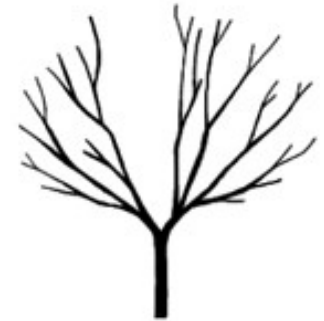
Pruning Systems



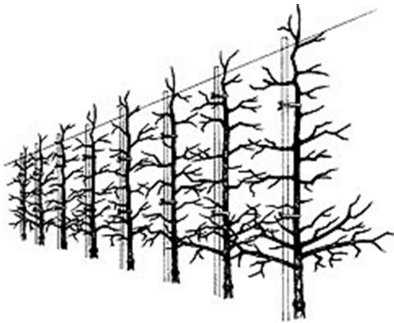
Central Leader Pruning



**Modified Leader or
Modified Central Leader
Pruning**



Open Center Pruning



High Density Systems





Before pruning



A well-shaped plant
after pruning

Renovation Pruning

Goals of Renovating Fruit Trees

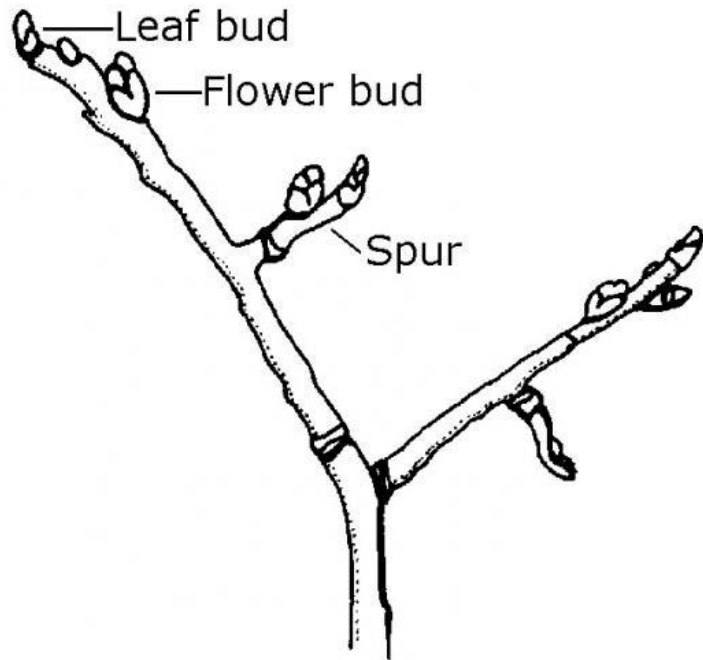
- **3 D's** – Dead, Diseased, Damaged
- **Crossing, downward, shading** branches and poor **branch angles**
- Increase **light penetration** and **air circulation**
- **Strong structural framework** capable of supporting heavy crops in future years
- **Do not remove more than 15-25%** of the tree. Older trees, remove less.
- **Correction** of earlier errors and omissions and removal for safety

Renovation Pruning



<https://ladybugarborists.com/2013/01/fruit-tree-care/>

Leaf Bud vs Flower Bud



content.ces.ncsu.edu/media/images/1-spur.jpg



waldeneffect.org/blog/Flower_buds_vs._leaf_buds/

Apples



Apples

Malus pumila or *M. x domestica*

Many uses including
fresh eating, cooking, juicing, and cider

Standard trees down to dwarf

Usually need a pollinator



Apple Cultivars -*How to choose*

Cold Hardiness – look for trees that survive in zones 3 or 4 (even though we are considered 5a or 5b)

Maturity Date – look for those that are mature and ready to harvest before the first week of October, some okay with frost

Some examples: *Golden/Yellow Delicious, Red Delicious, MacIntosh, Gala, Granny Smith, Honeycrisp, Cortland, Fireside, Haralson, Jonathan, Cox Orange, Fameuse, Northwest Greening, Joyce, Wealthy and Lodi*

<https://www.starkbros.com/products/fruit-trees/apple-trees/honeycrisp-apple>

Rootstocks

Controls size of tree

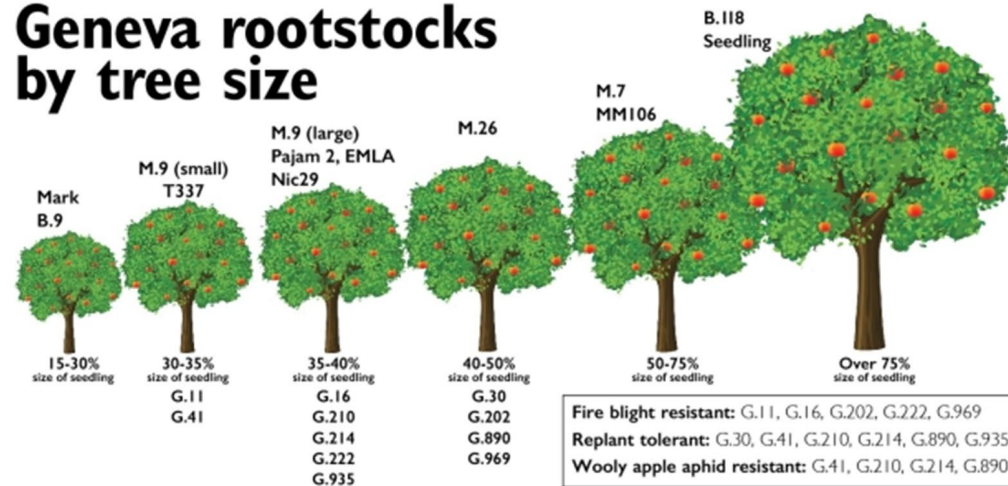
Disease resistance

Age of fruit production onset

(standards take longer)

Tolerance to environmental conditions

Geneva rootstocks by tree size



Rootstocks for Apples*

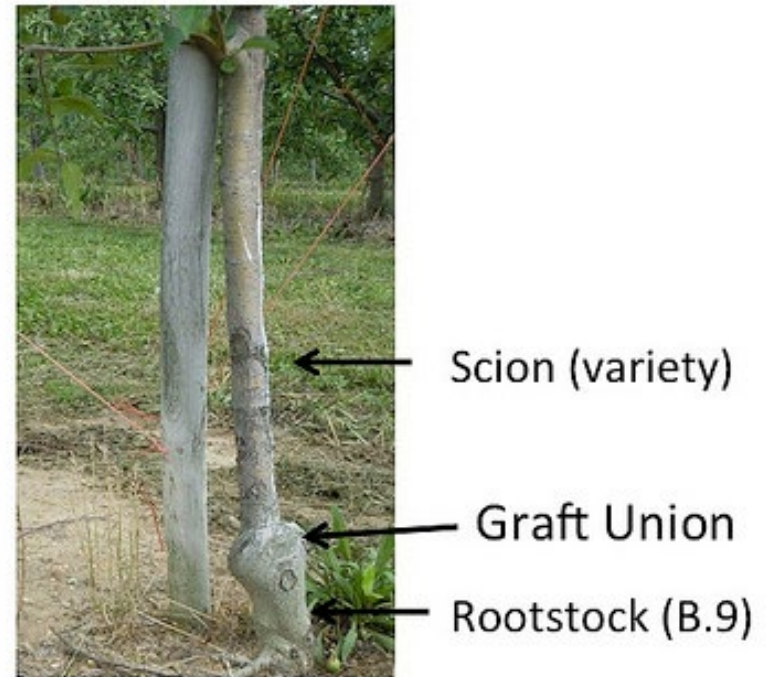
Over 30 rootstocks are available on the market for apple trees

Semi-dwarf

- B.490
- M7a (Good choice but suckers)
- G.30 (needs support)

Dwarf

- G.16 (Geneva 16. Resistant to fireblight and Phytophthora!)
- G.41 (needs support)
- B9 (needs support; not for lawns)



*From: **Rootstocks for Tree Fruit in Heavy Calcareous Soils**
C.E.Swift and R Pokharel, December 29, 2010

Cultivar	Propagatibility:			Resistance to:			
	Liner	Tree	Cold Hardy:	Replant Disease	Fire Blight	Crown/ Root Rots	Wooly Apple Aphid
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M.106 EMLA	Very good	Very good	Moderate	Low	Low	None	None
B.118	Very good	Very good	High	Low	Moderate	Moderate	None

Abiotic Disorders

- Low or high temperature injury
- Sunscald
- Temperature fluctuations
- Drought
- Hail
- Wind
- Herbicide damage
- Nutrient deficiencies
- Pollutants
- Toxicities

Biotic Disorders

Fireblight: (Bacterial)

- Common in the Front Range
- Choose resistant cultivars
- Prune at proper time & properly (sterilize pruners)
- Utilize antibiotics, clean up all debris and avoid composting material (saprophytic)
- *Review Fact Sheet 2.907*

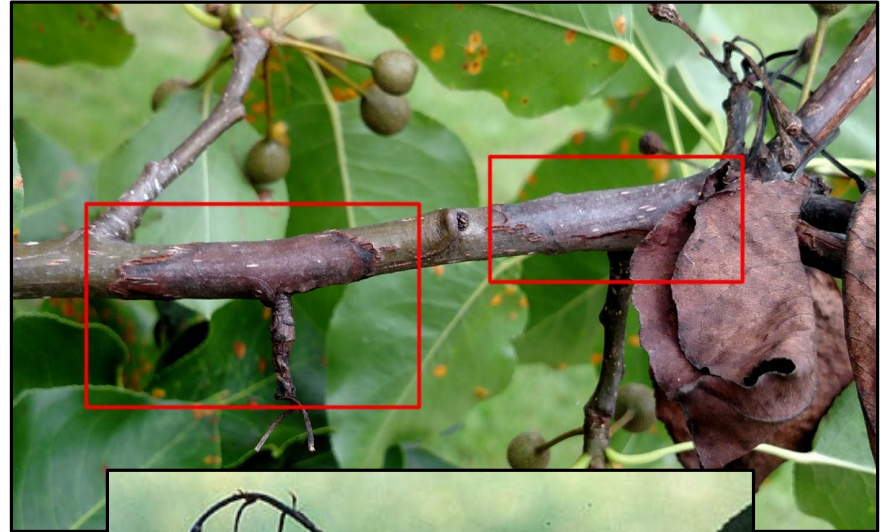
Biotic Disorders

Fireblight: (Bacterial)

*Moisture present,
temps of 60-65° F,
blossoms present in
some cases*



Fireblight



Biotic Disorders

Powdery Mildew: (Fungal)

White substance on surface of leaf – will progress and decrease photosynthesis and ultimately affect the yield

Avoid overhead irrigation or splashing

Utilize resistant cultivars

Clean up debris

Fact Sheet 2.902



Biotic Disorders

Apple Scab: (Fungal)

Occurs in wet cool springs and early summers

Fungi is water transported with overhead irrigation and splashing

Use proper cultural techniques



Biotic Disorders

Cedar-Apple Rust or Juniper-Hawthorn Rust: (Fungal)

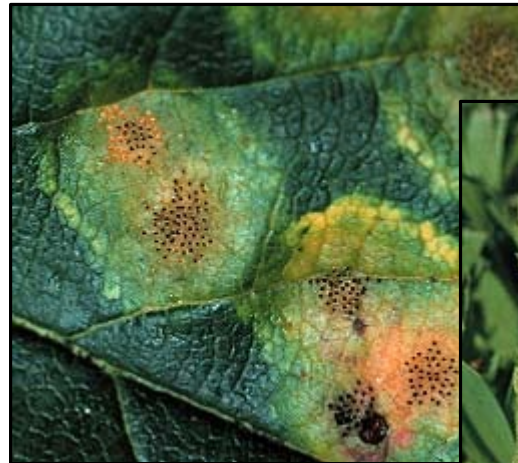


Cedar – Apple Rust or Juniper – Hawthorn Rust

Remove all junipers within $\frac{1}{4}$ mile radius – *is this practical?*

Clean up leaf litter and check for galls in the junipers – prune out

Fact Sheet # 2.904



<https://extension.psu.edu/cedar-apple-and-related-rusts-on-ornamentals>

Biotic Disorders

Coddling Moth

Number 1 pest for backyard growers

Proper thinning and pruning

Pheromone trapping – large orchards

Bagging fruit - exclusion

Utilize control measures as necessary – never apply pesticides during bloom



Biotic Disorders

Spider mites

Fact sheet 5.507

Happens with hot/dry conditions and drought stress

Increase humidity & winter water



Biotic Disorders

Aphids

Fact Sheet 5.511

Woolly apple aphid more difficult to control due to waxy honeydew



Apples – Harvest and Storage

Light frosts usually won't cause damage to fruit

A hard frost or freeze (around 24° F) can cause significant fruit drop

Cold increases ethylene production



Unripe  Ripe

Apples – Harvest and Storage

Light frosts usually won't cause damage to fruit

A hard frost or freeze (around 24° F) can cause significant fruit drop

Cold increases ethylene production

Storage life of several apple cultivars at 30-32°F. and 90-95 percent relative humidity

Cultivar	Storage life
Lodi	1-2 weeks
Wealthy	3-10 weeks
Cortland	3-4 months
McIntosh	3-4 months
Golden Delicious	3-5 months
Jonathan	3-5 months
Red Delicious	3-5 months
Chieftain	3-6 months



Pears



Pears

Pyrus communis – European Pear

P. serotina or *P. pyrifolia* – Asian Pear



- Usually bloom prior to apples
- Most need a second variety to have a higher yielding crop
- Many species of pears – many long-lived in the environment

Pear cultivars

Bartlett

Kieffer*

Bosc

LeConte*

d'Anjou

Garber

Lucious*

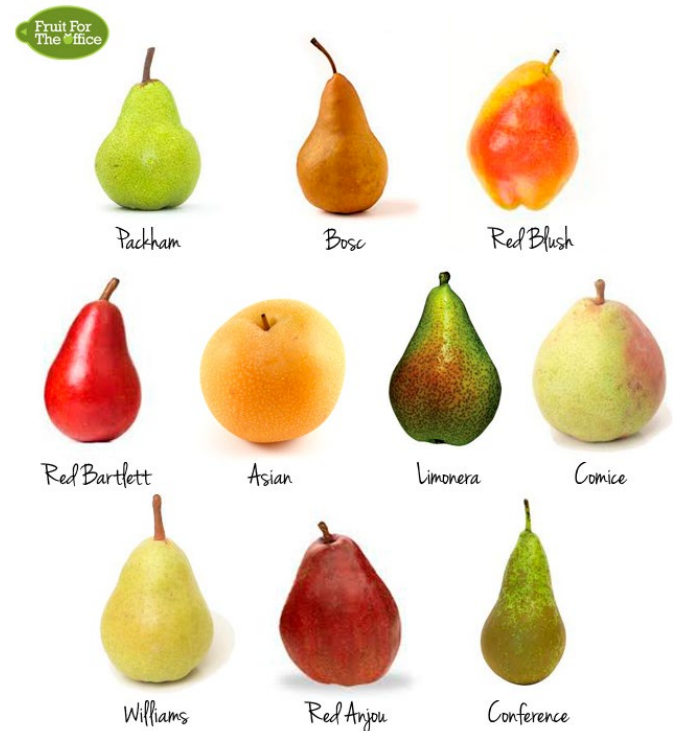
Tawara Oriental

Parker

Summercrisp*

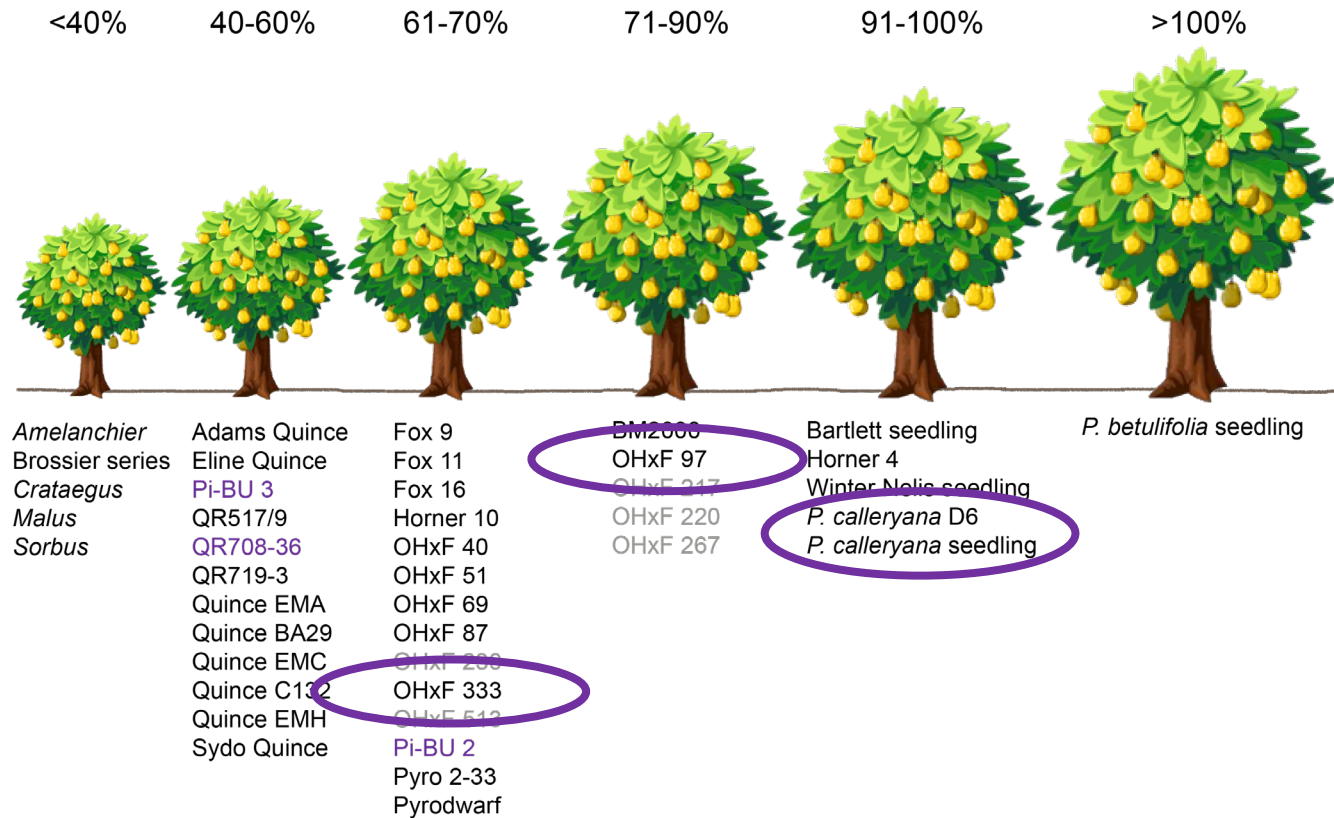
Golden Spice*

Ure



Rootstocks for Pears*

OHxF 333
OHxF 97
Calleryana



*From: Rootstocks for Tree Fruit in Heavy Calcareous Soils
C.E.Swift and R Pokharel, December 29, 2010

Biotic Disorders

Fireblight: (Bacterial)

Powdery Mildew

Coddling Moth

Spider Mites



Biotic Disorders

Pear psylla – serious pest on Western Slope



Other pear disorders

Crown Gall & Rots

Pseudomonas blight

Sunscald

Eriophyid Mites

Scale

Leafhoppers

Fact Sheet 2.800


#5.519 (Apple and Pear Insects – discontinued)

Colorado State University
Extension

Backyard Orchard:
Apples and Pears

Fact Sheet No. 2.800 Gardening Series | Fruits and Vegetables

by R. Hammon and D. Davidson*



Apples and pears in Colorado usually require sprays to produce insect damage free fruit. While the dry climate usually limits disease, pathogens can impact tree growth when weather conditions are right for infections. The key to successful insect and disease management in apples and pears is to apply management in a preventative manner. This requires knowing what insect pests are present in a particular site and being able to predict when conditions favor disease development. Past experience in a particular location is probably the best predictor of pest problems.

below once the trees have a full canopy. Most pesticides require complete coverage of the foliage and/or fruit. Proper pruning and fruit thinning is required to achieve good spray coverage.

Table 1. Amount of final spray material to mix for different tree sizes.

Tree Diameter x Height	Amount of Prepared Spray
20 x 20	4 gallons
15 x 15	3 gallons
10 x 10	2 gallons
5 x 5	1 gallon

Insect Control

Actual timing and number of sprays needed will vary with location and year.

Table 2. Timing of apple and pear sprays based on tree growth stage.

Tree Growth Stage	Pest/Disease	Control
Dormant	Aphids, mites, pear psyllid	Oil
Pre-bloom	Powdery mildew	Fungicide
Bloom	Fire blight	Bactericide if wet weather

Using Pesticides

Pesticides in this publication are referred to by active ingredient since trade names vary and labels change on a regular basis. Active ingredients are always listed prominently in tiny print on product labels. Always read and follow label directions when purchasing or using any pesticide.

An appropriate sprayer is required to get good spray coverage on fruit trees. This can be as simple as a small one gallon hand pump

Quick Facts

- The number of sprays and spray timing required to produce good fruit will vary with location and year.
- Codling moth is a significant pest of apples and pears in many locations in Colorado.
- The arid climate usually limits fungal diseases in Colorado pome fruits, but extended wetting periods during critical times can lead to problems with powdery mildew, scab or fire blight.
- Several spray products are available on the home-use market, but there are many products that are available only in commercial quantities.

Peaches, Nectarines and Apricots



Peaches and Apricots – why not

Relative hardiness

Chilling requirement

- Must be planted in sheltered locations that have gradual temperature drops into the winter months, plus stable (no major fluctuations) winter temperatures, and gradual spring warm-ups

Bloom Time

Intolerant of heavy soils and high pH

Chlorosis

Gumosis and Cystospora canker

Borer insects



Fruit types

Cling peaches hold tight to the pit

Freestone does not

Semi-cling can't make up its mind



Peaches and Apricots

What the heck, let's try them!

Peaches –

Elberta

Haven

Polly

Reliance

Hale Haven

Ranger

J.H. Hale*

Earlihale*

Hal-Berta*

Candoka*

Mikado*

Peaches and Apricots

What the heck, let's try them!

Apricots

Chinese

Moorpark

Goldrich

Tilton

Harglow

Avoid the popular 'Royal Blenheim'

Nectarines

Hardired

Mericrest

https://digitalcommons.usu.edu/cgi/viewcontent.cgi?referer=https://www.google.com/&httpsredir=1&article=1780&context=extension_curall

Biotic Disorders

Cytospora Canker

Fact Sheet 2.937



Biotic Disorders

Peach Twig Borer



Peach Tree Borer



Cherries



Historical
significance of
cherries on the
CO Front Range

*Larimer County
(Loveland area)
was #2 in USA in
tart cherry
production prior to
1951*



Cherries

Prunus cerasus –
Tart cherry

Self-fruitful

Use healthy one-year old whip, approx. 4 to 6 ft. tall, ½” caliper with good root system



Cultural care of cherries

Tart cherries self-fruitful, sweets need pollinator

Frost damage (may need protection)

Winter kill of sweet cherries

Avoid compaction and use mulch around cherries

Watch for nitrogen deficiency

Cherries continued

Sweet cherries have similar hardiness problems as peaches (sweet cherry only slightly more hardy than peaches)

Tart cherry blooms after peach but before apples



Swollen Bud
(First Swell)



Bud Burst
(Green Tip)



Tight Cluster



White Bud (First
White, Popcorn)



First Bloom



Full Bloom



Post-bloom

Cherry cultivars (tart)

Tart:

Montmorency

Meteor

Early Richmond

Surefire

Balaton

Sweet:

Black Tartarian

Kansas Sweet

Stella

Van



Insects: Western Cherry Fruit Fly

Rhagoletis indifferens

Eggs laid under the skin of developing fruit

Larvae develop in the flesh of fruit

See *Intermountain West Tree Fruit Production Guide* for spray recommendations: <http://intermountainfruit.org/>



Photos: utahpests.usu.edu

Insects: Black Cherry Aphid

Myzus cerasi (F.)

Overwinter as eggs on twigs and fruit spurs

Hatch just before bloom

Cause curled leaves / honeydew



Eugene E. Nelson

www.ipmimages.org/browse/detail.cfm?imgnum=5360750

Spotted Wing Drosophila



Spotted Wing Drosophila

It's bad in terms softer-skinned fruits

Relatively new pest to Colorado (confirmed in Larimer County in 2012)

A fruit fly that attacks maturing fruit (not spent fruit)

Attacks fruit crops including raspberry, black raspberry, strawberry, blueberry, **peach, cherry** and grapes



Diseases: Phytophthora Crown and Root Rot

- Water molds
- Affect all spp. of pome and stone fruits
- Several spp. of Phytophthora attack stone fruits



Photos: utahpests.usu.edu

Diseases: Leucostoma (Cytospora) Canker

“Gummosis”

Fungal infection

Trees can succumb quickly

Wound parasite

Discolored yellow or amber gum

No effective chemical treatment



Photo N. Wingard:
<http://www.coopext.colostate.edu/TR/PLANTS/gummosis.shtml>

Diseases: Cherry Powdery Mildew

Podosphaera clandestina

Overwinters in bark crevices and ground litter

Control with cultural methods, biofungicides, fungicides, oils



Photo: utahpests.usu.edu



<http://www3.hcs.ohio-state.edu/wiki/index.php/Infection>

Cherry Curculio

Anthonomus consors Dietz

Weevil

Damage to blossoms and fruit

Adult and larva cause damage

CSU Fact Sheet:

<http://bspm.agsci.colostate.edu/files/2013/03/Cherry-Curculio.pdf>



Harvesting

- Plant different varieties to extend harvest
- Fresh market
- Machine
- Very perishable



http://www.cherrycountryconnection.com/cherrycountryconnection_027.htm



<http://www.choicesmagazine.org/choices-magazine/theme-articles/immigration-and-agriculture/the-status-of-labor-saving-mechanization-in-us-fruit-and-vegetable-harvesting>

Plums



Plums

Prunus domestica –
European Plum



P. salicina – Oriental
or **Japanese Plum**



P. americana – Native
or **American plum**



European / Oriental Cultivars

Acceptable:

Imperatrice (E)

Green Gage (O)

Yellow Egg (E)

Lombard (E)

Stanley (E)

Sapalta (E)

Blue Damson (E)

Waneta (O)

Avoid:

Burbank

Ozark

Premier

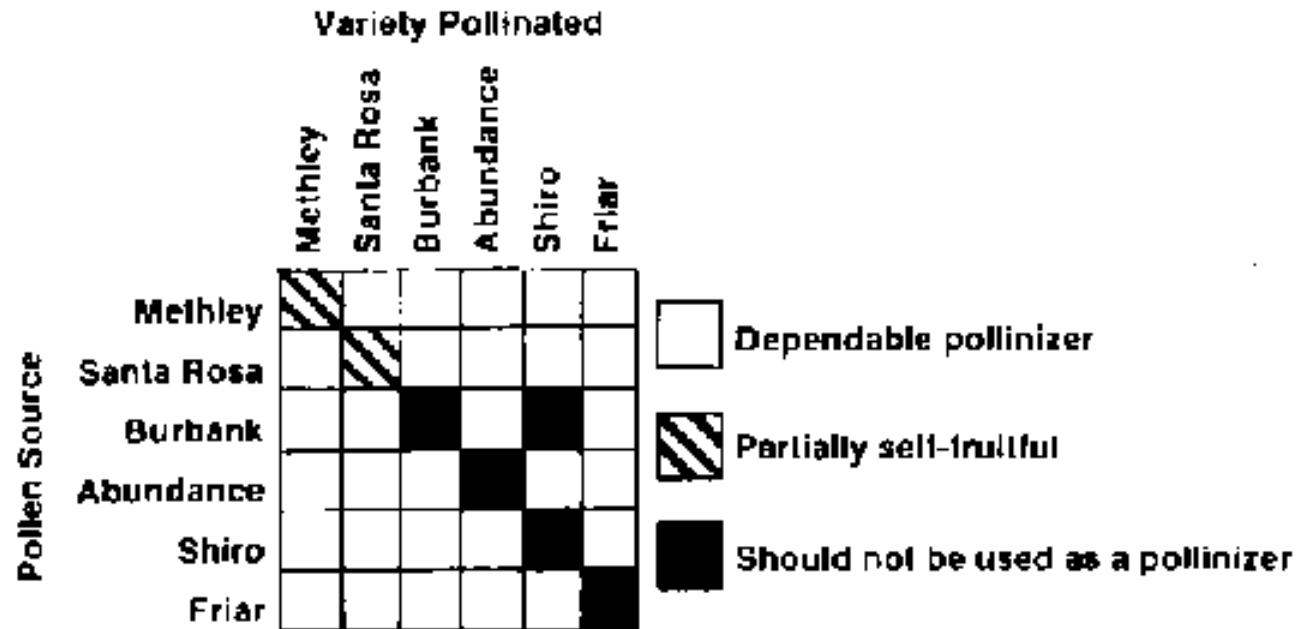
Explorer

Cultural care of plums

- **Well drained** soil (high point on property)
- **Full sun** (avoid planting too close to south or west side of wall/building)
- Place in **sheltered area** within the landscape
- **Cross pollination necessary** in most cases
- **Fruits on spurs** and previous years' growth



Plum pollinators



Biotic disorders of plums

Scale

Spider mites

Peach tree borer

Black knot

Crown rot

Cytospora

Brown rot

Virus



Black knot of *Prunus* spp.