Fruit Tree
Care & Maintenance

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Today's Class

Topics

1. Introductory fruit tree botany & horticulture
2. Special considerations for growing home fruit trees in a commercial fruit area

Goals

1. Increase your knowledge about fruit trees
2. Increase your ability to answer plant clinic questions
3. Increase your ability to maintain your own fruit trees

Home Fruit Growing in Commercial Fruit Areas

Unmanaged trees often serve as sources of pest infestation to nearby commercial orchards, resulting in significant damage to fruit & negative economic consequences for commercial growers.

~~Three~~ *Four* pests of major significance:

- Codling moth
- Apple maggot
- Western cherry fruit fly
- *Spotted wing Drosophila*

All are direct pests of fruit and their damage results in fruit with no economic value.

Impact of Uncontrolled Pests

- ✓ Growers experience direct loss from unmarketable fruit.
- ✓ Low percentage of undetected worms causes problems in both fresh and process markets.
- ✓ If infestation is high enough, entire load may be rejected by packing house.
- ✓ Restrictions at export destinations result in rejected loads or closed markets.

Pests of Greatest Concern

Apple maggot

Cherry fruit fly

Codling moth

#4 - Spotted Wing *Drosophyla* – *D. suzukii*

What is it?

Drosophila species are small flies, often called vinegar flies.
Many feed on rotting fruit - this species develops in *ripening* fruit.

What we know (maybe):

Distribution in Mid-Columbia – detected here in September 2009
Adaptation to local climate – probably well adapted to our summers; may not survive winters(?)
Phenology - multiple generations per season
Possible hosts – many, including cherry, ~~apple~~, blueberry, peach, strawberry, raspberry, blackberry, ~~grape, Asian pear, tomato~~
Chemical control programs – options limited

What we don't know:

How it got here
Efficient monitoring program
Natural enemies/Biological control

Effectively managing pests on home fruit trees is very challenging!

Coverage - large trees are difficult to spray with readily available equipment.

Spray timing – critical to start at right time.

Spray frequency – many applications are required each year.

Home use pesticides – selection of effective materials is limited.

Pesticide exposure – untrained users lack knowledge for personal protection.

Refusal - some people don’t want to spray.

How You Can Help

Choose plants that do not harbor economically important pests (avoid *Malus, Pyrus, Crataegus*, and *Prunus*).

Replace fruit trees that are maintained primarily for shade or aesthetic value.

If you do choose to maintain fruit trees around your home, control the insects and diseases on them that can spread to nearby orchards.

Explain to others in the community that home fruit trees require intensive pest management and are a poor choice as landscape plants.

Controlling Pests on Home Fruit Trees - options

1) Remove all fruit before it becomes infested.

2) Apply pesticides containing active ingredients that will provide satisfactory level of control.

Important factors affecting success of insecticidal control:

- active ingredient
- spray coverage
- start date/end date
- spray frequency

https://extension.oregonstate.edu/gardening/berries-fruit/hood-river-area-home-fruit-tree-pest-management

3) Bag apples & pears at ½ inch to 1 inch diameter stage - see UCIPM website for details:
http://www.ipm.ucdavis.edu/PMG/PESTNOTES/pn7412.html

Botany – Fruit species

- Almond = *Prunus dulcis (syn. P. amygdalus)*
- Apples = *Malus domestica (syn. M. pumila)*
- Apricot = *Prunus armeniaca*
- Sweet cherry = *Prunus avium*
- Tart cherry = *Prunus cerasus*
- Peach / Nectarine = *Prunus persica*
- European pear = *Pyrus communis*
- Asian pear = *Pyrus pyrifolia, P. ussuriensis*
- European plum = *Prunus domestica*
- Asian plum = *Prunus salicina*
- Quince = *Cydonia oblonga*

All are *Rosaceae* = the rose family

Botany – Fruit species

Pome fruits

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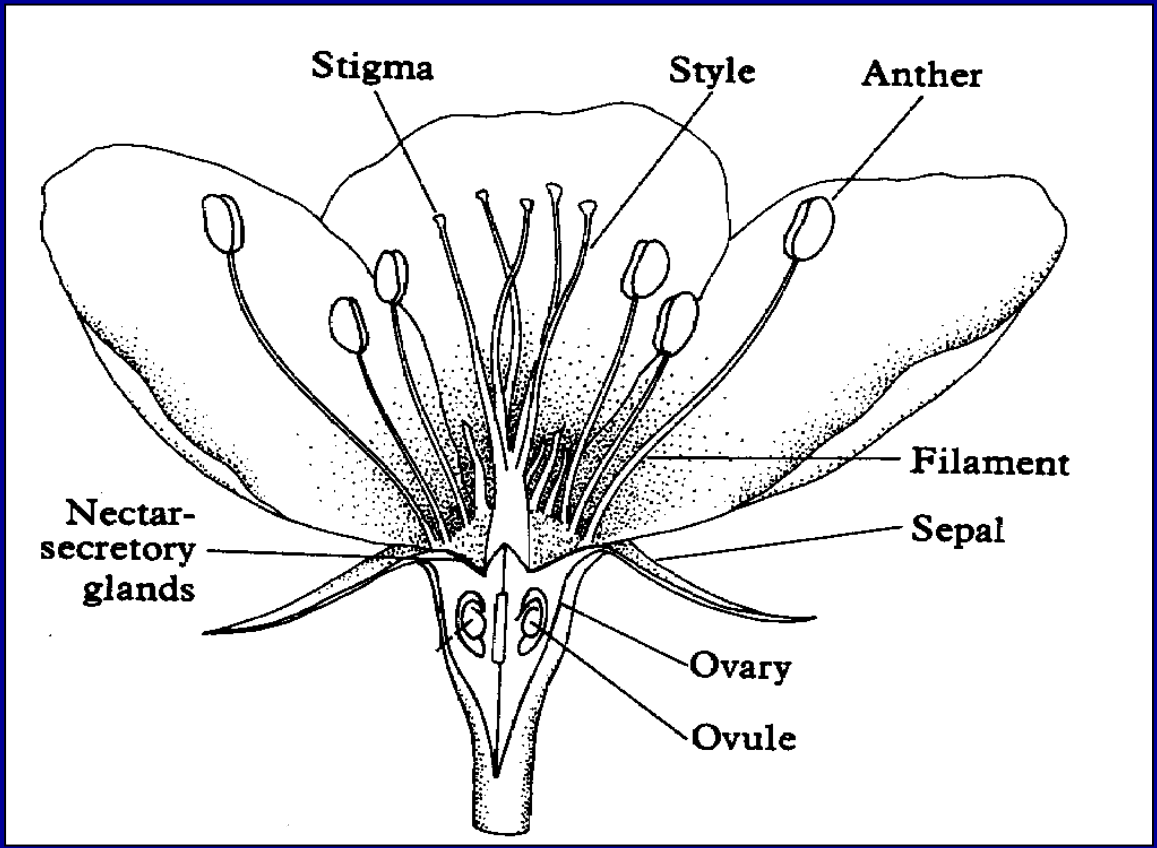
Pome Fruits

<u>Pome</u> = multi-seeded fruit formed from fusion of the ovaries, calyx cup, and floral tube

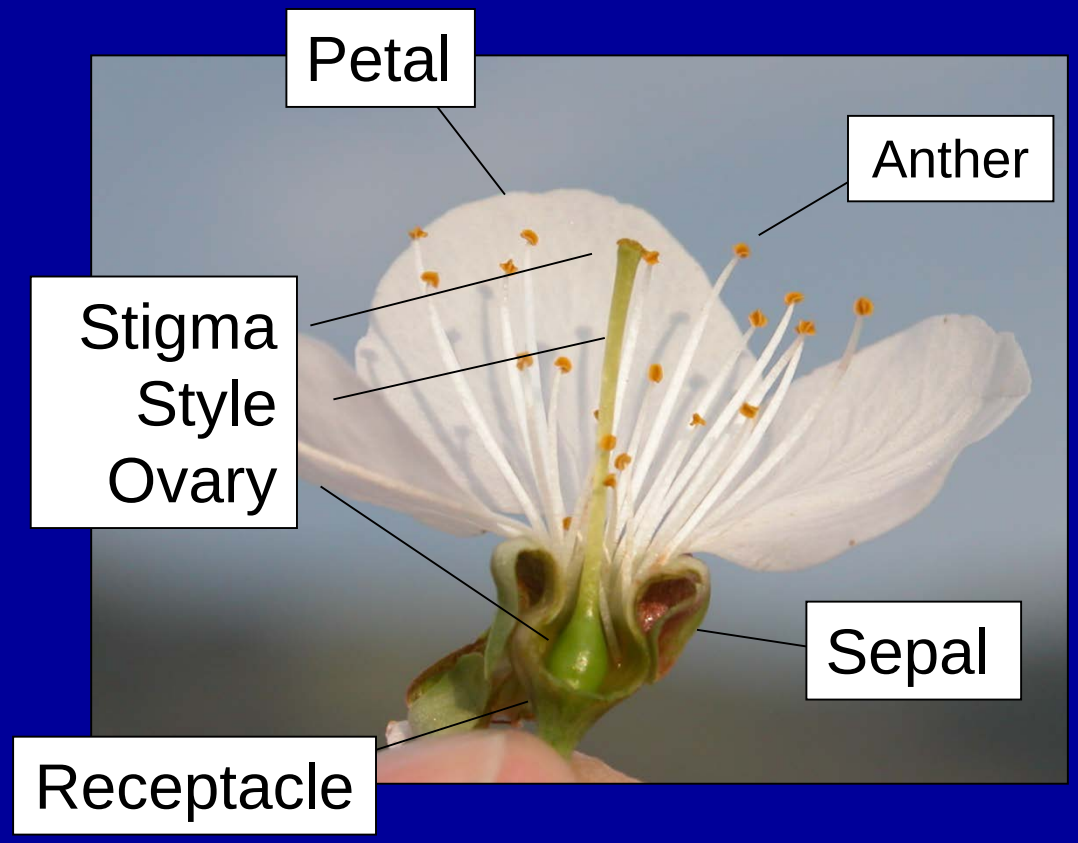
- Apple
- Crab apple
- European pear
- Asian pear
- Quince



Stone Fruits

<u>Drupe</u> = one-seeded fruit formed entirely from an ovary

- Almond
- Apricot
- Sweet cherry
- Peach
- European plum
- Asian plum
- Tart cherry



What about?

Nuts

- *Walnut*
- *Hazelnut*
- *Chestnut*

Bush & Vine Fruits

- *Strawberry*
- *Blueberry*
- *Raspberry*
- *Blackberry*
- *Grape*
- *Kiwifruit*

Other Tree Fruits

- *Fig*
- *Persimmon*

- *Citrus*
- *Pomegranate*
- *Olive*

Propagation = Reproduction or Multiplication

Most tree fruit and nut cultivars are clones, propagated vegetatively by grafting (or budding).

X

= ?

- Vegetative propagation maintains the genetic identity of the offspring
- Trees are grafted because they are often difficult to root, and/or to benefit from characteristics of the rootstock variety

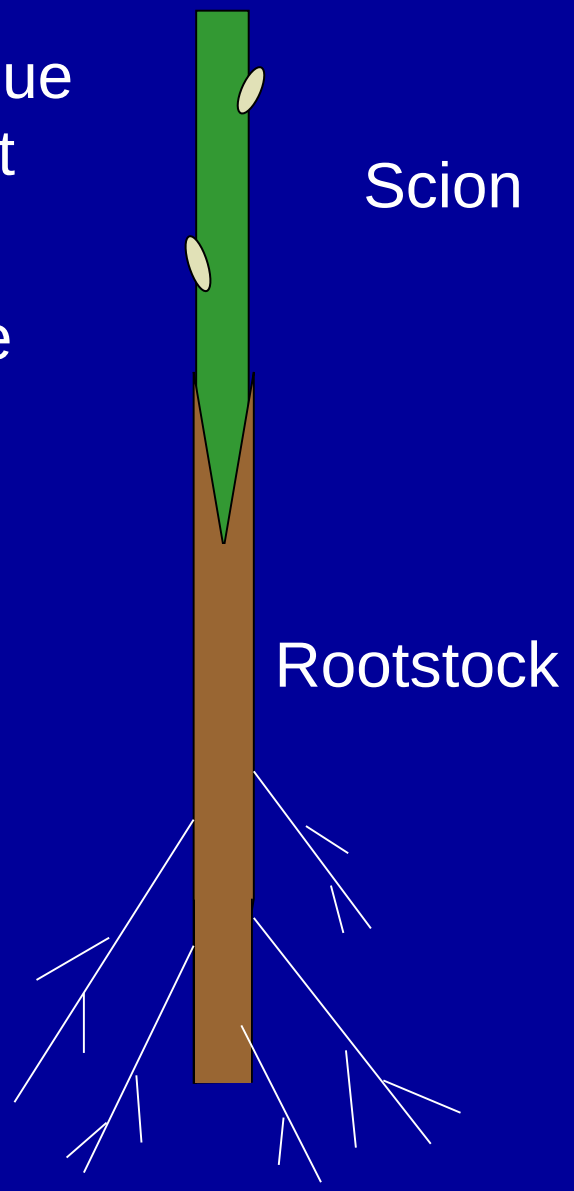
Grafting

The joining of two pieces of living plant tissue in a way that they grow as one plant

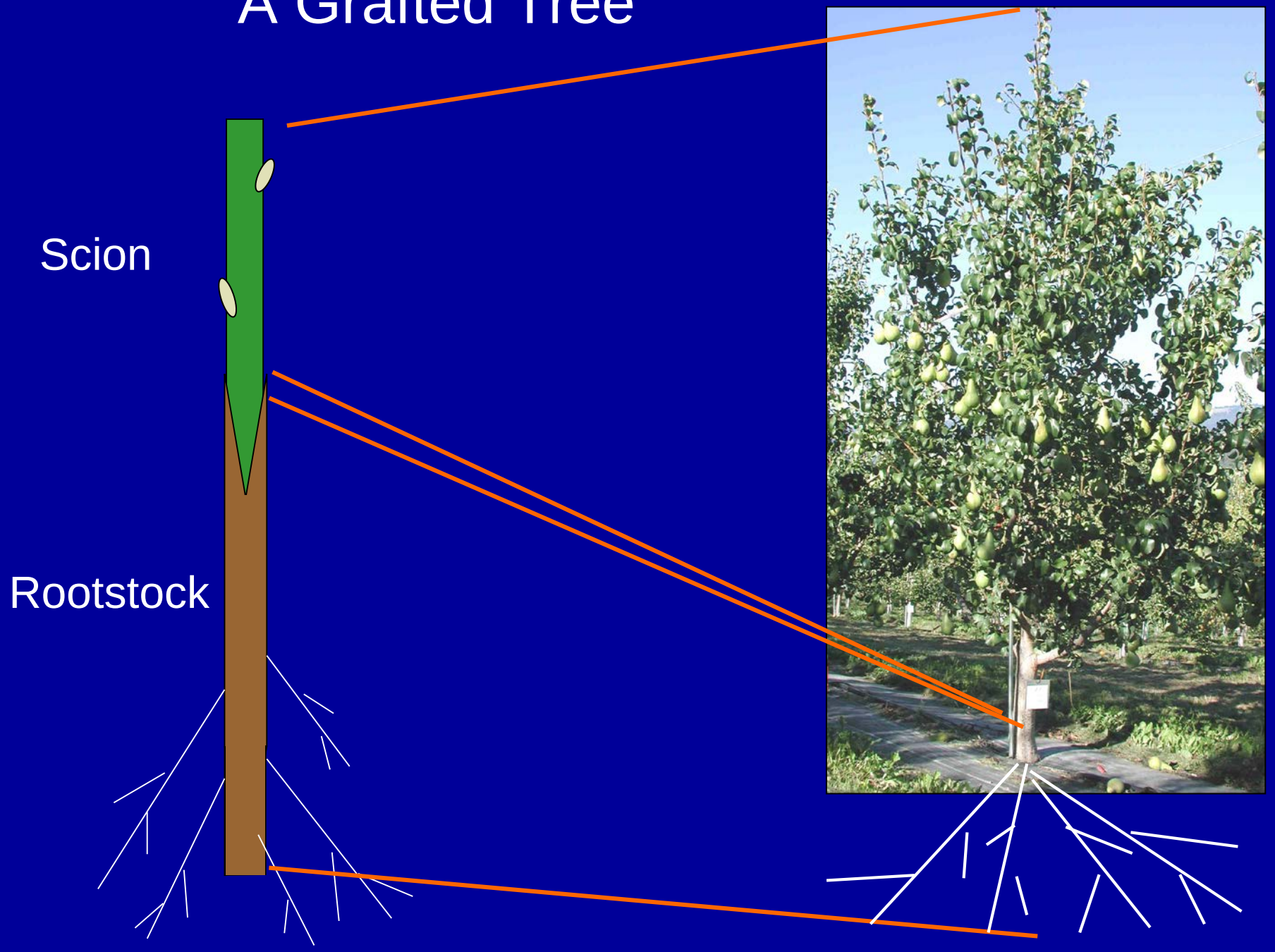
<u>Scion</u> – comprises the upper portion of the tree including the trunk, and branches; the fruiting cultivar

<u>Rootstock</u> (stock, understock) – develops to form the root system

Grafted plants are compound genetic systems.



A Grafted Tree



Propagation

Rootstocks are chosen for a variety of reasons:

- Size control (dwarfing)
- Disease & pest resistance
- Precocity
- Ease of propagation
- Graft compatibility

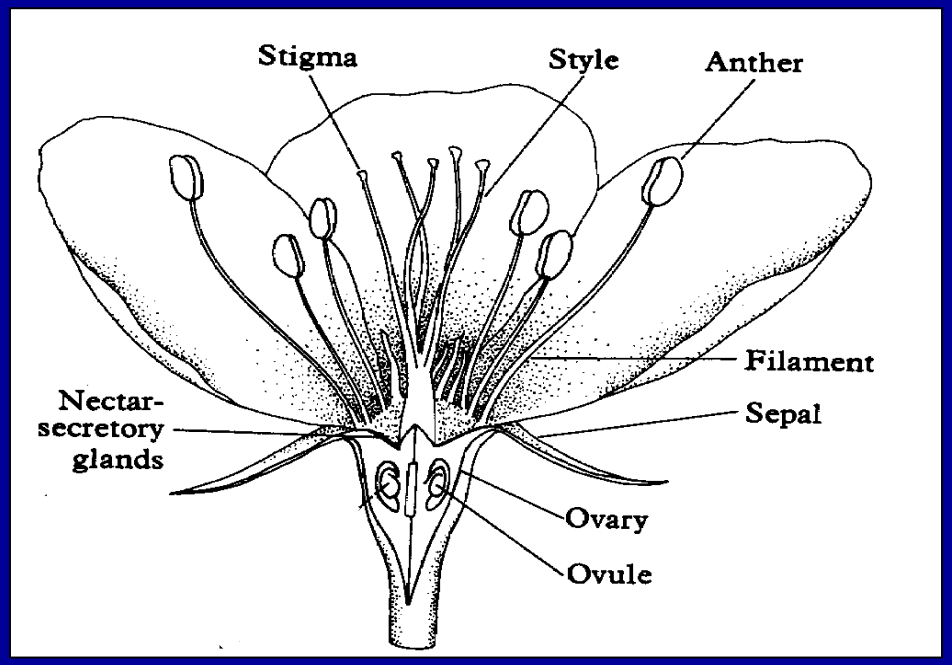
Choice of scion may be made for a variety of reasons:

- Fruit characteristics
- Cross pollination
- Disease resistance

Pollination

Many tree fruit and nut species require <u>cross pollination</u> for normal fruit development.

Pollination = the transfer of pollen from an anther to the stigma - the receptive female part of the flower.



Cross pollination is transfer of pollen from one cultivar to another cultivar of the same species, e.g. Bartlett & d'Anjou pears.

Fertilization and seed production are also usually necessary for fruit production.

Pollinator = the agent of pollen transfer (bees, flies, etc.)

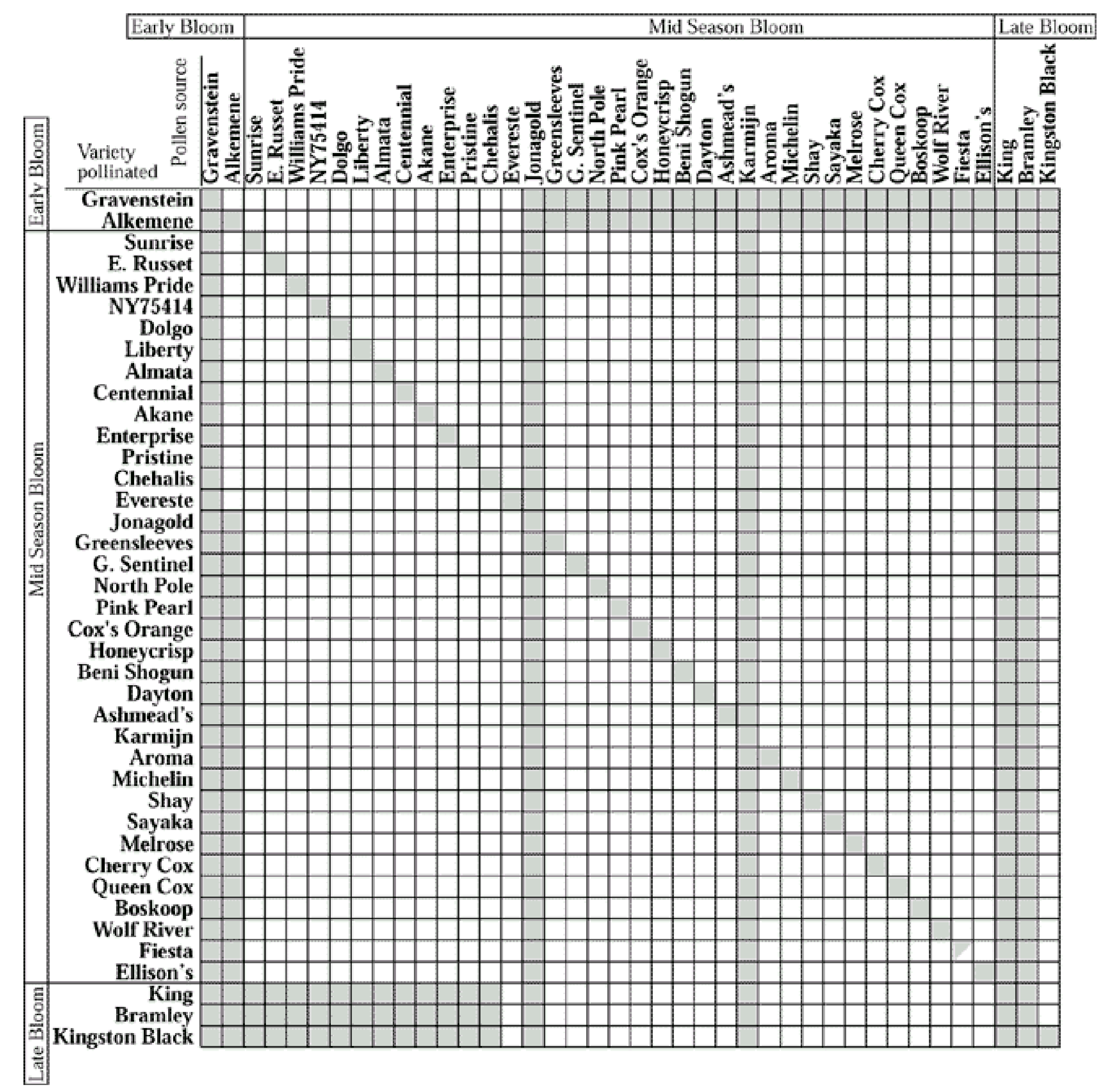
Pollinizer = the source of the pollen

Pollinizers

Pollinizers for a given cultivar are chosen for:

- Pollen compatibility
- Bloom overlap (in time)
- Fruit quality

Apple Pollinizer Selection Chart



		Early Bloom		Mid Season Bloom																																		Late Bloom		
	Variety pollinated Pollen source	Gravenstein	Alkemene	Sunrise	E. Russet	Williams Pride	NY75414	Dolgo	Liberty	Almata	Centennial	Akane	Enterprise	Pristine	Chehalis	Evereste	Jonagold	Greensleeves	G. Sentinel	North Pole	Pink Pearl	Cox's Orange	Honeycrisp	Beni Shogun	Dayton	Ashmead's	Karmijn	Aroma	Michelin	Shay	Sayaka	Melrose	Cherry Cox	Queen Cox	Boskoop	Wolf River	Fiesta	Ellison`s	King	Bramley	Kingston Black
Early Bloom	Gravenstein	▨															▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨
	Alkemene	▨	▨														▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨
Mid Season Bloom	Sunrise	▨		▨													▨										▨												▨	▨	▨
	E. Russet	▨			▨												▨										▨												▨	▨	▨
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	Liberty	▨							▨								▨										▨												▨	▨	▨
	Almata	▨								▨							▨										▨												▨	▨	▨
	Centennial	▨									▨						▨										▨												▨	▨	▨
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	Enterprise	▨											▨				▨										▨												▨	▨	▨
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	Greensleeves	▨	▨														▨	▨									▨												▨	▨	
	G. Sentinel	▨	▨														▨		▨								▨												▨	▨	
	North Pole	▨	▨														▨			▨							▨												▨	▨	
	Pink Pearl	▨	▨														▨				▨						▨												▨	▨	
	Cox's Orange	▨	▨														▨					▨					▨												▨	▨	
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	Beni Shogun	▨	▨														▨							▨			▨												▨	▨	
	Dayton	▨	▨														▨								▨		▨												▨	▨	
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	Bramley	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨		▨										▨												▨	▨	
	Kingston Black	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨		▨										▨												▨	▨	▨

https://help.raintreenursery.com/hc/en-us/sections/4409758014093-Growing-Fruit-Trees

Site Selection

- Sun
- Soil
- Frost free
- Length of season
- Space
- Time

Sun

Full sun is required for fruit trees to thrive.

Soil

- Depth:
  - Deeper is better
  - minimum depth?
- Texture:
  - Clay loam to sandy loam depending on species and rootstock
- pH
  - slightly acid (5.5 to 6.5)

Soil - Tolerance to Waterlogging

Pear	very tolerant
Apple	tolerant (except M26, MM106)
Plum	tolerant
Peach	sensitive
Apricot	very sensitive
Cherry	very sensitive

Frost Damage & Prevention

Frost Damage & Prevention

Frost Damage & Prevention

Length of Season

FS 147
Reprinted June 1998

Picking and Storing Apples and Pears

R.L. Stebbins, J.L. Olsen, and W.L. Bluhm

A given variety of apple or pear reaches harvest maturity at about the same time each year. In districts with cool growing seasons, fruit usually matures later than in the warmer districts. Within a district, the time of maturity varies slightly from season to season. In order of importance, then, variety, district, and season are the most important factors affecting the time of maturity. Districts in Oregon are:

Early—Jackson County, Milton-Freewater, and Wasco

Midseason—Lower Hood River, Malheur, Douglas County, and Josephine County

Mid- to late—Willamette Valley

Late—high mountains and plateaus and the coast

Early districts often begin harvest about 10 days earlier than midseason districts, and late-season districts about 10 days later.

Apples

The usual period of maturity for apples in the midseason districts is shown in Table 1. Other indicators for determining when to pick apples are color, ease of separation, fruit drop, and softness and flavor.

Table 1.—Maturity dates for apples in the midseason districts.

Variety	Dates	Skin color when mature
Yellow Transparent	July 10–25	Creamy yellow
Lodi	July 15–30	Creamy yellow
Chehalis	Aug. 20–30	Yellow
Gravenstein	Aug. 20–25	Yellow with red
Tydeman's Red	Aug. 25–30	Red
Prime Red	Aug. 20–30	Red
Gala	Sept. 1–15	Yellow with red stripes
Red Wealthy	Sept. 10–20	Yellow with red
Jonagold	Sept. 15–Oct. 7	Yellow with red stripes
Elstar	Sept. 17–24	Yellow with red stripes
Arlet	Sept. 17–30	Red
McIntosh	Sept. 20–30	Yellow with red blush
King	Sept. 15–25	Yellow with red blush
Jonathan	Sept. 20–25	Yellow with red blush
Liberty	Sept. 20–Oct. 8	Mostly red
Grimes Golden	Sept. 25–Oct. 5	Yellow
Empire	Sept. 27–Oct 7	Red stripes
Golden Delicious	Oct. 1–15	Yellow
Spartan	Oct. 1–10	Red
Delicious—red strains	Oct. 1–15	Red
Spitzenburg	Oct. 5–20	Yellow with red stripes
Winter Banana	Oct. 5–20	Yellow
Braeburn	Oct. 10–25	Red stripes
Melrose	Oct. 15–30	Red stripes
Fuji	Oct. 15–Nov. 1	Red
Winesap	Oct. 20–25	Red
Rome Beauty—red strains	Oct. 25–Nov. 10	Red
Northern Spy	Nov. 5–15	Yellow with red stripes
Yellow Newtown	Nov. 10–20	Green
Granny Smith	Nov. 10–20	Green

Color of apples. Color, both outside and under the skin, is a useful indication of maturity. Apples may be yellow, red, green, or combinations of these colors at harvest. When the green has almost completely given way to yellow, a yellow variety is mature. With red blush or striped apples, the area where there is no red color usually changes from green to yellowish at maturity. This does not help with the new red strains, which are red all over long before maturity. The change of flesh color (between skin and core) from greenish to white signifies maturity. The greenish color of spur-type Red Delicious may disappear only after several months of storage.

Ease of separation. Unless a stop-drop spray has been applied, mature apples are rather easily separated from the tree. Do not pull the apple down, but twist it upward with a rotating motion.

Dropping of sound fruit. When a few sound apples drop to the ground, the apples on the tree are nearly mature.

Softness and flavor. These qualities are very useful guides to maturity. When an apple becomes slightly softer and tastes sweet and juicy, it is mature. Some varieties, such as Delicious, become sweeter in storage.

Pears

Unlike apples, most pear varieties do not ripen with good quality while still on the tree. Pears that are allowed to become too mature or to ripen on the tree develop a coarse, mealy texture and often have core breakdown.

Mature pears usually will detach when "tilted" to a horizontal position from their usual vertical hanging position. Bosc pears always are difficult to separate from the spur.

Maturity in pears is that stage of development when, if picked, the fruit will ripen satisfactorily following an appropriate period of cold storage, if the variety requires it. Pears picked when slightly immature will ripen with better quality than pears that are overmature when picked. As with apples, knowing the usual period of maturity is first in importance.

Table 2.—Maturity dates for pears.

Variety	Dates	Cold storage before ripen
Clapps Favorite	Early Aug.	None
Bartlett	Aug. 10–20	None
Seckel	Late Aug., Sept.	None
Bosc	Early to mid-Sept.	None
D'Anjou	Early to mid-Sept.	2 mo
Comice	Late Sept.	1 mo
Packham's Triumph	Late Sept., Oct.	1 mo
Forelle	Late Sept.	1 mo
Winter Nellis	Early Oct.	1 mo

Color and size of fruit are other indicators for determining when to pick pears.

Color. With Bartlett, D'Anjou, Comice, and other yellow pear varieties, a slight change in skin color to a lighter shade of green occurs at maturity. The flesh becomes whiter, and juice will appear on a cut surface.

Size of fruit. Size is one indication of maturity. Pears except Seckel should be at least 2 inches in diameter at the widest portion of the fruit. Pick the largest fruit first, and leave the smaller ones for another week.

Picking, storing, and ripening

Do not shake the fruit from the tree. Segregate bruised and damaged fruit and use it rapidly because it is unfit for storage. Store only sound fruit.

Store apples and pears in clean wooden or cardboard boxes that are ventilated to allow air circulation. Do not line the boxes with paper or individually wrap the fruit. An old but still serviceable refrigerator makes a good fruit storage place. Ideally, storage temperature should be 30 to 32°F, but such conditions are difficult to achieve at home. An unheated garage, shed, or basement may be satisfactory if temperatures below 30°F and above 45°F can be avoided. An insulated box, storage cabinet, or dug-out underground room that can be ventilated at night for cooling makes a good storage place.

Maintain high humidity in storage by placing the fruit in unsealed or perforated plastic bags. Placing an open pan of water in the storage place will increase the humidity. Shriveling of Golden Delicious apples can be avoided by storing them in loosely tied plastic bags.

Store fruit immediately after it's picked. Do not store fruit with onions, potatoes, or other strong-smelling items because the fruit will absorb flavor volatiles from them. Inspect regularly for mold, flesh breakdown, freezing, or excessive ripening.

Storing ripe fruit with pears will cause the pears to ripen. Partly frozen pears often can be salvaged if thawed slowly, but freezing usually ruins apples.

The storage life of apples and pears varies according to the variety and storage temperature. Pears held beyond their normal storage life will not ripen after removal from storage. Apples held too long will be soft and mealy and may have internal breakdown.

Some varieties of pear (D'Anjou, Comice) will not ripen unless they have been held 8 to 10 weeks in cold storage. If these varieties are exposed to ethylene gas either as stove gas or as that given off by other ripe fruit, they will ripen without cold storage.

Before pears are ready for consumption, they should be ripened. Remove the fruit from cold storage and place it in a room at a temperature of 60 to 70°F, with humidity fairly high, for 3 to 10 days. D'Anjou pears are greenish-yellow when ripe. Other yellow varieties lose almost all of the green skin color during the ripening process.

For canning, pears should be soft enough that they can be dented with the thumb and still be slightly resilient. In this "firm-ripe" condition, they will peel easily. The flesh color of Bartlett pears should have changed from greenish to ivory white, but not yet to creamy yellow or dull. The flesh of other varieties still may be somewhat greenish.

Table 3.—Approximate storage life of apples and pears.

Variety	Days storage life at: 30–32°F	40–42°F
Pears		
Bartlett	30–45	15–20
Bosc	50–70	30–40
D'Anjou	120–140	70–80
Comice	79–90	45–55
Winter Nellis	160–180	90–100
Apples		
Gravenstein	60–80	40–50
Tydeman's Red	60–80	40–50
McIntosh	*	60–80
King	120–180	90–105
Golden Delicious	130–150	75–85
Delicious (red strains)	120–180	90–105
Rome Beauty (red strains)	120–180	90–105
Yellow Newtown	120–180	90–105
Melrose	120–180	90–105

*Subject to cold temperature injury. Hold at 38 to 42°F.

Problems with pears

Handle pears carefully while picking and storing. Internal browning and soft spots, not evident from the outside, may be caused by bruising in handling or from ripening off the tree at temperatures above 70°F.

Pears that become soft after canning probably were overripe. Pink color sometimes appears in canned fruit. More rapid cooling after canning will reduce the amount of this harmless coloration.

Hard-end (a hardening and blackening of the end opposite the stem) occurs with fruit grown on certain rootstocks. Grittiness may be caused by the stony pit virus. Prevention of hard-end or grittiness requires replacing the tree. Fruits with stony pit virus or grittiness are not harmful if eaten.

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OREGON STATE UNIVERSITY EXTENSION SERVICE

This publication was produced and distributed in furtherance of the Acts of Congress of May 8 and June 30, 1914. Extension work is a cooperative program of Oregon State University, the U.S. Department of Agriculture, and Oregon counties.

Revised October 1997. Reprinted June 1998.

https://catalog.extension.oregonstate.edu/sites/catalog/files/project/pdf/fs147.pdf

Space/Time

- Fruit trees are relatively large plants that can take several years to become established.
- Best results come with careful consideration of site selection.

Planting

- ✓ Most deciduous fruit trees are planted bare-root and dormant (fall through early spring).
- ✓ Planting hole should be dug large enough to accommodate root system without bending roots.
- ✓ Care must be taken not to glaze the sides of the planting hole.
- ✓ Broken or damaged roots should be trimmed off.

Planting

- ✓ Trees should be planted with graft union above soil line.
- ✓ Trunks should be painted with white interior latex paint (can be diluted with water 1:1).
- ✓ Water trees in (5 gallons per tree).
- ✓ Prune appropriately at planting time to stimulate new growth and encourage branching.

Fertilizing

No simple rules, needs vary by species, age, location/soil

- Fertilize for balanced growth of tree - 12” to 24” of extension growth per year for established trees.
- Nitrogen is most important but can be overdone. Excess nitrogen results in:
  - excessive vegetative growth
  - delayed or reduced fruit production
  - poor fruit quality

Fertilizing – which nutrients?

Nutrient	Pear	Apple	Cherry	Peach
Nitrogen (N)	yes	yes	moderate	yes
Phosphorous (P)	yes	rare	rare	rare
Potassium (K)	yes	rare	rare	yes
Sulfur (S)	yes	rare	?	rare
Magnesium (Mg)	yes	some	some	rare
Boron (B)	bearing	bearing	bearing	bearing
Zinc (Zn)	some	some	some	some

Amounts should be based on performance of tree, leaf & soil analysis.
OSU fertilizer guides provide guidelines.

Fertilizing – how much?

Based on nitrogen needs & assuming 16-16-16 fertilizer

Age of tree (years)	N/tree (ounces)	fertilizer (ounces)
0 to 5	1.6 - 2.6	10 to 16
6 to 10*	2.6 to 3.2	16 to 20
10+*	3.2	20

*Values are for full size trees - reduce amounts for dwarf trees.

Fertilizing – when?

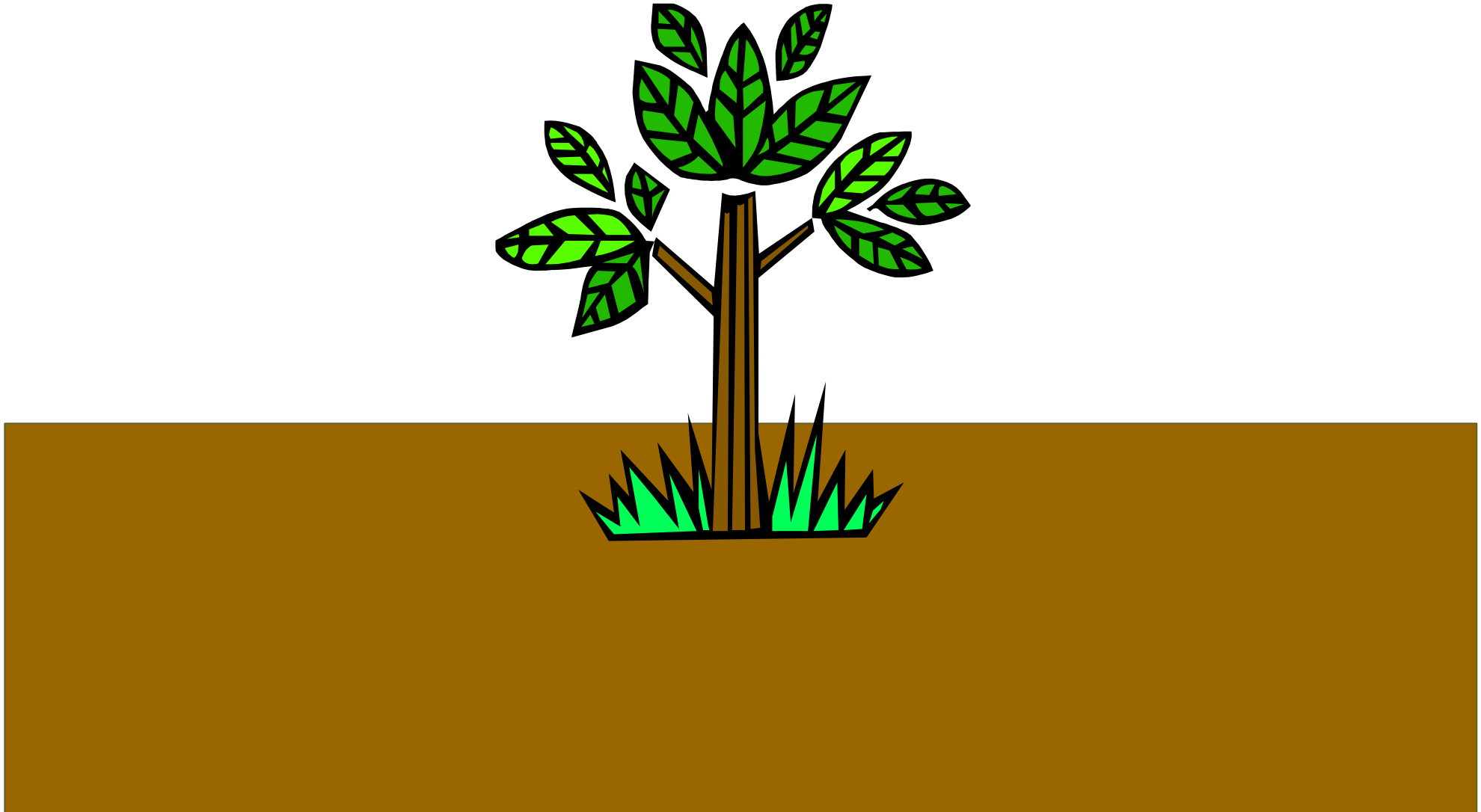
- Trees need functional leaves to take up fertilizer from soil.
- Apply nitrogen fertilizer during growing season.
- Early season application will promote growth in current season.
- Late season application will be stored in reserve for growth during following season.

Water Requirements (inches/week)

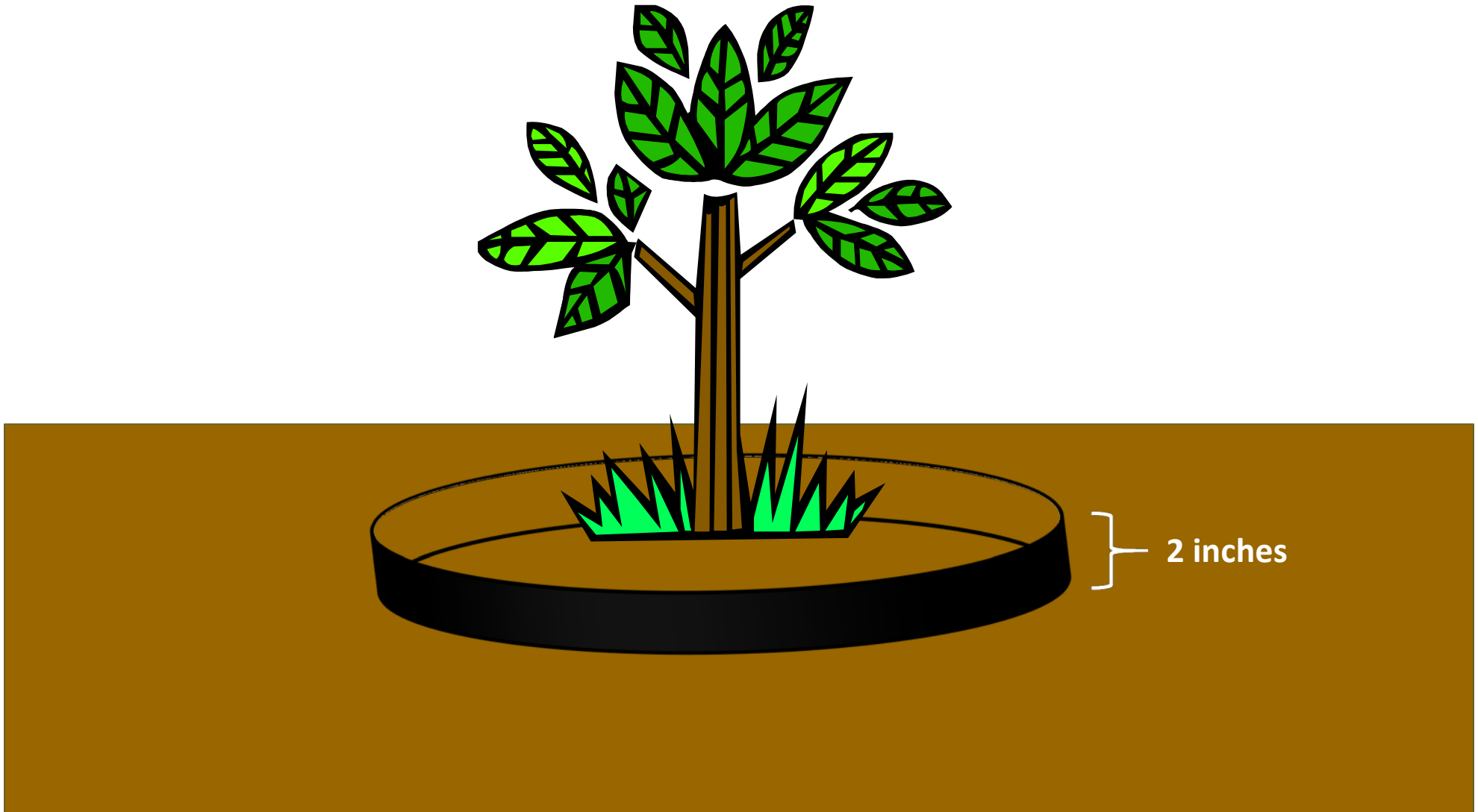
Hood River	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov
Apples, Cherries	0.0	0.4	1.0	1.5	1.9	1.6	0.9	0.0	0.0
Pears, Plums	0.0	0.3	0.9	1.3	1.8	1.4	0.8	0.0	0.0
The Dalles									
Apples, Cherries	0.3	0.9	1.5	1.9	2.3	1.9	1.3	0.5	0.0
Pears, Plums	0.3	0.8	1.4	1.7	2.1	1.8	1.1	0.4	0.0

EM 8530

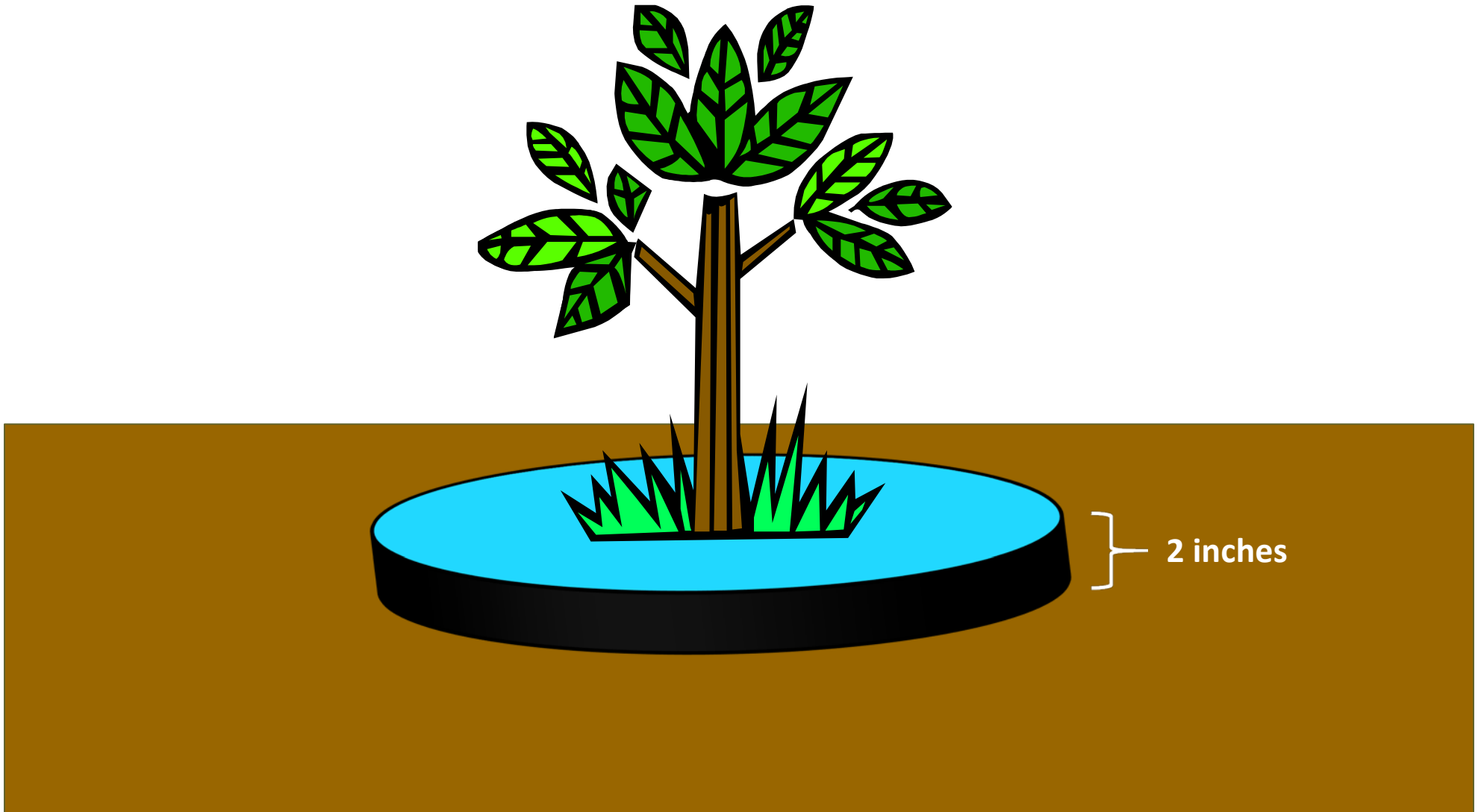
inches/week?



inches/week?



inches/week?



How Much Water is 2” per week?

Volume (V) of water = area x depth

Area (A) watered

6 ft diameter = 28 sq ft

Depth (D)

2”/week = .17 ft/week

V = A x D

28 sq ft x .17 ft = 4.8 cu ft

4.8 cu ft x 7.5 gal/cu ft =

36 gal/week

How long to get 36 gal?

36 gal ÷ 9 gal/hr* = 4 hrs

**depends on irrigation system used*

Watering Methods

- Drip
- Micro-sprinkler

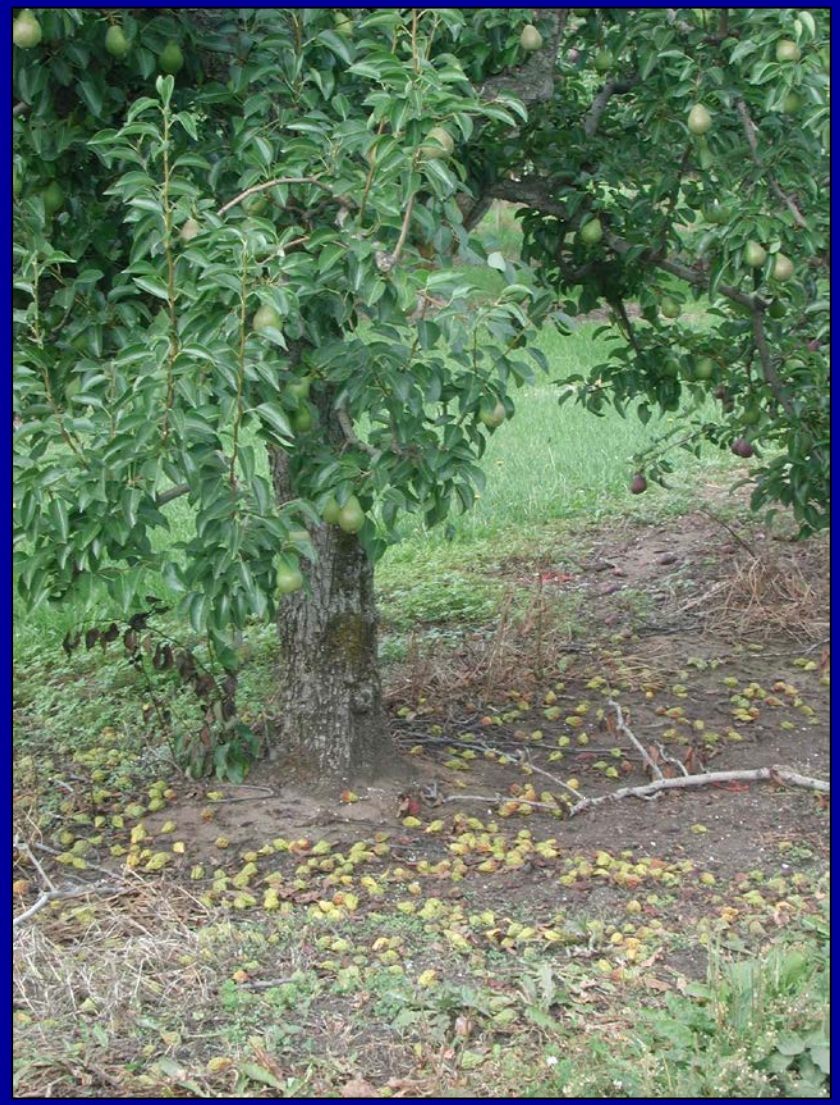
} Low-volume / high frequency

- Impact sprinkler (“Rainbird”)
- Basin or Flood

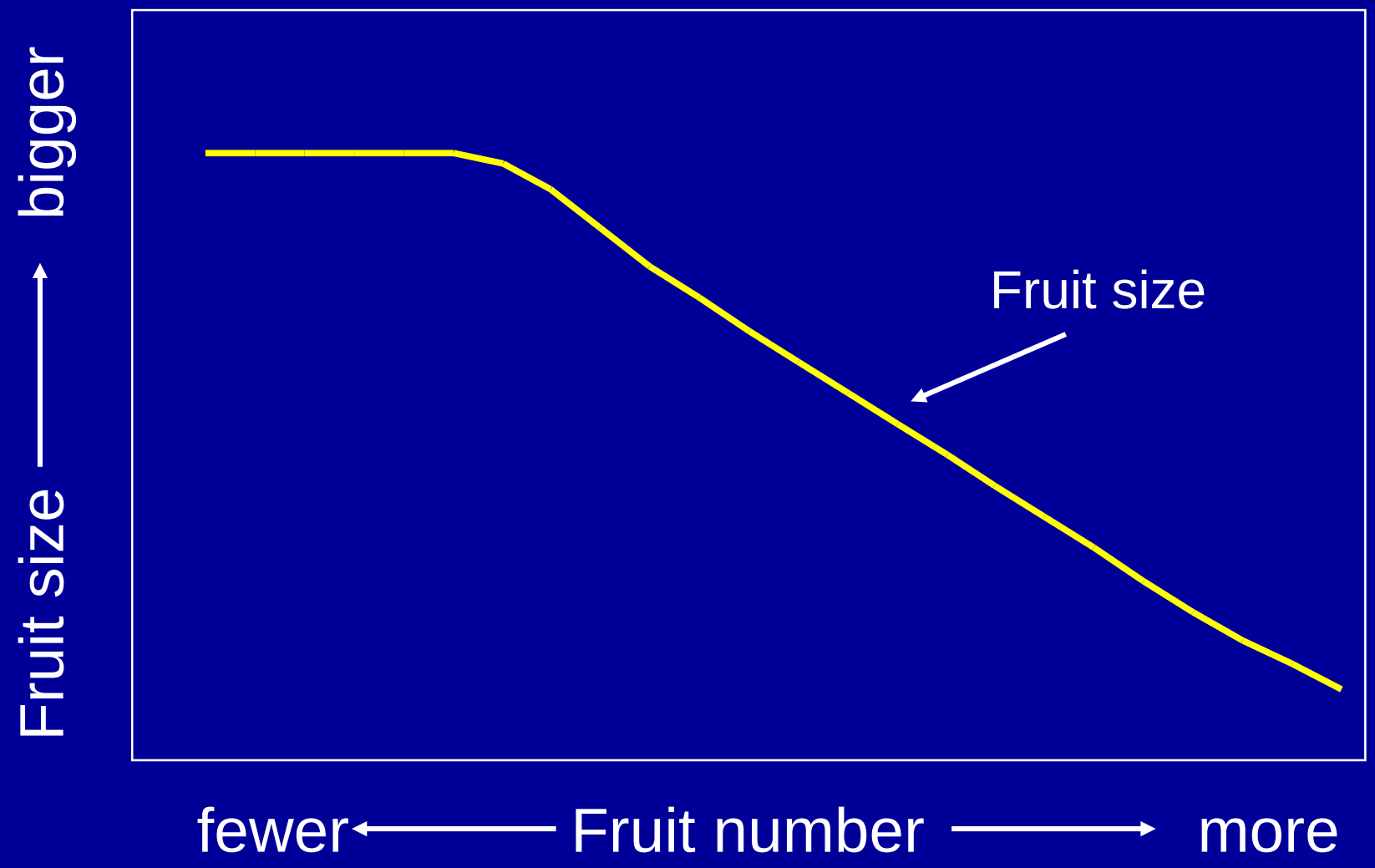
} High-volume / low frequency

Effective rooting depth varies with species and age; for most mature trees = top 24 to 36 inches.

Fruit Thinning

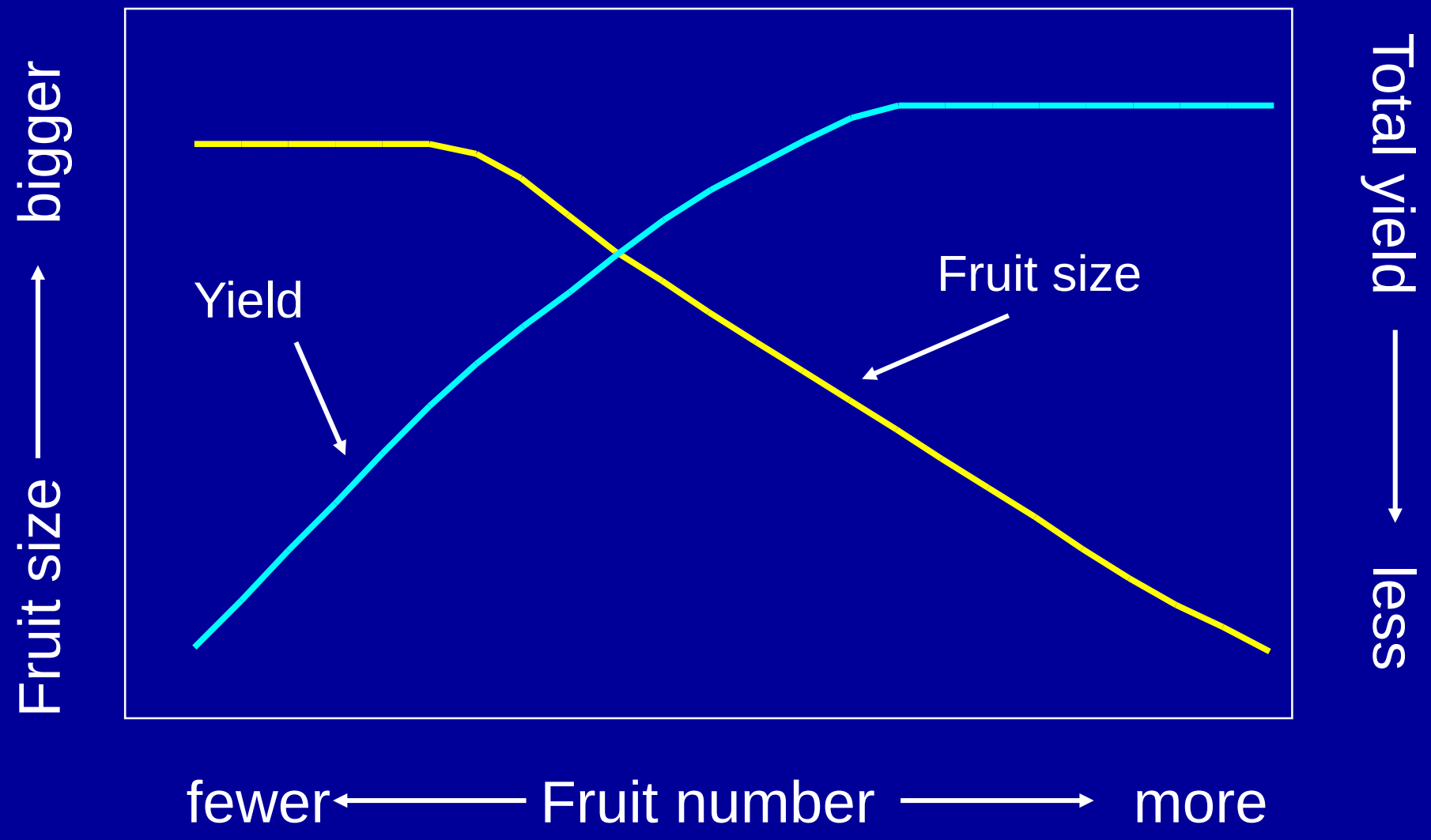


Fruit Thinning



Thinning increases fruit size.

Fruit Thinning



Thinning increases fruit size.

Thinning also decreases total yield.

Fruit thinning

- Increases fruit size, color, sugar
  - apple, pear, plum, peach, (cherry)
- Promotes regular cropping / reduces alternate or biennial bearing
  - apple & pear
- Reduces limb breakage
  - most species
- May improve pest & disease management

Fruit thinning

- Apple - 1 fruit per 2 spurs; < 40 days after full bloom
- Pears - 1 fruit per 1 - 2 spurs; < 60 days after full bloom
- Apricots - 4” apart
- Peaches - 6” to 10” apart

Training & Pruning

Training = development of fruit bearing structure on new trees (year 1 to 4, 5 or 6).

- heading cuts
- thinning cuts
- branch spreading / bending
- pinching

Pruning = maintenance and renewal of fruiting wood on bearing trees.

- depends on many factors including bearing habits

Training & Pruning

Have a purpose:

- create maximum fruit bearing surface
- allow sunlight to enter and air to circulate throughout the entire tree canopy
- maintain and renew fruiting wood
- maintain growth or vigor in all parts of the tree
- create access for thinning and harvesting fruit
- promote good spray penetration/deposition

Compact trees are easier to manage

- Use dwarfing rootstocks if available
- Select spur type cultivars if available
- Select genetic dwarfs if available
- Minimize dormant pruning
- Train to favor more horizontal growth
- Water and fertilize in moderation

Training Systems – Central Leader

Training Systems

Multiple Leader

Training Systems - Open Center or Vase

Training Systems - Open Center or Vase

Training Systems - Cherry

Spanish Bush

Central Leader

http://extension.oregonstate.edu/wasco/horticulture

Training Systems - Fruiting Walls

Fruit Tree Questions

I planted a ---------- tree 5 years ago but haven't ever gotten fruit. What's wrong?

I planted a dwarf apple tree, but it's bigger than I expected. What's wrong?

I finally got pears on my pear tree, but they did not ripen. What did I do wrong?

My apples are full of worms – I'm an organic gardener so I can't use pesticides. What should I do?

Apple

Rootstocks – range of dwarfing rootstocks

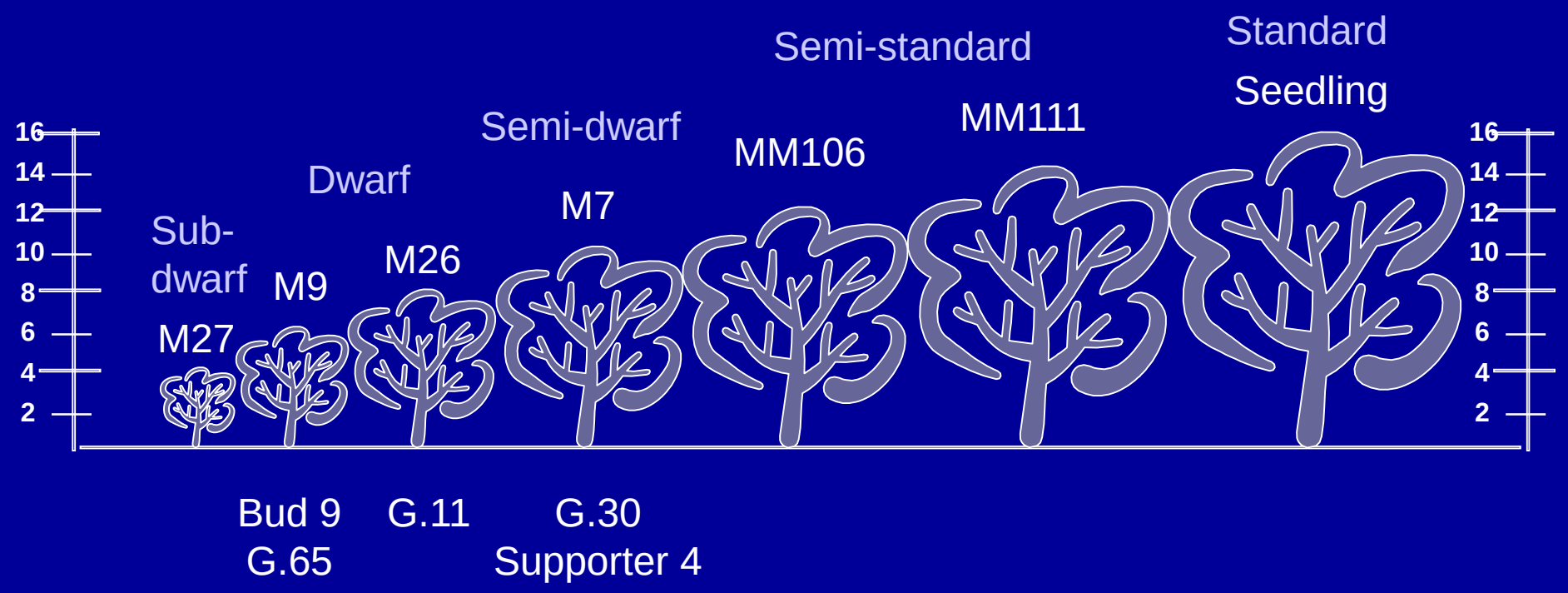
Soil – depends on rootstock

Training – central leader, multiple leader, or fruiting wall

Need pollinizer for cross pollination:

- Most varieties are cross compatible.
- A few have sterile pollen.
- Consult pollinizer chart for compatibility & bloom overlap.

Apple Rootstocks



Apple Pests & Diseases

Pests	Diseases
Codling moth	Scab - resistant cultivars*
Apple Maggot	Powdery mildew - resistant cultivars
San Jose scale	Fire blight
Leafroller	Anthracnose
Leafminer	
Mites	
Leafhoppers	

*https://www.canr.msu.edu/news/a_review_of_apple_scab_resistant_varieties_for_commercial_growers

Pear

Rootstocks – dwarfing rootstocks?

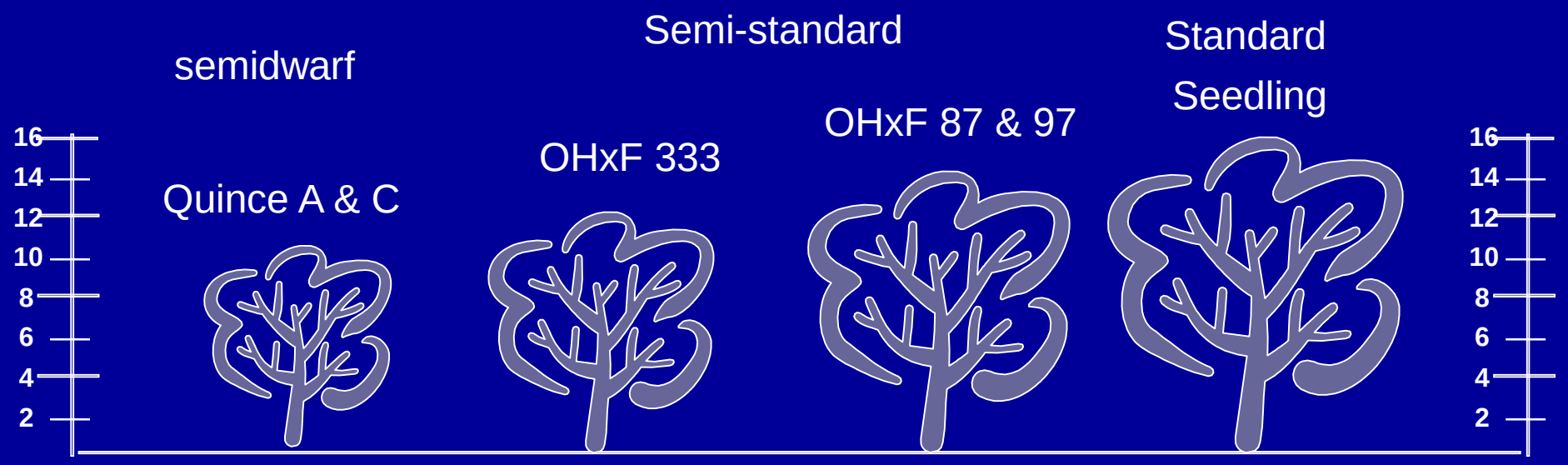
Soil – tolerate heavy soils

Training – central leader, multiple leader, or fruiting wall

Need pollinizer for cross pollination:

- Most varieties are cross compatible
- A few have sterile pollen
- Consult pollinizer chart for compatibility & bloom overlap

Pear Rootstocks



Quince C and A

- 60-75% of full size
- Some graft incompatibility
- Lack cold hardiness?

Pear Pests & Diseases

Pests	Diseases
Codling moth	Scab
Pear psylla	Fire blight – resistant cultivars
San Jose scale	
Leafroller	
Mites	

Cherry

Rootstocks – range of dwarfing rootstocks

Soil – better on lighter soils

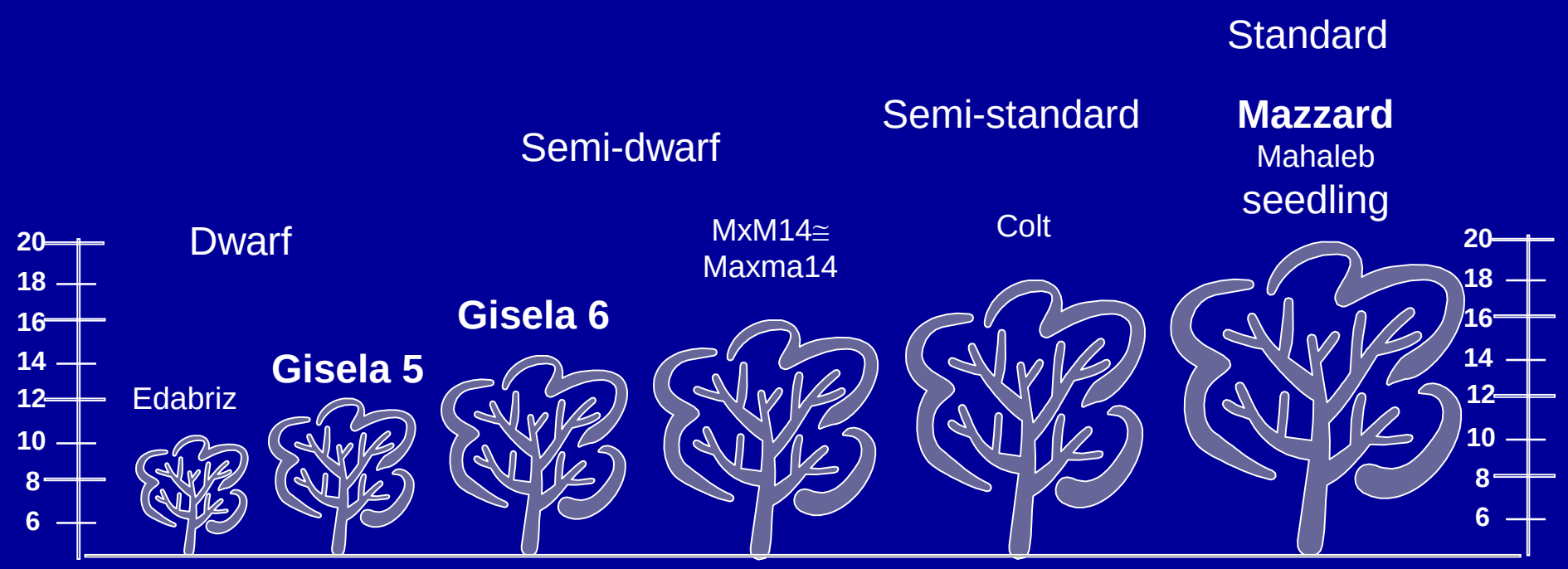
Training – central leader, multiple leader, Spanish bush

Pollination

- Standard cultivars (Bing, Van, Rainier) need pollinizer
- Many newer cultivars self-fertile
- Consult pollinizer chart for compatibility & bloom overlap

https://extension.oregonstate.edu/search?search=cherry

Cherry Rootstocks



Cherry Pests & Diseases

Pests	Diseases
Western cherry fruit fly	Brown rot
Spotted wing Drosophila	Shothole
	Bacterial canker
San Jose scale	Powdery mildew
Aphids	
Mites	
Leafrollers	
Leafminer	

Peach & Nectarine

Rootstocks – seedling

Pollination – self fertile, don’t need pollinizer

Soil – don’t tolerate heavy soils

Training – central leader or open center

Bearing habits – *laterally on 1 year old wood*

Peach Pests & Diseases

Pests	Diseases
Peach twig borer	Peach leaf curl – resistant varieties
Spotted wing Drosophila	Brown rot
San Jose scale	Shothole
Mites	Bacterial canker
Aphids	Powdery mildew

Resources

OSU Extension & Experiment Station Publications
https://extension.oregonstate.edu/crop-production/fruit-trees

PNW Plant Disease Management Handbook
https://pnwhandbooks.org/plantdisease

PNW Insect Management Handbook
https://pnwhandbooks.org/insect

UC IPM Online
http://ipm.ucanr.edu/index.html

Orchard Pest Management Online
http://treefruit.wsu.edu/crop-protection/opm/