
Fruit Trees for Small Spaces
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Plan for the mature size

Allow space for the mature size of plants

- Shade is detrimental to many edibles
- lack of airflow causes more disease problems.

Rethinking Growing Fruit

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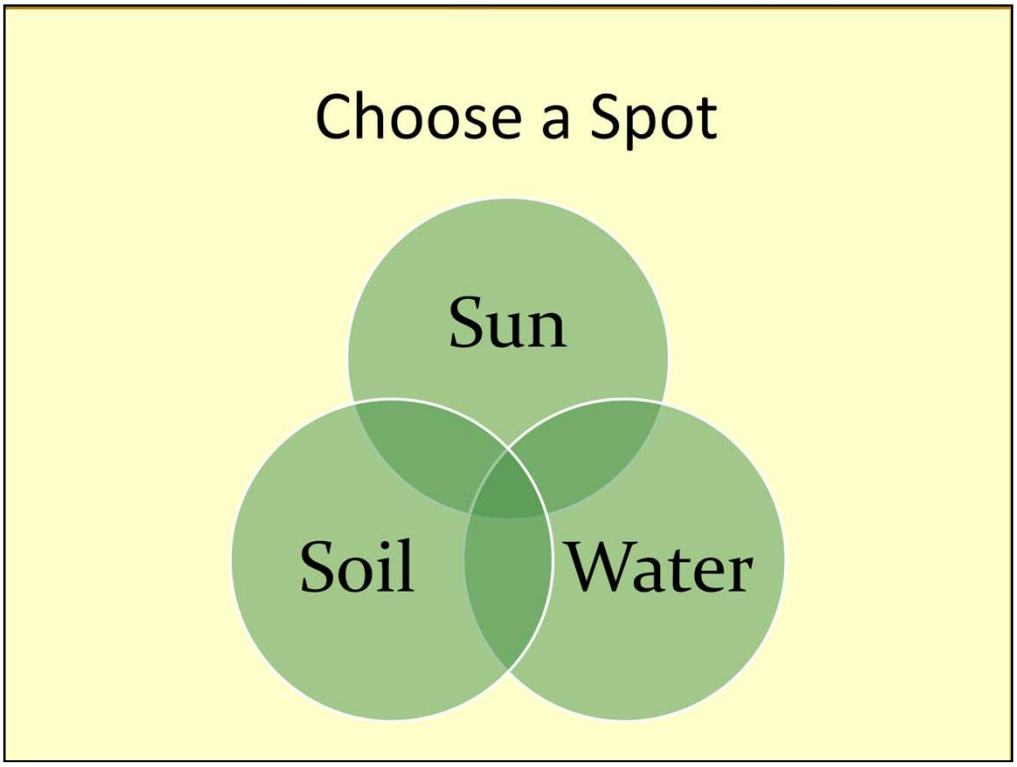


Site Selection

Sun, sun, sun!

Soil

Many edibles hate wet feet!

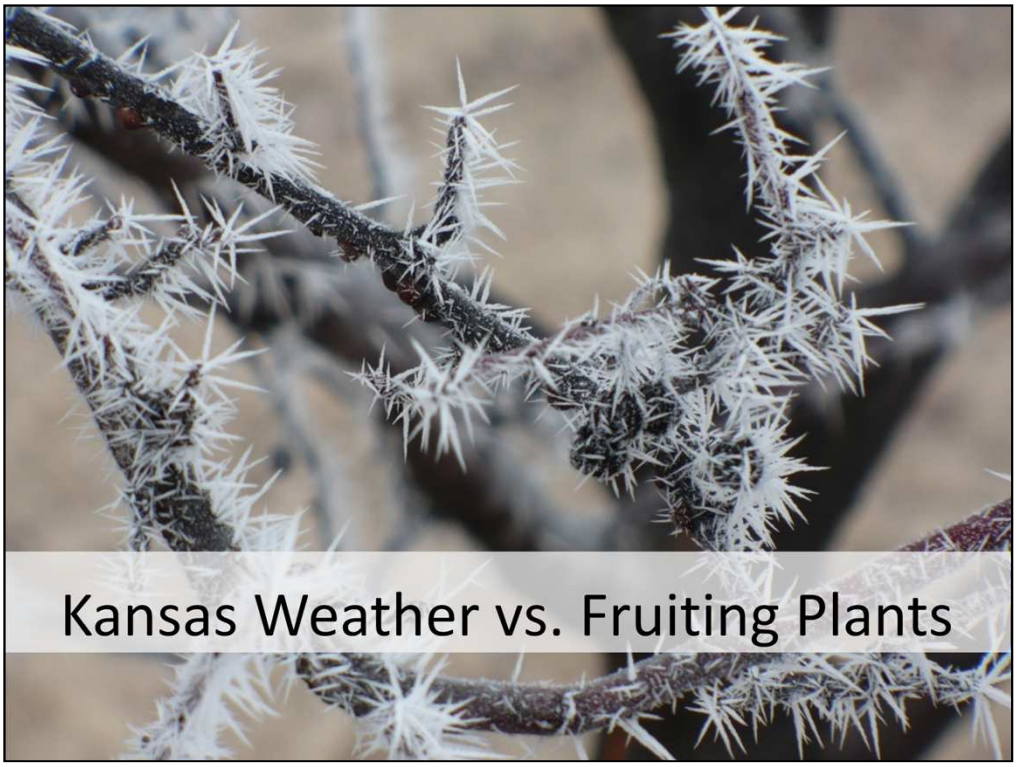
Take a soil test

pH 5.5-6.5, usually

Sandy loam soils, ideally

Well-drained

Sun!



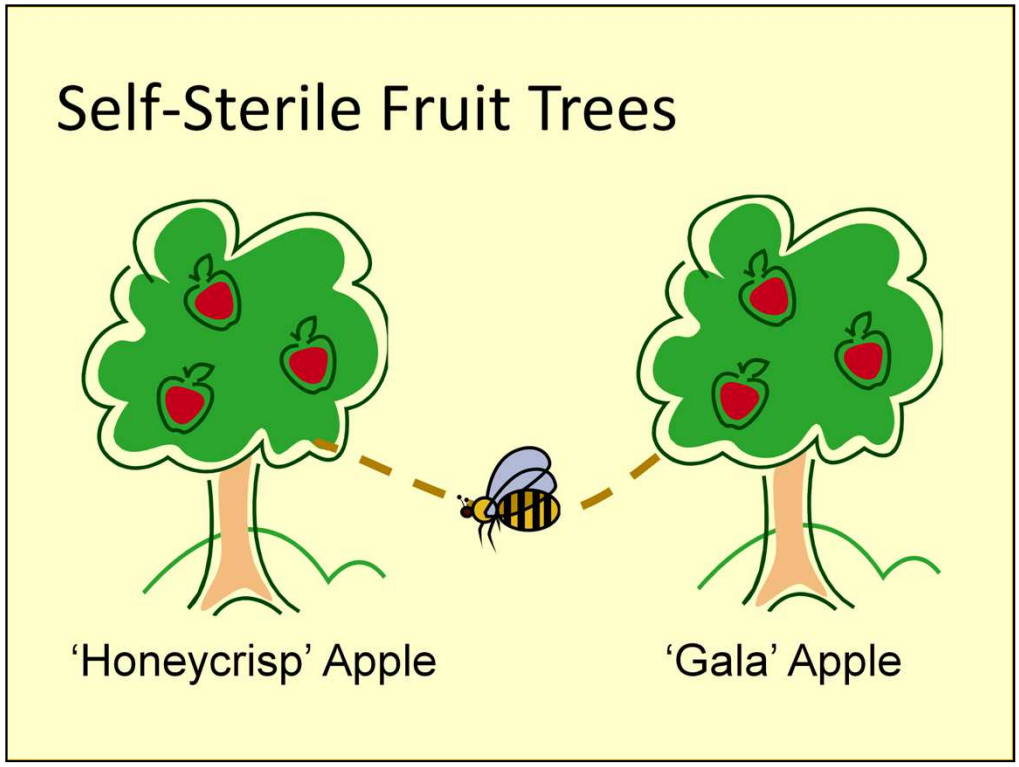
Late spring frosts/ice storms

High pH soils

Understand the requirements of the trees

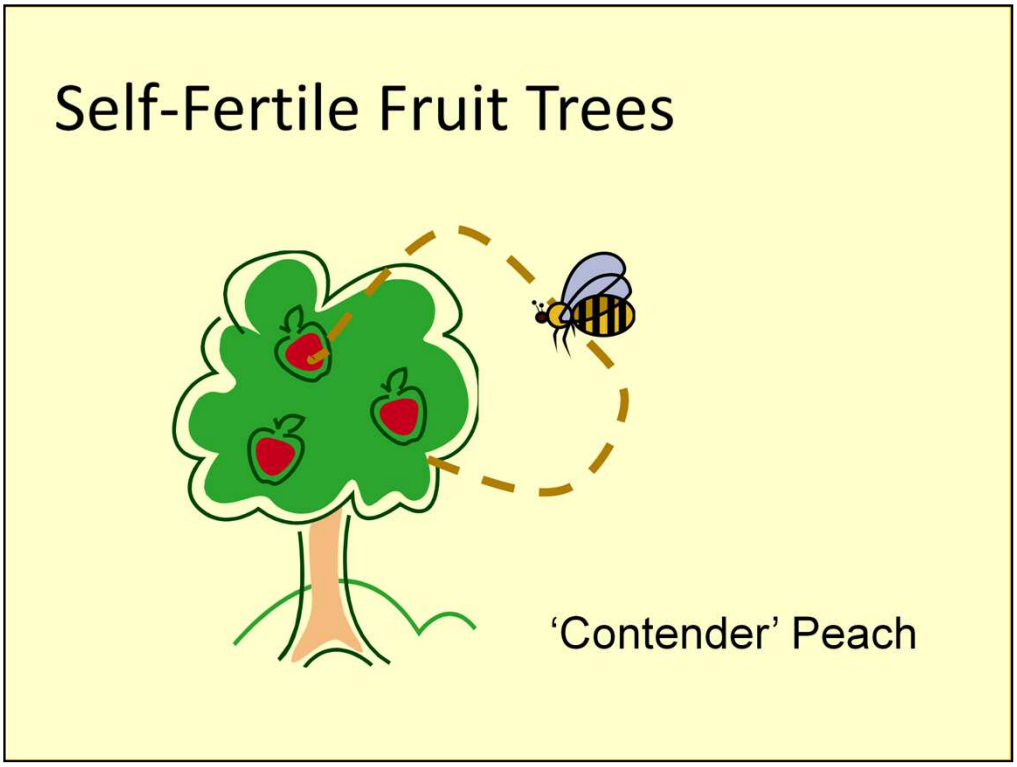
- Pollination
- Site selection
- Chilling hours

Understand the limitations of your landscape



Self-Sterile: very little fruit will set unless the blossoms are fertilized with pollen of another variety

Compatible: varieties that fertilize each other

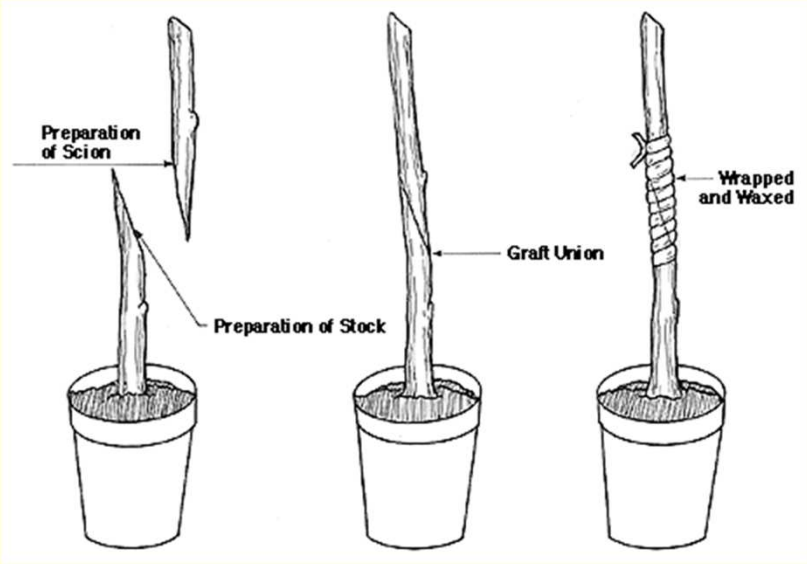


Self-Fertile: varieties that set fruit with their own pollen

Fruit Tree Pollination Needs

Fruit	Self-Fertile	Self-Sterile
Apple		X
Pear		X
Peach/Nectarine	X	
Cherry	X (Tart)	X (Sweet)
Plums	X (Eur.)	X (Jap.)

Grafting & Rootstocks



Grafting is a process by which the top of one plant is fused to the roots of another

A **rootstock** is the plant that is the root part of a grafted plant.

A **scion** is the plant that is the shoot part of a grafted plant.

Dwarf - 8 to 10 feet tall

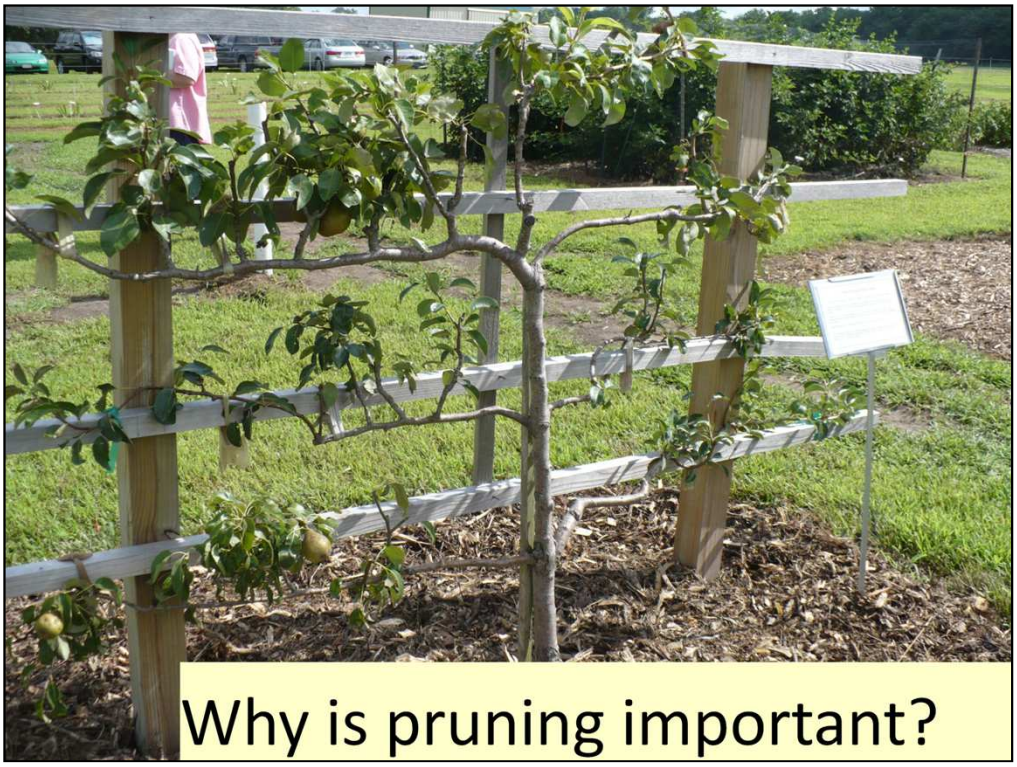
- First crop in 3-4 years, productive 10-15 years

Semi-Dwarf - 12 to 15 feet tall

- First crop in 4 to 5 years, productive for 15-20 years

Standard - 18 to 25 feet tall

- First crop in 5 to 7 years, productive for 25+ years



Control tree shape

Control tree size

Allow for adequate light penetration

Reduce humidity/diseases in tree canopy

Improve fruit quality

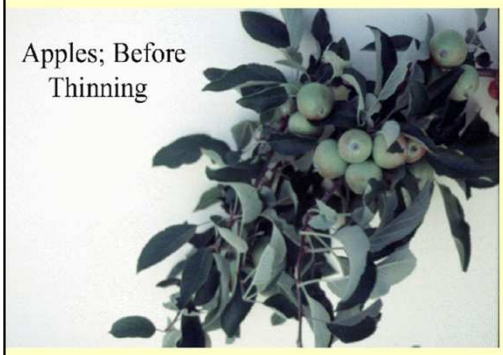
Prune for Strong, Wide Branch Angles

Prune when dormant (late winter; early spring)

Always use sharp tools

Weak Branch Angles Break

Thinning Fruit Trees



Increases Fruit Size

Minimizes Biennial Bearing

Reduces Limb Breakage

Results in a Healthier Tree!

To-Do List for Fruit Trees

Always keep graft line clear of debris and above ground.

Prune annually in late winter or early spring.

Water during dry seasons.

Make an orchard/garden plan.

Follow a spray schedule (specific to fruit tree grown)

To-Do List for Fruit Trees

Do not fertilize in the fall.

Rake up leaves and fallen fruit and remove
(Reduces recurring disease and insect problems)

Use tree guards to prevent sunscald, animal injury

Use wire cages to keep deer away

Reasons for Poor Fruit Set

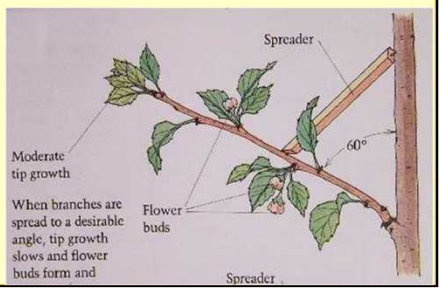
Trees are too young to bear

Branch angle is poor

Too much vegetative growth

Insufficient pruning

Not enough chilling



Reasons for Poor Fruit Set

Unmet pollination requirements

Poor bee activity
- Temperature
- Wind

Biennial Bearing

Winter injury

Spring frost damage

Good Conditions

Warm, dry, calm weather

100 ft or less between plants

Only available flowers are fruit flowers

No insecticides used

Poor Conditions

Cold, wet, windy weather

500+ ft between plants

Other flowers like dandelions and clover nearby

Someone sprays Sevin

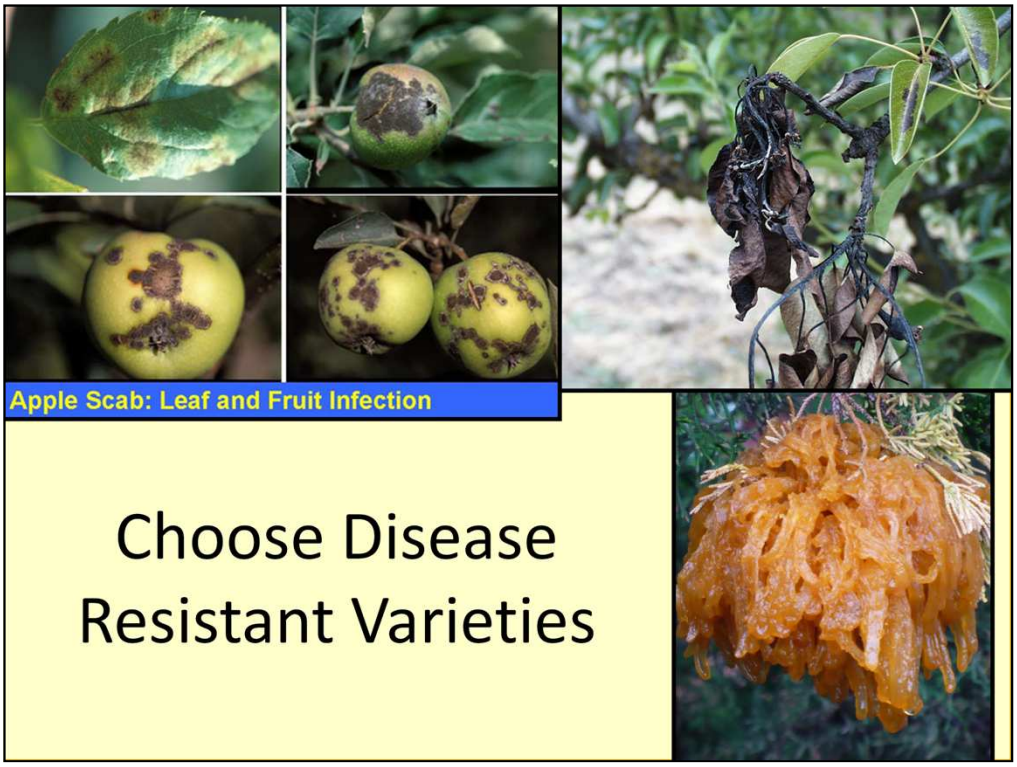
Fruit comes from fruit buds that were developed the previous year

Fruit buds may develop before, during, or after this year's fruit crop

Heavy shading prevents buds from developing.

Heavy crops result in fewer buds developing

Apples & Pears



Jonafree

Liberty

Sundance

Enterprise

Crimson Crisp

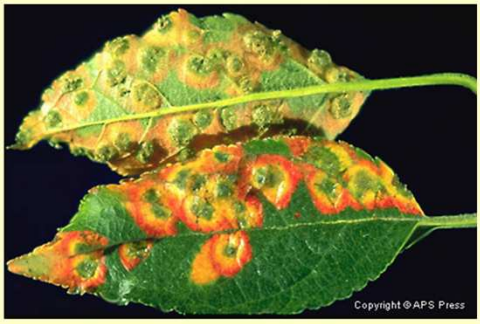
Redfree

Freedom

Galarina

Goldrush

Cedar Apple Rust



The disease first appears on the leaves as small greenish yellow spots which gradually enlarge.

Spots turn yellow-orange and become surrounded at the border by red bands.

Fruit develops similar lesions.

Apple Codling Moth

Apple Scab

Fire blight bacteria is easily spread

Highest risk of infection is in late spring or early summer

No cure for fire blight

Remove infected stems and branches

Streptomycin spray

Almost all need cross-pollination

Prune to a central leader

Two types:

- European
- Asian

European pears should not be allowed to ripen on the trees.

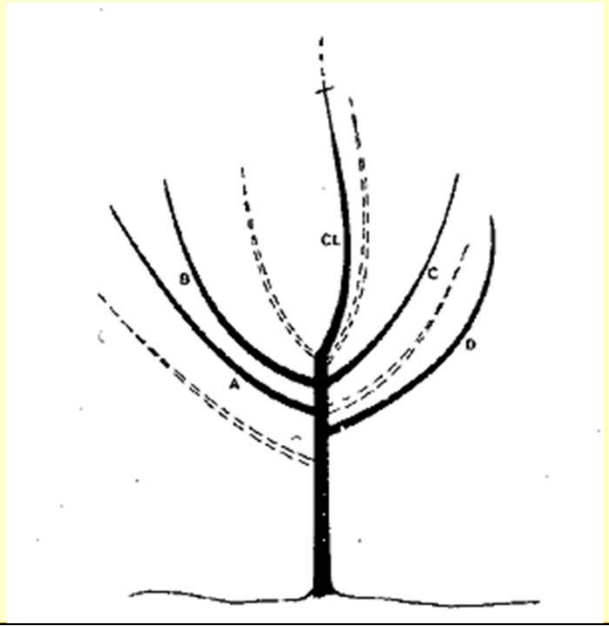
- Pick when still firm.
- Fruit should come off from the branch easily when lifted up and twisted.
- Good pear aroma
- The seed coats turn from white to a rich brown.
- Tree-ripened fruit are of poor quality.

Pears ripen 1-3 weeks after harvest if held at 60-65 degrees F.

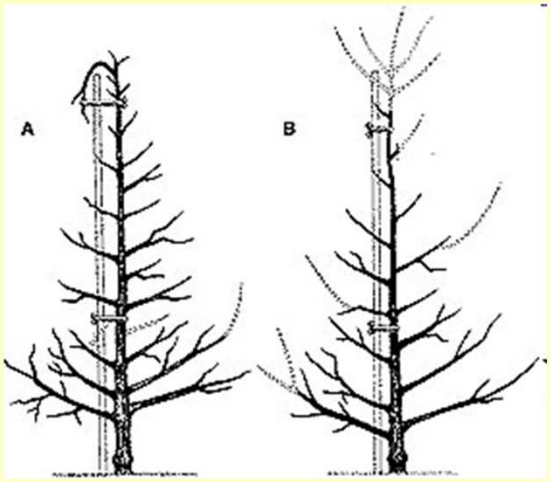
Store for later ripening at 29-30 degrees F with 90% humidity.

If stored at 75 or higher, fruit can break down without ripening.

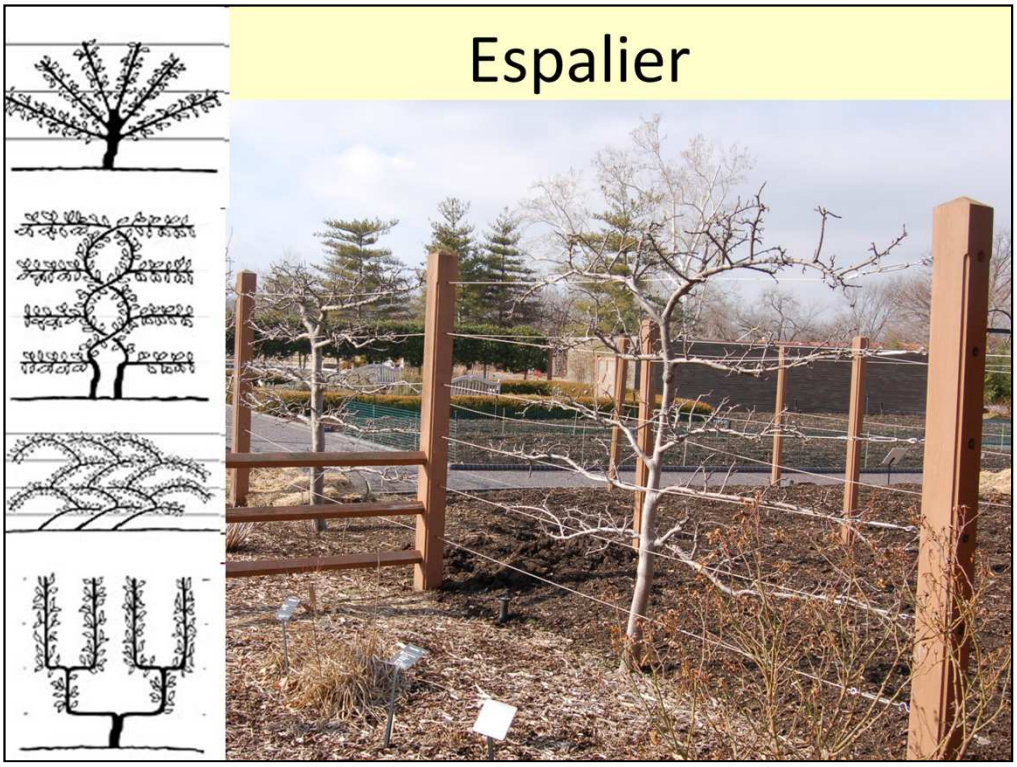
Central Leader Pruning



Vertical Axis System



Columnar Fruit Trees



Espalier is a plant-shaping method to grow woody plants in one plane on a permanent framework, often in an artistic design.

You need some type of fence or trellis

Peaches

Self-fruitful

Harder to grow

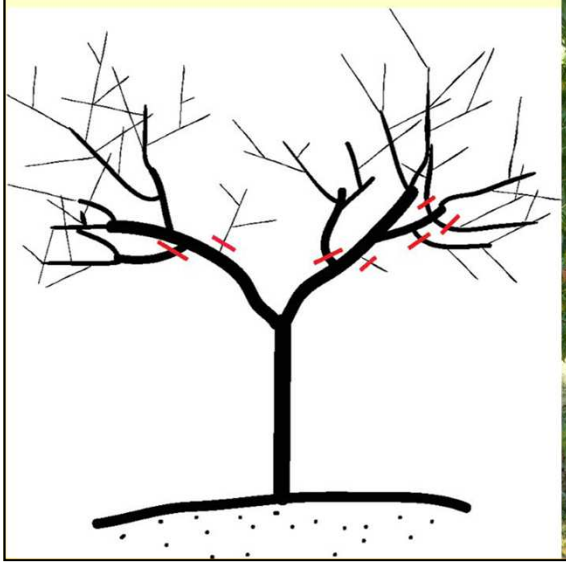
- Very susceptible to stress
- Needs lots of fertilizer
- Need the right spot

Inconsistent crop

- Late spring frosts kill blossoms

Open Center System

Perpendicular V System

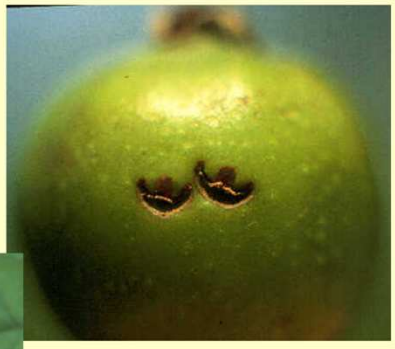


Peach Problems

- Peach Leaf Curl
  - Only affects Peach & Nectarine
  - Fungicides: Lime Sulfur, Copper Bordeaux, Chlorothalonil

Peach Problems

- Plum Curculio
  - Permethrin



Peach Problems

- Oriental Fruit Moth

- Insecticides: Bt, Sevin, Malathion, Permethrin, Spinosad, (pyrethrin)

Borers

- Borers are usually a sign of a tree under stress and in decline
- No sprays for borers already in a tree
- Preventative trunk applications during the summer
  - Permethrin

Sweet cherries are not recommended

Tart cherries do well; low maintenance

Cherry trees are short-lived

Tree is relatively small (15 feet to 20 feet tall),
Trees are very cold hardy.
Self-fruitful
Very productive
Little disease or insect pressure
Easy to grow in the right spot
Montmorency
    Large tree
    Very Productive
Meteor
    Medium tree
North Star
    Small tree

Cherries picked before fully mature will not ripen off of the tree.
    If picked half ripe, they remain half ripe.
There is a small window for ripe cherries.

The sweet cherry is a large tree (30 feet to 40 feet tall), usually shaped like a pyramid.

Harder to grow

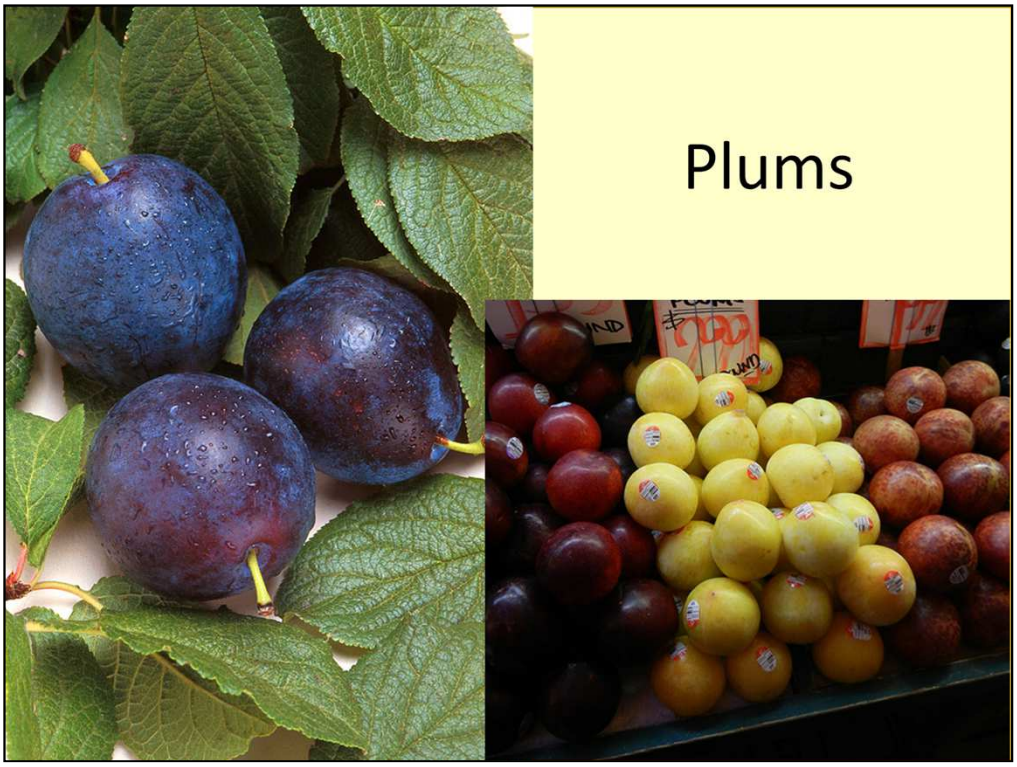
Less adapted to weather extremes

Can be damaged by low temperatures.

Bloom earlier and can be damaged by late spring frosts.

2 varieties required for pollination

Productive for about 15 years



European

- Hardy to zones 5-9
- Self-fertile
- Prefer cross-pollination
- Higher chilling requirement
- Blooms later
- Blue-skin, yellow flesh
- Prune Plums

Japanese

- Hardy to zones 6-10
- Must be cross-pollinated
- Blooms early and may be damaged by frosts
- Red to purple to black skin
- Larger and juicier

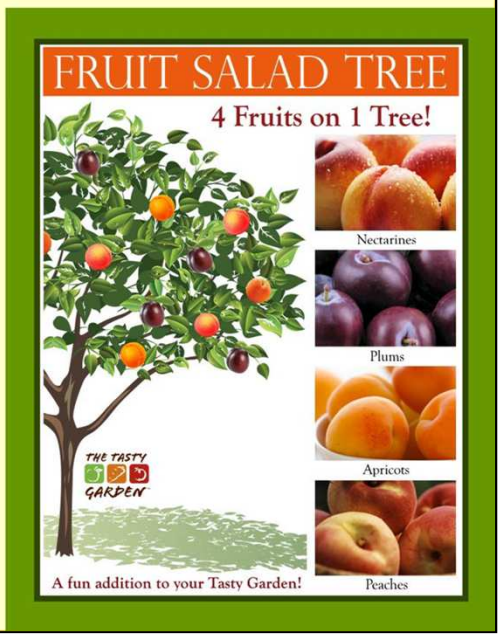
Fruit Trees in the Landscape

What about 4-in-1 trees?

Shop Smart!

Pest Problems

Pruning



Questions?