



PLANTING TREES & SHRUBS

WSU Master Gardener: Adam Weeks



Master Gardener Program

WASHINGTON STATE UNIVERSITY
EXTENSION



Objectives:

- Identify some important functions of trees
- Identify aspects in tree selection
- Choosing the right species
- Starting off successfully with your tree/shrub
- Steps for planting balled-and-burlapped tree
- Identify when and how to stake trees and steps for early tree care
- Identify how to properly mulch your new tree or shrub
- Identify brief aspects of pruning
- Identify potential health issues with your tree/shrub

Highlights of Trees & Shrubs

- Properly placed trees can reduce heating and cooling costs by 10-20%
- The use of trees in landscaping can increase a home's value by 6-12% than those without trees
- Trees and shrubs conserve air, water, and soil and provide habitat for wildlife
- Large shade trees can act as an outdoor ceiling and adds a more intimate feeling to your yard. Shrubs can block an undesirable view, enclose an area for privacy, and create rooms within your landscape.
- Trees cleanse the air by absorbing carbon dioxide and giving off oxygen

Before You Buy a Tree or Shrub

- Think of the site you intend to place the tree
 - Is this site suitable?
 - Soil
 - Water
 - Light requirements
 - Is this tree/shrub hardy for my area?
 - Will this site allow for adequate growth of the tree/shrub
 - Is this the right species for this site ?

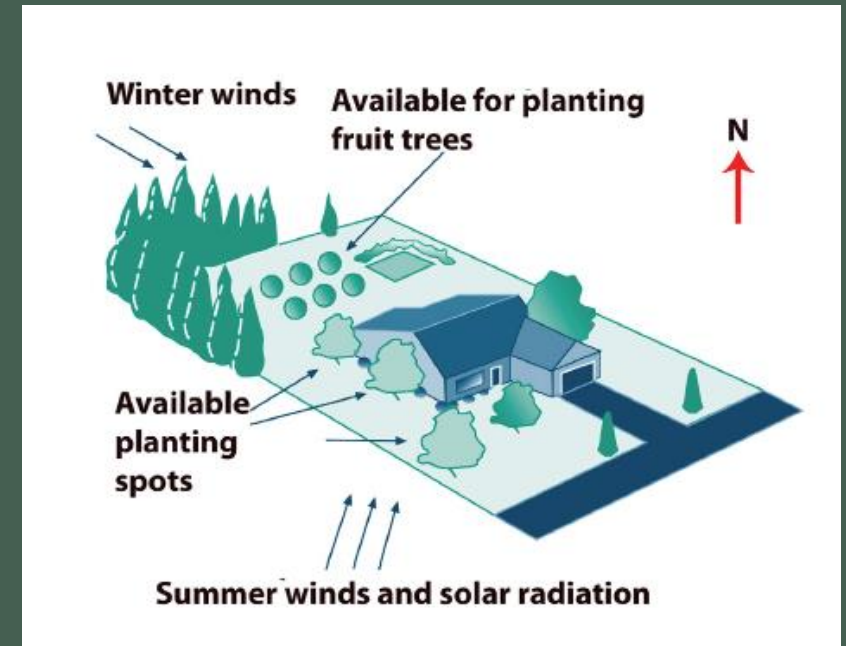
Annual average extreme minimum temperature 1976–2005

Temp (F)	Zone	Temp (C)
-25 to -20	4b	-31.7 to -28.9
-20 to -15	5a	-28.9 to -26.1
-15 to -10	5b	-26.1 to -23.3
-10 to -5	6a	-23.3 to -20.6
-5 to 0	6b	-20.6 to -17.8
0 to 5	7a	-17.8 to -15
5 to 10	7b	-15 to -12.2
10 to 15	8a	-12.2 to -9.4
15 to 20	8b	-9.4 to -6.7
20 to 25	9a	-6.7 to -3.9
25 to 30	9b	-3.9 to -1.1

3

Envision Your Yard

- Think about the future when your tree is 10-20 years old
 - Is it still in the right spot?
 - Did I or someone else make a poor placement choice of a tree/shrub in the past?
- What purpose will this tree/shrub serve?
 - Privacy Screen
 - Deciduous trees aren't ideal for this purpose
 - Wind break
 - Evergreens such as cedars are good choices



Site Considerations

- Does the site provide enough space:
 - Consider the crown of the plant
 - Consider the root system
 - Sidewalks, driveways, and house foundations may impede root growth
 - Are the winds and sun conducive to growth?
 - Consider shallow roots and the potential for blown over trees
 - Overhead obstacles
 - Utility wires
 - Trees at maturity can cause power outages and require routine pruning which can affect the aesthetic of the tree
 - Avoid planting within 25 ft
- Evaluate soil conditions
 - Do amendments need to be added?



Choosing the Right Species

- After you've developed a site plan head to a nursery and take your plan with you
- Avoid buying the cheapest specimen you can find as you may regret this later
 - Undesirable species
 - Have poor form
 - Have other problems
- Shade Trees
- Ornamental Trees
- Conifers
- Evergreens

Shade Trees

- Shade trees are *deciduous* trees
 - Leaves usually turn vibrant colors
 - Then fall off when the seasons change in the fall
 - Best planted 25 feet away from houses, building, or other obstacles
- Sizes can range from
 - 25-50 feet to even over 100 feet tall at maturity
- Avoid planting near utility lines
- Avoid planting too close to other trees

Ornamental Trees

- Typically chosen for specific characteristics
 - Spring Flowers
 - Fall color
 - Attractive bark
 - Crown form
- Range anywhere from 25-50 feet tall at maturity
- Smaller ornamentals work well under utility lines or in confined spaces
- Sometimes referred to as exotics
 - Sometimes grown outside of normal environment i.e., palm trees

Coniferous Trees



Conifer Trees

- Also known as evergreen trees
 - Have needles or needle-like leaves
 - Usually stay green all year
- Windbreaks
- Privacy screens

Native Trees

- Trees that grow naturally in Washington and Oregon
 - Vine Maple
 - Big Leaf Maple
 - Oregon White Oak
 - Numerous species of:
 - Spruces
 - Fir
 - Cedar
 - Many other deciduous trees



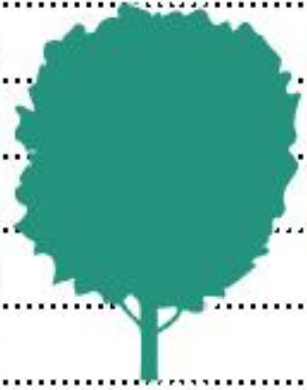
Trees for tough sites

These trees do well in poor soils, urban conditions, or temperature extremes

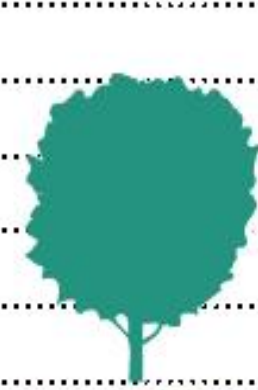
Mature height in feet

50
40
30
20
10
0

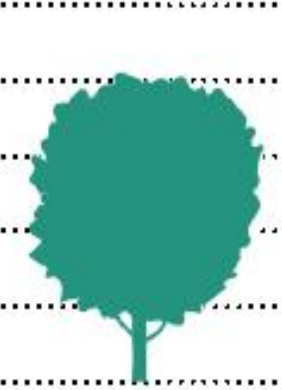
Japanese Zelkova
Crown spread 50'
Planting zone 5-8
Zelkova serrata



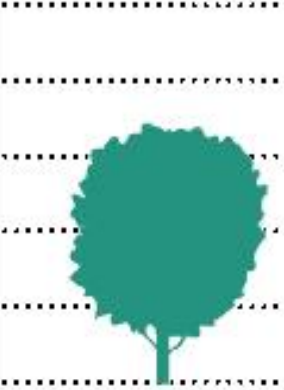
Turkish filbert
Crown spread 25'
Planting zone 4-8
Corylus colurna



Flowering pear
Crown spread 10-30'
Planting zone 5-8
Pyrus calleryana 'cultivar'



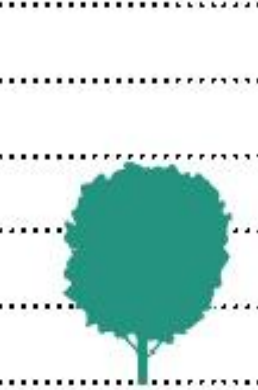
Raywood Ash
Crown spread 25'
Planting zone 5-8
Fraxinus oxycarpa



Goldenraintree
Crown spread 30'
Planting zone 5-9
Koelreuteria paniculata



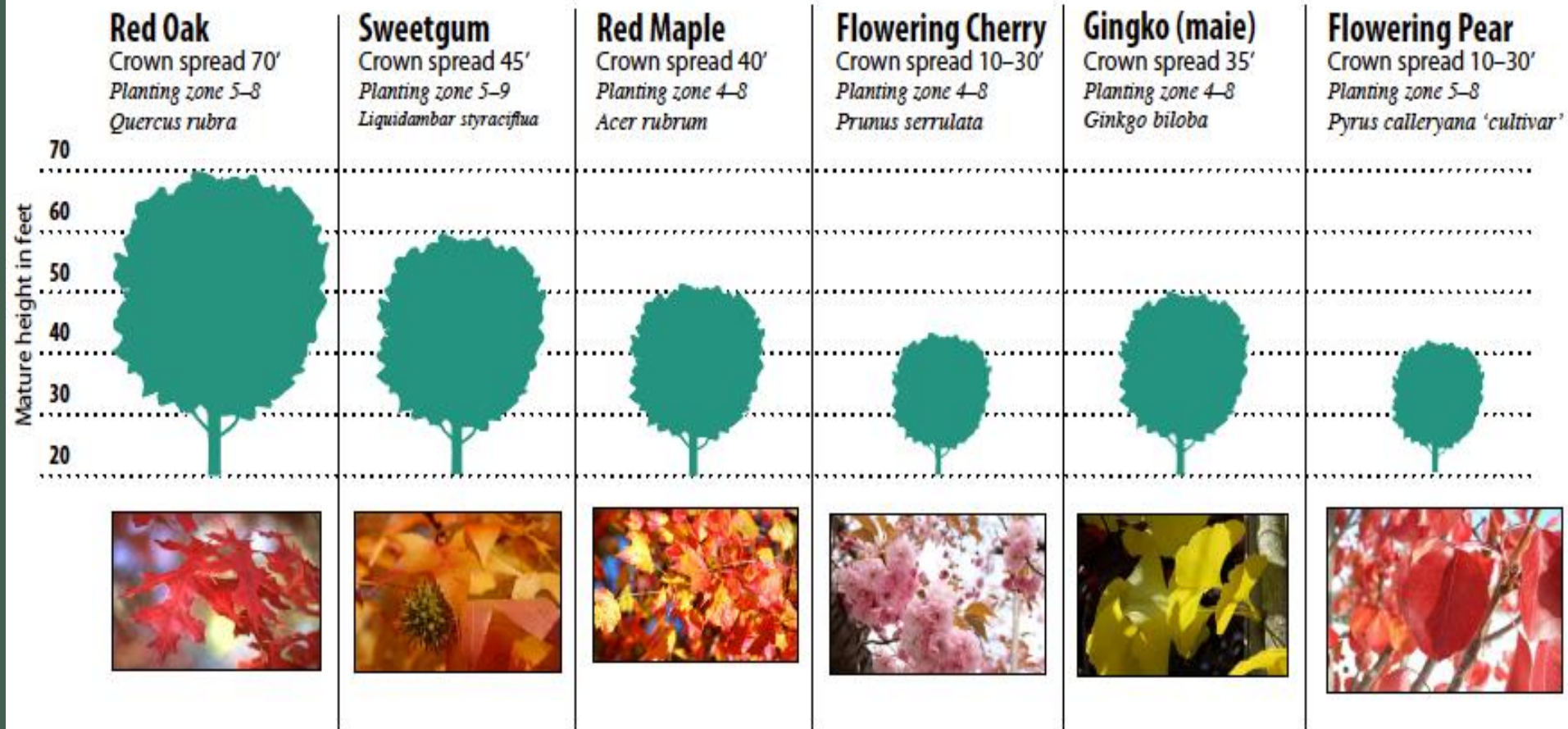
Thornless Cockspur Hawthorn
Crown spread 25'
Planting zone 4-8
Crataegus crusgalli inermis



Photos: Oregon State University

Trees for fall color

These trees produce spectacular autumn foliage.



Trees for under utility wires

Low-growing species well-suited for under power lines

Goldenraintree

Crown spread 30'
Planting zone 5-9
Koelreuteria paniculata

50

40

30

20

10

0



Amu Maple

Crown spread 15'
Planting zone 4-7
Acer ginnala



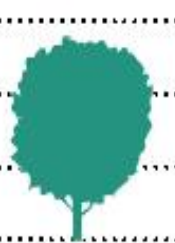
Glorybower

Crown spread 25'
Planting zone 6-8
Clerodendrum trichotomum



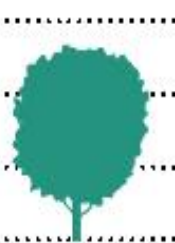
Kousa Dogwood

Crown spread 25'
Planting zone 5-8
Cornus kousa



Japanese Lilac

Crown spread 20'
Planting zone 4-8
Syringa reticulata



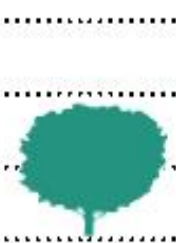
Mount Fuji Cherry

Crown spread 20'
Planting zone 4-8
Prunus serrulata 'Shirotae'



Vine Maple

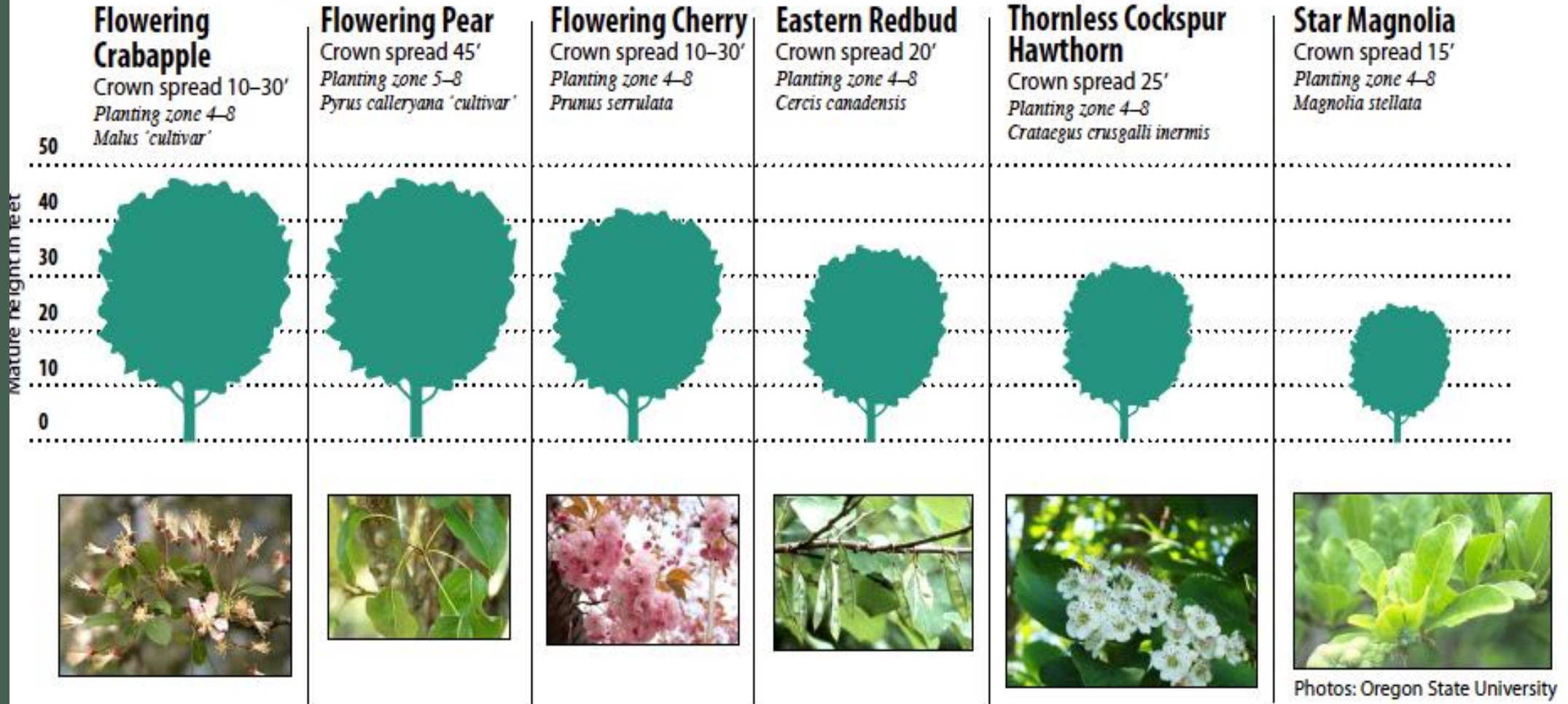
Crown spread 20'
Planting zone 4-8
Acer circinatum



Photos: Oregon State University

Trees for spring flowers

These trees put on a show of color and fragrance in the spring



Photos: Oregon State University

Trees for energy conservation

These trees help shade your home, reducing energy costs.

Deodar Cedar

Crown spread 75'

Planting zone 6–8

Cedrus deodara

100

80

60

40

20

0



Horsechestnut

Crown spread 50'

Planting zone 4–8

Aesculus hippocastanum



American linden

Crown spread 50'

Planting zone 5–9

Tilia americana



Red Maple

Crown spread 40'

Planting zone 4–8

Acer rubrum

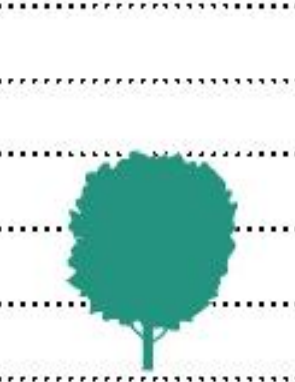


Katsuratree

Crown spread 40'

Planting zone 5–8

Cercidiphyllum japonicum

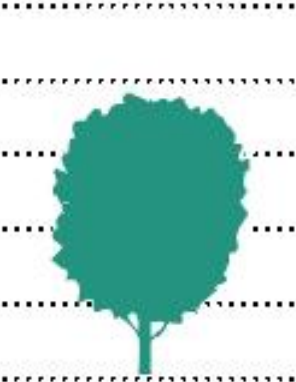


Tuliptree

Crown spread 50–70'

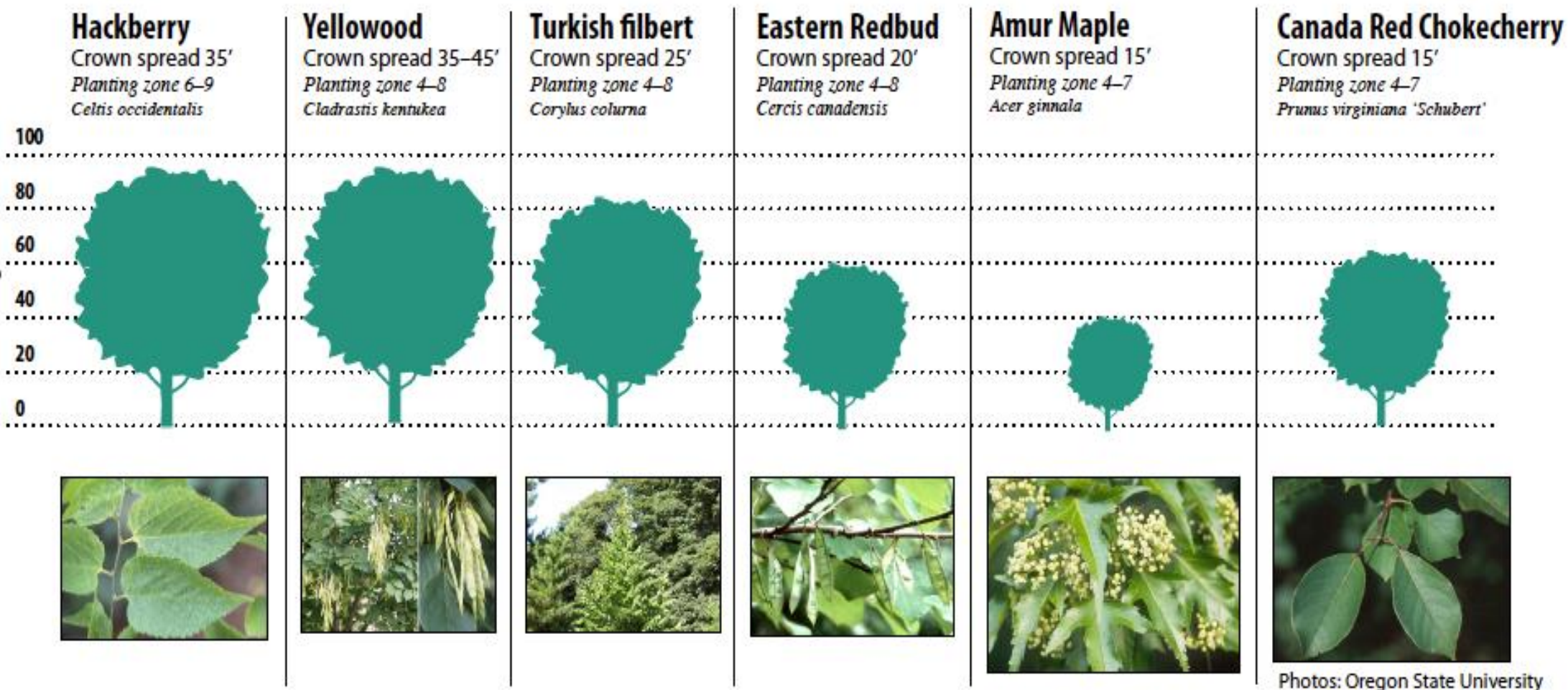
Planting zone 4–8

Liriodendron tulipifera



Trees for water conservation

These trees require little watering beyond early establishment.



Photos: Oregon State University



Planting Your Tree/Shrub

- Planting Season
 - Shade and ornamental trees during dormant season
 - November-April
 - Avoid planting in hot, dry weather.
- Transporting
 - Often stressed or damaged in transit home
 - Wrap trees to protect bark/buds/leaves
- Storage
 - North side of building, keep root ball moist
 - Bareroot in loose soil or sawdust

Planting a Tree

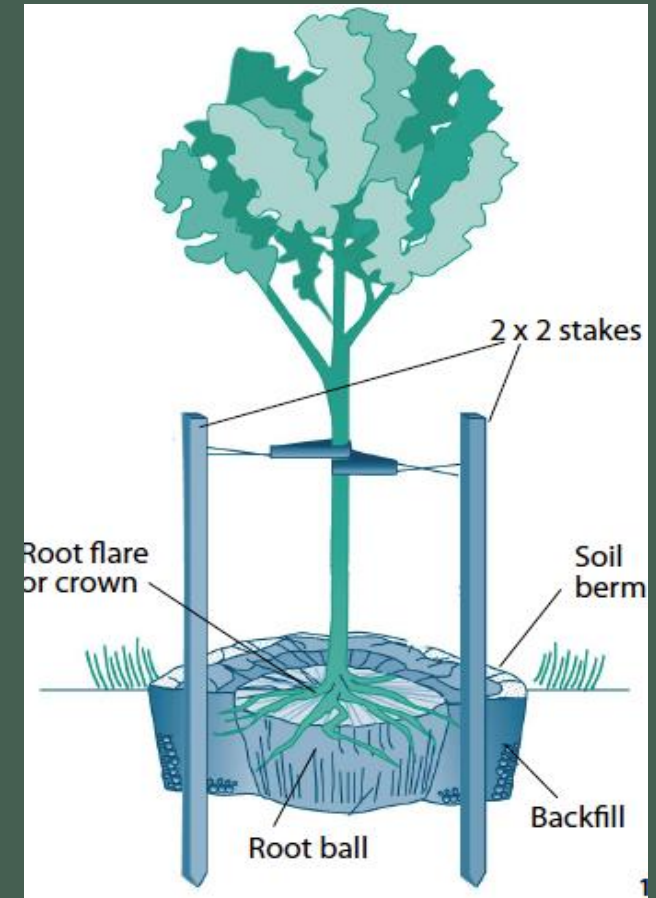


Planting a Balled and Burlapped Tree



Should I Stake My Tree?

- Most new trees when planted correctly don't need to be staked
- Weak trees or those in a windy stake may need to be staked for the first 6 months-1 year
- Young trees standing alone with their tops free to move develop stronger, more resilient trunks than staked trees
- Too much wind can bend young trees and disturb the root ball and stress the tree
- If staking doesn't allow some movement of the trunk the tree will not allocate any growth to the main stem and will be unstable when the staking is removed.



Early Tree Care

- Apply a layer of mulch around the base of your tree to help retain moisture. Be sure not to get mulch around the trunk of the tree which can increase the likelihood of disease/rot.
- Water the tree regularly
- Remember that trees also require regular watering in the winter months as well
- Examine soil moisture 4 to 8 inches deep, if it feels dry or slightly damp, the tree/shrub needs watered.
- Well-drained sandy soils will need more frequent watering than clay or loamy soils.
- The best way to water a new tree is to place a garden hose at the base and run a slow trickle over the next couple of hours until the soil is thoroughly soaked.



Photo: Sacramento Tree Foundation

Mulching around the base of your tree helps it retain the moisture you give it. Avoid short, frequent watering, which promotes development of a shallow root system vulnerable to drying out and other stresses.



Photo: Hanover Township, Northhampton County, Pennsylvania



Do not let your lawn grow right up to the base of your tree. The grass will rob the tree of valuable nutrients and water.

Photo: Buffalo-Niagra Gardening.com

Early Tree Care

Do's and don'ts of new tree mulching: Material



Photo: Mulch: Russ/ CC BY-NC-SA 2.0

Organic mulches include wood chips, straw, leaves, and decomposed leaves. They keep the ground cool and moist and discourage weeds.

1.

Do's and don'ts of new tree mulching: Remember to water



Photo: North Carolina State University

3.

After mulching, watering deeply, thoroughly, and only as needed will encourage a deep and healthy root system that better withstands environmental stresses. Newly planted trees should be watered 1 to 2 times per week during dry periods in the spring, summer, and fall months. Trees planted within the last 5 years should be watered once every 1 to 2 weeks.

Do's and don'ts of new tree mulching: Size and shape



Photo: Arbor Day Foundation

It's best to keep mulch off the root ball for several months after planting so adequate water reaches roots.

2.

Do's and don'ts of mulching: Go for a doughnut



Photo: University of Nebraska

4.

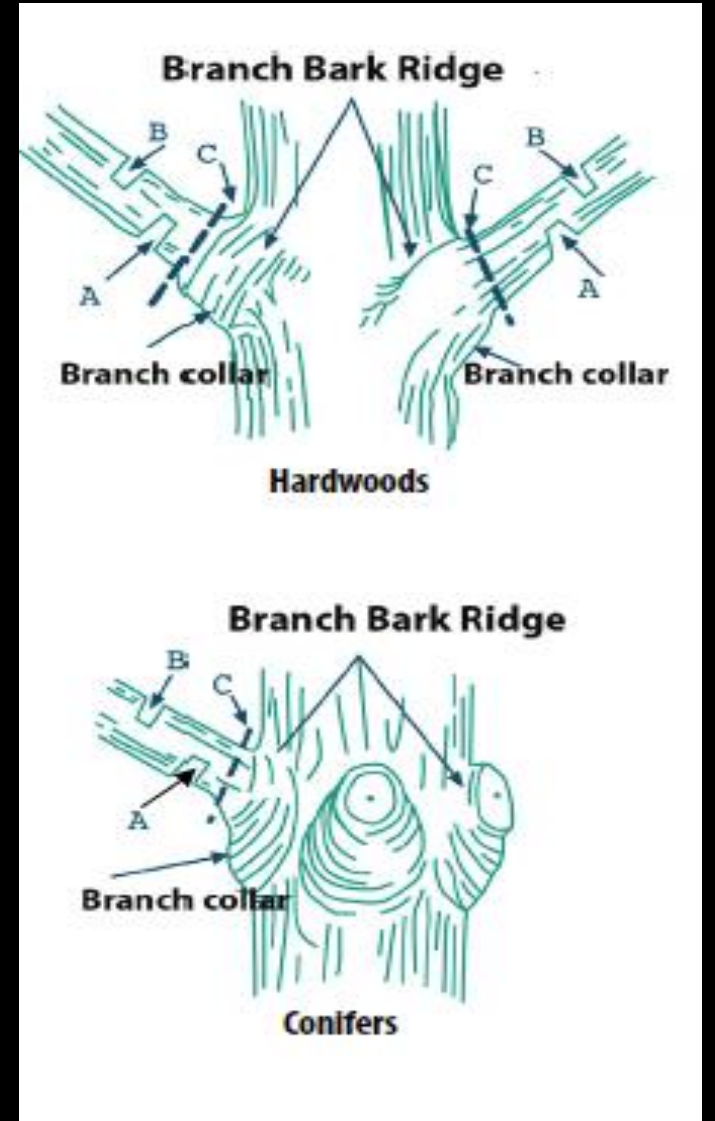
Some landscapers create a mulch doughnut, keeping the mulch layer at 1 inch near the tree and increasing the depth to 4 inches further away, creating a concave area where water can be sure to reach the tree's roots and encroachment from surrounding grass is discouraged.

• Mulching

- Important for retention of moisture
- Suppresses weeds
- Discourages damage from weed eaters and mowers
- Use of wood and bark chips makes good mulching material
- Use in 3 – 6-inch layers and keep from direct contact with the bark of the tree

Pruning in Brief

- Pruning is an important component of keeping a tree healthy
- Prune conifers in late summer and fall
 - Reduces the amount of pitch the tree produces
- Prune deciduous trees in late winter or early spring before the leaves begin to appear
 - Allows for new growth to begin covering the wounds and lets the tree internally seal the wound.



Need Additional Resources?

- Arbor Day Foundation
 - www.arborday.org
- Trees Are Good
 - www.treesaregood.com
- Washington State University Extension
 - Courses on:
 - Fruit Trees
 - Pruning
 - Diseases

References

- Fitzgerald, S. & Ries, P. (2016). Selecting, Planting, and Caring for a New Tree. Oregon State University Extension. Retrieved from <https://catalog.extension.oregonstate.edu/ec1438>
- WIDNRTV. (2021, April 27). Planting A Balled and Burlapped Tree [Video]. Retrieved from <https://youtu.be/ZijTjoDQid8>
- MissStateExtension. (2016, March 20). Proper Tree Planting [Video]. Retrieved from https://youtu.be/0FhJy1_3LbI