



WSU EXTENSION
Cowlitz County

How to plant a tree





Right plant, Right Place

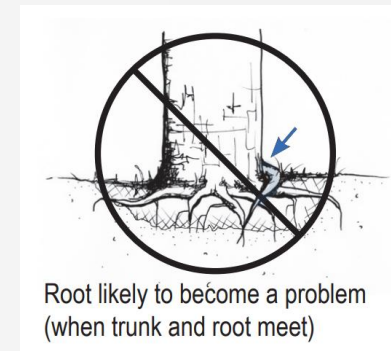
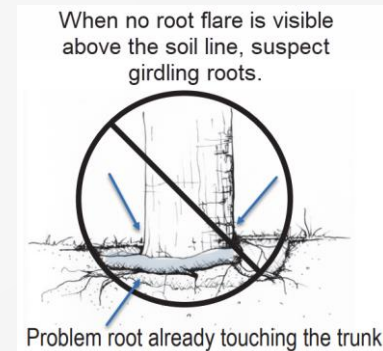
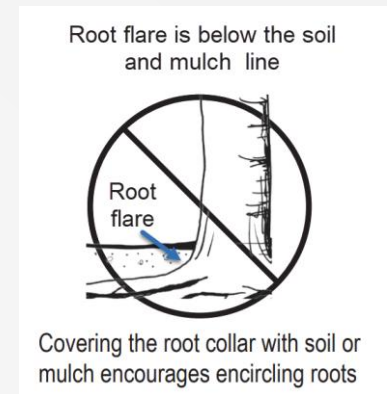
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Do your research:

- **Mature size**—**will** it fit in the space when it's fully grown?
 - **Growth rates**—Fast—you'll have a big tree quickly, but will have a shorter lifespan
 - **Soil considerations**—Can the trees tolerate wet feet if soil doesn't drain well?
 - **Water needs and tolerances**-- Trees listed as drought-tolerant may not be suitable to extremely dry sites or prolonged water stress
 - **Management concerns**— **pruning**, common insect and plant diseases, messy fruit or leaf litter, suckers
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Step 1: Prepare the roots

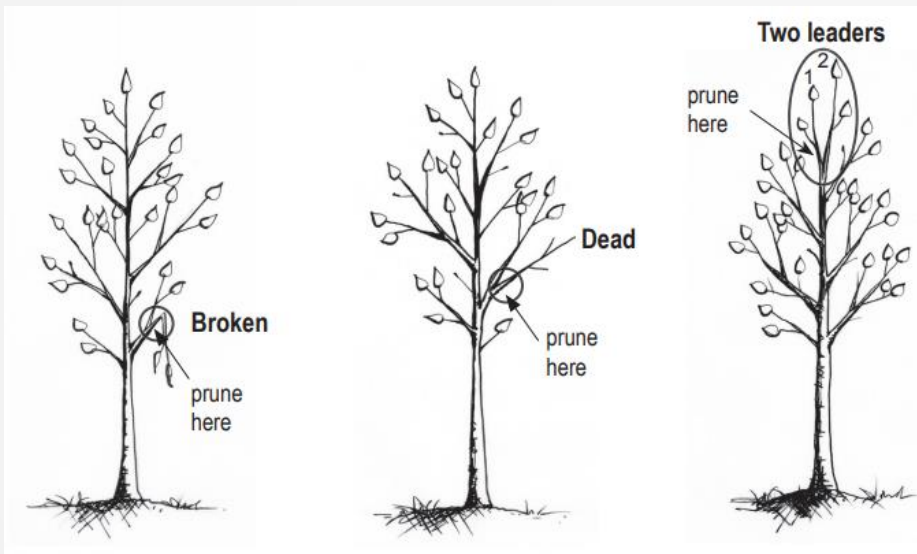
Why prepare the roots before planting?

- Most containerized trees are planted too deep, and have been in the container too long.
- Circling roots can “girdle” a tree by cutting off its water and nutrient supply.
- **Prune off circling roots and roots that bend back toward the center of the root ball to prevent girdling.**
- Keeping soil and mulch away from the root flare of the tree can also help to prevent the formation of girdling roots.



Step 1: Prepare plant structure

- Move your tree carefully to the hole
- Prune off competing leaders, broken and dead branches.



How to Move Your Tree

Carry your tree by its root package (ball or container)—not the trunk! Steady it by holding the lowest part of the trunk.

Large containerized trees may be tipped onto the bottom edge and rolled.




For balled-and-burlapped trees, you may find it easiest to place tarps or ropes under the ball as a sling.



A dolly or other cart may also be used.



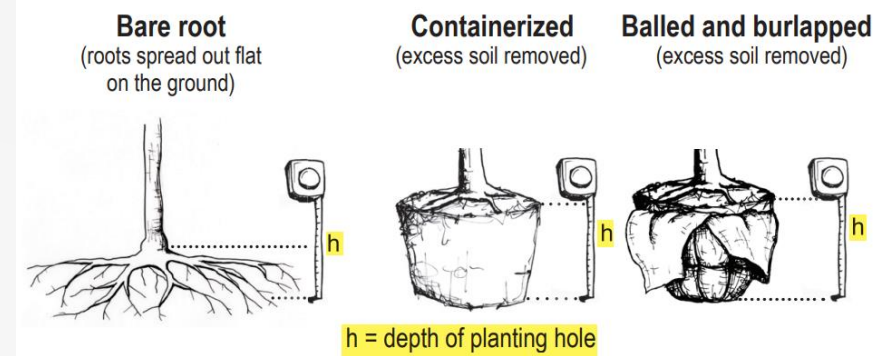
 **Protect the trunk.**
Even a small wound on a young tree can cause permanent damage.

Step 2: Dig the hole

Think “saucer,” not “hole.”



- **Hole depth**—Measure the height of the remaining root ball. This is exactly how deep you should dig the hole. ***Dig the hole ONLY as deep as the root system (NO deeper!).
- **Hole width**—two or three times the width of the rootball—clay soils need the wider hole.
- **BEFORE YOU DIG:** Call to be sure there are no buried utility lines. Be sure the mature height of the tree will not interfere with utility lines.



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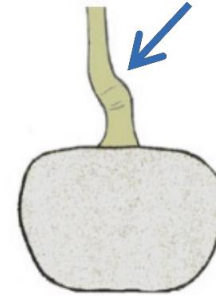


Don't put a \$100 tree in a \$10 hole
Take it slow—follow ALL steps!

Step 3: Setting the tree in place

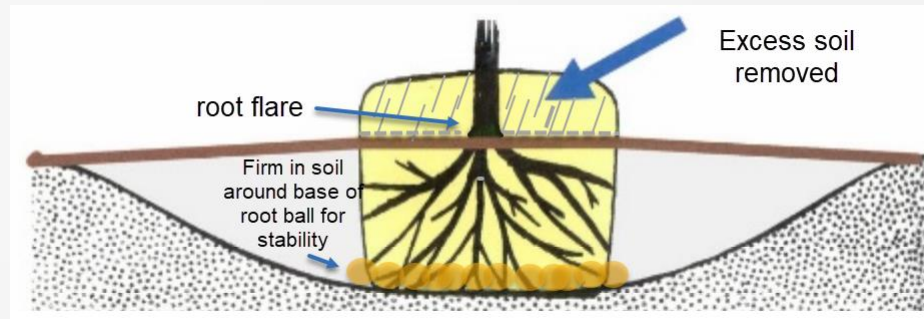


- Lay the tree on its side in or near the planting hole
- Tilt the tree into place with the inside curve of any graft crook facing north.
- Check the depth of the root ball in the planting hole. If needed, remove the tree and correct the hole depth. Be sure the **root flare is above the soil grade line.**
- Straighten the tree vertically.
- Stabilize root ball with some soil placed around the bottom of the root ball.



The inside curve of the graft crook or "dogleg" must face north to avoid winter bark injury.

cmg.extension.colostate.edu/Gardennotes/636.pdf

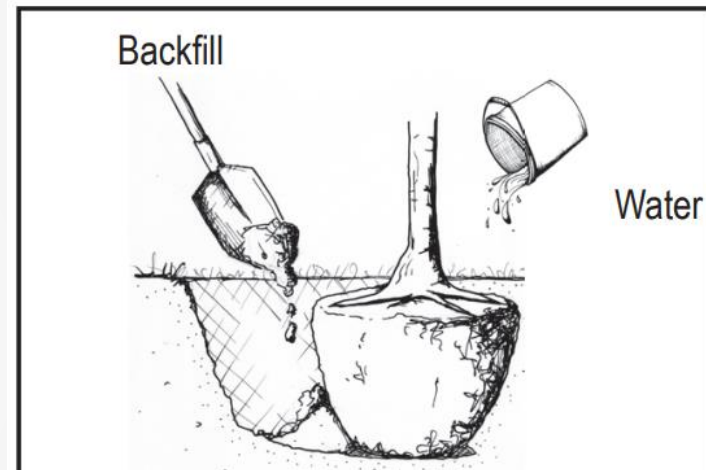


****Note:** If the tree is in burlap, remove the top two thirds of burlap, attempting to keep the roots in a ball. Use soil and your hands to stabilize. The roots will grow sideways, so material left under the root ball is okay to leave there.

Step 4: Backfill with the same soil



- Do not add amendments like compost or fertilizer to the planting hole soil. You want to encourage roots to leave the planting hole and establish into the ground.
- Keep trunk straight.
- Water planting hole.
- Break up soil clumps as you backfill. Clumps the size of a small fist are acceptable.
- Firm the soil in around the roots with your hands , but do not over-compact the soil.
- Tamp down the finished planting area.
- If staking is necessary, do so before you water (Staking—next slide).



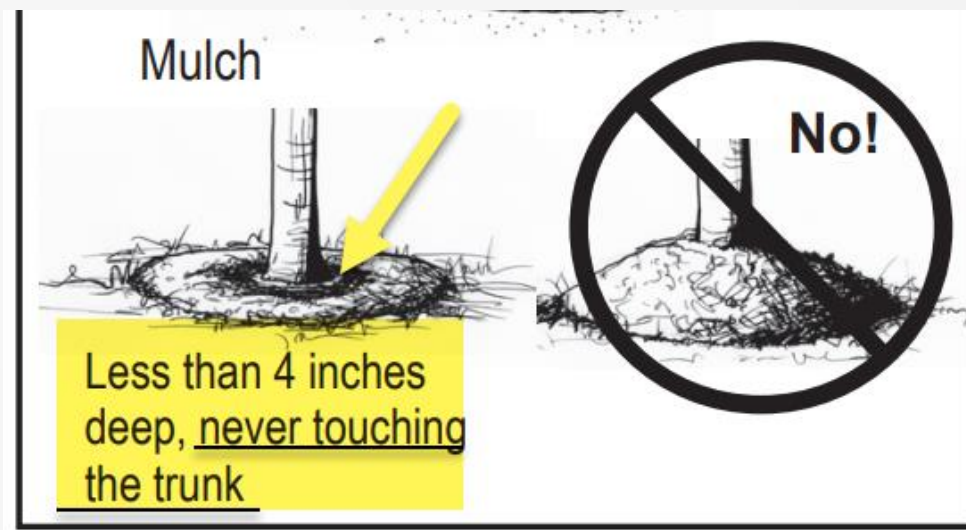
The backfilled soil may settle when watered. Final grading with additional backfill soil may be needed after watering

Step 5: Mulch correctly



*2-4 inches only, 2-4 inches away from trunk

- Too much can smother the roots, encourage circling roots, and invite pest damage.
- Proper mulching helps soil retain water, keeps weeds at bay, enriches the soil, and moderates soil temps.



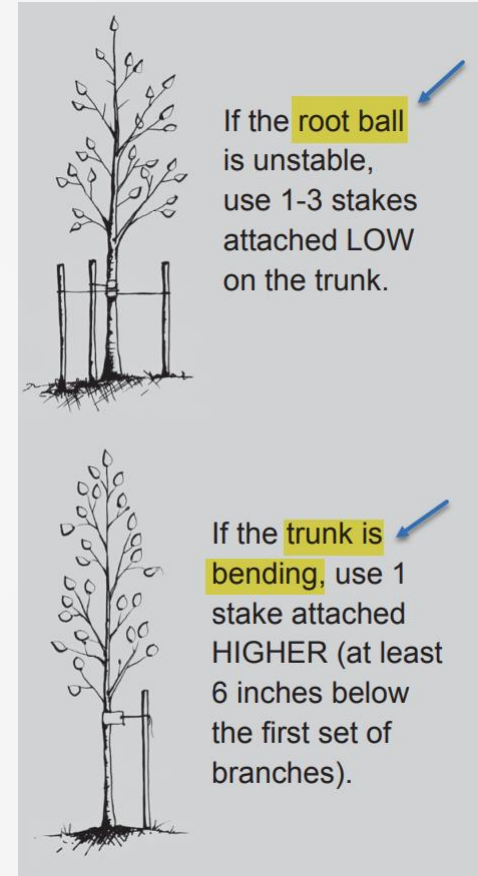


Step 6: Staking

To stake or not to stake

- Stake only if the root ball is unstable or the trunk is bending. Most trees do better without staking and become stronger and better able to withstand wind conditions.
- However, some trees need to be staked to remain standing straight in their new planting site.
- Use wide nylon, canvas straps, or nylon stockings wrapped around one side of the trunk.
- The tree should not be tied tightly.
- Water planting site after placing stakes.

***Important: Remove the stakes after 1-2 years




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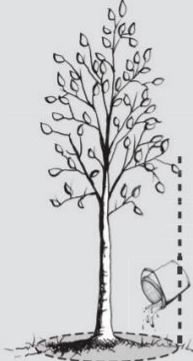
**There
are
ONLY
two
reasons
to stake
a tree!**

Step 7: Watering

- Frequency of watering depends on drainage and the weather.
- Water 360° around the base of tree, at the dripline of the tree
- Soak new plantings well, before heat domes, and over 90° weather.




First 3 years after planting:



- ☑ Check every other day in fast-draining soils, weekly in slow-draining soils

Water within the dripline

All other years:



- ☑ Check weekly

Water within the dripline. For large trees, focus on watering within 6 feet of the trunk and at the dripline.

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Tree maintenance



Trunk protection

- Trunk guards, can be purchased to protect new trees from deer.

Watering New plantings—

- Will need regular watering during the first 3 years until their roots get established.
 - Check soil moisture every week for new plantings
 - Water slowly and thoroughly is as bad as watering not enough! when the soil level at 6 inches is dry—use a screwdriver and your finger.
- Watering too much
- Water slowly inside the drip line.

Watering established trees(>3 years after planting)

- Water 1.5 gallons of water per inch of tree diameter when the soil is dry at 6 inches. (E.g., 4-inch diameter tree would need 6 gallons)
- Large trees—water at dripline and base of tree

Fertilizing

- Don't add nitrogen fertilizer unless recommended by an arborist.
 - If you apply “weed and feed” to your lawn, you could kill your tree!
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Tree maintenance

Checking Tree Health

- Does new growth look healthy and green?
- Does the crown (top) of the tree look healthy without dying foliage?
- Any obvious problems with the leaves/branches
- Check for trunk damage, fungus or mushroom growth on roots or trunk
- Trunk flat on one side (may be girdling root)

Mulching

- No more than 2-4 inches—and keep it away from the tree trunk.

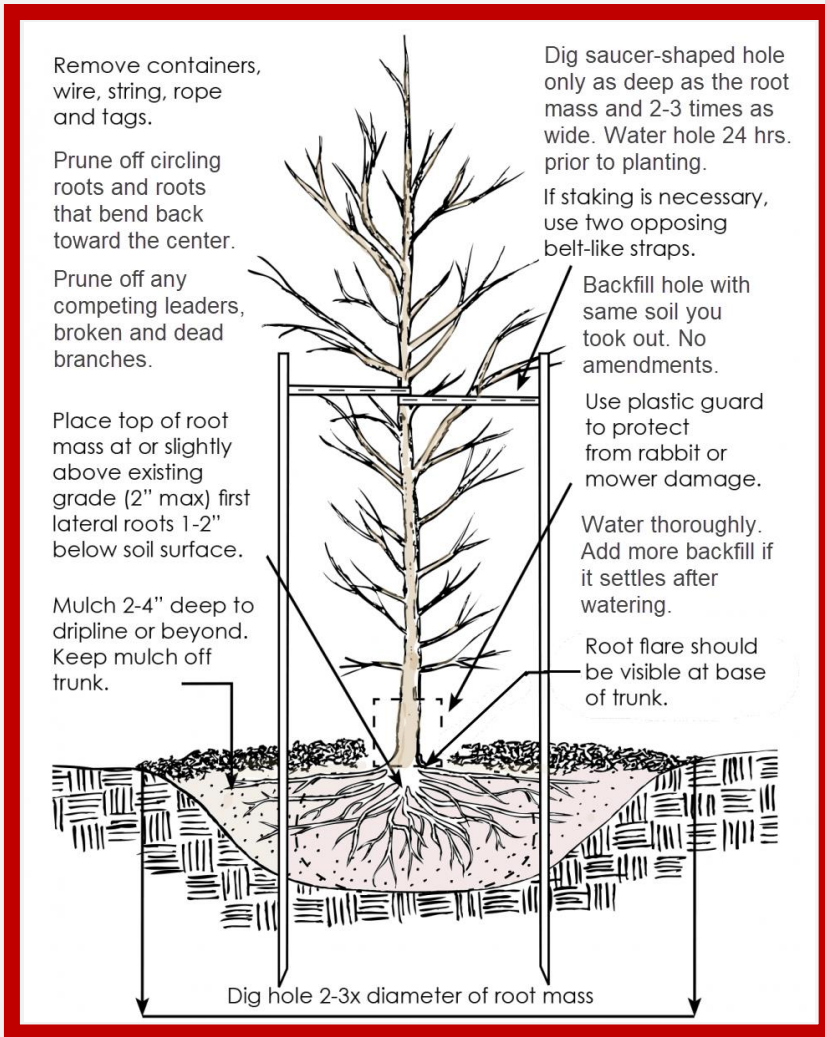
Beyond the scope of this talk:

- Checking Tree Safety
 - Pruning
 - Preventing and Correcting Encircling Roots
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Summar

1. Prepare the roots and tree structure
2. Dig the hole
3. Set the tree in place
4. Backfill with the same soil
5. Mulch correctly
6. Stake only if necessary
7. Water new plantings regularly to help establish roots.



(Photo courtesy: Arbor Day Foundation)



Resources

Planting a new tree (Int'l Society of Arborists)--

https://www.treesaregood.org/Portals/0/TreesAreGood_New%20Tree%20Planting_o621.pdf

CMG GardenNotes #636 <https://cmg.extension.colostate.edu/Gardennotes/636.pdf>

Excellent resource from OSU: <https://catalog.extension.oregonstate.edu/sites/catalog/files/project/pdf/ec1438.pdf>

Planting tree from (Short videos)

Container: https://www.youtube.com/watch?v=vwHlaN1QbMo&ab_channel=HorticultureatNCStateUniversity

Balled and burlap: https://www.youtube.com/watch?v=En1jDK1nQ84&ab_channel=HorticultureatNCStateUniversity

Bare root: https://www.youtube.com/watch?v=1nbe0s6QJ3Y&ab_channel=HorticultureatNCStateUniversity

Linda Chalker Scott—Why to plant bare root trees--

<https://www.dropbox.com/s/pv0xxgsw3qzqgbu/Linda%20Chalker%20scottbarerootprimer-121219095446-phapp02.pdf?dl=0>

Tree Owner's Manual— https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5368392.pdf

OSU Publication PNW 400 Training and Pruning Your Home Orchard

<https://catalog.extension.oregonstate.edu/sites/catalog/files/project/pdf/pnw400.pdf>
