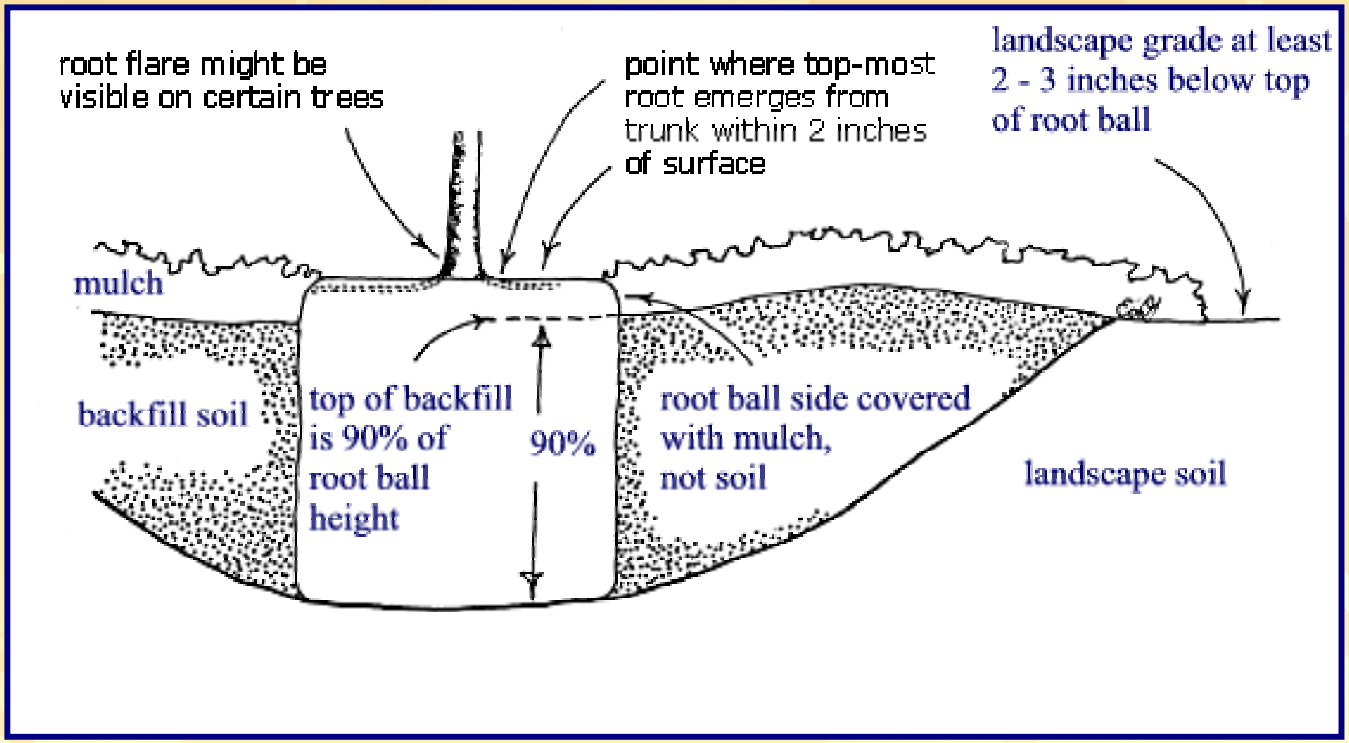
Planting Landscape Trees

Outline of Planting

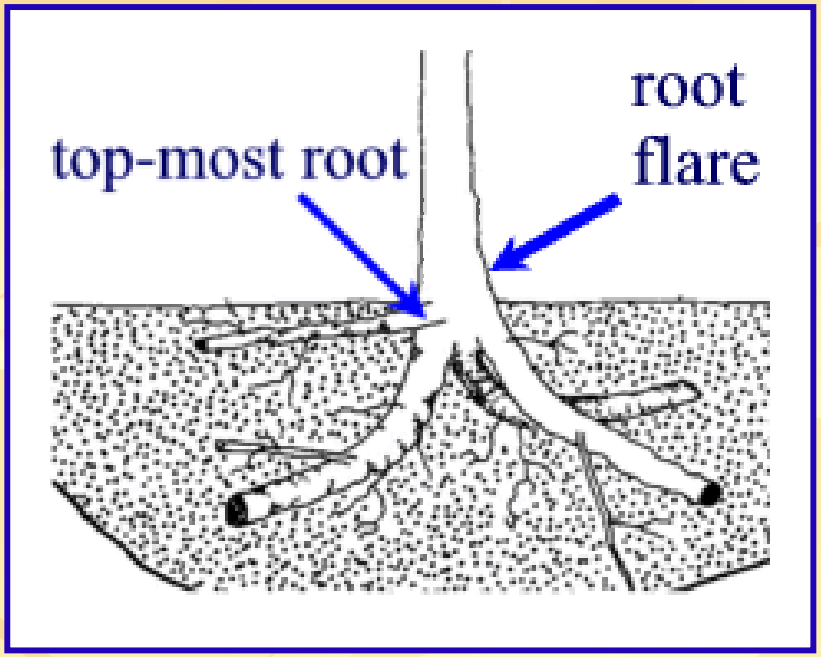
- Dig shallow/wide hole
- Find the top-most root
- Place tree in hole
- Position top root 1-2” above landscape soil
- Straighten tree
- Remove synthetic materials
- Add backfill soil and firm the root ball
- Add mulch to cover root ball sides
- Stake if needed

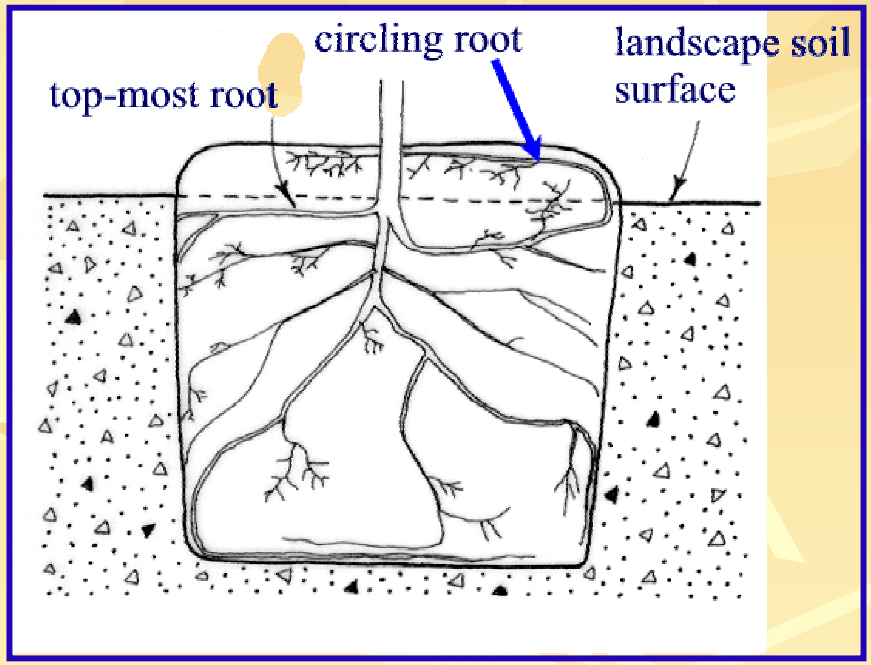
Dig Shallow / Wide Hole



- Dig the planting hole as wide as possible
- The depth of the hole should be less than the height of the root ball

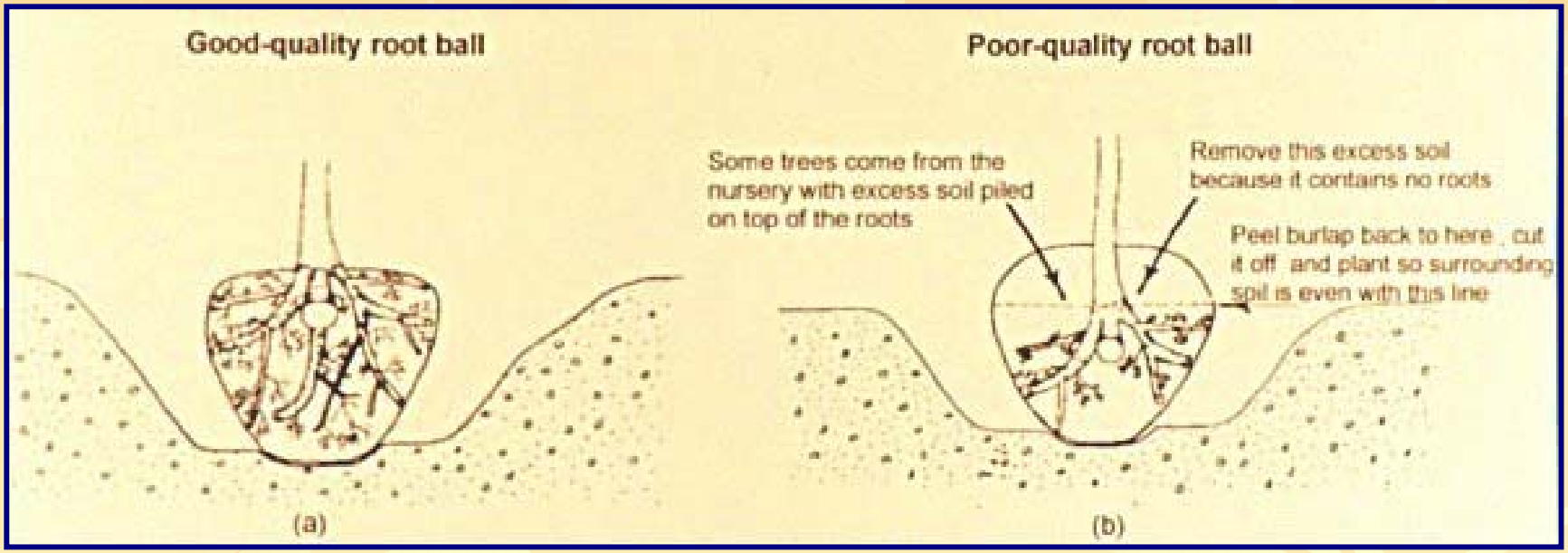
Find the top-most root





- The point where the top-most root meets the trunk of the tree should be no more than 2”deep in the root ball

Root ball quality



- (RIGHT) Too much soil on top of the root ball can indicate a poor-quality root ball
- (LEFT) Trees with the top-most root near the surface of the root ball have more of a root system

Remove excess soil - containers

- If the top-most root is too deep, remove soil from the top of the root-ball so the top-most root is within the top 2” of soil

Three inches of soil and media were removed from the top of this ball

Check for problem roots

- When you remove excess soil, also check for and cut roots that circle, those that are kinked or those that cross over major roots

Place Tree in Hole

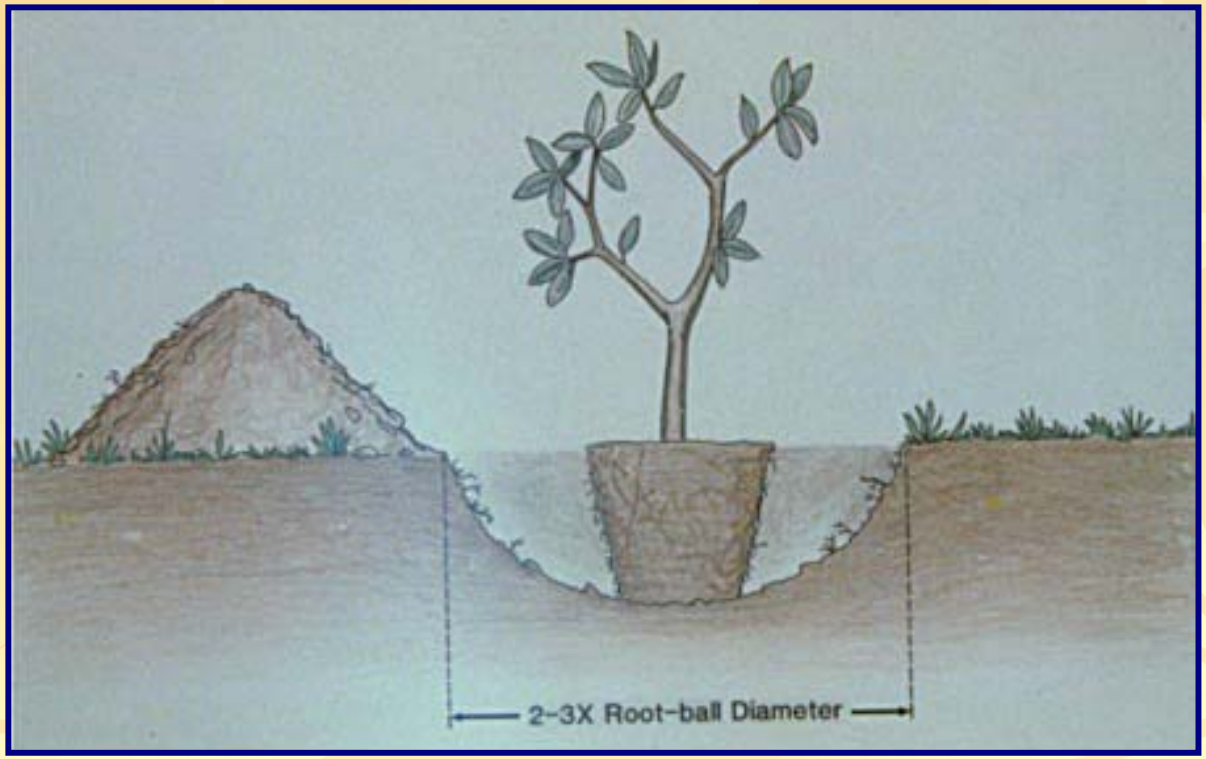
- To avoid damage when setting the tree in the hole, lift the tree with straps or rope around the root ball, not by the trunk

Position Tree

- Most professionals agree that it is better to plant the tree a little high than too deeply

If the tree is too deep, tip it from side to side or raise the tree up while sliding soil under it until the root system is at the appropriate depth

Set at the right level?



- If the top-most root is at the surface of this root ball, this plant is set at about the right depth - more likely, it is too deep
- If the top-most root is not within 2” of the surface, this plant is set too deeply

Root ball set correctly

- To adjust for the top-most root being too deep in the root ball, set the top of the ball several inches higher than the landscape soil

Remove excess soil – B&B

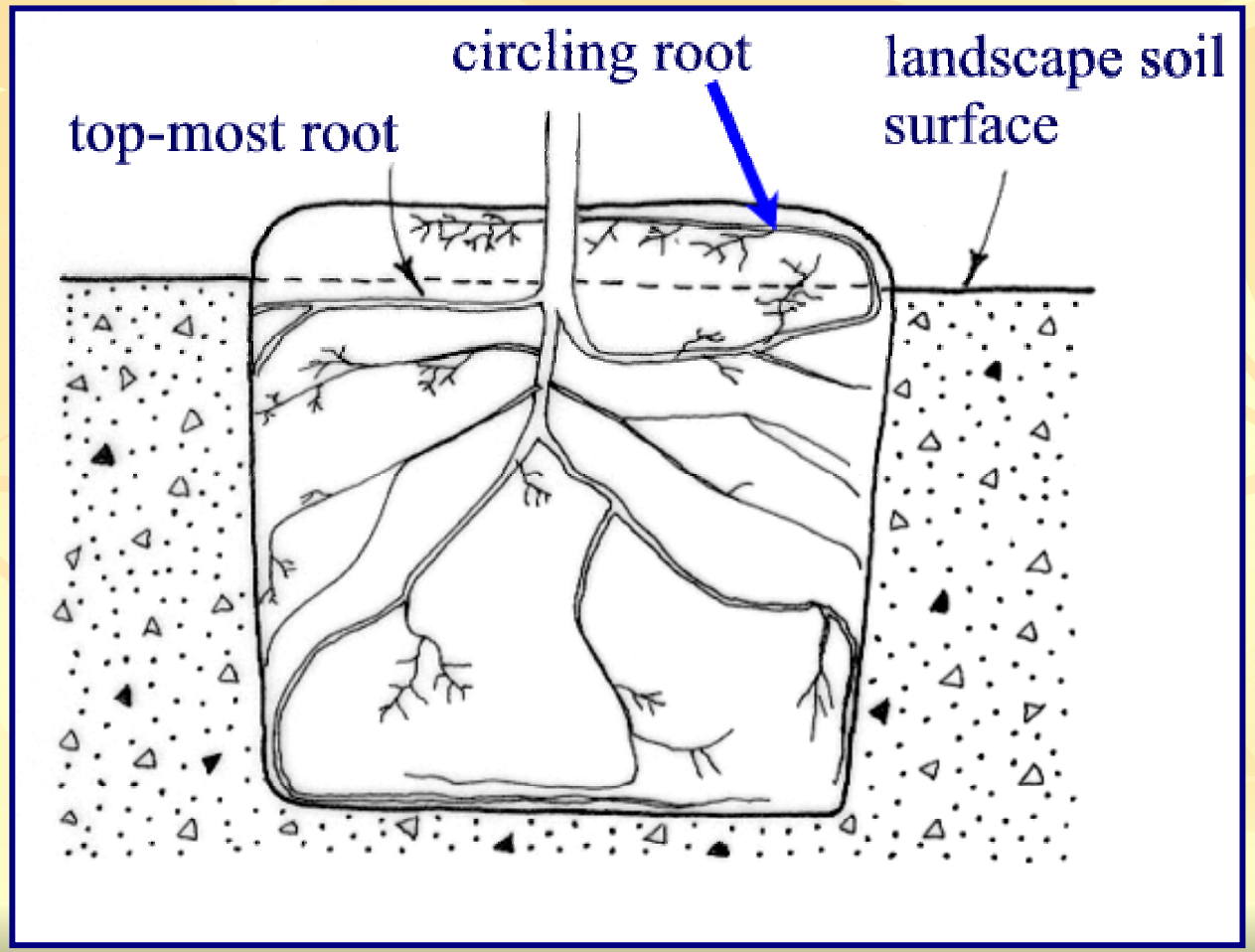
- If the point where the top-most root meets the trunk is more than 2” from the top of the soil, use your hands to remove any excess soil from the top of the root-ball

Exposing top-most root

- Exposing the point where the top-most root emerges from the trunk serves as a convenient way to check for root defects such as circling roots

Treating root defects

- Cut or spread out any circling or kinked roots growing up above the top-most root



Cutting circling roots

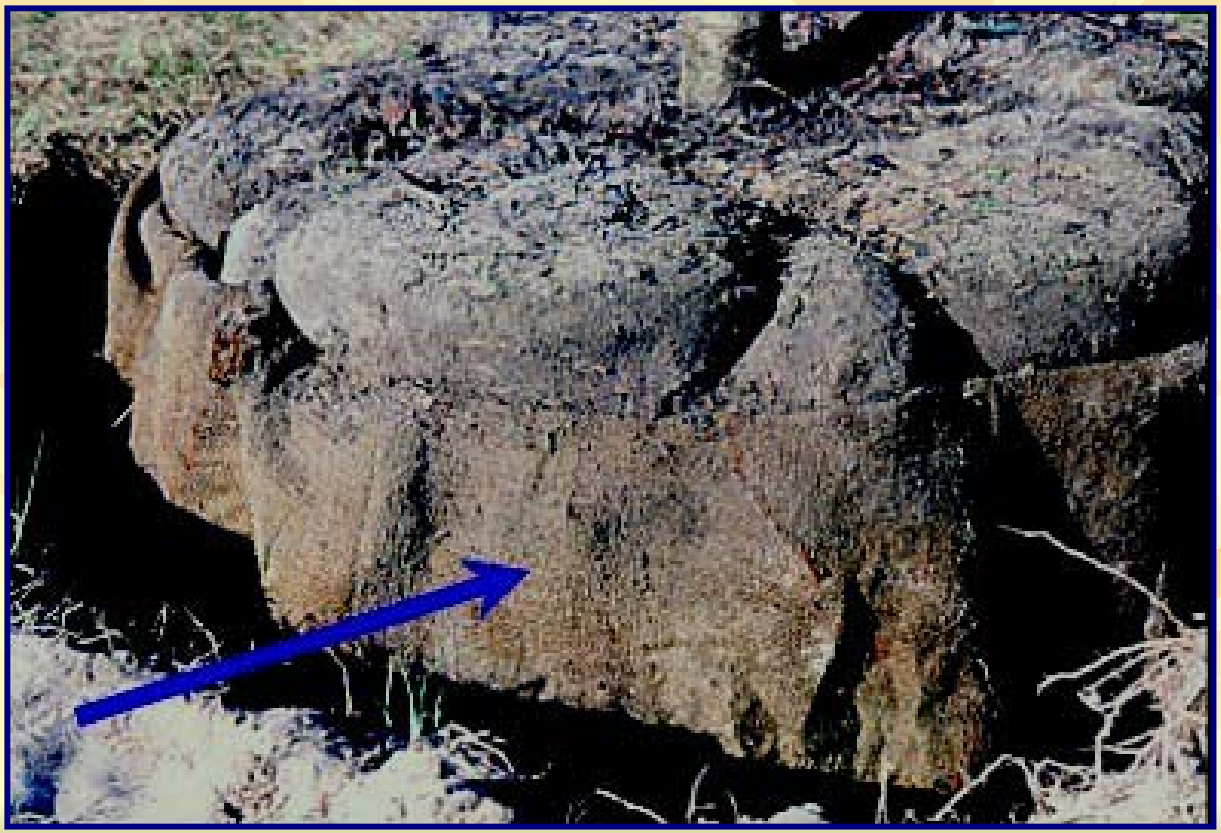
- These roots were cut because they circled the outside edge of the root ball
- New roots will grow quickly into backfill soil following cutting

Straighten the tree

- Before adding backfill, be sure to check that the tree is straight by looking at it from two perpendicular directions

Remove Synthetic Material

- Under optimal conditions, burlap would be removed from the bottom of the trunk and the top of root ball



Synthetic burlap can cause problems

- These roots grew through this artificial burlap with little difficulty but, as the roots attempted to expand in diameter, they became girdled or strangled

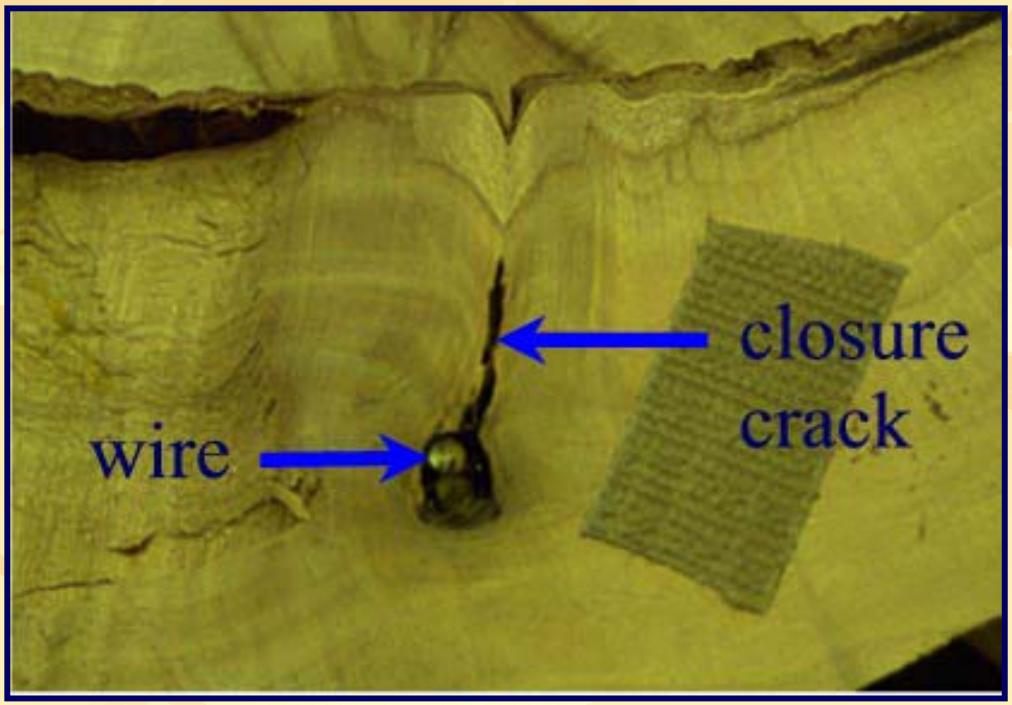
Girdled roots

- Each of these roots is very easy to break off at the burlap because there is very little wood that developed through the burlap

Remove all synthetic burlap

- Synthetic burlap melts into a plastic goo while real burlap flames and turns to ash
- If burlap is synthetic, be sure to remove all of it with a pruner, knife or other sharp blade

Wire baskets



Baskets made from heavy gauge wire are often used to help keep a root ball intact during shipping and handling

- There is no research documenting the detrimental effects of wire baskets on trees

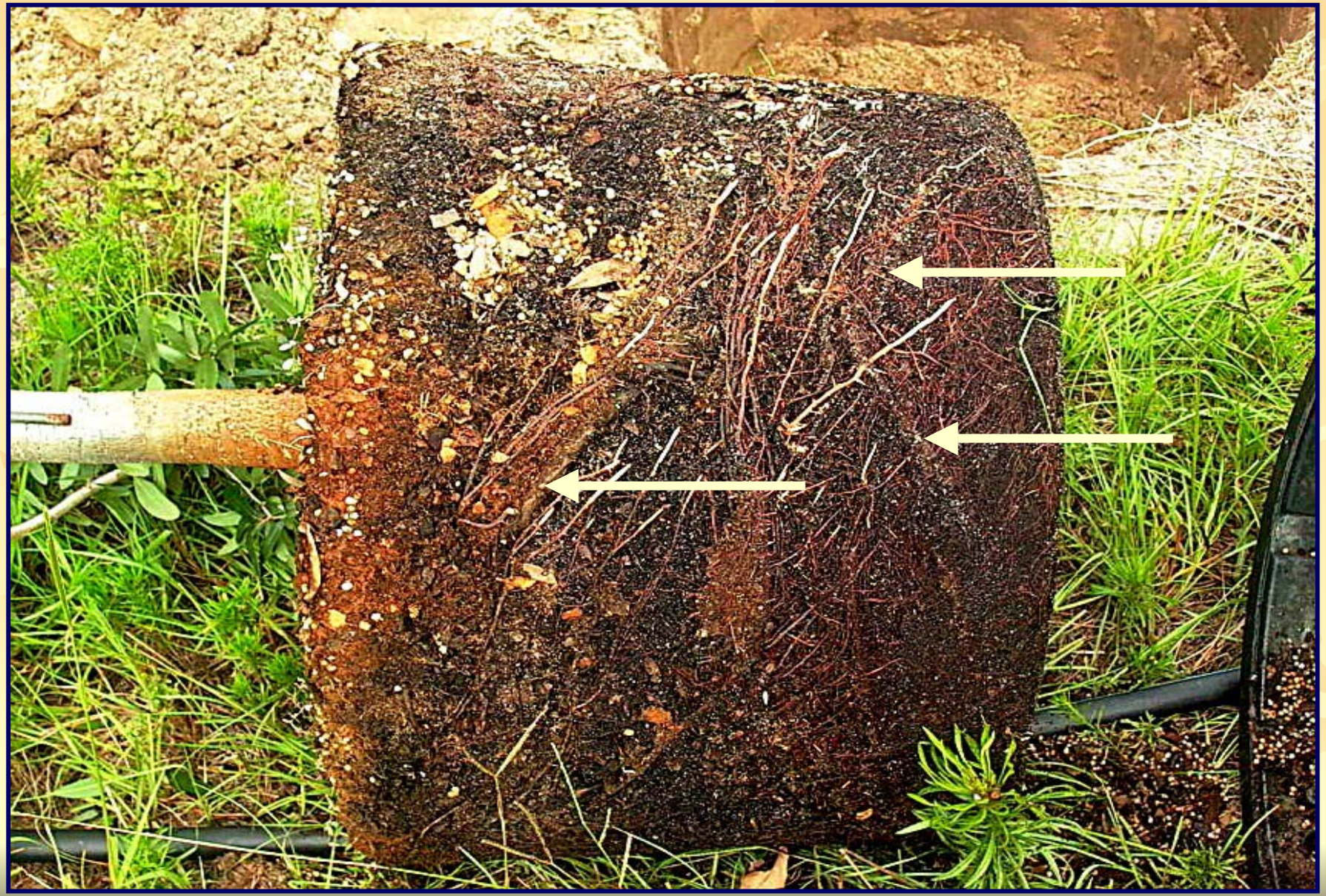
Wire baskets

- Trees die for many reasons. Baskets have been found intact around dead trees. This does not necessarily mean the wire killed the tree.

Planting container trees

Slide tree from container

Circling roots – cut them



Slice circling roots

Find the top root

Top root at surface

Measure from top root to bottom of container

Set tree in the hole

Set too deep - add soil to bottom of hole

Enlarge the hole

Raise this root ball, add soil to the hole, and pack it with your foot

Then, loosen soil with shovel to effectively enlarge hole diameter

Enlarging hole – loose soil

Finished creating loose soil

Soil over ball is not good

Water the backfill to settle

Prune to finish the job

- Remove broken branches
- Perform structural pruning if needed
- Do not prune to compensate for root lose

Cut into the backfill

- After filling the planting hole with backfill, slice a shovel into the soil 20 to 30 times to break up clayey soil and air pockets

- Pack lightly with your foot

Ready for mulch

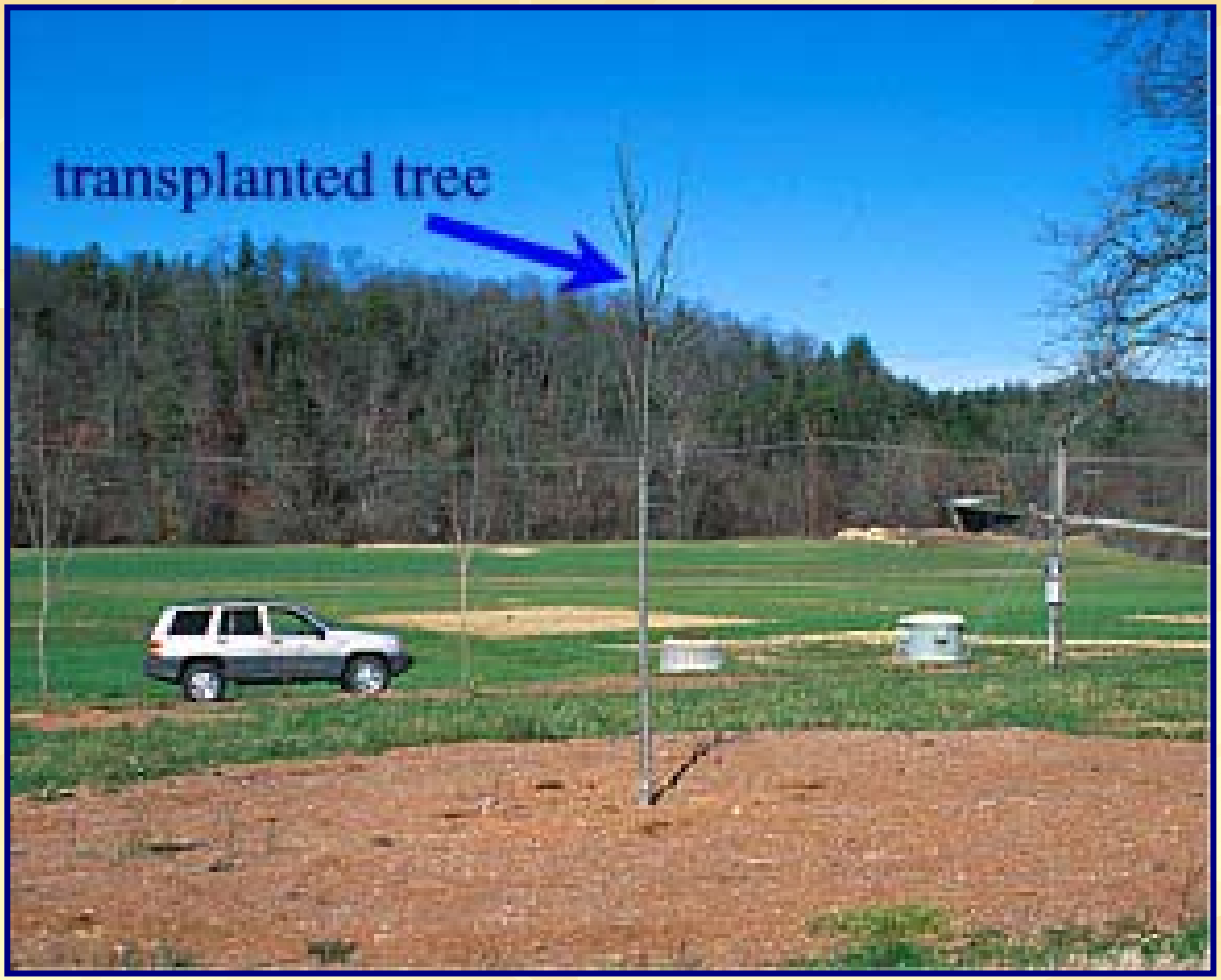
- Two or three inches of the root ball should remain above ground after all the backfill soil is added
- This ensures the top-most root remains above ground, even if the root ball settles

Mulch

Mulching

- Apply a 3” thick layer of mulch to at least an eight-foot diameter circle
- Apply a thinner layer of mulch over the root ball, but keep it at least 10” from the trunk

Mulching



- Mulch as large an area as possible to allow the trees roots to expand without competition from turf roots

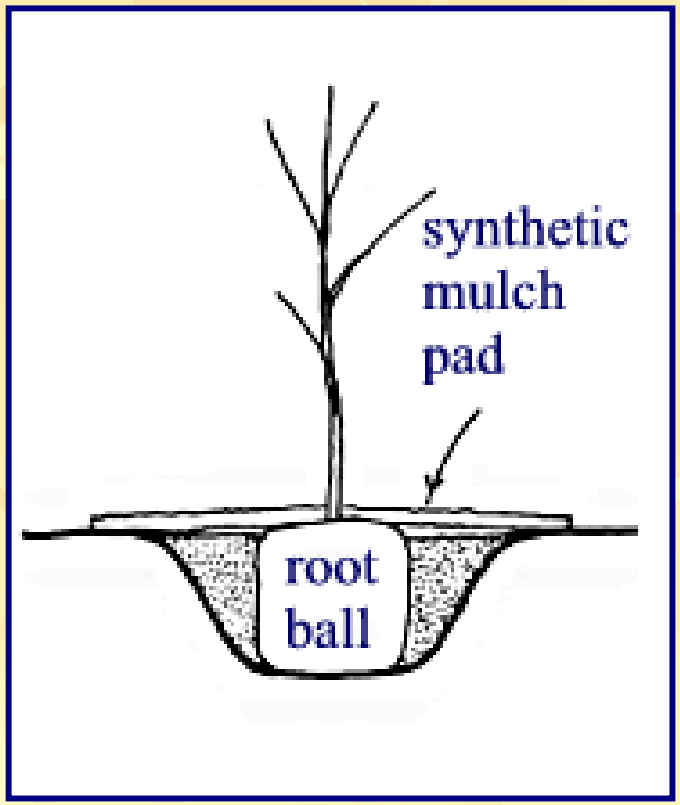
Improper mulching

- If turfgrass grows up to the trunk, trees often perform poorly
- Turf and weeds rob trees of moisture and nutrients and some produce chemicals that inhibit tree growth

Improper mulching

- Never pile mulch in a volcano-like manner against the trunk. This cuts off oxygen to roots, can rot the trunk, can keep vital irrigation and rain water out and can keep roots too wet in poorly drained soils

Synthetic mulch



- Synthetic mulch, in this case made from rubber, can be used as an organic mulch replacement in areas where organic mulch could blow or float away

Add a berm?

- When using a hose for irrigation, a 3” to 4” berm could be constructed at the edge of the root ball to prevent water from running off as seen here.

Soil berms

- Berms made from soil allow water to soak into the root ball but, unless covered with mulch, rainfall will quickly wash soil from the berm onto the root ball
- This could bury the roots too deep

Mulch your berm

- Prevent soil from being washed over the root ball by covering soil berms with a 3” to 4” layer of mulch or, most preferably, by constructing the berm entirely from mulch

Traditional staking methods

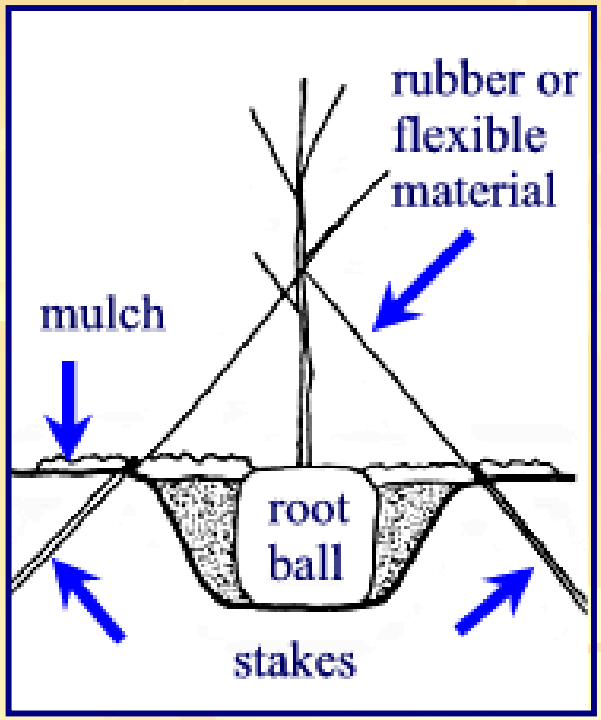


Figure 1

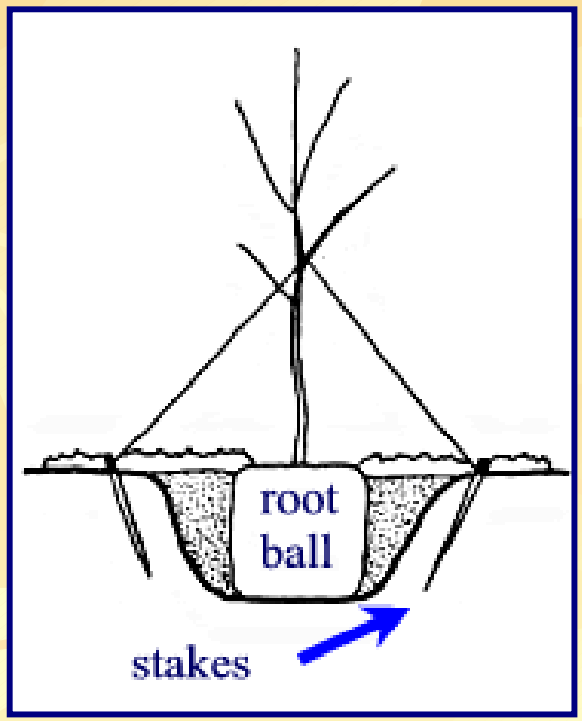


Figure 2

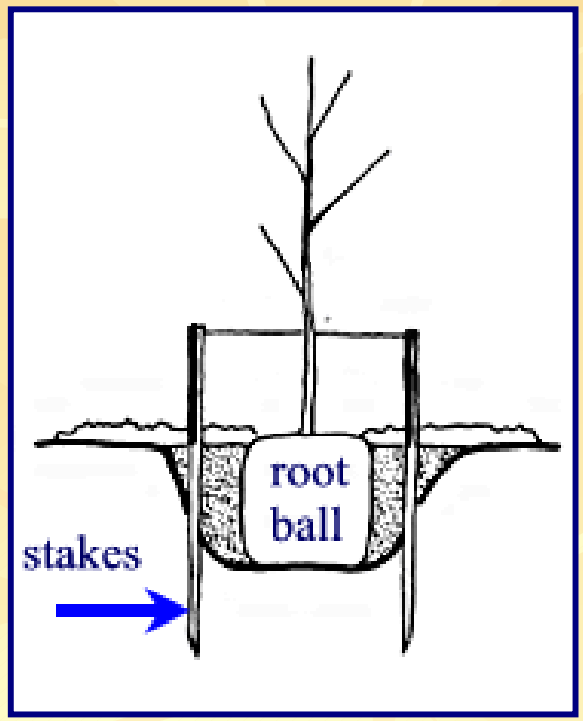


Figure 3

- All these systems require removal within one year of planting

Alternative staking methods

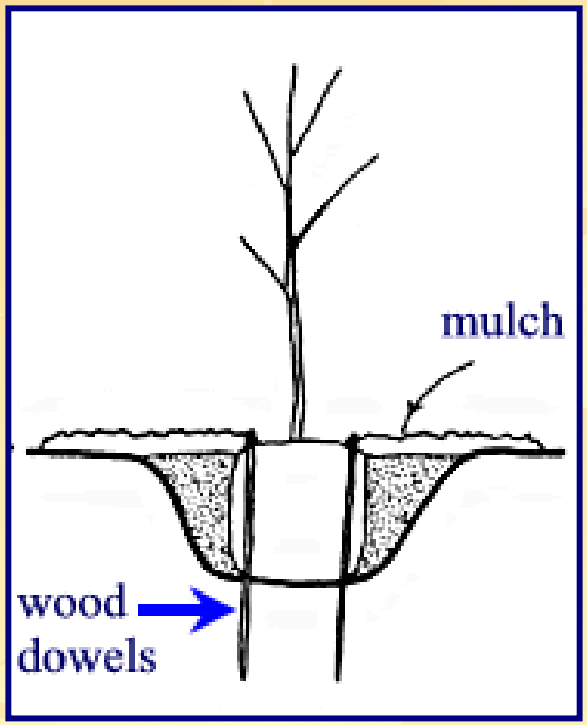


Figure 4

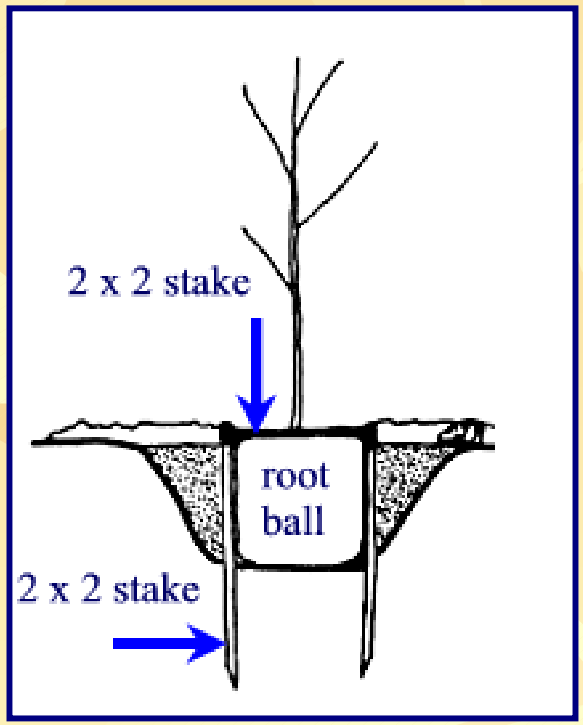
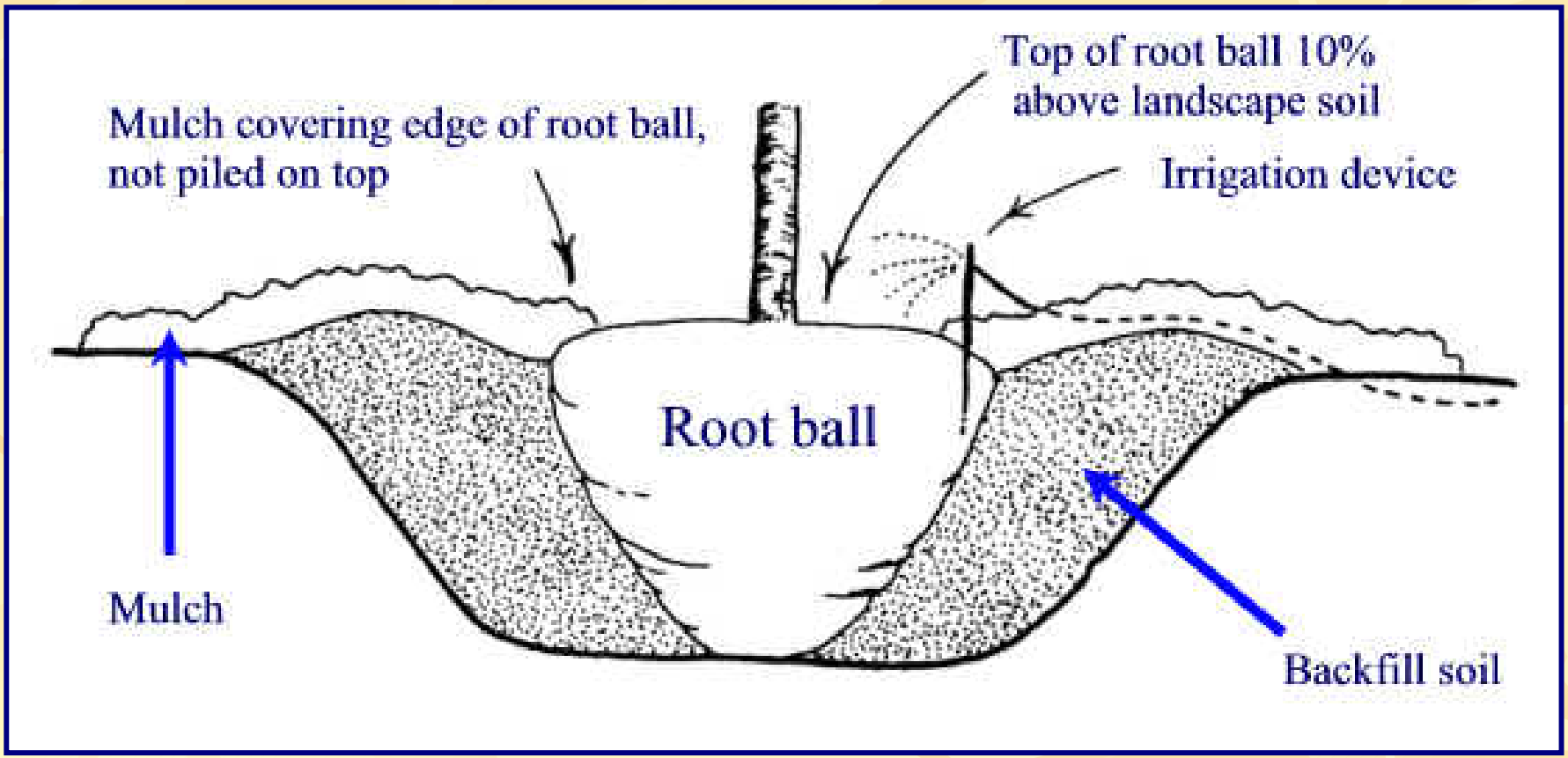


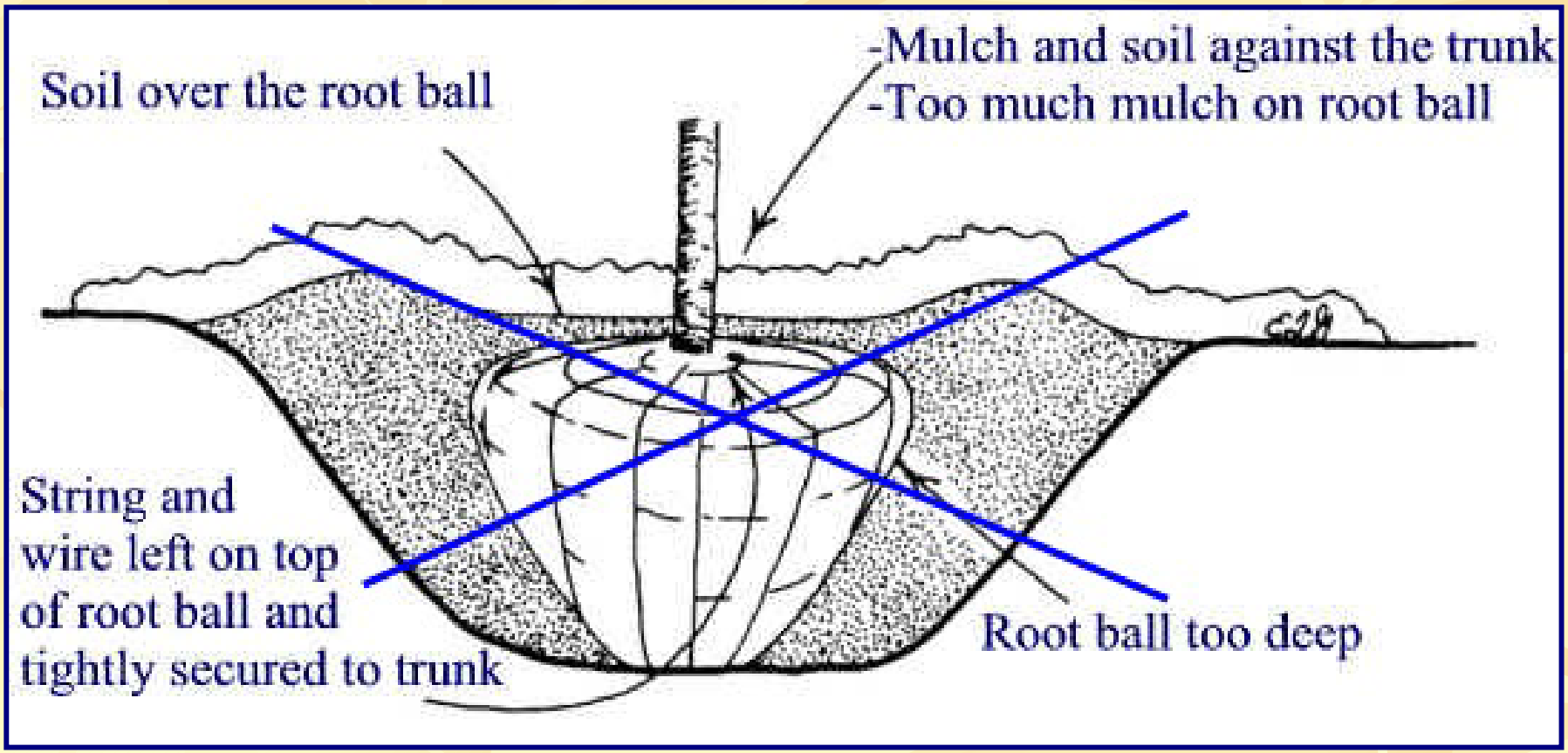
Figure 5

- These inexpensive alternative staking systems do not need to be removed because they simply decay in a few years

Proper planting detail



Inappropriate planting detail



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http://hort.ufl.edu/woody/planting