

Buying High-Quality Trees



Discover guidelines for determining tree quality at time of purchase and for identifying problems with tree structure, roots, and injuries.

Trees serve many purposes in your local community and throughout the entire world. A high-quality tree, when planted and cared for, can become a long-lasting asset to your property. A low-quality tree may develop costly problems over time, increasing the need for maintenance and reducing the benefits a tree can provide.

What Determines Tree Quality?

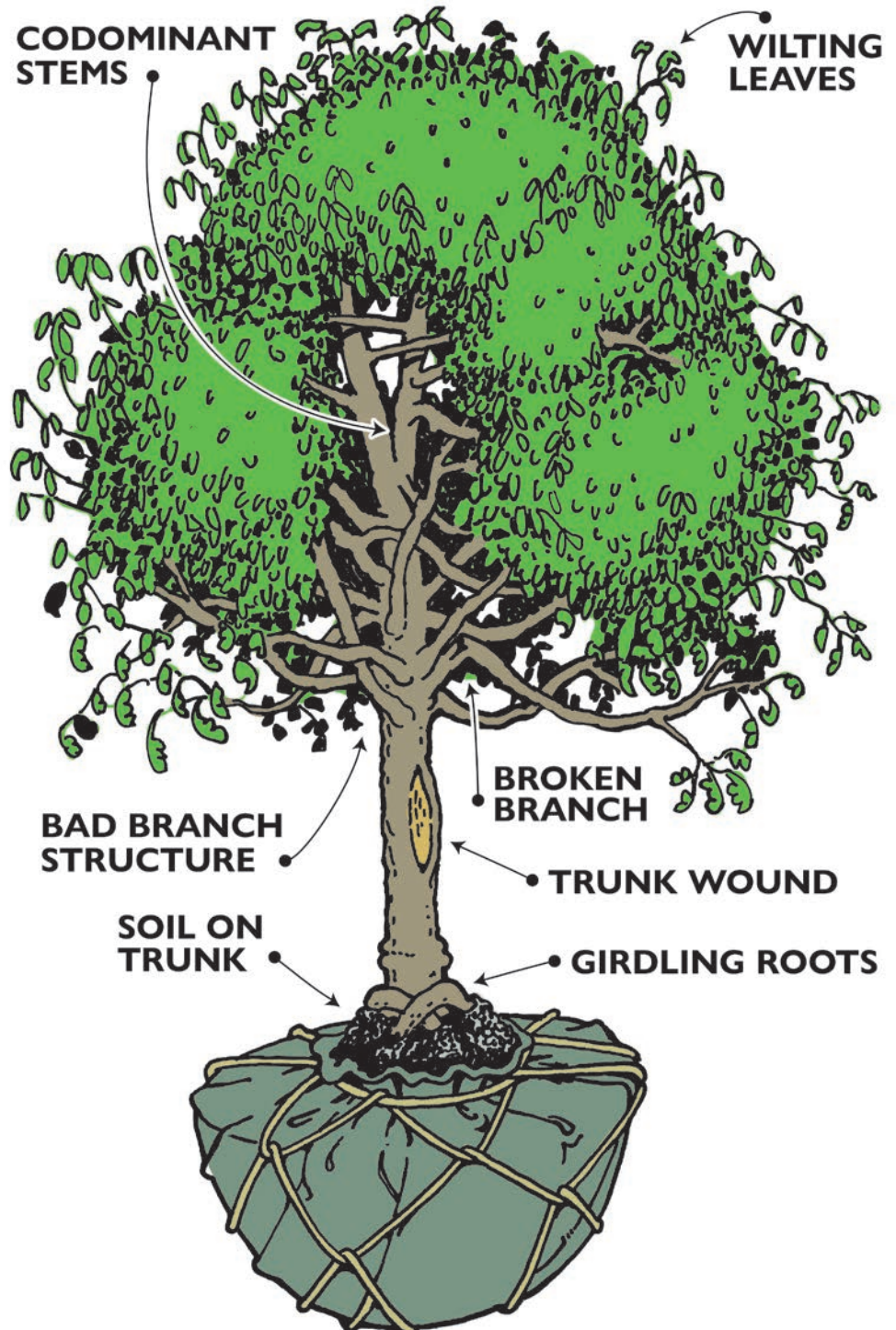
A high-quality tree has:

- A straight trunk with well-spaced branches.
- An exposed trunk free of wounds or damage.
- Roots growing straight out from the trunk.

A low-quality tree has:

- Weak form in which multiple stems originate from the same point and branches grow into each other.
- A trunk with wounds from handling or incorrect pruning.
- Limited, crushed, or circling roots in an undersized ball or container.

These problems can greatly reduce the tree's prospects for a healthy and productive life. When buying a tree, inspect it carefully to identify problems related to form, injuries, or roots.



Root Problems

Nursery trees are often classified based on how they are produced, harvested, and sold. Each type of tree has a unique root system:

- Bare root: no soil surrounding roots; usually small trees.
- Balled and burlapped: roots of field-grown trees surrounded by soil and held with burlap and wire or rope.
- Container: roots and soil in a container.

Bare Root Stock

Bare roots should not be crushed, torn, desiccated, or discolored. The ends of the roots should be cleanly cut. Damaged roots may be cut cleanly prior to planting and watering. The benefits of bare roots are that they tend to grow straight roots after planting and are easy to transport and plant. They have limitations; however, bare roots need to be planted soon after digging to prevent root drying and may not be suitable for all species.

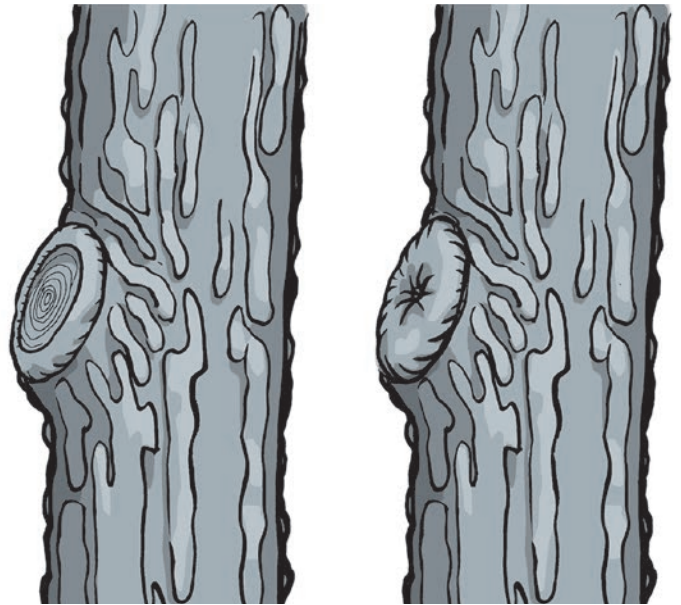
Balled-and-Burlapped Stock

You should be able to see the trunk flare (the area where the trunk widens and connects with the roots) at the top of the root ball. Avoid buying plants with badly damaged or compressed root balls. The top of the root ball should be flat. Rounding may be an indication of woody root loss.

The diameter of the root ball should be at least 10–12 times the diameter of the trunk as measured 6 inches (15 cm) above the trunk flare.

Container Stock

- Roots should not twist or circle in the container.
- Remove the root ball from the container for inspection.
- Pay special attention to larger, exposed roots.
- Circling roots may girdle (*see figure on right*) and kill other roots or the entire tree if wrapped around the trunk.
- Fine circling roots may be cut away at planting.
- Larger roots may be straightened if still flexible.
- You should be able to see the basal trunk flare with container-grown plants. If the trunk flare has been buried, gently expose it before planting the tree, taking care not to damage the bark.



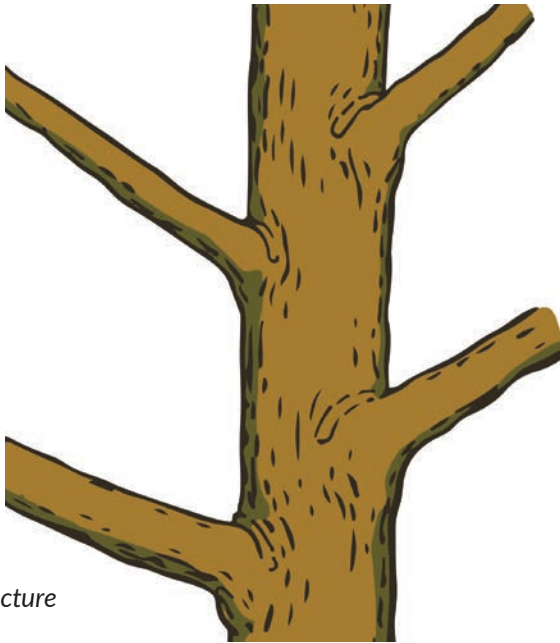
Injuries

Never buy a tree without thoroughly checking the trunk. If the tree is wrapped, remove the wrap and inspect the trunk for wounds, incorrect pruning cuts, and insect injuries. Wrap can be used to protect the trunk during transit, but should be removed after planting.

A correct pruning cut removes the branch just outside of the collar. A ring, or “doughnut,” of sound tissues then grows around the cut (*see figure above*). **Do not make cuts flush to the trunk.** Trunk tissues above and below a flush-cut branch often die, creating dead spots. When high summer or low winter temperatures occur, cracks or long, dead streaks may develop above and below the dead spots.

(Figure below) Girdling root as tree matures.





Good structure



Poor structure

Form

- When buying a young shade tree it is important to note that the branches you see may not be present at maturity. Many lower branches will be shaded out as the tree grows, or pruned away to allow clearance for pedestrians, traffic, mowing, or other activities.
- Many nurseries prune young trees to spur crown growth. This may lead to issues that must be addressed later with corrective pruning.
- Good strong form—branch architecture—starts with branches evenly spaced along the trunk. Branches should have firm, sturdy attachments to the trunk.
- Branches with narrow angles of attachment may cause problems later.
- When several branches are growing at the same position on the trunk, the likelihood of weak attachments, compression, and cracks increases greatly.
- Branches that press against the trunk or each other signal problems. These areas of contact may become compressed, crack, or die back.
- If you desire a tree with multiple trunks, make certain that the trunks are well separated at the ground line. Remember, trunks expand in diameter as they grow. Two trunks may be slightly separated when small, but as they grow the trunks will squeeze together.
- When planting remove only broken or torn branches to allow the tree to recover from the stress of transplanting.
- Many architectural issues can be addressed through corrective pruning or training. Begin corrective pruning one year after planting and space over several years.

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Finding an Arborist

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- The “Find an Arborist” tool can help you locate an arborist in your area.
- The “Verify a Credential” tool enables you to confirm whether an arborist has an ISA credential.



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