



Great Places

Green Spaces

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Key topics: Selecting the suitable tree and choosing the best tree in nursery.

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Choosing trees: The Basics

Choosing the best-looking tree might sound tempting but the site you are going to plant the tree is crucial in making the decision. The planting site should have good:

- light exposure
- soil drainage
- soil fertility

What to watch out for:

- soil compaction
- small space

Analyzing the site helps you to select the best tree for the site, resulting in less problems down the road.

Important things to consider when selecting a tree are:

1. Size: You should know how big the tree will be upon maturity before planting. When planting the tree, it might seem small, but we often see the same tree upon maturity is too close to the house and requires removal. Always account for the mature size so it can fit in the space without pruning.

2. Hardiness: Southern parts of South Dakota are mostly 5A but some areas around the black hills are classified as 5B.

the state falls in 4B except for the northeastern part of the state classified as 4A. You can look up the USDA plant hardiness in your zip code to confirm.

Planting the appropriate hardy tree will withstand our harsh winters.

Soil Conditions: Assess the soil conditions like the soil drainage, soil compaction, and soil fertility before planting the trees. If the soil is compacted during construction, that site might not be suitable. If the water does not drain easily, it is an indication that the soil is compacted or clay-like, and the tree you plant will not get enough oxygen to its roots. Usually, the urban soils will be poor and have low organic matter. You can add compost or mulch to amend the site before planting the trees.

In addition to these major factors there are other factors to consider before planting the trees like the level of maintenance, the function you are trying to achieve in the landscape like screening, shade, accenting, fruit production.

Once you narrow down your preferred tree, look for the following indicators in the nursery to help you choose a good specimen:

- General appearance and looks
- Watch out for damaged branches, discolored leaves.
- Make sure the tree has a single central leader

"I most appreciate that the Earth is just one giant closed-system experiment. Every piece has a role to play."

-Evan Dalton

Choosing trees



- Crown of the tree has no damage.
- Look for trees with branches that extend 45° to 90° from the trunk. The strength of the branch increases with the angle's proximity to 90°.
- Pruning wounds should be callused over.
- On the main trunk, branches should be uniformly spaced 6 to 8 inches apart.
- The trunk should be straight.
- No wound should be more than one-fourth of the circumference of the trunk.
- Check for the root flare and make sure it is exposed before planting.

Types of trees at the nursery

Trees in a container: Watch out for girdling roots for plants in the container. If larger roots are girdling/circling and need to be removed, the tree may fail to establish properly after planting. Check the tree in the container for encircling roots and make sure to remove them before planting. You can plant the containerized trees in spring or fall. They also require more irrigation than bare-root trees to successfully establish. Because containerized trees frequently develop encircling roots, failing to remove these roots at planting can slow growth and potentially lead to tree failure as the tree matures.



Figure 1: Tree in a container

Balled-in-burlap (B&B) trees: B&B trees are grown in ground then dug with tree spade and secured in wire and burlap. The trunk should be the center of the root ball, and the root flare should be on the top of the ball. You can plant the B&B trees in spring.



Figure 2: Balled-in-burlap tree

Make sure to remove the wire and burlap before planting the B&B tree.

Tree quality



Bare-root trees: They should be planted in early spring before leafing-out. They will adapt to the sites quickly after planting. Make sure the root does not dry out before planting.



Figure 3: Bare-root tree

Factors influencing tree quality

Branch Structure: Selecting a nursery tree with good structure might can reduce future pruning and maintenance. Poorly structured trees often require more corrective pruning, which may involve removing a greater portion of the canopy. Lower quality trees have two or more trunks, while the highest quality trees have a single dominant stem. Having multiple leaders can lead to areas of included bark and can cause the tree to split apart as it grows. Branches should be less than two-thirds the diameter of the trunk, and major branches or trunks should not touch.

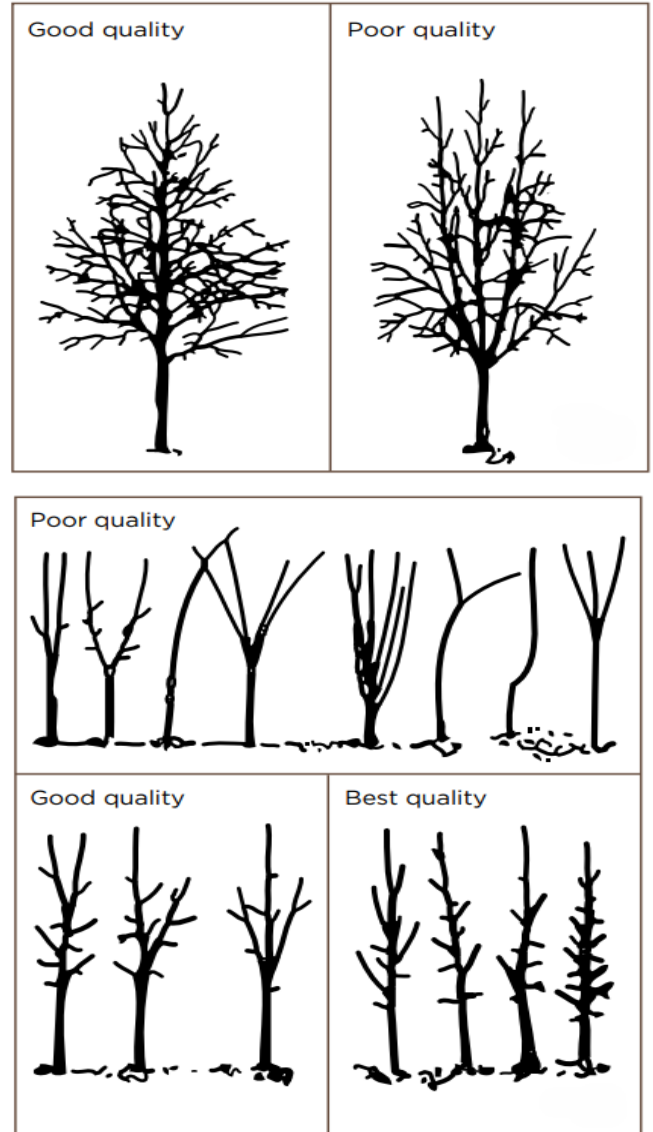


Figure 4: Good and poor branch structures.

Root Defects: The types of root defects are circling roots, kinked roots, stem girdling roots and root-bound trees. Circling roots will make the tree unstable and susceptible to falling or blowing down. Kinked roots are deflected, and approximately 180 degrees turned back on themselves. They typically

Roots and canopy



occur when the roots are folded into a propagation tray or container. Water and carbohydrates struggle to pass through this sharp bend, leaving the tree without adequate mechanical support. Stem-girdling roots are formed when roots grow perpendicular to a cut root, or when the tree is growing in a container for too long. The trunk may become impacted due to root girdling, leading to reduced tree stability, particularly during a wind event. Root-bound trees have several circling roots around the root ball, creating a physical barrier that may hinder root expansion into the soil after planting. Root ball shaving is recommended to get rid of the circling roots before planting.

Other factors: While the roots ball and tree structure are main factors, additional items can also play an important role. Remove the tree wrap to inspect the trunk for hidden wounds. The trunk can be rewrapped to prevent shipping injuries. Canopy uniformity is less critical than trunk and branch structure, through a well-structured tree typically develops a consistent canopy. Carefully inspect the pruning cuts made by the nursery to determine the quality of the tree. Check if the root flare is too deep in a container.

Photo Credits:

1,2: Schneider, J., & Schneider, J. (2023, August 18). *Tree selection guide*. Holden Forests & Gardens. Retrieved February 22, 2026, from <https://holdenfg.org/blog/tree-selection-guide/>

3,4: Gilman, E. F., & Sadowski, L. P. (2007). Chapter 10 — Selecting Quality Trees from the Nursery. *EDIS*, 2007(20). <https://doi.org/10.32473/edis-ep313-2007>

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