

## Planting a Tree for a Prolonged Life

It takes only a little more time and effort to plant a tree properly than it does to merely dig the proper size hole, plop in the tree and back-fill. The few extra minutes it takes to properly select, locate, and plant a tree will make a big difference in its ability to thrive and live to its optimum age. Taking this extra time will reduce the likelihood that the tree will be affected by disease, extremes of moisture, inappropriate exposure to sunlight and physical damage. It means that the tree will most likely provide beauty, require less maintenance, add to your enjoyment, the value of your property, and save you money in the long run. Here are a few things to keep in mind when you think about planting a tree.



---

## Selecting Your Tree and Planting Location

### Things to consider before purchasing a tree:

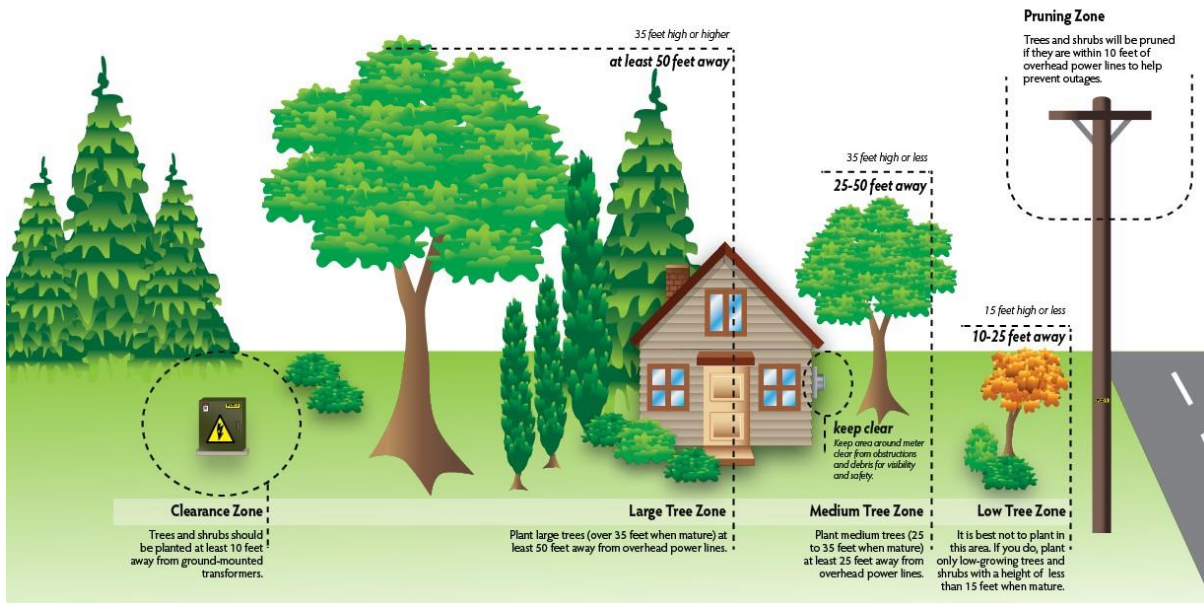
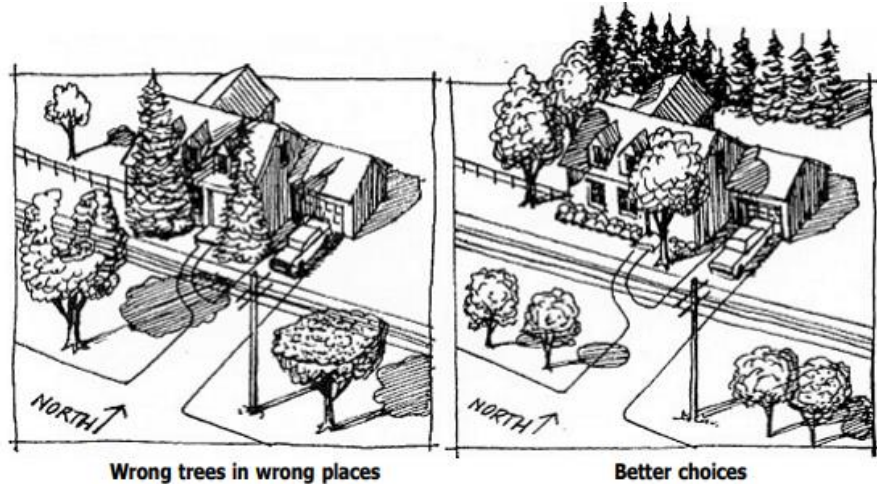
**What is the purpose of your new tree?** Shade, privacy, windbreak, or aesthetics? This will help you determine the suitability of different trees.

**What type of aesthetic you are going for?** Think about what size, shape, and density of shade you want for your tree. Do you want flowering or non-flowering? What color of flowers and leaves in the summer and fall?

**How much maintenance do you want to deal with?** Some trees require more pruning than others, and some have extra clean up of leaves and/or fruits that you may not want to deal with.

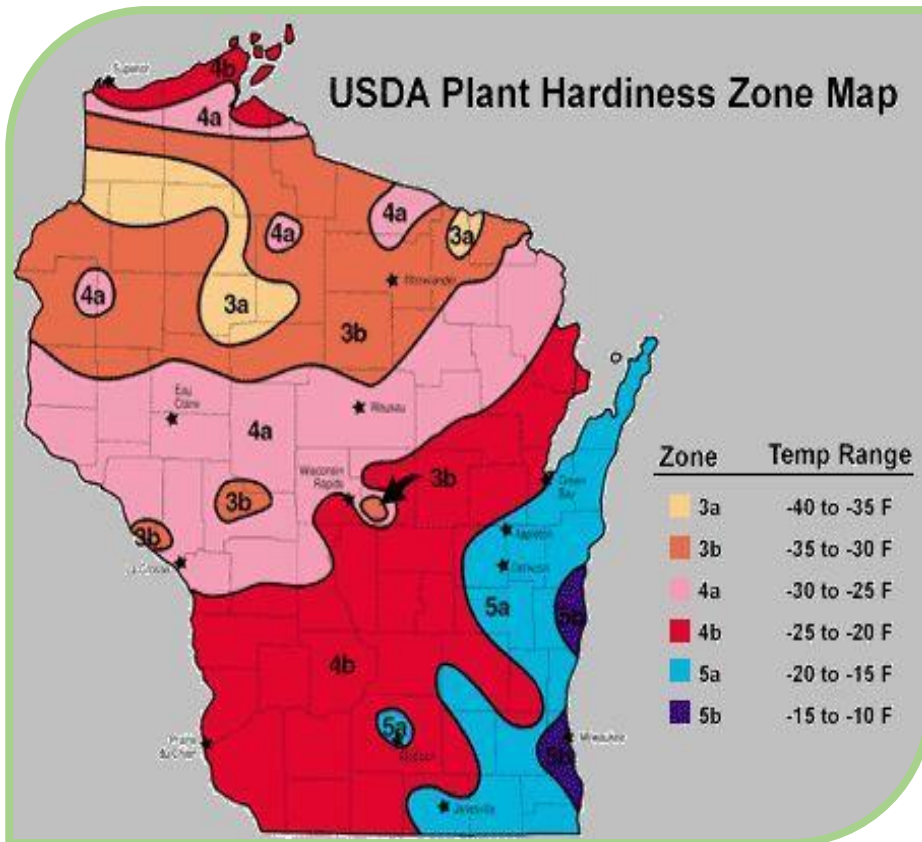
**Most importantly... evaluate the planting location!**

- Look up! Are there power lines? – if so, you will want to plant a low growing tree or select a different planting site.
- Look down! Check below ground for underground cables, pipes, or other utilities – always call **DIGGERS HOTLINE** or your local utility before digging! – you will want to select a different planting site if there are underground utilities in this area.
- Check in all directions the tree could eventually grow into. Are there wires or buildings? Make sure you leave plenty of room for your tree once it reaches its mature size.



**Evaluate the environmental conditions of the planting site!**

- Soil type and pH
- Amount of moisture available
- Exposure to sun and wind
- Climate/cold hardiness
- Exposure to pollutants or road salts
- Competing plants
- Potential insect or disease problems



*Hardiness refers to the lowest average temperatures trees can tolerate. The hardiness zones for Dane County are 4b (-25 to -20 °F) and 5a (-20 to -15 °F).*

**Lastly, the most exciting thing is selecting a tree species!** Walk through your neighborhood and see what’s growing well and what’s native. What trees could be planted to add diversity? Check out our [Urban Tree Guide](#) to select a tree that best suits your specific needs and matches your location.



## Purchasing Your Tree

### Things to look for:

- Trees that have been freshly dug
- Well-formed and symmetrical
- Free of disease
- Has a well-developed root system
- Branches well-distributed around trunk
- Densely foliated when in leaf

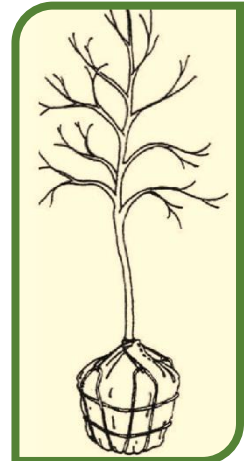
### Things to avoid:

- Trees with multiple, damaged, crooked, or cut main trunks
- Disfiguring knots
- Cuts on limbs over  $\frac{3}{4}$ " that aren't completely callused
- Prematurely opened buds
- Mold or insect damage on bark or leaves

**At the nursery, you will find three different types of stock. Each has its own advantages and disadvantages. Which you use is up to you:**

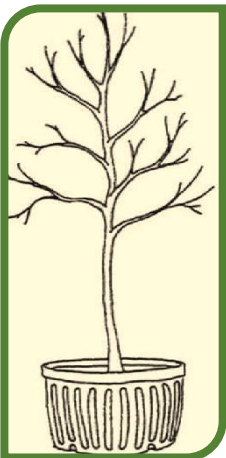
**Balled and burlapped (B&B):** in this case, the entire root system is dug with a large ball of soil around it. It is wrapped together with a wire basket and burlap.

- **Advantages:** larger trees, stock is available throughout the growing season
- **Disadvantages:** the ball is heavy which makes planting hard work, and the root collar can be difficult to find
- **What to look for:** root ball should be firm to the touch, especially near the trunk. The ball shouldn't be dried out or broken apart



**Containerized:** there are two types of containerized trees: 1) container grown – these have been raised in large plastic containers or metal containers. 2) potted – these are grown in the ground then uprooted and placed in a container for marketing.

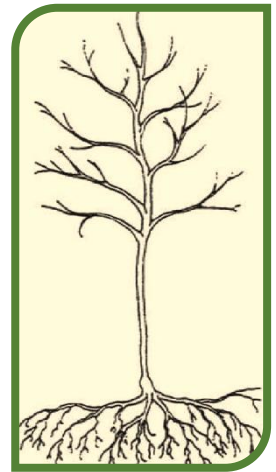
- **Advantages:** smaller and lighter, making planting easier
- **Disadvantages:** they are prone to root girdling (roots growing around the stem rather than in the preferred spoke-like pattern)
- **What to look for:** container shouldn't contain large and circling roots, pruned roots should be cut cleanly, soil and roots should be joined tightly



*Girdled roots*

**Bare Root:** this is a tree with no container or soil and the roots are bare.

- **Advantages:** easiest to handle and plant
- **Disadvantages:** smallest in size, must be planted within hours after purchase, roots must be kept damp up until planting
- **What to look for:** roots should be moist and fibrous, deciduous seedlings should have roots about equal to stem length



## Planting Your Tree

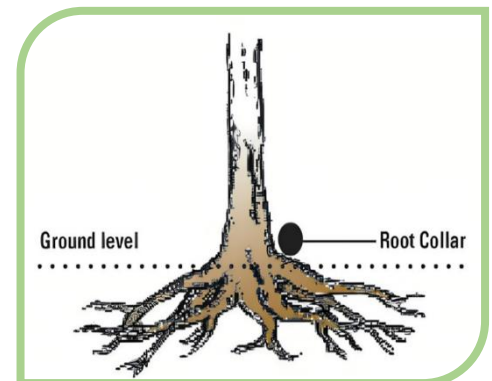
**First you have to prep your tree!** This will look differently depending on what kind of stock you have bought.

- **B&B:** if possible, remove the rope around the trunk, as well as the burlap and wire basket.
- **Container grown trees:** cut away the container. Snip off any medium sized or larger roots that appear to be encircling the root system or are growing back into the system.
- **Potted and bare trees:** the soil in the container is generally loose and much of it falls away when the container is removed.

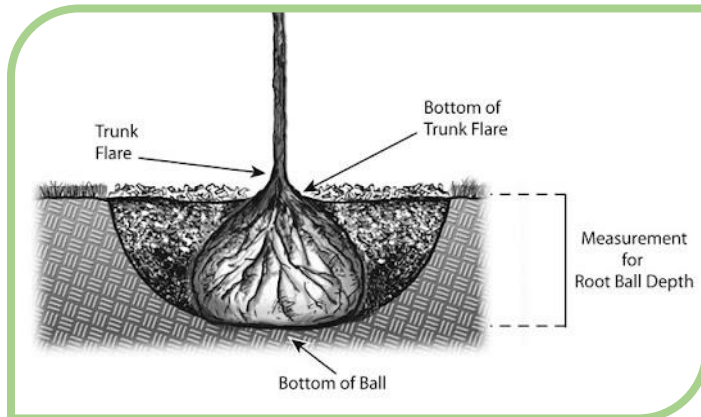
Scrape away excess soil from the trunk to reveal the root collar. Snip off any roots growing above the root collar and gently straighten the large structural roots away from the trunk in a spoke-like pattern.



*The root collar is the swelling where the stem transitions into the root zone – look for change in bark color and texture*



**The next step is to dig a hole.** Dig a hole that is slightly shallower than the depth of the root system from the root collar to the bottom of the root ball. It should be about 3x as wide as the root ball is in circumference. For potted and bare root trees, the hole generally doesn't have to be as deep. Leave the bottom of the hole untouched and compacted. Taper the sides of it to create a shallow bowl shape.



**Next is placing your tree:** Set the tree in the hole with the root collar even with the soil surface, or 1" to 2" above it. **It is very important that the root collar is not buried – planting a tree too deep can kill it!**



**Lastly, backfill** the planting space with the same soil you dug up and **thoroughly water** (about 20-30 gallons) to pack the soil down and naturally remove air spaces.

## A Few Tips for Caring for Your Tree

**Use mulch!!** Apply at least 4-6” of mulch over the entire loosened soil area. **Do not allow the mulch to directly contact the trunk.** Mulch helps to keep weeds out, protects the tree from mower and string trimmer damage, and holds moisture to keep the roots moist.

**Watering:** your tree is expending a lot of energy during its first few growing seasons trying to get its roots established in the soil. You can help out by providing water during times of heat and drought, especially during the first few summers. Water enough so the soil feels damp, but not soggy. Too much water can be harmful to the tree as well. Mulch will also help the tree retain water.



**Staking:** avoid staking the tree if possible – most newly planted trees don’t need to be staked. It is necessary, though, if the planting location is windy. The best materials to use are wide bands of carpet, inner tube, or nylon or cotton strapping. Allow enough slack in the bands so the tree still moves some with the wind and will be able to support itself once roots develop. Remove the stake within one year of planting.

**Pruning:** pruning can add additional, unnecessary stress on your tree! Avoid pruning except for removing any dead, broken, or damaged branches.

**Fertilizing:** fertilizing should not be necessary! If there appears to be a problem, get an analysis done of a sample of the foliage to see if there may be a nutrient deficiency.

**Avoid adding embellishments** to your tree such as wrap around lights, nails, staples, or screws. These can interfere with pruning and restrict tree growth.

**Avoid planting shrubs or flowers underneath your tree** – they can damage its root system!

## Resources

### Image Sources:

[Tree Planting Nonprofit | Arbor Day Foundation](#)

[Trees and Utilities \(ncufc.org\)](#)

[Wisconsin Horticulture – Division of Extension](#)

[Tree Care: The Planting Hole | Urban Forest Initiative \(uky.edu\)](#)

[Girdling Roots \(missouribotanicalgarden.org\)](#)

[Healthy Trees Start With Proper Root Collar Care - Embark Services](#)

[How to Plant a Tree in Four Easy Steps | Garden Gate \(gardengatemagazine.com\)](#)

<http://www.localecologist.org/>

[www.advancedtreelopping.com.au](http://www.advancedtreelopping.com.au)

[Landscaping and Property Maintenance - Tree staking 101 - Proper Landscaping Inc.](#)

### Resources:

City of Milwaukee Forestry Division. Tree planting brochure. Milwaukee, WI

Rudquist, Peter-Jon. District Urban Forestry Coordinator. DNR Lake Michigan District. Building the Urban Forest Through Tree Planting. 1993. Wisconsin Urban & Community Forests, A Quarterly Newsletter of the Wisconsin Department of Natural Resources, Forestry Program, Volume1, Number 2, Spring 1993. Wisconsin Department of Natural Resources, Madison, WI

Stephenson, David. District Urban Forestry Coordinator. Division of Forestry. New Tree Planting. 2001. PUB-FR-184 2001. Wisconsin Department of Natural Resources, Fitchburg, WI

The Arbor Day Foundation. How to Select and Plant a Tree. Tree City USA Bulletin No. 19. 2000. Nebraska City, NE

[Tree Care Tips & Techniques at arborday.org](#)