

Indiana Department of Natural Resources
Volunteer Script with PowerPoint Presentation

Tree Planting & Care

This presentation developed by the IDNR, Community & Urban Forestry Office and has been made available to interested residents of Indiana through and urban forestry grant provided to the state by the USDA Forest Service, Northeastern Area.



Slide 1:

Introduce yourself and explain how you became involved with or in urban forestry.



Slide 2:

Planting guidelines for Balled and Burlapped Trees from American National Standards Institute (ANSI) A300. This document is on the CD.



Slide 3:

Planting a tree correctly increases its chance for survival, so that it can live to maturity and provide us with the maximum amount of benefits.



Slide 4:

Call 811 on your phone to be routed to your Local One Call Center. Call toll free, two full working days before planting, to allow the utilities time to mark their lines. Visit www.call811.com for info.



Slide 5:

There are 3 types of trees available. Pick the type that works best for the situation.



Slide 6:

Bare root trees have been harvested when dormant, and are sold with out soil around the roots. There are many advantages to buying bare rootstock, some of which are: price, ease of transporting, ease of planting, and the root system is visible. The disadvantages are that the planting season is limited, it may be difficult to find the species or the size preferred, and certain species need special preparation before being planted.



Slide 7:

Container trees can be planted whenever the ground is not frozen, usually from late February to mid December. Depending on the size of the container, they are not usually difficult to maneuver around. The condition of the roots can be seen by pulling off the container. Typically there is no root loss during production. The disadvantage is that a container tree may have circling roots, or if the tree was recently transplanted to a larger container, there may not be enough roots. Small fine roots that circle the container are hard to avoid, but reject any trees that have woody roots circling the container. This is one reason to buy from a reputable nursery.



Slide 8:

Balled and Burlapped trees are advantageous for many cities and towns to use when planting street trees because of the larger size, which decreases vandalism to the tree by the public. B&B trees can be planted any time the ground is not frozen, and are relatively easy to store if they can't be planted right away. The larger caliper tree, the heavier the root ball will be. A disadvantage to B&B is that the roots and root flare are not visible, which can make it easier for a person to plant the tree too deep.



Slide 9:

Purchase a tree that is free of wounds, has good branching structure, and a firm, tight root ball. Look for an overall healthy tree.



Slide 10:

If unable to plant right away, keep trees out of the sun, and keep the rootball watered. Tree seedlings or bare root trees, can be heeled into the ground like the picture shows. Once a B&B root ball dries out, it can be difficult for water to soak back into it.



Slide 11:

Suggestion of tools to have on hand.



Slide 12:

There are different ways to get the planting hole dug...



Slide 13:

Whatever way is chosen, make sure it is a wide shallow hole. It should be twice as wide as the root ball. Break up the sides of the planting hole. The depth of the hole is determined by the root flare, which isn't always visible, that will be discussed more in a few minutes.



Slide 14:

Before placing the tree in the hole, remove all the tags, twine and anything else that may be in the crown.



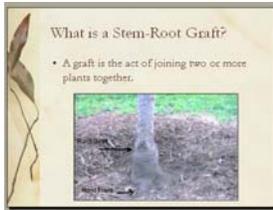
Slide 15:

When planting a bare root tree dig a very shallow hole. The area where the tree trunk becomes roots is called the root flare, and it needs to be at or above the soil level. Create a mound for the tree to rest on, spread out the roots, and start filling in the hole. When the hole is about $\frac{3}{4}$ full of soil, water it to start settling the soil. Continue to fill in the hole with soil.



Slide 16:

To plant a container tree, dig a hole twice as wide the container, and only as deep as the root flare. There may be an area on the trunk that is flaring out, but that may be the root graft, so move aside the soil to check for a main root.



Slide 17:

This is a picture of a stem-root graft. It can be misleading on where the flare is if the planter is not familiar with grafts, this is why it is important to find the first main lateral root. The graft may be unsightly, but as the tree grows, it will be less noticeable.



Slide 18:

Remove the container and cut any circling roots. Straighten out any woody roots, if the root cannot be straightened, prune it off where it begins to curve. The roots may be teased, but don't tear up the root ball. If there was excess soil over the root flare, remove it. Center the tree in the hole. Once the tree is straight in the planting hole, start filling it in with the same soil that was dug out. Unless the soil is very poor, it's not recommended to add amendments to the planting hole.



Slide 19:

Tamp the soil, don't stomp. Stomping can compact the soil and the root ball can be accidentally stomped on. Water the tree; this will help to settle the soil.



Slide 20:

When planting a balled & burlapped tree, be aware that the root flare may not be at the top of the root ball. This is because of production practices at the nursery. (Those practices are weeding, root pruning, etc.)



Slide 21:

During the ball and burlap process, the excess soil is not removed. From the picture, the tree trunk looks like a telephone pole. The root flare is not visible. After digging down, the root flare is found 7 inches below the top of the root ball.



Slide 22:

When deciding how deep the planting hole needs to be, don't rely on the root flare being at the top of the root ball. Look at the sides of the root ball for any large woody roots, or pull out one nail and feel around the trunk for the main roots. Don't compromise the root ball while trying to find the root flare. If the root flare cannot be found, plan to plant the tree a few inches high.



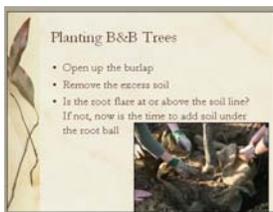
Slide 23:

Make the planting hole twice as wide as the root ball, and not any deeper than need be. It is better to plant the tree a little high, rather than too deep. Break up the sides of the planting hole. With clay soils, if the sides are not broken up, it can create a bathtub effect, where the planting hole fills up with water and can drown the tree.



Slide 24:

When placing the tree in the planting hole, maneuver it by the root ball, not the tree trunk or the crown.



Slide 25:

Once it is in the planting hole, open up the burlap. Start scraping away any excess soil to expose the root flare. Adventitious roots are fine roots that grow from the tree trunk; those can be pruned off. Double check to make sure the root flare is at or above the soil level. If it is not, this is the time to add soil underneath the root ball.



Slide 26:

Now that the root flare is at or above the soil level, make sure the tree is straight. Either cut off the top half of the wire basket or bend it down into the planting hole so that the roots can grow out into the soil uninterrupted by the wire. Do the same with the burlap. If the burlap is not cut off, tuck the burlap down tightly into the planting hole, so that after the soil is added back in, there are no large air pockets, which can let the tree shift and start to lean.



Slide 27:

Fill in the planting hole, using the original soil.



Slide 28:

Pat down the soil, don't stomp. Then water it, which will help to settle the soil.



Slide 29:

Add a 3-4 inch layer of mulch, and **ONLY** prune off any dead or broken branches. Water it throughout the growing season to supplement natural rainfall.



Slide 30:

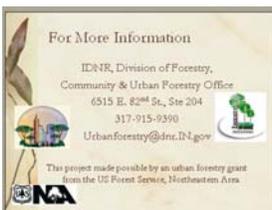
Why does the root flare and depth matter so much?

- Tree roots grow outwards, away from the tree trunk, and they grow in the upper inches of soil because they need oxygen. Trees that are planted too deep have roots that are too far down into the soil, in order for those tree roots to get to oxygen, they begin to grow upward, and not always straight outward. By growing upwards, the roots can grow next to the trunk or grow over the root flare. The main roots of a tree grow in girth just like the tree trunk does. As both the roots and the trunk grow, they can begin to grow against each other (like the pictures show) and eventually it creates a weak point on the tree because they are both pushing against each other and it can actually begin to interrupt water and nutrient flow. The tree begins to strangle itself.
- With trees that are planted too deep, it is less likely they will live to maturity to provide us with the many benefits that they offer. The trunk of a tree is not made to stay moist, so the bark actually begins to rot. This creates an entry point for insects and disease.
- There is increased maintenance on trees that are planted too deep because of the reasons I just mentioned, but also because not all trees live to get to the point of strangling themselves. So the tree may live a couple years, then die. It then needs to be replaced.



Slide 31:

Spending the time and energy to choose the correct species for the site, and spending a few more minutes to plant that tree right will pay off big dividends later! Plant the right tree in the right place, the right way!



Slide 32:

CUF offers assistance and grant dollars to cities, towns, and non-profits throughout Indiana. Contact CUF at 317-915-9390 or email urbanforestry@dnr.in.gov. This project made possible by an urban forestry grant from the US Forest Service, Northeastern Area.