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Great Places Green Spaces

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Key topics: Tree Planting / Aftercare Spring Weather Factors Spring Pests / Treatments

All photos assigned a number for referral of their credits on final page

By Hunter Pecard

Prepping Your Planting:

One of the most critical parts of successfully growing a tree is to ensure you plant it properly the first time. To some, this may seem simple. After all trees have gotten by just fine without mankind's intervention, covering nearly every landmass on the planet without the aid of human hands. Just dig a hole and stick it in the ground!

Although some digging is in order for a proper tree planting, unfortunately there is a bit more to it than that. Factors such as planting depth, root processing, location selection, and aftercare often determine which planted trees grow into grand, shady assets and which become sad, shriveled testaments to wasted time and money.

Planting Site Consideration:

The process of tree planting begins before you have even acquired your trees from the nursery. First you have to determine if the site you select would be a suitable planting location. Considerations such as if the location receives enough sunlight or the soils are of proper pH and moisture often make or break a planting. That's not to say all trees are delicate, most are hardy enough to survive in less than ideal situations for their species. However the more suitable a location is for a tree and the more passive care it receives, the less likely the tree will have issues later. A healthy tree is naturally more resistant to disease and pest problems. They also live longer and often adopt more favorable growing structure than stressed trees.

You would also do well to ensure they don't become an issue for your neighbors! Often people plant trees without consideration for their mature size or spacing from structures/utilities. This leads to a myriad of issues such as broken-up pavement, boundary disputes, utility destruction, and even safety hazards. Needless to say, stressful and costly issues are worth avoiding with a little research into your desired trees.


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Preparing the Roots:

Right before you plant the tree it is important to remember to prepare and process its roots. This is to both reduce stress during transplanting and to ensure root-related issues do not shorten the tree's lifespan.

The first thing to do is to make sure that the roots NEVER dry out before they're introduced to the soil. This is less of a problem with root ball/bulb trees than bare roots, which can experience severe die-off of their root systems minutes within drying out. As such, douse the roots of the to-be planted tree, ESPECIALLY if it has bare roots before transport to the planting site. There's little point planting a tree with all its roots desiccated, as you are going to be pulling out a glorified twig soon enough.

Now that you are at the planting site with your trees, it is time to make sure your roots are going to establish healthy growing habits. The extensiveness of this step is very much dependent on how long the tree has been growing in its current/previous pot. Details on such are on the next page.


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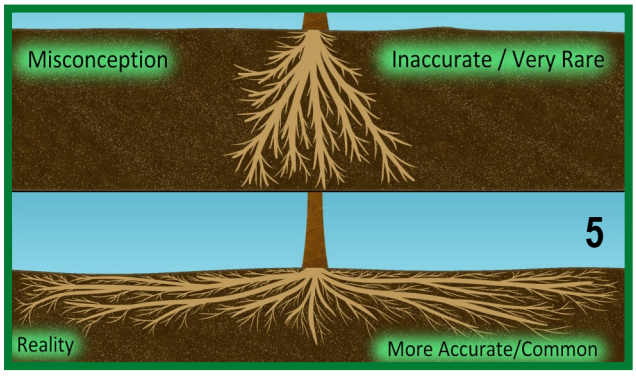
"The best time to plant a tree was 20 years ago. The second best time is now." - Chinese Proverb

Planting it Right! (And beyond)

Generally, a sapling that has not been in its root ball/pot for very long can probably be planted as is without much issue. A tree that missed a planting season or two is likely going to have a wicker basket for roots. If your tree happens to be the latter, your going to have to use a knife, serrated shovel, or garden claw to rip the roots into a more natural formation. Be on the lookout for any roots making a circle around the trunk, as these will grow into what are known as stem-girdling roots. These roots essentially strangle the tree as they grow into the trunk, usually killing the tree within two decades. Therefore do not be afraid to rip away at any heavily tangled systems, even if it feels like you're damaging the tree. This tough love will ultimately save the tree from future root issues, with the tree recovering in due time so long as it's given regular watering.

Now begins the process of actually planting the tree! This is the step where the most frequent mistakes occur, as even professional landscapers are guilty of neglecting one or more aspects of a proper tree planting. But first let's talk roots. Many, if not most people think tree roots grow mostly straight down to acquire their stability. However, trees *almost* never grow mostly down, they

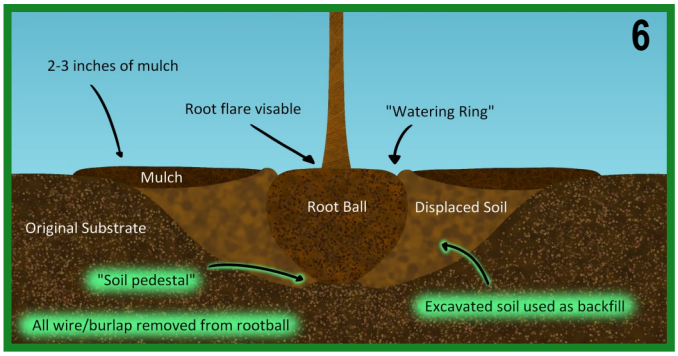


grow predominantly to the sides. This helps them maximize the benefits of rainfall and put more fine roots into the nutrient rich topsoil. Knowledge of this will help prevent the most common - and most dire - tree planting mistake. ***Planting a tree too deep!*** Specifically, past the root flare.

What is a root flare? A root flare is where the tree begins to widen at its base to the roots, and should be planted above soil.

When a tree's root flare is buried, that tree is already in dire straits. That tree is getting just enough gas exchange to occur at its roots. In addition to suffocating, part of the trunk that is meant to be dry and in the light is now consistently moist and dark. This invites fungi, insects, bacteria, and rodents to make short work of your tree. Producers who plant too deep also tend to dig too narrow of a hole. This leads to roots growing around the tree in circles as they stay to the narrow space of the softer, freshy excavated soil rather than interfacing with the tougher original substrate surrounding it. This means that if the tree is not killed or wounded by pests and diseases, root issues will potentially be an issue in the long term.

Therefore, on the forefront of any planter's mind should be making the planting hole shallow enough to have the root flare exposed to the air. The planting hole needs to be dug wide enough to be a minimum of two times the width of the root ball/mass, three times as wide is optimal. Sometimes, even wider planting holes are best.



Now begins the next aspect of any tree planting, watering! Watering the tree should be done daily for the first two weeks if conditions allow. After that, watering twice a week should suffice to establish the tree. This only applies during the growing season usually starting in late April. During the winter the tree is dormant and uses little water. Do not fertilize the first year, as its unlikely to help and may even harm the tree.

"He who plants a tree loves others beside himself." - Thomas Fuller

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Best the Pests

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Spring is the time that many insects emerge or hatch to infest our trees. There are also many fungal diseases that release spores to infect tender spring growth. Too often, these pests are missed until the damage has already occurred to the tree and it's too late to treat.

As we begin our 2022 growing season here are a few reminders. Just as the buds are beginning to swell is the time to begin many fungicide treatments. Apple scab, a common foliage disease of apples and crabapples, infections begin as the buds are just opening. The first fungicide application must be applied at the time to protect the leaves as they begin to open. Diplodia tip blight of pines, which cause the shoot tips to become stunted, is managed with the first fungicide treatment applied as the buds begin to swell. Apple scab and Diplodia tip blight require at least two, often three treatments, applied about 10 to 14 days apart, but if the first treatment is missed, the control will be much less.

Bacterial diseases such as fireblight and bacterial blight of lilac are managed with a fungicide application just before bud break. Copper, a common fungicide, helps reduce bacterial infections if applied in this narrow window.

Dormant oil applications are an effective means of managing many insects. Spruce spider mites, cankerworms, spruce adelgids and many other insects can be control with this late winter, early spring treatment. These treatments must be applied before the temperatures warm, or the tree growth begins as they can become harmful in these situations.

Note: read and follow all pesticide label information. Specific pest information and treatments can be obtained from the South Dakota Department of Agriculture and Natural Resource website under Pest, Insect, and Disease Bulletins at:

https://danr.sd.gov/Conservation/Forestry/ReportsandPublications/PestsInsectsDiseases/

Pest section by John Ball, Ph.D., Forest Health Specialist / Board Certified Master Arborist, edited by DANR

A regularly updated newsletter on tree pests and diseases throughout South Dakota can be found at:
https://extension.sdstate.edu/tree-pest-alert

Photo Referral:
7: Bacterial blight of lilac
8: Apple scab
9: Fireblight
10: Diplodia blight
11: Spruce spider mites

"Men should stop fighting amongst themselves and start fighting insects." - Luther Burbank

Watch the Weather!

Frost Damage and Winter Burn

Trees are like us, in the winter they want to hunker down and wait out the winter cold before resuming their activities. During this trees shut down most of their metabolic functions to save energy. This also reduces their sensitivity to the frigid temperatures of a South Dakotan winter. This works well for the most part, but if there is an extended stretch of unseasonably warm weather, trees can be coaxed out of their dormancy. This can lead to winter kill when the temperatures return to their normal lows. South Dakota is known for late and random frosts, which can damage freshly released leaves/buds. Evergreens are substantially more resistant to winter kill, however they can fall victim to another kind of foliar damage. Winterburn is when conifer needles dry out. This is caused by insufficient moisture during the fall. For this reason, it is advised people water their conifers until the ground is frozen.

Prime Time for Tree Plantings!

Spring is an ideal time for tree planting. The conditions are such that it allows freshly planted trees to become partially established before the stress of summer and winter. Fall plantings do this as well, though nursery stock are usually only leftovers by then. However, it is possible to plant too early, particularly if the ground is still frozen. This will result in the transplanted tree being unable to secure sufficient water for itself. The best time to do your spring planting is when the soil is around 40 degrees Fahrenheit. This is not easy to know without measuring tools. May 8 is cited as being the last day for a spring frost in Pierre. Since the city is located in the center of South Dakota, the last frost may occur slightly before or after depending on location within the state. By late April temperatures should consistently be above 40 degrees Fahrenheit. These temperatures should thaw the soil while the seasons shift and allow the tree to establish itself some before summer. Be cautious of late frosts. Plant smart and plant right!

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"Spring is when you feel like whistling even with a shoe full of slush." - Doug Larson