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Great Places Green Spaces

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Key topics: Giving Your Trees A Head Start With Watering
Remulching / Branch Cleanup / Recognize Frost Damage

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

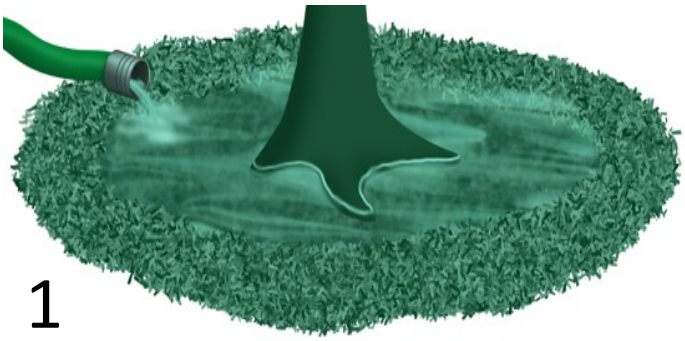
By Hunter Pecard

Watering Your Trees for the Season

Other than being a welcome sign of spring, melting winter snow gives the soil some essential moisture for plants and trees to utilize in the first weeks of the growing season. However, this is dependent on how much accumulated snow was present by the time temperatures begin to climb. If warm, sunny days were frequent before the beginning of the spring months, it's likely that snowmelt will be reduced in comparison to other years. Even if snowmelt is average or plentiful compared to other years, snowmelt is still only a temporary influx of water and trees will soon be relying on rainfall again. Instead of leaving it to the elements, it is advisable to establish a routine watering schedule to ensure the health and longevity of your trees.

How Much Should I Water?

Unfortunately, there isn't a "one size fits all" watering plan. Many factors such as tree species, soil characteristics, local climate, and elevation can influence how much watering is optimal for a tree. However, perhaps the most influential aspect of how much water a tree should be given is tree age. Large, mature trees have had time to establish their roots wide and deep into the surrounding soil, often making deliberate watering unnecessary in all but the harshest of droughts. However, immature trees such as those that were planted in the last 5 or so years, have their survival likely contingent on such waterings. Unless these trees have been planted the fall before, they likely already have established somewhat over the last growing season. This means a watering once a week with 2-3 gallons per inch in diameter should prove sufficient in most cases. If they were planted last fall or anytime right before or during spring, double it to twice a week. This is a general recommendation, therefore you may need to water more or less depending on site conditions



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and how dry recent conditions have been. If a tree is in a low point within the landscape, then water from rain and snowmelt will naturally collect and persist longer within the area. Although this may be beneficial for a tree, if the decline is too narrow or sharp, the soil within may be chronically oversaturated with water, therefore drowning the tree or making it prone to root rot. In addition, soil texture plays a significant role. If a soil consists of larger particles such as sand, water will not be retained for very long, meaning more frequent waterings may be necessary. If its primarily made of clay, or in other words easily shaped and squashed by your fingers, water retention can be much higher, meaning watering sessions can and should be farther between. Your soil is likely to be a indistinct mix of these textures. As a general rule of thumb, long or deep waterings are preferred to frequent, shallow ones. Finally, if a severe drought is happening within your region, it makes sense to step up your watering frequency. If you are experiencing record rains, then feel free to dial back lest you waste time and water or even drown your trees.

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"Watering the tree that gives you neither shade nor fruit is real ethics!" - Mehmet Murat Ildan

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Mulch and Re-Mulch!

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Mulch is a Tree's Best Friend

Mulching is one of the most simple and impactful practices you can do for a tree outside of regular watering. So useful, you should always plan on mulching each tree you plant. Mulch provides a multitude of benefits. First and perhaps most obvious, mulch provides the tree a barrier from both landscape maintenance and weeds. Mulch provides a clear and defined space surrounding trees not requiring the operation of lawnmowers or weedwhackers, which greatly reduces the chance for damage. Mulch also blocks the sun from the seedbed within the soil beneath it, preventing or limiting herbaceous competitors to the tree like weeds and grass from sprouting around it. In addition, mulch can protect the roots of a tree from extreme temperatures and their fluctuations because good mulch has plenty of air pockets to provide a thermal buffer for the soil in which the tree grows, keeping it warmer in the winter and cooler in the summer when temperatures are at their greatest extremes.

Other benefits of mulch include increased moisture retention from watering sessions, as water will tend to retain to the mulch while making it more difficult to evaporate away from the soil. This will potentially buy caretakers an additional day or two in their watering schedule, as well as allow a tree to utilize moisture trapped by its mulch for longer.

Mulch also provides a tree with a gradual supply of nutrients as it breaks down into the soil. This can be particularly beneficial in areas of generally poor soils that may make initial establishment of a tree difficult.

Finally, mulch can be very complimentary to the landscape from an aesthetic standpoint, coming in a variety of colors and textures for visual appeal.

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.

Make Sure to Mulch Correctly!

As great of an assistance mulch can provide a tree, it can easily do more harm than good if not applied correctly. The most common mistake when it comes to mulching is over-mulching. Unless using mulch to temporarily protect roots during construction, the range of 2-4 inches of mulch does not need to be exceeded. Another common mistake is to put mulch right up to the side of the tree. Not only does this look unsightly, but it provides a refuge for pathogens causing disease in trees and rodents to feed on the tree in the safety of the mulch. Therefore, make sure to spread out mulch at the base of the tree to ensure the root flare is exposed. This will allow the tree roots to properly aerate and will keep moisture off the bark of the flare. You should be forming a ring around the base of the tree where the mulch was shifted/raked away.

Be sure to use the correct type of mulch. The best type of mulch is hardwood woodchips, as it provides a texture to allow for plenty of air pockets, resist blowing away, and has an optimal decomposition rate with a good variety and distribution of nutrients. Other organic mulches, such as pine needles or straw, are better than nothing, but break down faster and have a tendency to blow away at a greater rate. Be sure to avoid manufactured mulches, however, such as plastic or sheet mulches, because these stifle the soil beneath it and/or never decompose. Also avoid a practice called lasagna mulching, as this shares and often intensify the problems with sheet mulching.

"For a tree to become tall it must grow tough roots among the rocks." - Friedrich Neitzsche

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Spring (Tree) Cleaning

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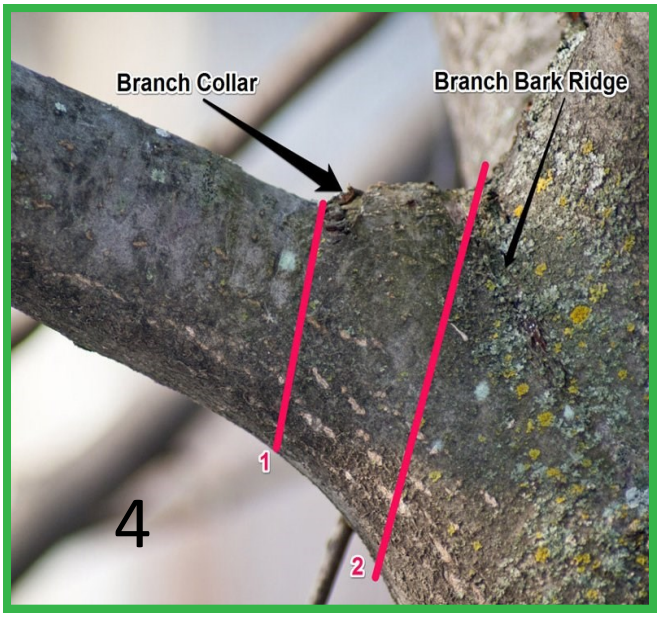
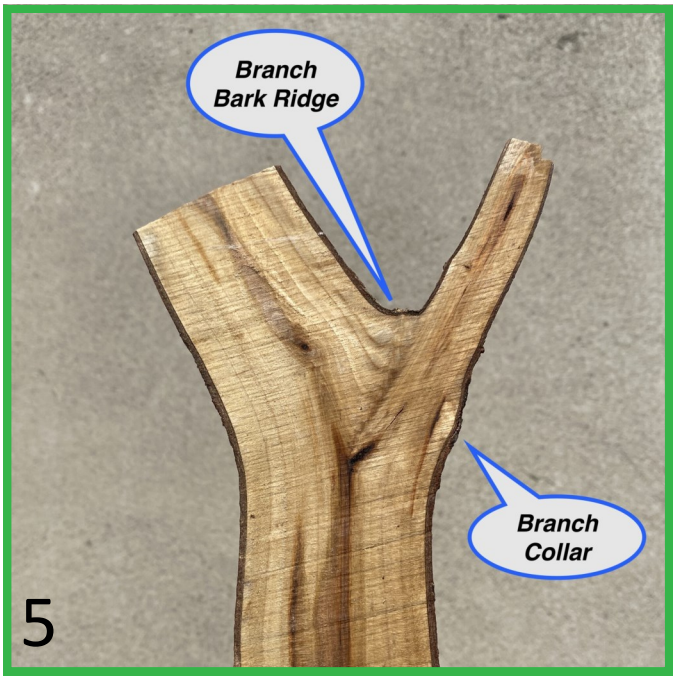
How to Cut!

Before pruning any tree on your own, please seek the guidance of a professional such as your regional service forester. The pruning of smaller, recently planted trees can be accomplished by the average person with guidance and training, but is not advised prior to seeking guidance. Large trees and branches present a whole different set of challenges and dangers and should be left to trained, professional arborists. The easiest pruning for the average person to do is the removal of dead, dying or diseased branches.

You must be certain that you are not cutting into healthy parts of the plant, particularly at the base of branches. Trees have a natural concentration of defense mechanisms in a region known as the branch collar. In addition to providing the base of the branch defensive chemicals in the event of damage or decay, this region is usually specialized to perform natural pruning to a dead branch. As such, the branch collar is more an extension of the trunk as opposed to being part of the branch itself. This means that this extension is often still healthy despite the branch it is connected to being stone dead. Therefore if you were to simply cut flush to the trunk, you are very likely to damage this living tissue and leave the tree no way of sealing itself quickly and completely. This ultimately puts the tree at risk for decay to establish and spread into the trunk, potentially leading to runaway decay and for the tree to become hollow and unstable.





When to Cut!

Unless pruning was performed during the winter, spring is usually your first chance to remove dead or diseased/ atypical branches from your tree. Although a tree is likely to shed dead or unhealthy branches by itself in time, you may wish to perform a cleaning prune for aesthetic and disease control reasons.

However, there is no single pruning season for every tree. Some are best pruned only at certain times of the year, such as any oak only being safely pruned in the deep of winter due to a disease called oak wilt, carried by a beetle that becomes active in spring. As such it is important to do the research on whatever tree you wish to prune to ensure your cuts don't significantly interfere with your tree or put it at risk of contracting disease.

"Remember that growth always involves a little pruning." - Unknown

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Looks Like Frost Damage!

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Frost Damage and You

The snow and ice accumulated over the winter may be long gone by the time your trees wish to sprout. South Dakota often undergoes a handful of sharp temperature fluctuations during the spring as late as the middle of May. This can leave trees coaxed into leafing out early by warmer temperatures to be hit with a sudden frost that can damage the tender, new growth. This damage primarily occurs because moisture on and within the leaf freezing leads to splotchy, inconsistent damage in the form of crumply, brown tipped leaves as they dry out.

Short of controlling the weather itself or taking the time to cover the tree in an insulating layer, not much can be done to prevent frost damage outside planting trees adapted to such weather in the first place. Trees native to South Dakota have mostly adapted to these patterns and have made themselves less vulnerable to late frosts, usually in the form of leafing out later in the spring season. Tree species should not be used as a guarantee of frost resistance. The same species from seed stock in Nebraska or Minnesota may not be acclimated correctly and may sustain more frost damage than a South Dakotan counterpart. Trees generally recover from damage caused by a hard freeze, though such does cause a significant setback to the tree in trying to recoup the lost budding. This means less growth could be expected from the tree during the growing season for that year. Due to sharing similar symptoms to damage caused by drought, the two are often confused. However due to the previous snowmelt providing moisture and typical mild, cool temperatures of spring, frost damage is the more likely culprit. Damage by herbicide can also be easily confused with frost damage; however, leaves affected by herbicide tend to remain uniformly green or greenish gray in addition to being shriveled and/or stunted. Herbicide damage usually occurs deeper into the growing season as well.

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"No winter lasts forever, no spring skips its turn." - Hal Borland