



## **New tree care guide**

This is a guide primarily addressing recently planted street trees. The knowledge it provides however will also be applicable to privately planted trees. We are attempting to improve our formative care program on boulevard trees and hopefully any questions you have will be addressed and should you choose to help with the care of these trees this guide will help you do so.

First of all, what are formative trees? Any tree that has been newly planted whether it was a smaller start size (generally bare root or potted) up to a couple inches in diameter (balled and burlapped and bigger potted trees) are what we refer to as formative trees. They would remain in this classification until they are about 5" thick or no longer need yearly pruning. This will vary with the species of the tree and how vigorously it is growing.

What will our formative care program entail and why are we undertaking it? Between our own experience with newly planted trees and current research on new tree success rates it has been determined that around 80% of newly planted trees do not reach their 10<sup>th</sup> year if they receive no care beyond planting. Simple practices such as watering and maintaining a mulch ring will raise success rates to 95%, almost a complete turnaround with minimal time investment. Consequently, these 2 care items (water and mulch) will be the focus of our program.

### **Water**

We will water trees consistently during their first year of establishment. Watering is one of the simplest things to do to help young trees yet one of the easiest practices to perform improperly. Rather than water on a schedule (say 1 five gallon bucket every 2 days) it is better to see how wet or dry the soil is. Pull the mulch back a bit and feel if the soil is cool and damp or if it is starting to feel warm and dry. Once the soil stops feeling cool and damp it is ready for water.

Soil conditions around town vary greatly; some areas where the water doesn't drain away (generally newer areas of town) may need less frequent watering, especially after a rain event. Air temperature is a big factor as well. A tree may be fine after 4 days of seventy degrees but a tree after 2 days of ninety degrees may be starting to dry out. Pulling back the mulch and feeling the soil a couple times can give you an idea of how fast your soil dries out. With practice you can also start to evaluate the physical appearance of the leaves. Leaves will start to wilt slightly and the tree can develop an overall droopy appearance when it gets too dry. Ideally you would water before this condition develops but if it does it is not too late for the tree. If this happens the tree should be watered thoroughly and it will generally lose its droopy appearance without too many ill effects. When this type of water stress happens frequently is the point at which the tree may start to shed leaves in an attempt to compensate for the lack of water. This is what we are primarily trying to avoid with our watering program.

Once it has been determined that the tree needs water how much should you apply? When we are out making our watering rounds we generally run our hose at about the rate that water comes out of your bathroom sink. This is slow enough where the water seeps into the ground decently and doesn't wash the mulch away. We generally water till it starts to seep out from the mulch and move on to the next tree. Depending on the size of the planting hole this usually winds up being about 10 gallons. With all that information on watering being laid out, we generally try to water each new tree once a week depending on rain events and air temperature.

### **Mulch**

If there's a silver bullet for success for new trees it's mulch. More and more research is showing that it is one of the largest contributors to new tree success. Applied properly once a year this is an inexpensive investment in your tree.

We generally apply 2 bags of mulch (bags are usually 2 or 3 cubic feet apiece) to bareroot and potted trees, we sometimes apply 3 bags to a larger balled and burlapped tree. This equates to a mulch ring around 2 feet across. Mulch should be maintained at a depth of 2-4" and should not touch the bark at the base of the tree. The mulch we apply is usually a shredded hardwood mix. Almost any shredded or finely ground wood mulch will work. They stay put fairly well in high winds compared to bark mulches which can blow around. For boulevard trees our goal is to maintain a mulch ring for the first 5 years of establishment. We will check on the tree each year during our inspection route and add mulch if needed and take care of any grass or weeds that have invaded the mulch. In the long term (past 5 years) we would certainly encourage residents to maintain the mulch ring around the tree. There are many kinds of edging that can be used to keep the mulch in place to provide a neat appearance. Larger trees benefit from a larger mulch ring but that can be dictated by the amount of space available. As long as there is a couple of feet of mulch around the tree you are on the right path. One tip to keep weeds from growing through the mulch is utilize landscape fabric under the mulch. This works best after stripping any vegetation away (sod cutting) from the area to be mulched before applying the fabric. These products will be labeled as landscape fabric for use under mulch/rock and will permit water to drain through. Plastic sheeting is not recommended as an underlayment for mulch around trees. Mulch can also be used to cover up roots that have gotten close to the surface and have become a nuisance. Maintaining a mulch ring when the tree is young will help to reduce the amount of these surface roots.

One of the most important unintended benefits from maintaining a mulch ring is to keep lawn maintenance equipment away from the base of the tree. A significant amount of new tree failures result from damage from lawnmowers and weed whips. When a tree is small the bark is about as durable as human skin. Using this analogy you can imagine how easy it is to damage young trees with a weed whip or a lawnmower. This is especially important in that trees only use the outermost layer of bark to move water and nutrients. The rest of the interior of the stem is mainly used for support.

Damaging 50% of the circumference of the trunk of a 2" tree is very easy to do with a single pass of a weed whip and generally ensures that the tree will have problems down the road. The weed whip string doesn't have to penetrate very deep to do significant damage.

## **Fertilizer**

We fertilize trees at planting time with a nursery grade time release fertilizer that lasts a full growing season. During the following years of establishment we evaluate the growth rate of the tree and the color of the leaves to determine if more is needed. New trees should put on at least a foot of growth each year and have a nice dark green color. Most soils around town will provide for this but occasionally there may be some areas of low nutrient soil or high pH. High pH soils are the most common nutrient issue we see. They are fairly easy to spot when examining the foliage on the tree. Leaves appear yellow especially on the ends of branches while the veins of the leaves remain green. This is common on river birch and maple. We can solve some of these symptoms by adding liquid fertilizer to our water tank and applying this to the tree when we are out maintaining mulch rings. In general, mature trees don't need much fertilizer but can benefit from a very light application of a 3:1:2 ratio fertilizer either in the late fall after the leaves have dropped or in the spring preferably before May 1<sup>st</sup>. Most lawn fertilizers are a 1:1:1 ratio (20-20-20 for example) which will also work as long as you're not over applying. We use a 17-5-11 fertilizer at a rate of 1 cup per inch of caliper. There are many theories on where to place the fertilizer but the consensus seems to be to keep it inside the mulch ring of the tree but not contacting the trunk itself.

## **Tree Support**

When a tree we plant needs staking we generally use a single flexible fiberglass rod tied to the tree with biodegradable plastic ribbon. This is in contrast to the industry standard of using a 3 t-post method in a triangle shape around the tree. A couple of reasons we don't utilize this system is that a single fiberglass rod is cheaper and the biodegradable ribbon doesn't compress the bark of the tree as easily as the nylon strapping used on the t-post system. We can also get a straighter leader and can remove the stake sooner with the fiberglass rod than with the t-post system. The tradeoff is

that there can be some chafing damage from the fiberglass rod as the tree moves in the wind. The tree tends to shrug this damage off quite easily however and a year or two after the stake is gone the damage has already been covered over. Ideally we try to avoid installing support on a tree unless it is absolutely necessary. Trees we plant out of a container and balled and burlapped trees generally don't need support. If we've planted a tree and the wind pushes it around feel free to contact us and we will straighten it out and stake it if necessary.

## **Trunk Protection**

Trees can need trunk protection for 2 main reasons. It can help deflect the sun off the bark in late winter, which helps with sunscald, and it also helps prevent deer and rodent damage. Sunscald is a condition where the sun shines on the bark and causes it to warm enough where the tree starts to move water up and down under the bark. When the sun sets the water freezes and the areas in which the water is moving can have tissue death. This is easily recognizable by the long dead areas of bark on the south side of trees generally running from just above the ground to where the branches start. While trees can recover from this damage it is definitely something to be avoided if possible. We use 4 foot long corrugated plastic tubes that are split down the side and are usually 3" in diameter. They work well for reflecting the sunlight off the bark, deterring rodents from chewing on the bark, and deer from rubbing their antlers on the bark. The split down the side helps prevent the plastic from compressing the tree if the guard is left on for multiple years.

In summary this guide should provide you with the basics of getting your new tree established and illustrate how we plan to care for publicly planted trees. There are many sources of information on the web to supplement this guide if desired.

<https://hort.ifas.ufl.edu/woody/documents/EP314.pdf>

[http://www.treesaregood.com/portals/0/docs/treecare/New\\_TreePlanting.pdf](http://www.treesaregood.com/portals/0/docs/treecare/New_TreePlanting.pdf)

<https://www.arborday.org/trees/tips/watering.cfm>

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