

Caring for Young Trees

The First Three Years



NURTURING NATURE

Early life is an important and formative time for human children, as well as a vulnerable time where a toddler needs care and attention to thrive and grow. The same is true for a newly-planted tree! The first three years after planting are especially critical. Planting and walking away will not result in long-term success. New trees need your help. Here are some things you can do to nurture your tree in years 1 through 3...

AT A GLANCE | what a young tree needs

Plenty of Water

- Young trees require regular watering for good health and disease prevention. Deep watering (see watering instructions below) prevents weak surface roots from forming and encourages the growth of robust roots underground. Lawn irrigation does not provide adequate irrigation for trees.

Food and Shelter

- Plants and weeds compete with the tree for water and nutrients. Keep the base of the tree free of other living plants such as weeds or grass by removing them by hand and replacing mulch periodically—mulch serves as a nutrient source and weed-blocker.

Protection

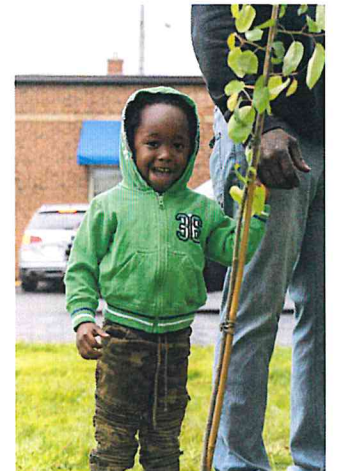
- Protect young trees from chemicals: Fertilizers and herbicides can burn or damage a young tree's roots and leaves. There's no need to use these in the first three years. Cages or tree shelters protect a tree's bark from deer antler rub, mower or trimmer damage when installed correctly.

Room to Grow

- As the tree grows, it'll likely need some adjustment! Any support installed at planting is only meant to help the tree get established... once they can support themselves, it's time to remove the training wheels and take off any staking supplies! Deer protection and cages can remain longer as long as it's not hindering bark growth.

Proper Training

- Yes, young trees, like other young beings, benefit from "instruction" on the best ways to grow and behave. Structural pruning while a tree is still small will greatly improve its strength, form and resilience in storms. See our [Young Tree Pruning](#) resource for more.



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TREE CARE TIMELINE | Reminders for the First 3 Years

AT TIME OF PLANTING

- ✓ Fill the watering basin three times using a total of 15-20 gallons of water. This initial watering is important to help sensitive roots adjust.
- ✓ Prune off any dead, diseased, or broken branches. *Hold off on additional pruning until year 3 or 4.* This will give your tree time to establish.



FIRST GROWING SEASON

- ✓ For the remainder of the first year, water every other week with 10-15 gallons when there hasn't been a soaking rain in the past 1-2 weeks.
- ✓ Mulch your tree using the 3-3-3 method as outlined in [The Do's and Don'ts of Mulching](#). Use mulch to suppress weeds and conserve moisture. Keep the soil covered with a 3-inch layer of mulch in a 3-foot circle around the tree, taking care to keep mulch a fists-width away from the trunk. Weed by hand if necessary.
- ✓ *Reminder: Do not fertilize!*
- ✓ Is your tree leaning? Are stakes looking loose or crooked? Check staking any support and protection and modify (tighten, loosen or remove) if necessary.



SECOND and THIRD GROWING SEASONS

- ✓ Offer supplemental water if rainfall is less than 2" each week. This is especially important in times of summer drought.
- ✓ Refresh the mulch ring if needed, using the same practices as before. Continue to remove weeds by hand.
- ✓ Check to make sure mowers and string-trimmers aren't hitting the tree.
- ✓ Ensure that tree-ties, if still needed to support the tree, are tight enough but are not cutting into the growing bark.
- ✓ Just like last year, remember to check... Is the tree still vertical? Adjust the support and staking if needed!



GROWING SEASONS 4 through 10

- ✓ Occasional deep watering will help your tree thrive. Watch for signs of drought stress. Are leaves wilting, yellowing, curling or browning at the edges? Then it's time to water!
- ✓ Check soil moisture once a week 4-6 inches below the surface. Soil should be moist but not wet. Lawn irrigation or light sprinkling waters only a few inches of soil and encourages weak surface roots... use a 5-gallon bucket or hose to give your tree a thorough soaking if necessary.
- ✓ Continue to refresh mulch seasonally or as needed to 3" depth and remove weeds if present.
- ✓ Now is the time to start training your tree through pruning to encourage strong structure and prevent issues down the road. Consult the [Young Tree Pruning](#) guide for details.

Summer Tree Care Tips:

Hey you! Drink some water.



IS YOUR TREE THIRSTY?

Did you plant a new tree earlier this spring?

Is it showing signs of transplant stress such as wilting, browning, or curling leaves?

Does the soil surrounding the trunk look like the surface of the moon?

Is it dropping foliage or experiencing early fall color?

If so... it's thirsty! Give it water!

Newly planted trees are like babies. They require a lot of attention the first few years after planting as they expend energy to establish roots into the surrounding soil.

IN THIS GUIDE

IS YOUR TREE THIRSTY?

WATERING TIPS AND TRICKS

HOW TO PROPERLY WATER YOUR TREE

THE DANGERS OF HEAT STRESS

WATERING TIPS AND TRICKS

1. Water trees for the **first three years** after planting. As a precautionary, water **established trees during dry spells** or drought.
2. Newly planted trees require **10-15 gallons** of water 2-3 times/week if there is no rainfall.
3. Prioritize watering trees **growing in full sun, in limited soil space or adjacent to heat-absorbing surfaces** like sidewalks and driveways.
4. To check if a tree needs water, use a garden trowel and dig a few inches into the soil surrounding the root ball. Decide **if the soil has moisture** or if it's very dry.
5. Apply water in the **early morning or evening** to prevent loss to evaporation.
6. Preserve soil moisture by **adding a layer of mulch** around your tree (see Mulch Do's and Don't's). This will reduce evaporation and eliminate competition from other competing plants.

HOW TO PROPERLY WATER YOUR TREE



Hose Method:

Place a hose a foot or so from the base of the trunk and run it at **a trickle for 30 minutes**, moving it around the root ball to a **different position every 10 minutes**. This will ensure water doesn't run off the surface too quickly and will infiltrate the root zone.



Sprinkler Method:

Fix the sprinkler head so it **doesn't oscillate**, set it on low and place near the base of the tree - but not on the trunk - for **15 minutes on one side then 15 minutes on the other**. It's a good way to cover more area.



Bucket Method:

If you don't have a hose or it doesn't reach the tree, use a **5-gallon bucket**. Fill the bucket with water and **SLOWLY pour the water to the base of the tree** allowing it to fully infiltrate the soil. Once the first five gallons has infiltrated the soil, repeat two more times so **a total of 15 gallons** of water is applied. Your tree and triceps will thank you!

OR

You can also water with a 5-gallon bucket that you have **drilled holes**, about the diameter of a pencil lead, in the bottom of. **Five holes** is sufficient. Place the bucket at the **base of the tree**, fill the bucket to the top with water, let it drain, move it slightly around the tree and fill it again - 3 times total.

THE DANGERS OF HEAT STRESS

The combination of hot temperatures and little rainfall that characterizes summer weather is a dangerous, stressful condition for trees.

Signs of Heat Stress...

- Leaves wilt and branch tips droop
- Leaves or needles in the interior of the tree turn yellow
- Green leaves start falling off the tree
- Leaf edges become scorched (they look brown, crispy and dead)



Dry soil conditions cause direct damage to tree roots. The roots become dry and nonfunctional causing a water and nutrient deficiency to the tree. Trees that are stressed by drought are less hardy making them more susceptible to pests, diseases, extreme weather conditions, root rot, etc.

Young Tree Pruning

How to Train Your Tree



What every young tree wants is a good, strong structure.

Trees that receive appropriate growth-training through structural pruning while they are young have less problems as they mature and avoid serious limb breakages during storms.

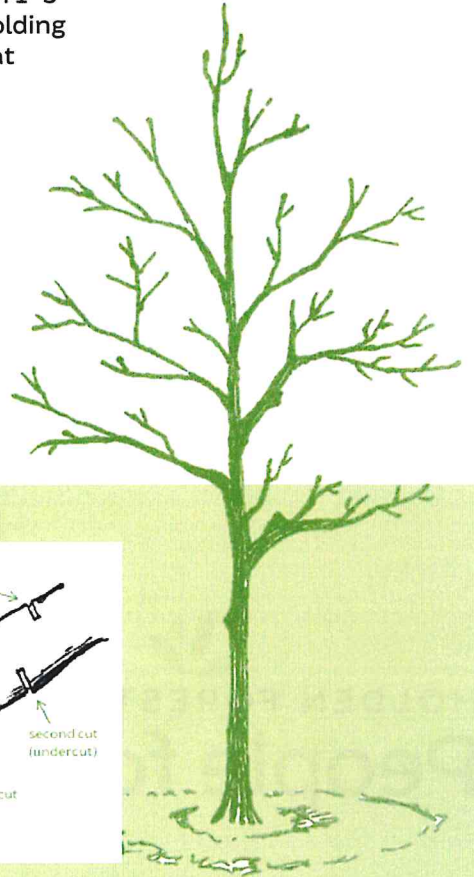
AT A GLANCE | Structural Pruning

Timing is Everything • In Northern Ohio, the best time to prune is when the tree is dormant. Fall (after leaves have fallen) or early spring are ideal. Dormant pruning is especially important for trees such as Oak and Elm, which are susceptible to disease during the growing season. For more on pests and pathogens in our region, visit the Great Lakes Forest Health Collaborative at <https://holdenfg.org/great-lakes-basin-forest-health-collaborative/>

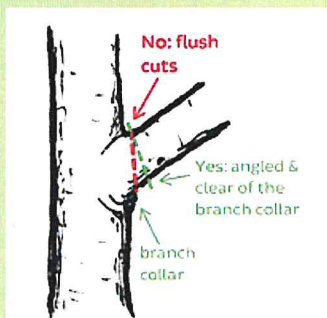
First Things First • Focus on pruning off dead, diseased or broken limbs before doing any structural pruning. Also, if it's only been 1-3 years since the tree has been planted, consider holding off-young trees should be fully established so that healing of pruning wounds won't cause stress.

Look Before You Cut! • A good rule of thumb for a newly planted tree which you can come back to each year is to never take more than 20% of a tree's living canopy. A handy practice is to keep the cut branches in a pile near the tree to visualize the percentage you've pruned off, and when to stop.

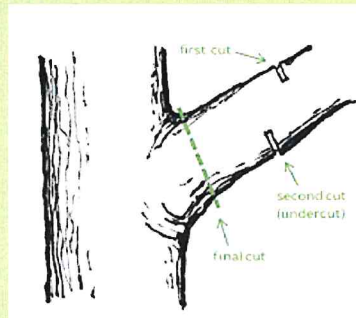
Right Tools for the Job • Bypass hand pruners are best for branches smaller than thumb-diameter; lopping shears or a pruning saw is best for larger branches. Make sure they're sharp and clean.



Small Branch Pruning

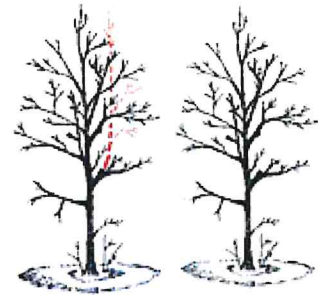


Large Branch Pruning



STRUCTURAL PRUNING| Steps

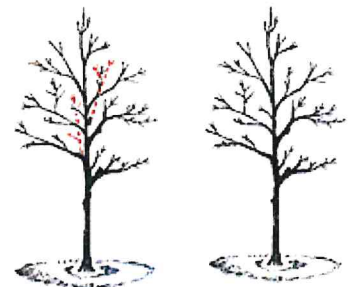
1.) Select and establish the central leader. Sometimes young trees will grow multiple potential trunks, or codominant stems. Selecting the straightest, most central of these and prune back the others. If pruning to remove one or multiple codominant stems off the tree would take more than 20% of the canopy, simply take some of each, starting at the tops of those branches. This is called "reducing" or "reduction pruning" and will encourage the tree to put more energy into growing the intact, intended central leader.



2.) Locate any temporary branches or suckers below the lowest permanent branch and remove them. IF pruning to select a central leader took off less than 20% of the living canopy... Select the lowest permanent branch based on tree location/purpose. Prune off branches below that lowest permanent branch. This is called "elevating the canopy". Make sure you don't exceed 20%!



3.) If pruning off suckers and to select a lowest permanent branch and took off less than 20% of the living canopy... Select and establish scaffold branches, pruning back those that are unbalanced or too crowded. A good scaffold has evenly spaced, uncrowded main branches coming off the trunk, and balanced on all sides of the trunk.



Again, going through these steps may happen all at once on a young tree with a very full canopy, or over the course of the first 3 to 5 years after planting. In the end, the 20% rule determines what you will do each time you approach the tree with pruners or a saw: If there's more to be done after you've done the first or second step, don't fret. There's plenty of time to come back and focus on more structural pruning next year.

Over time, a young tree that has been well-pruned will not only be stronger and more resilient in storms, but also be more visually appealing. Proper training in the first 3-5 years after planting has big benefits for trees for the rest of their lives.

Summer Tree Care Tips:

The Do's and Don'ts of Mulching



IN THIS GUIDE

BENEFITS OF MULCHING TREES

WHAT MULCH IS BEST?

HOW SHOULD MULCH BE APPLIED?

WHY IS VOLCANO MULCHING HARMFUL?

BENEFITS OF MULCHING TREES

- * helps to retain moisture around the base of the tree
- * helps control weed and grass growth around the tree, which reduces plant competition
- * insulates the soil, protecting the tree from extreme temperatures
- * adds nutrients to the soil as the mulch decomposes
- * reduces the likelihood of damage from a lawn-mower or a weed-wacker
- * gives planting beds a well-cared for, uniform look

WHAT MULCH IS BEST?

Organic, shredded (double or triple), hardwood mulch breaks down over the course of a season or two, increases the soil's organic content to help beneficial bacteria thrive, and releases nitrogen into the soil to help plants grow.

Dyed wood mulch may have some aesthetic appeal, but dye leaches into the soil, harming beneficial bacteria and robbing the soil of nitrogen.

Inorganic Mulching with rocks, plastic barriers, or rubber should be avoided. These trap heat, don't allow proper oxygen exchange, and deprive trees of nutrients.



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HOW SHOULD MULCH BE APPLIED TO TREES?

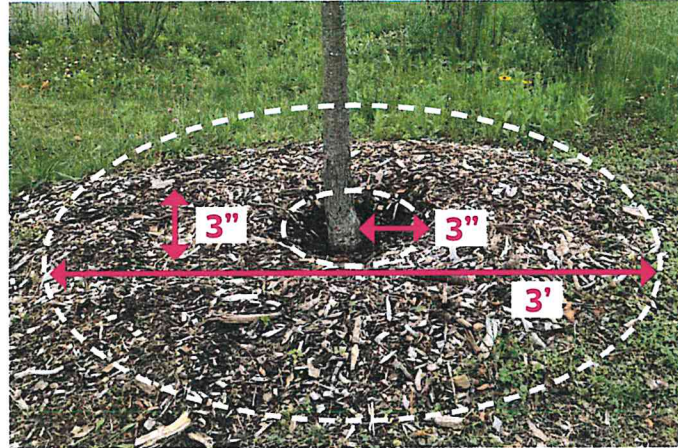
Follow the **3x3x3** rule!

Apply mulch...

No higher than **3 inches**

At least **3 feet** radially from the trunk

About **3 inches** (or a fist's width) from the trunk



Make a **DONUT** shape



Not a **VOLCANO!**

WHY IS VOLCANO MULCHING HARMFUL?

Mulch that is too high or too close to the trunk can cause problems that damage your tree over time.

Too much mulch can...

1. Smother the tree's roots, thus starving them of needed oxygen. In search for oxygen, the roots will often grow up through the mulch causing them to "girdle" around the trunk and cut off water supply.
2. Cause excess moisture to build up between the mulch and the tree's trunk. The excess moisture creates perfect conditions for root rot, which deteriorates the bark and creates an unstable foundation.

HOW TO FIX AN OVER-MULCHED TREE

Remove the mulch volcano by gently digging it away from the trunk with hand tools to expose the root flare, taking care not to harm the roots. If the amount of soil and mulch is significant enough, and there's evidence of problematic roots, consider a professional option such as air knife and root pruning.

AIR KNIFE AND ROOT PRUNING

Step 1:

An air knife removes the mulch/soil while keeping the roots intact and unharmed.

Step 2:

Problematic roots are pruned and removed. Problem roots include:

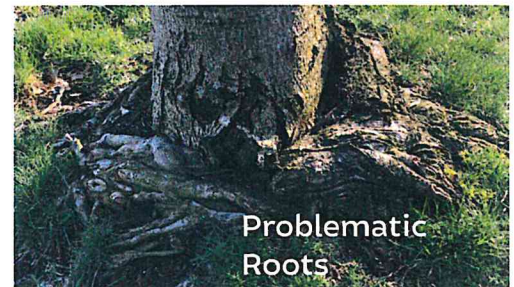
- * roots forming above the main root structure
- * girdling roots that encircle and compress the trunk

Step 3:

The tree is mulched correctly using the method outlined above.



Air Knife



Problematic Roots



Correct Mulching

BEFORE

1. Choose the best planting location

- At least 48 hours before planting, call 800-362-2764, 811, or visit e-dig to request the location of underground utilities near your site.

2. Gather tools and materials



3. Examine the tree

- Is the soil in the container dry? If so, give it some water to reduce transplant shock and make it easier to remove from the container.
- Are there broken, dead or diseased limbs? Prune them back to the nearest lateral branch; don't leave a stub or cut into the branch collar.

4. Prepare the tree

- Only move the tree by the container and never the trunk or branches. Remove the tree from its container; gently tip the tree on its side to make it easier.
- Find the root flare at the base of the trunk where it flares out into the roots—gently clear away any soil above the root flare.
- Loosen the roots by teasing them out from the soil with your fingers. Straighten roots that circle around the root ball and prune those that turn at a sharp angle or point back toward the trunk. The roots should extend radially from the trunk like the spokes of a bike wheel.
- Remove nursery tags, tape and bamboo stakes from the tree.

DURING

5. Dig the hole

- How deep? The hole should be only as deep as the root ball. How wide? 2 to 3 times wider than the root ball and saucer-shaped (gently sloping on the sides). Digging a broad planting pit breaks up the surrounding soil and provides emerging tree roots room to expand.
- Place turfgrass in one pile, soil in another for easy access later.
- Rough up the sloped edges of the hole with the shovel to make it easier for future roots to penetrate.

6. Set the tree in the hole

- Place the tree in the hole, ensuring that it is straight. Turn the tree, if necessary, so its "best" side is most visible.
- The root flare should be at or just slightly above the soil level... NOT below! If the hole is too deep, backfill it with soil; too shallow, dig a little deeper.
- Backfill the hole using the soil you just removed, breaking up any clumps to remove air pockets. Gently pack in the soil at the level of the root flare.
- Slowly apply up to 15 gallons of water to the backfilled soil to help remove air pockets.

AFTER

7. Berm and mulch

- Create a berm by flipping the turfgrass you removed earlier upside down and placing it in a ring around the outer edge of the hole.
- Mulch around the tree to a depth of 3 inches and out to the dripline; keep mulch at least a fist-width away from the trunk.

8. Protect and stake

- Put a mesh cage or tree guard around the trunk.
- Place stakes on either side of the tree and tie a flexible tree tie low on the trunk and at 90 degrees from the trunk to the stake.

9. Water again

- Slowly add 15 gallons of water into the mulched trough, allowing 5 gallons at a time to infiltrate before applying another 5 gallons. If using a hose, set on a trickle for 20 minutes.

10. Follow-up care

- Avoid fertilizing your newly planted tree.
- Set reminders to check your tree the first 3 growing seasons.
- Check the soil below the mulch weekly for moisture. If it doesn't rain at least twice a week or is especially hot weather, be sure to water your tree. This care is especially important in the first 3 years of a tree's life.
- Adjust stakes and ties during the first 2-3 growing seasons to ensure tree is straight and the ties are not too tight or too loose; remove completely when tree establishes roots into surrounding soil.
- Replenish mulch as needed.
- Refrain from pruning for the first 3 years, except for broken, dead or diseased limbs.



Check out a video illustrating these steps at <https://vimeo.com/540817311>

MAKING THE BEST HOME FOR YOUR NEW TREE



Check out more tree care tips in our Tree Care Toolkit at <https://holdenfg.org/resources/tree-care-toolkit/>

