Seasonal Report

$5.00

WACHTEL TREE SCIENCE INC.

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Preventive vs. Reactive Tree Care

By Keith Glaznap, ISA Certified Arborist WI-0678A

It's very common for a homeowner to wait for an issue to develop before taking action. Unfortunately, waiting until a problem becomes visible can wind up being very costly and destructive. A perfect example of this might be the roof of your house. Waiting for a leak to develop before replacing roofing materials can lead to far more costly and disruptive repairs. Being proactive about roof replacement can save you a lot of suffering—and ultimately, money. Similarly, being proactive with caring for your more highly valued trees can save you money—and perhaps more importantly, the heartache of losing that special tree.



Declining oak (left); healthy oak (right)

Tree stress and **boring insects** are examples of tree-related issues that can be addressed proactively. Both issues are difficult to identify before critical damage levels are reached. Given this, proactive attention is recommended for highly valued trees susceptible to one or both agents.

Weather plays a large role in tree stress. Excessively dry or wet weather and untimely cold snaps have all contributed to tree stress in Southeast Wisconsin over the past ten years. For many of us, the soil around our yards has been compacted and modified during the construction of our homes. Left unmitigated, this degraded and compacted soil can also negatively impact the long-term health of our trees.

Adding insult to injury, boring insects usually attack stressed trees, taking advantage of their weakened state. Most feed on a tree's conductive tissue, located just under the bark. This covert feeding can remain completely undetected while interrupting water and nutrient uptake, ultimately killing the tree.

Evidence of tree stress and boring insects often remains unnoticed by most homeowners since the foliage of affected trees can continue to look healthy for several years. Typical observers only identify that there is an issue present once the damage has reached a critical level. By this point, it may be expensive, or even too late, to intervene. Administering preventative care measures before obvious signs of a problem become evident is usually more efficient and often yields better long-term results.

If you have trees on your property that hold special or sentimental value, contact Wachtel Tree Science to schedule an appointment with your ISA Certified Arborist. Together you and your arborist can review these trees to identify individuals more at risk while searching for subtle signs of stress or boring insects. After a brief discussion and assessment, you can take steps for the appropriate care and management of these trees.

WI-002

ISA CERTIFIED ARBORISTS ON STAFF

Ron Gumz MN-0324B*
Ben Reince WI-0610A†
Anthony Arnoldi WI-0102B*
Mike Klein WI-0306A
Brent Kahn WI-0302A
Jean Ferdinandsen WI-0149A
Dan Barwinski WI-0716B*†§
Keith Glaznap WI-0678A
Paul Scharfenberger WI-0841A
Ryan Rodefer WI-0883A†
Nathan Schuettpelz WI-0887AM‡+§
Kyle Babicky WI-0889B*§
Chris Frankulin WI-0984A†
RJ Busch WI-0985A
Jake Kubisiak IL-1392B*
Holly Zart WI-1023A
Luke Volbrecht WI-1112A
Tom Steele WI-1106A
Chelsea Chase WI-1264A
Jon Budish WI-1248A
Alec Schuppel WI-1281A
Tyler Crass WI-1409A
Ryan McCambridge WI-1347A
Rachel Nelson WI-1422A
Michael Peterson WI-1283A
Andrew Fedor WI-0913A†
Jamie Mason WI-1494A
Ben Ori WI-1493A
Maria Reiss WI-1479A§
Matthew Siesco WI-0959A
Brooke Stemple RM-8302A§
Pavel Dimitrov WI-1529A
Audrey Earle WI-1567A
Nolan Gilbertson WI-0632A
Matt Anderson WI-1592A
Carson Lauer WI-1596A

*Board Certified Master Arborist | †Certified TreeCare Safety Professional | ‡Municipal Specialist | +Registered Consulting Arborist | §Tree Risk Assessment Qualification

Diagnostic Forecast

By Tony Arnoldi, ISA Board Certified Master Arborist WI-0102B

The big snowstorm in January and its aftermath certainly dominates the big picture and has laid down a few hair-pin turns as we navigate a new year's tree and landscape season.

While snow totals were heaviest in the western parts of the metropolitan area, and tree damage was most severe there, eastern areas have also been experiencing damage to trees. Lost and split branches, tree tops, and in some cases snapped roots, are a few examples of injuries that must be addressed and stress that has accumulated for Southeast Wisconsin trees.

Tree stress is what drives most insect and **disease cycles.** These are opportunistic and are either initiated now or are made worse as attack advances on trees that have depleted energy reserves and weakened defenses. Deep drought over the last two summers has also been dramatic. Stresses tend to be cumulative and "gang up" to start many a tree on a decline spiral.

On the insect side of the attack ledger, a main class of insects that will exploit weakened trees is **borers.** When attack begins, their damage will also accumulate and enable subsequent generations of borers to attack even easier, further accelerating the death spiral. *Birch, ash, oak, linden, hickory, honeylocust, pines,* and *ironwood* have important borer enemies, but literally all trees have potential borer pest(s) to watch out for.

Aphids and scale insects that harm trees by sucking out plant sap (i.e., they suck) are other types expected to see a rise in population with this opportunity.

Spongy moth (formerly gypsy moth), had a surge in population already last year; oaks that were defoliated by this pest and then additionally had some storm damage now may need extra help.

On the disease side of the attack ledger, **Verticillium wilt** will be able to enter more root systems and cause portions of trees to wither.

Root rots of various kinds have been increasing with the alternating drought and wet soil conditions of the last 2 years (at least) and seeing more evidence of their damage is inevitable, I believe.

Canker diseases that form slowly, expanding dead areas on trunks or branches, will be able to advance more quickly, needing mitigation by pruning or treatment.

All of the tools that we wield in tree care will be needed to help trees through this difficult patch. Pruning, fertilizing, cabling & bracing, root zone enhancements, other root treatments, insect and disease programs, tree injection, and others will all have roles to play in helping guide trees and shrubs to survive and thrive again. Call your ISA Certified Arborist at Wachtel to help assess your tree collection and determine the ones that may need our carefully considered care.

Is It Time for Reduction Pruning?

By Alec Schuppel, ISA Certified Arborist WI-1281A

The last few seasons have shown a combination of above-normal heat and droughty conditions, and we are beginning to see the impacts unfold in our trees.

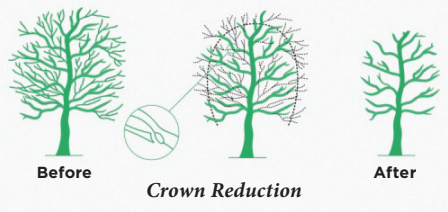
One of the more concerning symptoms is tip dieback, where the tree struggles to push growth at its outermost branch ends, or even starts to defoliate from those ends during the growing season.

While it can be alarming when spotted, tip dieback may not mean that your tree is officially dying. It may be the result of a tree's biological response to stress, such as caused by damaging insect activity. It may be viewed as a tree "cutting off the spigot" at the point where it has decided to sacrifice growth, managing its own resources for survival.

Regardless of how a given tree presents tip dieback, the main question is what to do about it. While not a popular or desired option for several reasons, reduction pruning may be necessary for a declining tree that is being preserved vs. cut down. This type of pruning should only be administered with the understanding that the pruning itself won't be the sole determiner of the tree's fate; its survival depends even more heavily on the condition of its root system. However, the application of this type of pruning can assist a tree in managing those survival resources, promoting its health.

Reduction pruning is cutting back dead or declining branch tips, pruning branches back to viable, more vigorous growth. Sometimes these weakened limbs can be pruned back to adventitious sprouts if viable enough in vigor and diameter. This method not only cuts out brittle, hazardous branches that might break off in a weather event, but also stimulates growth from the dormant buds within the tree. If the limb has enough energy to produce and sustain sufficient growth, the tree's crown will be renewed over time.

When considering a reduction pruning for your tree, it is important to keep in mind that your tree can lose some of its aesthetic appeal for several years, depending on the size of the tree. **Also, it is crucial to keep in mind that this pruning method is not the "fix" for your tree, just one of the tools used to aid in its rehabilitation.**



Crown Reduction

When a tree is showing signs of such stress through tip dieback, you should assume that more issues are present. Pests and disease function opportunistically and will take advantage of trees' weakened state. Do not hesitate to contact your Wachtel representative if you see your tree exhibiting tip dieback to come up with a game plan on how to properly restore your trees' health and well-being.

Keep In Mind:

While there are good reasons for reduction pruning, we do **NOT** recommend using this technique merely for size control.

Uncovering the Hidden Roots of Tree Health

By Michael Peterson, ISA Certified Arborist WI-1293A

As a Certified Arborist, I love diving into the stories of trees and their connection to your property. Recently, I had the opportunity to review two 100-year-old white oaks on the south side of Pewaukee Lake whose tale unfolded in a fascinating way.

They exhibited large dead sections and some shriveled yellow leaves despite most of the canopy appearing healthy. I explored the base of each tree and made an unexpected discovery. Unlike the typical gradual transition from trunk to roots found in a forest setting, these displayed no slope in their roots, i.e., no "root flare." Concerned, I suggested excavating to locate the "root flare." At a depth of 12-14 inches, we only barely uncovered a slope—very unusual.

In the following weeks, the client stumbled upon property photos from the 60s and 70s depicting a front yard with a significant downward slope. Revelation: someone had filled in the front yard and raised the retaining wall! The trees, unfortunately, had not been consulted during this construction, leading to present-day unforeseen challenges.







1970's (left); 2019 – big changes (center); root flare excavated 12 inches (right)

Construction projects often focus on their objectives without considering trees' biological needs, especially their roots. White oaks in particular do not respond well to changes in grade. Maintaining the proper soil level around the trunk is crucial, and altering the grade around any tree therefore requires caution. My recommendation to this client is to excavate a three-foot area surrounding each trunk and to build small retaining walls to prevent soil from eroding back into place while they make final plans for this portion of the yard. Ensuring proper water drainage and reducing soil compaction are next on the list of priorities. In the meantime, I am prescribing a growth regulator and root stimulants to help the trees recover from the stress evident last year.

If your tree resembles the straight sides of a telephone pole with no outward "root flare" at the ground level, take action. Reach out to your ISA Certified Arborist to inquire about excavating the root area to evaluate your tree. Any historical information you can provide may help unravel your own trees' mysteries!

A special thank you to the Galante family of Pewaukee for permission to use their photographs and for entrusting us with the care of their trees. Here's to uncovering the hidden stories beneath our trees, and to ensuring their health for generations to come.

Wet Feet

By Jake Kubisiak, Board Certified Master Arborist, IL-1392B

Water from snow melt, excess seasonal rainfall, and overland drainage settling into the lowest area(s) of a property can cause a common spring experience—temporarily wet areas in the yard. They might cause actual wet feet for homeowners, but these wet spots also cause trees and shrubs to have "wet feet"—drowned roots, which are susceptible to fungal infection.

Many yards have disturbed or compacted soil that exacerbates this issue; however, this wetness also occurs in natural forest soils with different soil types. Even mild undulation can inhibit surface water drainage.

The spring flood of moisture, followed by extended summer drought, can further aggravate the issue for trees, as the initial wet weather allows for infections and the subsequent drought limits new root growth and recovery.

Root fungal infection symptoms can be subtle: wilted or weakened leaf growth, yellowing in leaves, and dieback are a few examples. These signs may be misattributed to other causes or missed altogether. Sometimes dark, discolored areas in the lower trunk present as weeping spots. Laboratory testing of root samples can confirm an infection where one is suspected.

Systemic Fungicide with Root Biostimulant is a treatment option increasingly recommended in the past few years. The mixture is designed to help control various root rotting pathogens while improving new root growth. Experiential results are so far quite positive for clients' trees, especially unestablished young trees. The primary active ingredient in Systemic Fungicide is phosphite or phosphorous acid. The material works to inhibit fungal growth, and by activating a plant's own immune defense response to keep these infections out of the roots.

Additionally, modifications of soil and site can sometimes reduce infections and root loss by:

- Physically loosening soil prior to new tree or shrub planting





Bark discoloration in red maple and mature white oak, indicating possible fungal infection

- Applying organic composts and mulch to soil, and covering the root zone
- Providing supplemental watering throughout periods of extended heat and drought
- Having a Root Zone Enhancement treatment completed on an established tree

These treatments don't alleviate the pathogen directly, but do help make infections less likely to occur and allow for tree roots to recover.

Contact your Wachtel Tree Science ISA Certified Arborist for a discussion and review if you suspect your trees or shrubs are affected by "wet feet."

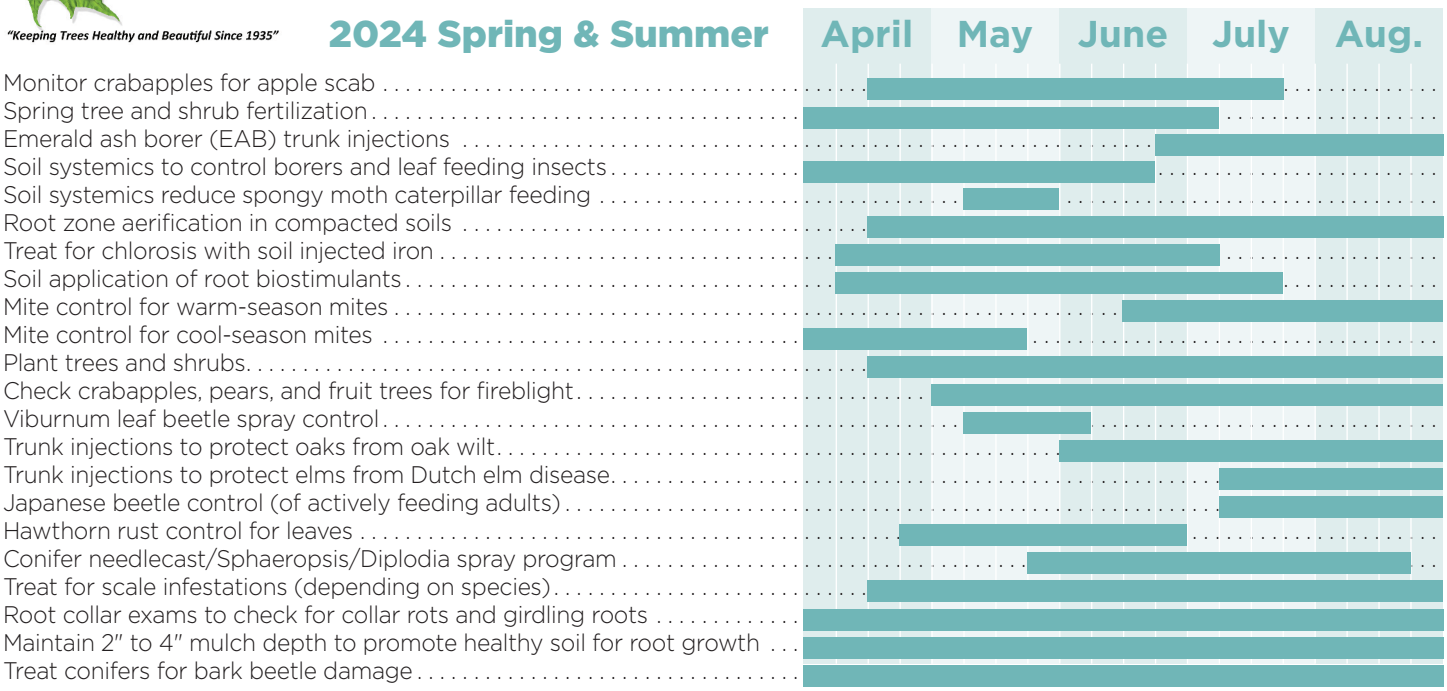
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