Seasonal Report

$5.00

WACHTEL TREE SCIENCE INC.

"Keeping Trees Healthy and Beautiful Since 1935"

summer 2024 | vol. 33 • no. 3 | www.HealthyTrees.com | 262-538-1900 | info@wachteltree.com

Fungus Weather 2.0

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

We've had it again—the kind of weather that breaks records. Three years ago, we had a record-breaking wet spring; this spring has broken *that* record. Wet weather has dominated the first half of the 2024 growing season. Evidence of thriving fungi is everywhere to be seen.

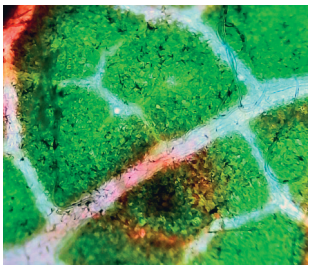
We all know that familiar fungi like mold and mildew do best in cool, moist environments; it is the same with the fungi that attack trees. We are seeing fungi cause visible damage to many species of trees.

Many fungi form **leafspots** or lesions on the leaves of deciduous trees. These lesions begin too small to be seen, when spores land on wet or moist leaves in spring. Over time, the spots grow larger as fungus feeds on the leaf tissue as a parasite. Eventually, the leaf may fall off with accumulated damage. Examples of leafspot diseases this spring include:

- **anthracnose** on ashes, oaks, maples, sycamores, and other species
- **tar spot** fungi on maple leaves
- **apple scab** on crabapples
- **rust** on hawthorns

Not all leafspot diseases require action, however, if many leaves fall early in consecutive years, treatment may be needed, as is the case with apple scab and rust.

The weather this year has enabled fungi like apple scab to have an extremely long infection time, and even sprayed trees are dropping leaves. This year's crabapple leaves were "born" with apple scab, and those first leaves produced have begun to fall off. Treatment still enables many more leaves to be retained until fall so that food can be made, and some aesthetics can be preserved for the year. More importantly, treatments prevent scab disease from becoming a serious health concern.



Cedar apple rust lesions viewed through a microscope

Other fungi form leafspots on evergreen needles. These are called **needlecasts** and cause browning and needle loss on spruce and pine. With heavy infections, these fungi can reduce both beauty and health of affected trees; they must be more routinely controlled. Needlecasts have steadily increased their infection rate over the years, and we have had to treat many evergreens! Spruce trees especially have been struggling with alternating needlecast ***(Rhizosphaera)*** and drought for years, and many really show this wear. Experience has shown that patience is needed to preserve spruces; many trees that have had consistent and uninterrupted care for several years have been able to prevail and to slowly restore replacement needles. Trees may not regain all their prior density, but they can still provide much needed evergreen accent to landscapes.

Yet another important group of fungi is known as **root rots,** or **root collar rots.** These attack the root system and lower trunk. They also have increased over the years as trees weakened by previous years of drought encounter wet soils. Again, these diseases benefit from the alternating too-dry, then too-wet soils. Sudden tree death is often attributable to these fungi.

Fungus issues are generally more challenging to control than insect outbreaks, so remaining proactive and providing consistent care remains necessary for success. You can count on Wachtel Tree Science to provide the best, most up-to-date care for every situation. Call your ISA Certified Arborist to have your trees assessed, and to determine the best management plan to safeguard the health of your 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
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
Jake Caldwell WI-1645A
Andrew Linsmeyer WI-1647A

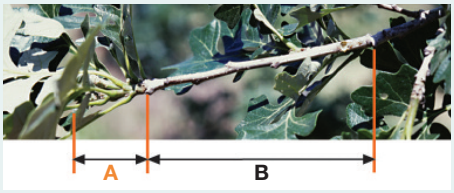
*Board Certified Master Arborist | †Certified TreeCare Safety Professional | ‡Municipal Specialist | +Registered Consulting Arborist | §Tree Risk Assessment Qualification

Cambistat – More Than Just a Growth Regulator

By Jamie Mason, ISA Certified Arborist WI-1494A

Cambistat is a product that specializes in reducing tree canopy growth. Its active ingredient, Paclobutrazol, causes a hormonal change in trees which slows the growth of the canopy. It does this by interacting with two of the hormones that lead to canopy growth in trees.

1) Paclobutrazol inihibits **gibberellic acid,** which is responsible for cell elongation. Thus new cells are produced, however, their growth is limited.
2) Paclobutrazol increases production of **abscisic acid,** which triggers stomata (leaf pores) to close; this helps thicken the cuticle, reducing water loss in drought conditions and also limiting fungal diseases' entry into leaves.



Cambistat-treated tree—A: one-year treated growth; B: one-year untreated growth

Limiting canopy growth can be useful in many cases: trees under electrical wires, trees close to buildings, construction damage, and urban trees with limited root zones. Even large trees have benefited from this treatment; they can have a challenging time taking up essential nutrients and even water throughout a large canopy. By reducing the growth of the canopy over a three-to-four-year span, there are many benefits to the use of Cambistat for trees and shrubs to avoid stress.

When slowing canopy growth with Cambistat, the tree is able to reallocate that energy elsewhere. Most often, that energy is reallocated to additional root growth and improved natural defenses. One side effect to be aware of with the use of this product is that the leaves will often be smaller. As a result, your tree may look thinner for three to four years; but the benefits can often outweigh the change in appearance.

It is important for an ISA Certified Arborist to determine if Cambistat is an appropriate treatment for a tree. If you are interested in learning, call Wachtel Tree Science.

New Pest on the Horizon

By Maria Panasuk, ISA Certified Arborist WI-1479A

Spotted Lanternfly (SLF) is an invasive species originating from China. Pennsylvania was the first state to detect the insect in 2014. The population of SLF rapidly spread to neighboring states and is now making its way to the Midwest.

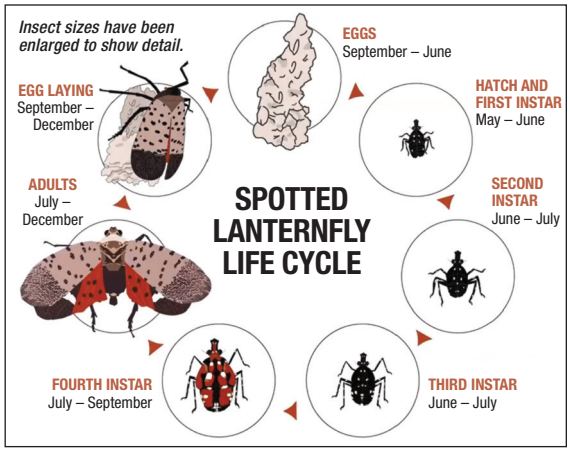
Spotted lanternfly is a type of leafhopper. Although it has wings, it is a weak flier. Unfortunately, this doesn't make capturing them any easier because of their strong legs. They are incredibly good jumpers, avoiding predators by gliding to other trees. As a nymph, this cute little jumper is primarily black with white spots. As it develops, its back turns red. A mature adult has two sets of wings, the bottom set a bright red, and the top a translucent gray with black spotting. SLF goes through one life cycle per year. The nymphs emerge in late April, becoming full grown by July. In the fall, adults lay a 1.5-inch-long gray egg mass containing between 30-50 insects.

SLF is a type of sap sucker, meaning it has a piercing-sucking mouthpart that taps into soft tree tissue to feed on the sap. The undigested sugar water that the insect excretes is called honeydew. This clear, sticky liquid attracts other insects, primarily bees and wasps. Honeydew can then grow sooty mold, causing leaves to appear blackened.

Although SLF is reported to feed on 50 different plant families, it has a few favored host plants. The top two impacted plants are the tree-of-heaven, an aggressive invader that is on the WI-DNR's restricted list, and grapes, both wild and cultivated. SLF will feed on these two species throughout the growing season. The adults feed on river birches, willows, sumacs and red/silver maples. The nymphs that feed from May–July are focused more on roses and black walnuts.

Despite the potential threat of this invasive insect, there is a silver lining to handling SLF. Depending on the timing and the size of the trees being affected, proper treatments can effectively reduce the impact of this insect. Wachtel Tree Science can help you and your trees.

Independent populations of SLF have not yet been reported in Wisconsin. However, they are present in the neighboring states of Indiana, Illinois and Iowa. If you see this insect, let your Wachtel Tree Science ISA Certified Arborist know!



Illustrations by Colleen Witkowski, Penn State; permission to use by Rainbow Ecoscience

IN MEMORY OF JOE WACHTEL

Wachtel Tree Science would like to pay its respects to Joe Wachtel, who passed away in January of this year. We were pleased to have had a relationship with Joe, the son of our company's founder, Larry Wachtel, and a former employee of the company.



Joe Wachtel, 1948



Brooke, Joe and Ben, September 2023

Look Before You Leap: Test Before You Treat!

By Kyle Babicky, Board Certified Master Arborist, WI-0889B and Brooke Stemple, ISA Certified Arborist, RM-8302A

Trees display their health through a variety of indicators seen above ground. Observations such as leaf shape/color, bark wounds, twig growth, and insect activity can all give clues to a tree's health and possible issues. Our Certified Arborists interpret these symptoms to develop a management plan for your trees. However, getting to the bottom of tree health may require additional analysis before a treatment is prescribed.

Analysis Results							
Analysis	Result	Soil Test Rating					
		Very Low	Low	Medium	High	Very High	
Organic Matter, %	5.7						
Phosphorus, ppm P (Bray-1 Equiv.)	88						
Potassium, ppm K	114						
Magnesium, ppm Mg	555						
Calcium, ppm Ca	2250						
Sodium, ppm Na	12						
Cation Exchange Capacity, meq/100g	16.2						
pH	7.5						
Soluble Salts (1:2), mmho/cm	0.2						
Sulfur, ppm S	7						
Zinc, ppm Zn	6.1						
Iron, ppm Fe	63						
Manganese, ppm Mn	40						
Copper, ppm Cu	2.4						
Boron, ppm B	1.1						

Soil analysis report from a regional soil science lab

Where is the source of tree decline? It is often in the same place the tree is receiving its water and nutrients– underground! Before leaping to the aid of those scorched, thin, or yellowing leaves, we must look deeper into the soil to discover what treatment will be most effective. A variety of **soil testing tools** are available for arborists to tap into specific issues such as nutrient levels, soil structure, or microbial activity.

Urban soil is not the same as the soft, nutrient rich soils of our native forests. Soil compaction is the leading cause of tree death in urban environments. The physical makeup of the soil affects how water and tree roots move through the soil. Soil compaction can be tested informally with a probe, or more accurately with the use of a soil penetrometer. Collecting a **soil sample** allows for visual analysis of texture and color which indicates water mobility and microbial activity. Hand-held devices can be used to test soil pH and electrical conductivity, both of which have ranges for optimal root function.

The nutrients available within the soil must be balanced to provide what tree roots require. If any of the nutrients required by a tree are too high or too low in the soil, it can lead to issues of leaf discoloration. To test for exact nutrient levels within the soil, we can send a sample to an accredited soil science lab to perform a **soil analysis** (see sample report shown in image). Interpreting the nutrient balance within the soil is crucial to determine a prescription that will have the most positive impact on your tree's health. We often pair this soil analysis with a foliar nutrient test, which paints an even bigger picture of the movement of nutrients from soil all the way to the canopy.

These methods are tools that arborists can use to provide additional context to the health of each tree. The more information gathered from testing, the more accurate our prescription for a healthy tree. All testing begins with collecting a sample, so make sure you look underground before you leap to a conclusion. Call Wachtel Tree Science; our Certified Arborists can use a variety of tools to diagnose your tree health to develop a recommended treatment plan!

Behind the Wheel with Wachtel

By Ryan McCambridge, ISA Certified Arborist WI-1347A

Driving may not be something you picture when thinking about an arborist's routine, but operating vehicles to transport crew members and equipment is a vital component of our work. Doing so safely is imperative to the efficiency of the day, our well-being, and the safety of other drivers. Our employees receive training so they can:

- inspect vehicles daily for safety concerns
- be confident in the operation of the many vehicle types in our fleet
- respond appropriately to traffic and vehicle emergency situations
- employ the principles of defensive driving while operating on public roadways

Upon hiring, our in-house training begins with getting trainees familiar with our fleet and basic vehicle operation. They then build skills in identifying vehicle defects, backing with trailers, and emergency response. Once confident in these aspects of driving, we perform a road test to ensure drivers will operate our vehicles safely. Upon successful completion of the road test, they are allowed to get behind the wheel and drive to a tree near you!

Some of our larger vehicles require a special license called a **Commercial Driver's License (CDL).** In congruence with Federal regulation changes in 2022, our in-house training expanded to include a CDL component called Wachtel Entry-Level Driver Training, or as I fondly call it, WELDT. This program provides a deeper dive into vehicle component function, defect identification, vehicle maneuvering skills, and government regulations. With



Training to back up a vehicle at Wachtel property

both classroom and behind-the-wheel training sessions, the ultimate goal of WELDT is to prepare trainees to pass a state skills exam in order to obtain their CDL.

Having these training sessions in-house is of great benefit for the company by way of saving on external costs, utilizing and sharing the knowledge of experienced employees, and tailoring otherwise broad programs to fit our schedule, vehicles, and drivers. The goal of these trainings, and my goal personally, is to produce safe, confident, and professional drivers to represent our company on the road!

WACHTEL TREE SCIENCE INC.

"Keeping Trees Healthy and Beautiful Since 1935"

P.O. Box 716 • Merton, WI 53056-0716

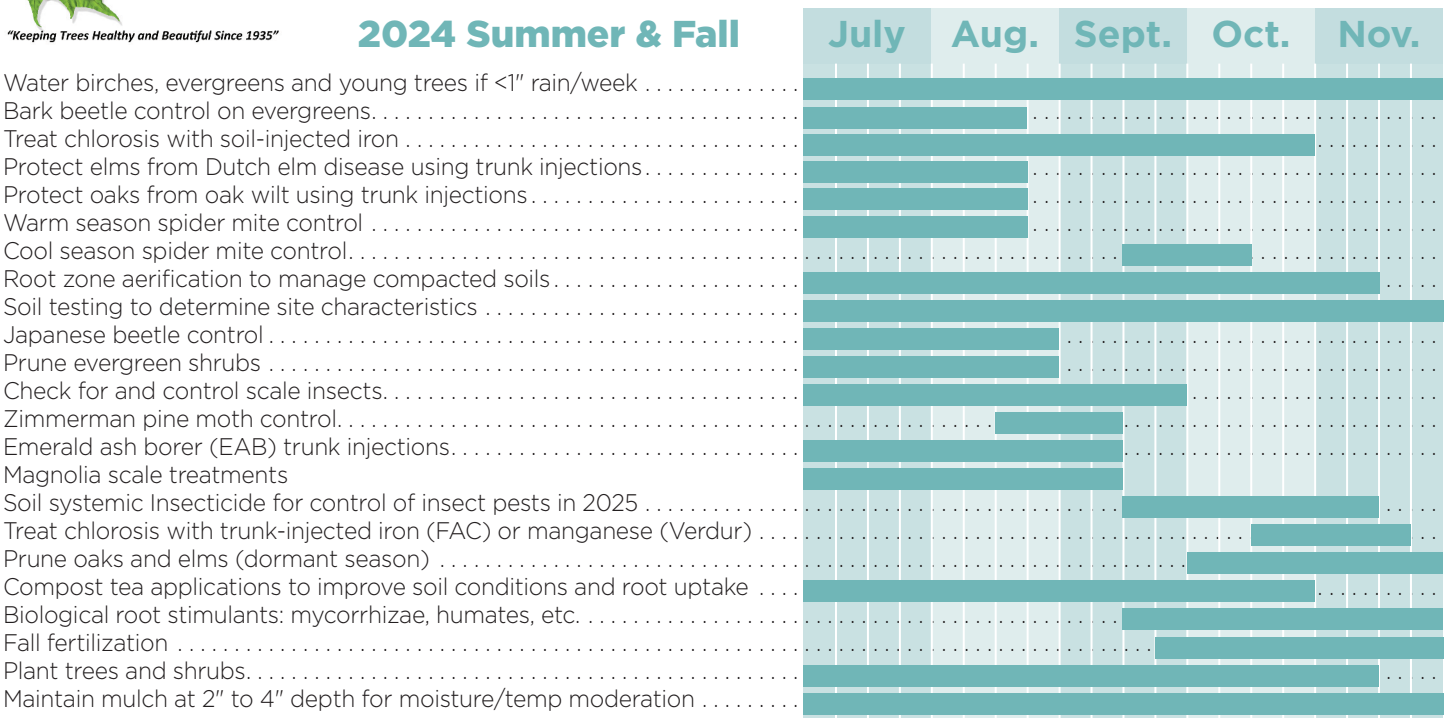
RETURN SERVICE REQUESTED

WACHTEL TREE SCIENCE INC.

"Keeping Trees Healthy and Beautiful Since 1935"

Plant Health Care Calendar | 262-538-1900

2024 Summer & Fall



We Love Referrals!

Prepare for Winter...Schedule Pruning Now!