



**INTEGRITY
TREE
SERVICES**

2300 Sanford Ave. SW • Grandville, MI 49418

*Fall 2015
SEASONAL REPORT*

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ASSOCIATION OF PROFESSIONALS
Landscape Professionals



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The Importance of Watering

It was remarkable how many times the Tree & Shrub Care Department was called this summer to check on trees that were not looking healthy. Nearly half of all cases, there was one common issue, lack of water.

Leaf margins turning brown, leaves wilting or turning brittle are all symptoms of stress from drought. These symptoms can easily be mistaken for tree diseases and insect damage. It is important to recognize the signs of stress induced by lack of water and to not misdiagnose the symptoms to be a fungal disease or insect damage. Sometimes treating an already stressed tree for a fungus or an insect, even treating a tree using a fertilizer, can do more harm than good. Once recognized that the issue is drought, if the damage is not too severe, most of the time it can be quite simple to remedy. It takes a schedule and time. Most customers dealing with drought have been encouraged to water with a hose at the base of the tree three times a week for at least an hour (depending on the size of the tree) until the first snow fall.

It is commonly overlooked to water a mature tree during a dry season. The truth is, some trees can take up many gallons of water each day, if it is available. Water evaporates through the leaves, a process known as transpiration. The evaporation of water through the leaves causes a suction in the tree roots that pulls water from the ground. If water is not available, depending on the tree location and soil type the tree may begin to display symptoms of drought.

Tree location is critical to notice when determining if your tree has succumb to drought. If a tree is in an enclosed space, right by a sidewalk and driveway, if it is surrounded by asphalt or if it was planted in a bed of rocks, all these will determine the amount of water a tree has access to. A sidewalk, road or driveway may not seem significant, when in fact can cause scorch to the trunk and leaves. The sun's rays are strong, and like rays reflecting off water, they can reflect off the sidewalk or road. Tightly closed quarters, such as in a boulevard, in between the road, and the sidewalk, means limited room for roots to spread out. It also means limited soil space where water can be held. Trees and shrubs surrounded by stones can look serene, however these rocks get heated from the sun's rays. This increase in temperature can bake the root system of a tree. Replacing stones with mulch may not seem like the easiest solution,



-Mission of Integrity-

To be the leading tree service providing expert guidance and superior quality workmanship that demonstrates the highest integrity in exceeding customer expectations.

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The Importance of Watering (cont'd)

but it is the best remedy for your landscape plants to counteract stress from drought. A thin bed of mulch (1-3 inches) can hold soil moisture, keep the root system from overheating and provides nutrients for the tree as it slowly breaks down.

Soil type can commonly be overlooked when observing symptoms of tree stress from drought. Straight sand (commonly found near the lakeshore) does not have much ability to hold water. The sand particles are so large compared to clay or silt that water moves right through the large particles. If a tree is in sand and it is a dry year, this tree may need regular watering. If a tree is in straight clay, the clay can harden from lack of water. Clay particles are so small (compared to sand), and clay will tightly hold on to water, which is beneficial when there is regular water in the soil. Without regular water, the clay can become solid. Once clay hardens, when it rains or if the tree is watered, the water will stand on the surface of the hardened clay or will just run-off. It takes time and much water for the water to soak into hardened clay and penetrate the surface. The ideal soil type for most landscape plants is a mixture of sand and clay or a silt. Silt can hold moisture and will stay porous if it loses moisture.

Michigan State University Extension reported in 2013, that the drought from 2012 was significantly noticed in maples. Maples experienced early fall coloration as well as chlorotic symptoms, such as yellowing leaves, from lack of nutrients. Summer of 2015 has also been quite dry. Because many of the trees experiencing stress from drought this summer have been maples, and because maples are sensitive to environmental changes, it may be safe to assume these trees may still be stressed from previous drought years.

What is Verticillium wilt?

Verticillium wilt is a fungal disease that attacks many tree species. Common symptoms include wilting and browning leaves, falling leaves and quite commonly, a whole side of a tree or a single branch of a tree dying off. Checking the sapwood under the bark of the infected branches, brown streaks may be observed. These symptoms are caused by a soil-borne fungus *Verticillium albo-atrum* which begins in the root system and travels through the vascular system of the tree. This causes blockage and prevents water and nutrients from reaching all of the branches. The tree responds to this infiltration by plugging the infected tissues and this increases the blockage of water and nutrients, thus causing

In most cases, with regular watering trees and shrubs can replenish themselves to be healthy again. It is important to water (especially newly planted trees) in the summertime, especially when there is a shortage of water, if the location of the tree is not ideal or if the soil type is not optimum. A fertilizer can also be beneficial, however, waiting until the tree is healthy again and has plenty of water would be a good time to fertilize. Also, a tree stressed by drought potentially can predispose the tree to other ailments, so watering is all around the best option for your tree.

Wintertime can also prove to be harsh on landscape plants. Constant snow, ice and wind can dry out or burn many plant species, particularly if they experienced drought in the summertime. The Tree and Shrub Care department treats multiple properties in the wintertime with anti-desiccants. Anti-desiccants could aid trees and shrubs from drying out or burning over the wintertime. Watering drought-stressed landscape plants until the snow falls will be most beneficial, and an anti-desiccant could help the struggling tree or shrub stay healthy through the winter, especially if the winter is a brutal one. We use a product called Transfilm for our anti-desiccant treatments. This product creates a coating on the plants that reduces water loss.

If you think your landscape plants may be experiencing stress from drought, **call (616) 301-1300 ext 118** to schedule an appointment with one of our certified arborists. They will give you the steps you need to take to get your tree or shrub on the right path as well as the education you will use in years to come with caring for your landscape plants. They can also determine whether or not an anti-desiccant will be beneficial. ■

leaf wilting and branch death. Symptoms commonly occur in the middle of summer when the climate is dry and hot.

There is no fungicide treatment for Verticillium wilt. Once a tree or shrub is infected with Verticillium wilt, it will eventually die. Resistant species should be planted in place of it after it is removed. Observe a tree if it begins to develop symptoms, as opposed to immediately removing it. Trimming out the dead branches as well as keeping the tree watered and fertilized may delay the infection. Once a tree is infected, however, there is no curing it. The fungus that causes Verticillium wilt can affect many tree species, however yews and conifers are not affected. What is more, the fungus can thrive in the soil

FALL Calendar Chart

Integrity Tree Services provides many additional services not listed in the chart below. If your need is not listed, please contact us.

COMMON SERVICES	Oct	Nov	Dec	Jan	Feb
Frozen ground reduces turf damage when removing large trees					
Mycorrhizal injection to increase root absorption					
Water trees (if there's less than 1" of rain every 7-10 days)					
Corrective and rejuvenation pruning of shrubs					
Inspect evergreens for insect and disease damage					
Spray anti desiccant on evergreens to reduce winter damage					
Deer/rodent spray (30-day intervals)					
Inspect trees for cracked and broken branches					
Best time to prune oak and elm trees					
Tie-up/support trees in danger of snow damage					

*All dates are approximate and may vary slightly from year-to-year depending on scientific indicators, weather conditions, and treatments. ©2015 Integrity Tree Services. All rights reserved.

for many years, therefore if a maple for instance dies of Verticillium wilt and if the maple is removed, another maple should not be planted in its place, for the fungus is still present in the soil. Common susceptible trees species are ash, boxwood, catalpa, cherry, elm, lilac, magnolia, maple, redbud, serviceberry and tulip trees. Common resistant trees are apple, beech, birch, ginkgo, hornbeam, linden, oak, pear, poplar, rhododendron, sweet gum and walnut. For a complete list of Verticillium wilt susceptible and resistant plants, please check online.

A tree can become more susceptible to Verticillium wilt if environmental conditions are poor, such as if the tree is experiencing drought, girdling roots, compaction, scorch or nutrient deficiency. Any stress on a tree can more readily allow infection to take root or can cause a

tree to decline more quickly. Depending on the tree and conditions, a tree may die in a single growing season from Verticillium wilt or a tree may decline over the course of many years.

If you think Verticillium wilt is present in your landscape, please **call (616) 301-1300 ext 118** to schedule an appointment with one of our certified arborists. To make sure a tree is suffering from Verticillium wilt, Integrity can take a plant sample and send it to the Michigan State University plant diagnostic lab in order to get it tested. The sample must come from the infected area of the tree, as the fungus is not usually throughout the whole tree. Several different branches about 1 inch diameter thick of live tissue should be taken to ensure accuracy. The test will cost \$75 and will take 1-2 weeks for results to come back. ■

Continuing Education

In early April, one of our clients hosted a Training Day at their headquarters. Red River Specialties was invited to speak throughout the day regarding herbicide use in Right-of-Ways, herbicide labels, and herbicide safety. A few Integrity Tree Services team members also gave presentations on several topics including tree identification, spill prevention, and spill response. Lunch was provided along with great conversation. Thanks to our client and ITS for organizing this event for the benefit of the ITS team!

In mid-July, the Tree & Shrub Care department attended a Field Day event at Calvin College hosted by the Association of Grand Rapids Landscape Professionals. There were talks on invasive species in Michigan, soil biology, MDA regulations and tree diagnostics. Thank you Integrity Tree for sending the Tree & Shrub Care department to this event in order to continue to educate on the newest research in invasive plant species, tree health, diseases and pests! ■

Sources: Cregg, Bert. "Shade Trees and Conifers Showing Effects of Tough Summer". http://msue.anr.msu.edu/news/shade_trees_and_conifers_showing_effects_of_tough_summer. Online article. September 5, 2012. / Cook, Bill. "Trees and Drought". http://msue.anr.msu.edu/news/trees_and_drought. Online article. April 14, 2015. / Cregg, Bert. "Moisture Stress and Lack of Nutrients Contribute to Maple Color Issues". http://msue.anr.msu.edu/news/moisture_stress_and_lack_of_nutrients_contribute_to_maple_color_issues. Online article. August 22, 2013. / Michigan State University Extension. "Verticillium Wilt Refresher". http://msue.anr.msu.edu/news/verticillium_wilt_refresher. Online article. July 11, 2008.