



**INTEGRITY
TREE
SERVICES**

2300 Sanford Ave. SW • Grandville, MI 49418

*Spring 2016
SEASONAL REPORT*

"YOUR CARES *are* OUR CARES!"™

PRSR STD
US POSTAGE
PAID
GRAND RAPIDS
PERMIT #1

*Mailing
Address:*

2300 Sanford Ave. SW
Grandville, MI 49418

Phone Numbers:

Office (616) 301-1300
Fax (616) 301-9900

Email Us:

Office@
IntegrityTree.com

*Certified
Arborists:*

Aaron Andree
MI-4178A

Kim Boorsma
MI-4203A

Shane Herrema
MI-0580A

Dave Karsten
MI-4159AU

(Certified Utility Specialist)

Jeff Laansma
MI-3790A

Matt Langelier
MI-0770A

Armand Lawrence
MI-3885A

Pat Morren
MI-3858A

Adam TerBeek
MI-4068A

Joel Vaughn
MI-3802AU

(Certified Utility Specialist)



LANDSCAPE
PROFESSIONALS

MEMBER
TCIA
VOICE OF TREE CARE



**INTEGRITY
TREE
SERVICES**

Spring 2016

SEASONAL REPORT

Vol. 11 / No. 2

Signs of Nutrient Deficiency

Now that new leaves and needles are out, you may be noticing something peculiar about them. It is common for trees and shrubs to experience nutrient deficiency, which is noticeable from the color or stunted size of the leaves or needles. Whether the tree or shrub is low on iron, manganese or any other type of micronutrient, more than likely you will be able to identify this by observing the leaves.

A micronutrient is required by plants in very small quantities, as opposed to macronutrients, such as nitrogen, phosphorous, calcium or sulfur which are required by plants in large quantities. Plant tissues are made up of mostly macronutrients such as nitrogen, phosphorous and the others, therefore they are required by the plants in larger quantities. Micronutrients are minerals in the soil that are also required for healthy, stable plants. Micronutrients such as iron, manganese, silicon, copper and zinc are commonly present in the soil where a landscape plant is experiencing signs of nutrient deficiency, it is simply that when a soil has a high pH (is more alkaline as opposed to acidic), these micronutrients are in a form that cannot be taken up by plant roots.

Testing the soil pH can help determine whether or not a specific soil type will be suitable to easily sustain a tree or shrub. If a landscape plant is already established and is showing signs of nutrient deficiency, there are several fertilization techniques (micronutrient and macro-nutrient) that Integrity Tree offers that can temporarily strengthen the health of your plants. Temporary, meaning that the treatment will most likely be needed again the following season, as the micronutrient is applied for the plant and does not change the overall soil pH.

A few common micronutrient deficiencies are iron chlorosis and manganese deficiency. The leaves will be yellowing and will be greener along the leaf veins. The leaves or needles could also be stunted, not being able to grow to their full potential because they do not have the proper nutrients.

If you are thinking your landscape plants may be experiencing nutrient deficiencies, please call our office. We offer soil testing and can explain what fertilizer and fertilization technique would be best for your landscape.



Manganese deficiency in red maple (*Acer rubrum*):
http://msue.anr.msu.edu/news/moisture_stress_and_lack_of_nutrients_contribute_to_maple_color_issues

-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.

(616) 301-1300
WWW.INTEGRITYTREE.COM

- Sadof, Clifford. "Scale Insects on Shade Trees and Shrubs" Landscape Ornamentals Department of Entomology; Purdue University May 2010 pg. 1 E-29-W
- Kabashima & Dreistadt. "Scale Insects: Pest Notes: University of California Agricultural and Natural Resources Sept. 2014 pg. 1-4 Publication 7408
- Day, Eric. "Scale Insects" Virginia Cooperative Extension Aug. 2008 pg. 1-6 www.ext.vt.edu
- http://msue.anr.msu.edu/news/time_to_check_for_possible_pine_needle_scale_problems
- Pine Needle Scale:
- http://msue.anr.msu.edu/news/check_magnolias_for_magnolia_scale_now
- Magnolia Scale:
- https://www.extension.tastate.edu/forestry/lowa_trees/pin_oak.html
- Yellowing showing low iron in pin oak (*Quercus palustris*):
- http://msue.anr.msu.edu/news/moisture_stress_and_lack_of_nutrients_contribute_to_maple_color_issues
- Manganese deficiency in red maple (*Acer rubrum*):
- <http://www.ipm.tastate.edu/ipm/hortnews/2006/8-23/deficiency.html>
- Engelbrecht, Christine. "Micronutrient Deficiencies of Trees"; Horticulture & Home Pest News p. 99-101 23 August 2006.

REFERENCES

If you are witnessing any of the symptoms referenced on this report or are curious about the soil type of your landscape, call (616) 301-1300 ext. 118 to schedule an appointment.

Scale Insects

To the untrained eye, a tree or shrub may look unhealthy or unsightly for no apparent reason. Upon closer inspection however, the culprit may be present in plain sight.

Scales are tiny insects that feed on plant sap, and certain species of scale may injure plants. In large numbers, scales may cause significant damage to trees or shrubs if left untreated. Because of their miniscule size, these insects may go unnoticed until it may be too late to revive a landscape plant. Monitoring visits are important in this regard, as technicians will visit customer landscapes with the changing seasons in order to be on the lookout for cryptic threats such as these.

There are two main types of scales, armored scales and soft scales. Armored scales produce a waxy, hard coating overtop of their bodies acting like a shell, protecting the insect from the environment. Euonymus scale, pine needle scale and oystershell scales are a few examples of armored scale. Armored scales can have several generations a year and usually spend the winter as eggs, first instar nymphs (first growth stage), or as a mature female (depending on species and location). Eggs usually hatch late May or early June. Once scales hatch from their eggs they are called crawlers. Unlike the adult scales, the crawlers are mobile insects which travel to the leaves to feed during the summer and migrate to the twig before the leaves drop in the fall. Using a long mouthpart called a stylet, which is usually 6 to 8 times as long as the insect itself, the straw-like stylet is inserted into the plant tissue to feed on sap. Once the crawlers produce the waxy, armored coating, they lose their legs and become immobile. If a plant is heavily infested with scale, not enough sap is left for the plant to maintain proper vigor for growing and the plant will begin to decline.

Soft scales, appropriately named are soft compared to armored scale, they do not produce a shell-like coating, merely a waxy, penetrable coating. They are generally larger in size than armored scales. A few examples of soft scales are cottony maple scale, magnolia scale and lecanium scale. Soft scales usually have only one generation per year and generally spend the winter as second instar nymphs (second growth stage), and remain attached to twigs. They complete their development in the spring when the females lay eggs. Soft scale eggs hatch later in the year than armored scales, usually in late June or early July. When soft scales feed on plant sap, also with a stylet, they produce a sugary liquid called honeydew. The honeydew attracts ants and flies. If scales are in large in number, there can be so many wounds on the tree or shrub that sap can drip, creating sticky sidewalks and landscapes. A black fungus called sooty mold eventually also sets in to feed on the honeydew.

Here at Integrity Tree Services, we have had many phone calls from Tree & Shrub Care customers regarding their trees or shrubs looking unhealthy. Occasionally, upon inspection the culprit for the plants' decline is scale. The significance in the scale infestation depends on the species of scale, the size of the population, the species and value of the plant the scales are affecting as well as other environmental factors. Not all scales are



Magnolia Scale: http://msue.anr.msu.edu/news/check_magnolias_for_magnolia_scale_now



Pine Needle Scale: http://msue.anr.msu.edu/news/time_to_check_for_possible_pine_needle_scale_problems

SPRING 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	May	June	July	Aug	Sept
Check for and control pine sawfly larvae					
Spray program for apple scab (3 days if possible)					
Spring fertilization (stressed trees)					
Root zone aerification in compacted and fill soils					
Treat oaks for chlorosis with iron					
Soil amendments					
Mite control					
Soil injections of MSR to control insects					
Check trees for tent caterpillars					
Carpenter ants spray					
Hawthorn rust spray					
Control for conifer needle cast/tip blight					
Zimmerman pine shoot moth control					
Water trees (during hot months with less than 1" of rain per week)					
Spray for Japanese beetles, 2 applications needed					

*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.

harmful to landscape plants. Scales usually feed on plants that are already stressed, however, it is perfectly normal for a tree or shrub in the landscape to house some scale. Scales have many predators in the landscape such as parasitic wasps, ants, lacewings, lady bugs, beetles and mites; an abundance of predators may not warrant chemical action. Sometimes, if simply a branch is infested, just pruning the branch can be enough to prevent infestation.

If a landscape plant has significant value, is heavily infested with scale and if natural predators are not abundant in the landscape, chemical control can help fend off scales. If you're suspicious that scales are a reason for the decline of your tree or shrub, please feel free to call us to set up a free estimate with one of our certified arborists. **Call (616) 301-1300 extension 118 to schedule an appointment.** We can help determine if scale is present, if it is harmful to your landscape and if chemical treatments could be beneficial to the health of your plant. As usual, the easiest method to prevent infestation is prevention. Keeping your landscape plants healthy with proper irrigation and maintaining optimum growing conditions can make your plants more resistant to insect infestation.

Continuing Education

In mid-February, the Tree & Shrub Care and Residential departments attended ArborCon 2016, a 2-day conference in Lansing for tree and plant health care professionals. Professors, researchers and specialists from all over the country gave lectures on diseases and pests such as oak wilt, hemlock wooly adelgid, thousand cankers disease, Asian longhorn beetle and trellis rust. There were also climbing demonstrations and professionals speaking on climbing techniques. Herbicide stewardship, pesticide certification, Right-Of-Way management and tree valuation are just a few other topics presented on during this seminar. Every team member who attended walked away with more knowledge. There were also many vendors showing off their new and latest equipment and climb gear.

In late February, Integrity Tree Services hosted a training day for the entire company, where we reviewed first-aid, CPR, the Electrical Hazard Awareness Program (EHAP) and Integrity Tree Service's communication and culture. It was a great day where all team members at ITS were under one roof learning and socializing.

With every newsletter we publish, we are able to have a "continued education" article. Matt Langelier and Shane Herrema are constantly encouraging education and are focused on improving the career and personal growth of each member of the team. Thank you to ITS for hosting these team-building and informative events!