The Plant Doctor's CURRENT AFFAIRS

"Timely News for the Michigan Green Industry"

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INTRODUCTION

Twenty Seventeen has been a somewhat unusual year thus far. Every so often, rather than write about a particular topic, I elect to use this column to briefly discuss a variety of topics that are of prominence at this time or were recently. I hope the following snippets are of interest to the readers of this column.

WEATHER #1: FROST DAMAGE

The rather cold temperatures for a couple of days in May caused some severe cases of frost injury on many plants. Frost injury can be manifested in a variety of symptoms ranging from apparent death (Photos 1A & B) to cupping and curling foliage to wilt, etc. Most trees and shrubs would rebound just fine with some time. In some instances, frost injury caused some unusual symptoms on trees. In the Rockford area (Grand Rapids), affected oak trees showed a layering effect with foliage at the top and bottom being unaffected while foliage in the middle of the tree was "blighted", causing some homeowners to believe they might have Oak Wilt (Photo 2A). All trees recovered just fine (Photo 2B).

WEATHER #2: HIGH WINDS

The unusually high winds during the spring of 2017 in many Midwestern states caused trees to topple … even those that were completely healthy and exhibited no decay or structural flaws. The shallow rooted spruce trees were among the most common species affected (Photo 3A). Trees that exhibited some decay or structural problems were more likely (but not always) to fail (Photo 3B).

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PHOTO 1A & 1B: Sometimes frost and diseases (anthracnose) can work in tandem to cause foliage loss (A) as was the case on this sycamore several years ago. The tree re-leafed several weeks later and was just fine (B). People often react with panic when foliar issues affect their trees; however, trees have evolved to survive assaults from weather, pests and diseases…at least on a temporary basis.

PHOTO 2A & 2B: These oaks in the Grand Rapids area exhibited some weird symptoms that had some property owners worried about Oak Wilt. Note the layering effect of frost (Photo 2A. Photo credit, Tim Guikema); the foliage near the top and bottom of the trees was fine while the intermediate foliage was blighted (frosted). Note the developing recovery a couple of weeks later (2B).

PHOTO 3A & 3B: The unusually high winds of the spring of 2017 caused many trees to fail structurally or completely by uprooting.

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OAK WILT OR HERBICIDE?

As we advance into the Oak Wilt season, it is not uncommon for people to confuse Oak Wilt with other maladies … and for good reason. The two red oaks in Photo 4A (foreground) were fine last season, but caused the property owners to become alarmed about Oak Wilt when their trees didn't leaf out well this past spring. With careful observation, I learned that the foliage of some nearby oaks exhibited some deformed foliage (Photo 4B), very atypical of Oak Wilt. In fact, the deformed foliage is typical of herbicide injury. With further queries, I learned that an herbicide had been sprayed on the gravel driveway in 2016 by a landscape company for long-term weed suppression. The company that did the application has thus far only admitted to using glyphosate, which, by the way, would not provide long-term weed suppression nor the symptoms noted. The symptoms on the trees farther from the drive are typical of a growth regulator herbicide injury (Photo 4B). The most likely candidate is Imazapyr, which is the most common herbicide used in conjunction with glyphosate. Interestingly, whereas red oaks are extremely sensitive to Imazapyr, white oaks do not appear to be (as) affected by the herbicide (center back left of Photo 4A). I have witnessed this differential effect on different species of oaks at quite a few locations. Because trees have sometimes recovered from herbicide injury, I advised the homeowner to water their driveway deeply several times to hopefully leach the herbicide through the soil beyond the depth of the roots of the trees. Imazapyr, like many carboxylic acid herbicides, is soluble in water and moves with water either downward and/or laterally.

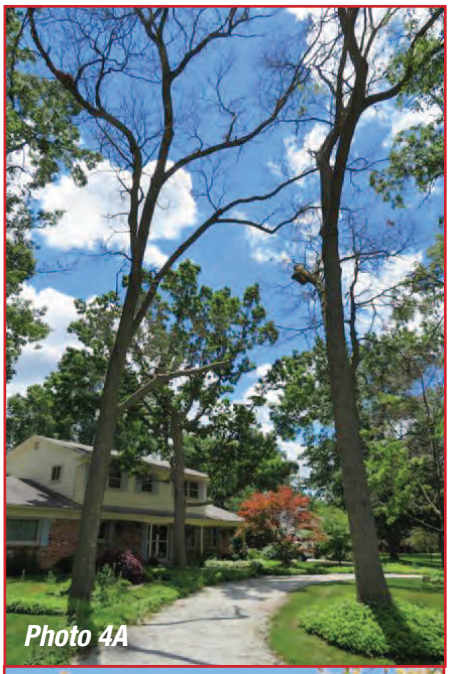

Photo 4A

Photo 4B

PHOTO 4A & 4B: Property owners feared Oak Wilt at this Shelby Twp. site when their red oaks didn't leaf-out this past spring (4A). Careful inspection disclosed no evidence of Oak Wilt, but symptoms of herbicide were evident (4B). Red oaks are especially sensitive to Imazapyr, which was likely applied to the gravel driveway in 2016 despite the landscape company's claim that only glyphosate was used.

HERBICIDE TAKE TWO-UNSOLVED MYSTERIES

The author is seeing more and more damage to landscape plants, especially to trees, from herbicides. Many of the herbicides on today's market are registered for uses that they probably shouldn't be. Two arborists recently invited me to visit the home of the owner of a landscape business. Many of his trees were dying near the driveway and in this rather large woodland area (Photo 5A). Some trees on the periphery that were not severely affected exhibited

Photo 5A

Photo 5B

PHOTO 5A & 5B: The owner of this property is a professional landscaper. He called a couple arborists who invited me to look at this bewildering situation. Many trees on the property were dying (5A). The sparse foliage on some trees was symptomatic of herbicide toxicity (5B). Yet he claims to have never applied an herbicide such as Imazapyr. Very mysterious INDEED!

PHOTO 6: The oak trees on this property became infected when pruned in 2016 by "professionals". The homeowner had no clue as to the cause of their trees' deaths until another arborist informed them of Oak Wilt. Luckily, at the time the photo was taken, the Oak Wilt fungus had not moved through root grafts to nearby trees ... at least yet. This situation may go to litigation.

much distorted foliage (Photo 5B), again typical of Imazapyr or other carboxylic acid, growth regulator-type herbicide. The property/landscape owner was adamant that he had not applied any herbicide other than Roundup (glyphosate). Mysterious!!

OAK WILT TAKE TWO

Many property owners do not learn about oak wilt until the second or third year after their oaks have been affected by the deadly disease. In Photo 6, the dead-appearing trees had been pruned by a "professional arborist" in the spring of 2016, but the property owners didn't know or understand about Oak Wilt until 2017, jeopardizing other trees on their property and their neighbors' properties. Luckily, it is believed that Oak Wilt will be properly contained largely due to the slow transmission of the Oak Wilt fungus through roots grafts ... provided infected trees are not removed in a hurried manner until after implementation of containment and

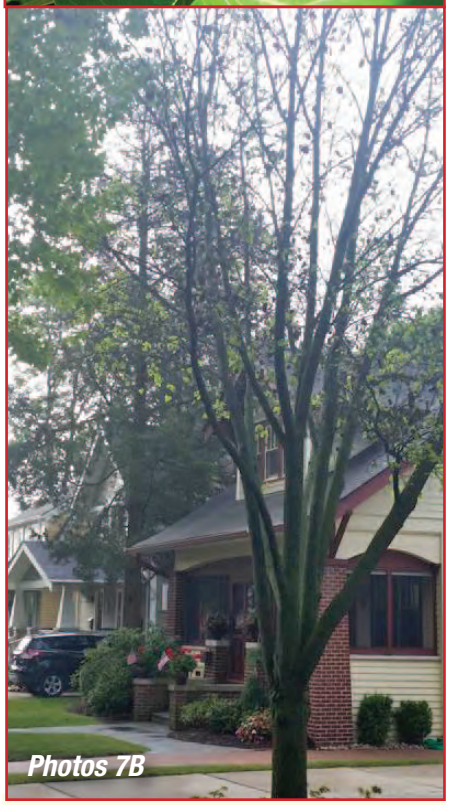

PHOTO 7A & 7B: Trellis Rust has been quite devastating in recent years. The spring of 2017 was not conducive for infection that had in previous years been of high incidence (7A). Other areas were significantly impacted by Trellis Rust, which caused severe defoliation and twig blight (7B. Photo Credit: Jim Felgenaur)

eradication protocols. Please note that these trees were sources of infection for other community trees during the spring of 2017 when pressure pads served as sources of the fungus for other trees that might have been injured.

TRELLIS RUST

Due to the unusual spring, approximately two weeks ahead of schedule, I wasn't sure how Trellis Rust would fare. At

PHOTO 8: This maple was "uniformly" affected by frost and anthracnose, whereas others in the area were not.

several sites I was monitoring, the Trellis Rust infections were significantly decreased this season (Photo 7A); could that be due to the early spring and possible unfavorable climatic conditions for disease development? However, some arborists report significantly high levels of Trellis Rust in some locales (Photo 7B).

OTHER FOLIAR DISEASES

The spring of 2017 was quite variable throughout the state when foliar diseases other than Trellis Rust are concerned. This maple tree on the east side of the state was afflicted with anthracnose (Photo 8) while trees in other locales were barely touched.

According to scientists, climate change will cause more variable swings in climatic conditions with more extremes in weather conditions. These wide swings in the weather patterns can challenge Plant Health Care Providers when considering timing of treatments, and other inputs for managing landscape and tree problems in the coming years.

To report a "Current Affairs" or to submit a comment or question, please contact the Plant Doctor at robertsd@msu.edu.