The Plant Doctor's CURRENT AFFAIRS

"Timely News for the Michigan Green Industry"

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WINTER INJURY:

As with 2014, 2015 was a very difficult winter for woody plants. Many trees and shrubs exhibited winter injury symptoms this past spring and are continuing to do so into the summer (Photo 1). On ever green plants such as conifers, overwintering needles sometimes turned reddish brown and dropped by spring, leaving some branches or in some cases entire trees without needles. Believe it or not many of these conifers have produced new shoots with new needles, essentially ensuring their survival (Photo 2). Regrettably, some plant owners removed their affected trees too soon, believing they were dead. Deciduous trees and shrubs exhibited symptoms such as slow foliar emergence, wilting foliage after emergence, and no emergence of foliage. Obviously, the latter two symptoms are troublesome and may indicate plant death. However, it is recommended that trees and shrubs be allowed some time for possible recovery. Whether conifer or deciduous, the cambium of stem tissue should be checked for viability. The presence of a green succulent cambium indicates life, but it may take some time for new foliage to develop. Buds should also be checked for viability. We as plant professionals must stress patience to the public because issues with winter injury may even be observed into the summer.

PHOTO 1: Winter injury to Michigan's trees and shrubs is a major problem this season. Some of these crabapples died from extreme temperatures in this landscape. Expect winter injury symptoms to develop into mid-summer.

PHOTO 2: One symptom of winter injury on conifers was severe needle loss. This plant also suffered from frost damage to newly emerging shoots. The tree is expected to survive.

TRELLIS RUST:

This serious, introduced disease is once again reaching epidemic proportions in some locales in Michigan this year. The fungal causal organism only attacks Pyrus (pear) species as its deciduous host. At one location that I have been following, the fungus is apparently capable of virtually killing large established pears within two years of repeated infections (Photos 3). Control of the disease is proving to be far more challenging than originally believed. Will this make Bradford and other pear species unusable for landscapes? Only time will tell. Although ornamental pear has been overplanted, especially after the Emerald Ash Borer debacle, we would be at a loss to lose Pyrus as a landscape tree to yet another invasive organism. An update on Trellis Rust and what we have learned will be forthcoming.

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PHOTO 3: These trees have been affected by ***severe*** Trellis Rust two years in a row. They are not expected to survive. Photo taken June 19.

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PHOTO 4: While RoundUp and similar herbicides are commonly used in the landscape, beware of any formulations containing imazapyr or similar long-lasting, broad-based vegetation killers. These formulations, such as RoundUp 365, can kill trees and shrubs.

PHOTO 5: Oak Wilt is becoming more common in Michigan. New outbreaks are often the result of pruning by unknowing individuals during the spring.

PHOTO 6: The Norway Maple branch by branch decline is recurring again this season after the harsh winter of 2015.

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ROUNDUP READY:

I have received more attention than usual regarding my article, "Roundup is Glyphosate, Right?," published in the April issue of *The Landsculptor.* Most comments were positive and there were even some requests from various entities to reprint the article. There were a few negative comments, however. A couple of people apparently believed I was too supportive and positive about glyphosate when I should have condemned the use of "chemicals" and glyphosate's creator, Monsanto. Another emailer stated a belief that prices for Roundup products are higher now than in the past, contrary to my statement, and that Roundup (glyphosate) actually kills plants very quickly rather than slowly, again contrary to my statement. Because I have been witnessing an upsurge of herbicide issues in landscapes, the purpose of my article was to help professionals and the public understand the diversity of "Roundup" products (and similar competitors' products) currently available on the market (Photo 4) so that we can hopefully avoid plant damage from herbicides. I also don't believe that homeowners or even we as professionals are sufficiently considering herbicide injury as a causal factor for some of the plant problems we encounter; we tend to believe that pests or diseases are always the culprits. Hence, I wanted to emphasize that when troubleshooting plant issues we need to consider herbicides as instigators as well. I hope I succeeded in my attempts.

OAK WILT:

It is generally believed that Oak Wilt (OW), caused by the deadly fungus, Ceratocystis fagacearum, is increasing in incidence throughout Michigan. Although I have been ringing the alarm bell for many years, if not decades, I am pleased to see other individuals/entities picking up the charge. While exotics such as Dutch Elm Disease and Emerald Ash Borer are "broadly devastating," a disease such as Oak Wilt is lethal but tends to be "locally devastating." In some manners, Oak Wilt is more difficult and costly to contain and manage than some of the broad ranging pest and disease problems. During this past spring and summer OW has made its presence known around Michigan. While the vast majority of oak trees killed by the OW fungus occur via root graft transmission, in my estimation, most new infection sites develop as a result of injury to oaks at the inappropriate time (Photo 5). I find that most of the property owners who encounter oak wilt have never heard of

it before. And regrettably, there is an abundance of individuals associated with our industry who present themselves as professionals but who disregard the no-pruning rule. Everyone in this industry must do our part to educate others, whether private or otherwise, about the dangers of OW.

NORWAY MAPLE BRANCH BY BRANCH DECLINE:

The first time we've seen a very widespread Norway Maple branch by branch decline occurred during the spring and summer of 2014 (Photo 6), after the very severe winter. In some urban locations, more than 90% of the trees seemed to be affected. According to reports I've been receiving around Michigan, the branch by branch decline is apparently recurring again this season. In fact, some city foresters are claiming that some trees are so severely declined that their removal is imminent. As a brief symptom description, one branch wilts and the foliage eventually turns tan; while the first branch is declining another branch begins to wilt… and so forth. My investigations of the 2014 outbreak found that winter injury followed by an opportunistic Valsa canker-causing fungus as the likely scenario. I did not find Verticillium, Phytophthora or other common maple diseases or pests as probable causes. If anyone has any other insights as to the reason for this branch by branch decline, I'd love to hear from you.

IS IT REALLY SPRUCE NEEDLECAST?:

I've received numerous complaints over the past several months about the severity of Rhizosphaera needlecast and the difficulty in its management. In a couple examples where I visited, the problem was not spruce needlecast. Spruce needlecast has been confused with a variety of issues. One of the causes of needle loss from trees is winter burn/desiccation, which has been quite common this past winter and spring (Photo 7). Canker diseases such as Cytospora and Phomopsis can also mimic needlecast diseases. Differentiating needlecast from other causes is fairly straightforward. Rhizosphaera needlecast rarely kills branches … unless there has been several years of severe defoliation. Neither does winter desiccation…"usually." Phomopsis and Cytospora cankers will kill branches and also, obviously, lead to needle loss. To check for viability in branches, always look for a live, green cambium directly beneath the bark. For more information on these diseases, please refer to the article "Spruce Decline" published in the February 2013 issue of *The Landsculptor*.

PHOTO 7: Reports of severe needlecast on spruce have been submitted this season. This photo shows typical needlecast disease, resulting in the casting of previous years' needles but leaving newest shoots unharmed. Completely dead branches probably signify a canker disease.

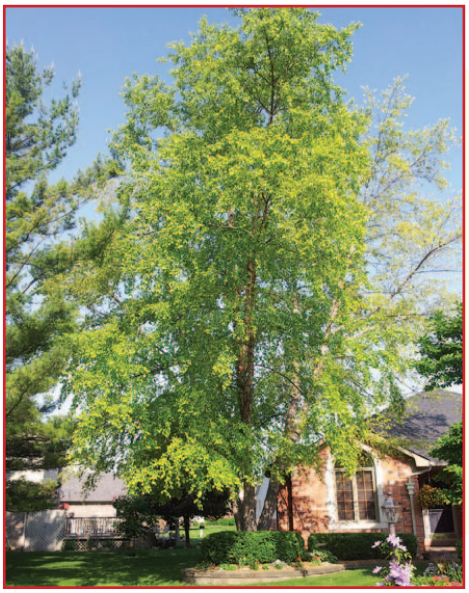

PHOTO 8: Many people are frustrated by yellowing river birches around Michigan. Some investigation is needed to determine the cause of specific cases. (Photo credit: Doug & Sandy Horuczi)

YELLOW BIRCHES . . . I MEAN YELLOW RIVER BIRCHES:

I am receiving numerous inquiries about yellow foliage on river birches (Photo 8). In the past, I have encountered herbicide injury and a new powdery mildew (see "River Birch and the Elusive Powdery Mildew," March 2014 issue of *The Landsculptor*) on river birch. It may be very difficult to diagnose the powdery mildew disease in the spring and summer due to what I believe is the absence of conspicuous white mildew. Nevertheless, there may be other problems not completely understood associated with yellowing river birches. It would be interesting to try some broad spectrum fungicide sprays and/or some fertilizers as foliar feeds to sections of affected river birches. If anyone has any insights into the cause of chlorotic river birches, I would love to hear from you. Otherwise, I plan to visit some sites and try to determine why this issue is occurring.

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