# The Plant Doctor's LANDSCAPE TIPS

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**Photo 1:** Conifers were especially affected by the harsh winter. Note that the spruce on the right exhibits severe winter burn while the one on the left appears unaffected. Both trees are expected to be fine. (Photo credit: Sue Shock)

**Photo 2:** These container boxwoods seemed to be severely affected from winter desiccation. With green stem tissue and buds, they are likely to recover. The question becomes whether tan plants can be tolerated during their recovery at this upscale mall.

**Photo 3:** Taxus (yews) were also "severely affected" by last winter. The green buds and stems signal eventual recovery.

## SPRING VS. SUMMER FOLIAR DILEMMAS

### INTRODUCTION:

Foliar problems are some of the most perplexing issues facing the landscape/tree care industry. Because of the harsh winter and the recent abundant precipitation, we can expect, perhaps, a rather bumpy year for maladies involving the foliage of woody plants. Whenever there is a problem with a tree or shrub, that problem is almost always manifested by symptoms on the foliage. If a tree develops a foliar disease, injury from pest feeding or is impacted by adverse weather conditions, the leaves may develop a variety of symptoms, including leaf drop, that cause people to believe their tree is dying. And that panic (Why can't you do something?) by the public can send professionals to their therapist in short order.

Following are a smattering of issues that we commonly encounter in regards to foliar issues during the spring and summer. In this article, I will limit my discussion to dilemmas primarily directly affecting the foliage in lieu of covering issues (such as root rots and vascular wilts) that result in damage to foliage. As noted by the title of this article, the timing of the foliar event is critical to understanding its cause and the remedy(s).

### WINTER INJURY:

The winter of 2014 was one of the harshest in recent years, whether duration, absolute temperatures, sudden changes in temperatures and storm damage are considered. Winter injury to plants is exhibited in different ways. Buds may be outright killed. Cambium tissues may be injured leading to failure or partial failure in support for the foliage; affected branches may cause foliage to wilt or not develop properly during the spring and summer. In some cases, foliage may wilt in the heat of the summer from cambium tissues damaged the previous winter. "Winter Burn" was a major phenomenon on many conifers and other evergreens last winter (Photos 1-3 ); much of this foliage may drop or remain attached. While a plethora of concerns have been raised over this issue, I suspect many, if not most, plants will recover with time; regrettably, I also suspect that many will be unnecessarily destroyed due to misdiagnosis. I always advise individuals to check for live green cambium in the branches and green succulent buds, sure signs of plant viability.

### FROST INJURY:

Normal for Michigan is the fact that we can often encounter a late spring frost, the reason for our frost-free dates ranging from mid to late May in many portions of Michigan. While frost damage may injure newly emerged foliage that has not hardened off and flower and fruit buds, late frosts rarely kill plants.

### EARLY SEASON DEFOLIATION FROM DISEASES AND PESTS:

There are a variety of pests and diseases that cause leaf issues such as defoliation in the spring and early summer. Many of the anthracnose diseases cause "severe" leaf drop by late May and early June (Photos 4A and 4B). And, the maple petiole borer can cause some leaf fall, especially in sugar maple (Photo 5). While anthracnose is a rather generic term for many different foliar diseases, there are many other leaf spotting and blight diseases that may cause a rather sudden leaf loss. For such early leaf loss, most of these plants will recover within a couple/few weeks with a new flush of growth. The real threat and danger to these plants is that unknowledgeable "arborists" and members of the public may believe their trees and shrubs have died; the plants are sometimes quickly removed before they have a chance to recover, which most of them are likely to do with a little patience and time. For many conifer needlecasts diseases, leaf loss may occur from spring to fall; foliage will generally not regenerate in those areas of the affected branches but new growth from the shoot tips should help plants recover. In some rare, special cases such as oak wilt (Photo 6) leaf loss may signify plant mortality.

**Photo 4A:** By late May and early June, this sycamore was severely defoliated from anthracnose, a fungal leaf disease. Unfortunately, many of these tree problems are misdiagnosed and trees are removed.

**Photo 4B:** Waiting several weeks demonstrated full recovery of the sycamore in Photo 4A.

**Photo 5:** Leaf loss on maple in late May and early June is often due anthracnose or maple petiole borer. Leaf loss later in the summer is usually due to Tar Spot. This case is maple petiole borer, a nuisance problem.

**Photo 6:** Leaf loss on red oak in June may signify the lethal oak wilt fungus. Leaf loss on white oak family members during the same time may be the non-lethal anthracnose disease. This is oak wilt.

**Photo 7:** It is not uncommon for trees affected with leaf spot diseases to lose leaves in the later part of the summer. This crabapple is affected with the fungal disease, scab. The disease does not threaten the viability of the tree.

**Photo 8:** Leaf loss on this white oak during the last half of the summer was due to the cynipid wasp gall (insert). This insect does not threaten the viability of the tree.

## LATE SEASON DEFOLIATION FROM DISEASES AND PESTS:

There are a variety of foliar problems that result in leaf drop or other foliar symptoms later in the summer. Such diseases as Tar Spot on Maple and Scab on Malus sp (crabapple, apple) build up over the course of the season and cause defoliation in late July through August and September (Photo 7). Various insect and arthropod pests (ex. mites) may also cause leaf loss (Photo 8). For example, spider mites may cause needle loss in spruce trees similar to needle cast diseases but often in mid to late season. Plants that lose foliage later in the season will generally not re-foliate that same season. However they will recover and develop new growth the following season just fine, thank you.

## MANAGEMENT OF FOLIAR DILEMMAS:

With regard to foliar issues, the most important consideration is: Don't Panic!!! Trees and shrubs with foliar problems, no matter how severe they may appear, will usually not die from the malady. In most cases, they will recover the same or following season with or without our doing anything. Inputs to correct the problem while the leaf issue is occurring or immediately after leaf damage is noticed are generally wasted, fruitless efforts. If attempts to prevent leaf problems and loss are to be attempted next season, it is vitally important that the leaf problem be accurately diagnosed. Once an accurate diagnosis is accomplished, the management procedure options aimed at avoiding leaf dilemmas are fairly straight forward. L

*For more information, please feel free to email David Roberts at robertsd@msu.edu or contact a professional plant health care provider. The author, MSU and MGIA do not endorse any particular products. If using pesticides, be sure to read and follow label directions.*

***Development of Landscape Tips was sponsored by MSU and MGIA.***

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