The Plant Doctor's LANDSCAPE TIPS

By Dr. David L. Roberts, *The Plant Doctor LLC a.k.a. The Tree Doctor*

SHADY PROSPECTS "IT'S ELEMENTARY, MY DEAR WATSON"

INTRODUCTION

One of the most Frequently Asked Questions (FAQ) I have received over more than 40 years in this industry is, "Why is my tree dying?" (Photo 1). Or, a variation is, "Why are the branches on my tree dying"? (Photo 2). Although both FAQs are common, they may have vastly different connotations. These questions often set off an alarm from the typical property owner about the imminent death of their tree . . . followed by - "Can anything be done to save my tree?" There are many potential reasons why the branches of trees may be dying . . . or why the entire tree might be dying. So, I will try to cover some of the contributing factors herein for both branch death and tree death, which are often different factors altogether. Some of these factors may be elementary for many of us in the plant industry but not necessarily so for the layperson, the clients we serve.

Photo 1: Dying trees often bring attention to the clients we aim to serve in our businesses. Sometimes the concern is unwarranted and, perhaps, unnecessarily alarmist. At other times, the concern is justified as is the case with the spread of Oak Wilt from left to right at this property near Milford, MI. The disease is about to invade neighboring properties.

Photo 2: The lower branches of these spruce trees have not died due to shading. Rather, "Spruce Decline" is the culprit and is an all too common issue throughout Michigan. Cytospora Canker, Phomopsis Canker, Diplodia Shoot Blight and various needlecast diseases are contributors.

Shady Shade: Most of us in the plant service industry know that the most common reason for the decline and death of a tree's branches is likely plain ole shade. Trees in woodlands and forests naturally discard their lower branches with time . . . largely due to the lack of sunlight (Photos 3A & 3B). How does a tree know which branches to disown? Well, trust me on this - they just know! They do! If the foliage of trees cannot receive sufficient sunlight to photosynthesize and manufacture foods (sugars, etc.) for the tree, the tree has a natural tendency to cut off and reject that portion of the "family tree", much like some parents threaten to cut off their lazy children who mooch off them, even into their 30s and 40s. "Go out and get a job!," is the often-heard vociferous mantra coming from the neighbor's house. Trees often relate to their branches, albeit in a more subtle manner.

Photos 3A & 3B: Trees in natural woodlands/forests lose their lower branches over time (3A). If we think about it, this seems natural until we encounter a similar phenomenon in landscapes where too dense plantings can also result in branch death, which raises alarm from property owners who may have attempted to establish a screen (3B).

Photo 4A: This photo was taken from the interior of the "Porch" of the Plant Doctor's World Headquarters. Due to shade, and perhaps some disease issues, most of the lower branches on this diversity of conifers (Colorado Blue Spruce, Red Pine, Norway Spruce and Scott's Pine) have died, creating a miniature "Tunnel of the Trees". The dead lower branches have been pruned off by yours truly. Note the oak leaf filigree in the lamp.

Photo 4B: On the opposite side of the "Tunnel of the Trees," exposure to sunlight has preserved the branches throughout these rows of mixed conifer species planted 30+ years ago by the author. Note the "Cup Plant" (Sylphium perfoliatum) in the prairie foreground.

Trees naturally shed branches and twigs during their long lifetime (Photos 4A). While this may be elementary to many of us, it is not so with many tree owners. Many property owners love their trees, often the reason they have bought the property in the first place. But many of these tree lovers know little about these living organisms that they should sustain and pass on to future generations. Shade reduces sunlight while causing trees to shed their lower branches (Photo 4A); exposure to sun preserves the branches and the trees to which they are attached (Photo 4B). It's rather elementary, don't you think?

Shady Diseases: Most disease organisms are favored by moist conditions, which almost

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always are associated with shade. Shade allows for prolonged periods of wetness that provide a greater chance of disease agents gaining an infectious foothold on our trees. Most tree diseases, including branch diseases, are caused by fungi. For example, the death of lower branches of Colorado Blue Spruce may partly be due to shading, but we also know that various cankers and blights and needlecasts contribute mightily to lower branch dieback in this species (Photo 2).

A few twig and branch diseases are caused by bacteria, such as Fireblight (Photo 5). Fireblight is not quite as dependent on shade as other diseases, but it helps. Fireblight is often spread by bees to blossoms during flowering.

Shady Pests: As with diseases, there are a variety of pests that may cause branch and/or foliage loss. Various borers including shoot borers and twig girdlers are common. The Maple Petiole Borer comes to mind (Photo 6) but would not contribute to branch or twig loss.

Photo 5: Fireblight, caused by a bacterium, is a common disease of Rosaceae plants such as apple, pear, hawthorn, mountain ash and pyracantha. The disease may kill branches and twigs . . . in rare instances, the entire tree or shrub may succumb.

Photo 6: The Maple Petiole Borer is an insect pest that may cause conspicuous loss of foliage, alarming to many tree huggers. The pest has little if any adverse impact upon the health of trees even though many people panic with the foliage on the lawn. Note leafless petioles (leaf stems) on the branch and abundant foliage on the lawn in the background.

Shady Lawns: While the cause of death of limbs on trees may be poorly understood among the general public, there is no question that the average property owner will blame trees for the decline and/or thinning of their lawns and/or failure to establish a lawn (Photo 7). They just innately seem to understand that trees represent a competitive threat to their highly sought-after lush, green lawns. People will spend bundles of money to ensure they have a lush, thick lawn even if God nor Mother Nature never intended such a ridiculous thing in a tree inhabited area. Sometimes ground covers provide viable alternatives to turfgrasses (Photos 8A & 8B)!

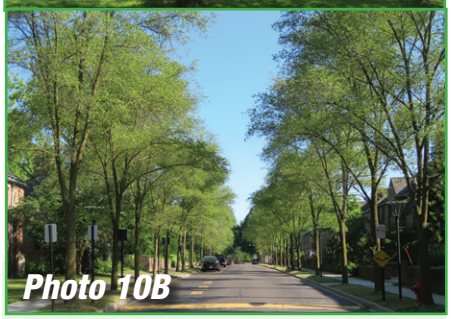
Shady Messes: One of the most common complaints about trees I hear is that they are "messy" . . . because trees are continually casting branches and twigs that have died from shading (Photo 9A & 9B). I need to be nice, but sometimes I just want to shake the whiners and tell them that the trees were here first and do you even think the trees might believe humans are "messy"? And, "why did you move onto this site if you don't like the trees that filter the air and water for your health and well-being? Invariably, the whiner will claim they love the tree but just "hate picking up the sticks all the time."

Shady Species: Various species of trees provide different levels of shade. Some of the denser shade species/varieties include Norway and Sugar Maples, some Oaks, Norway Spruce and Austrian Pine (Photo 7). Less dense and hence less shady species include Locust/

Photo 7: Shade may not only cause branches on trees to die but may also be instrumental in causing sickly, thinning lawns. It's a constant struggle between well maintained lawns and forgotten trees. I always "root" for trees because it takes generations to grow them whereas lawns can be established almost instantaneously.

Photos 8A & 8B: Rather than continuously wrestling with lawn establishment under shade trees, ground covers may be better alternatives. English Ivy (invasive?), pachysandra, periwinkle (vinca), euonymus, sweet woodruff and various mints are just a few possibilities.

Photos 9A & 9B: By their very nature, trees will shed branches and twigs that have died from shading or other causes. Viewing up through this large catalpa tree, we can see many dead twigs and branches (9A) that will eventually fall and need to be picked up before mowing (9B).

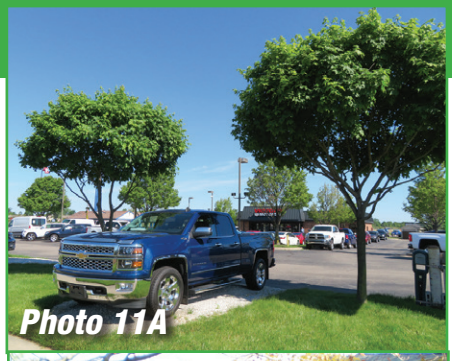


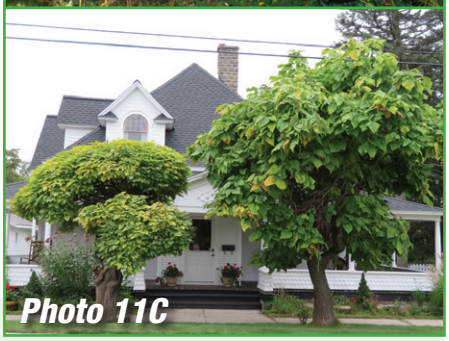
Photos 10A & 10B: For promotion of lawns and other understory, less shade tolerant plants, honey locust (10A) and hybrid elm (10B) represent two species that allow filtered light to penetrate their habit compared to dense shade species.

Honey Locust, Red and White pine Silver Maple, Elm, etc. (Photos 10A & 10B).

Shady Pruning: Trees can be pruned to provide more shade or less shade. Crown lifting and crown thinning are two such techniques (Photos 11A & 11B). Compacting trees (Pollarding) or crown reduction pruning can create some interesting looking trees while encouraging light for lawns and other plantings (Photo 11C). Sometimes, arborists who perform pruning for crown lifting get carried away (Photo 12).

Shady Question of the Century: A very common question I have received over the years is, "Should the lower branches of evergreens be pruned off or should the branches be allowed to sweep to the ground?" Some people seem to ruminate about this issue incessantly. They wonder, "What is the proper thing to do?" They've apparently seen both situations (Photos 13A & 13B) and are perplexed. I know there are individuals in our industry, whether arborists or scientists, who try to force their very closeminded opinion on people, perhaps sometimes to sell more work or because they actually believe there is only one proper manner of maintaining trees. As a scientist and educator for almost 50 years, I have rarely adopted an unrelenting position that there is only one way to do things. A lethal disease such as Oak Wilt will bring out my strong opinions on proper ways to handle such issues. However, in most cases, whatever happens is not the end of the world. Hence, I often ask, "What are your goals," "What do you hope to accomplish?" In this particular



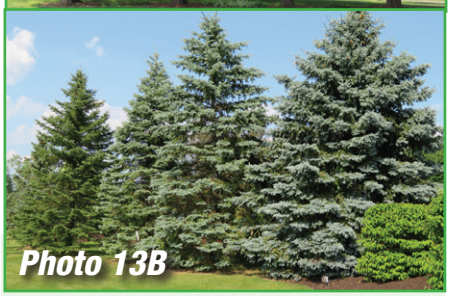


Photos 11A, 11B & 11C: Two photos show crown lifting for better visibility and for better light penetration to understory plants and lawns 11A & 11B. Doing the opposite, crown lowering or pollarding, can help light penetration while creating some tree art.

instance, conifers (evergreens) can be pruned up for allowing light for lawncare or they can be left fully branched to the ground level. Obviously, if the lower branches have died from some disease or from shading, it might be best to prune them off to inhibit disease spread and for aesthetic reasons.

Shady Characters: Some of clients we serve are rather shady themselves. Thankfully, they are generally few and far between. After agreeing to our proposal and telling us to proceed with our work, they often balk when the job is completed and try to negotiate a lower price. I've encountered quite a few situations where I was asked by an arborist or landscaper to provide an independent review of a conflict that developed because the property owner didn't think the work was performed according to the work order. In several instances, the property owner refused to pay the bill or perhaps even threatened a lawsuit . . . this is their manner. Luckily, getting an independent opinion summarized in a report often helps the professional deal with unruly customers.

Photo 12: Palm trees in Michigan? You bet!! These are a new variety called "Palm Tree Spruce." Seriously, these spruce trees were severely "crown lifted" to allow more light for a vegetable garden.



Photos 13A & 13B: Of vital concern to many conifer owners is whether branches should be pruned up (Crown Lifting, 13A) or should the branches be allowed to extend to ground level? I suppose it is simply a matter of whatever one desires. However, if lower branches have died, it might be prudent to prune them from the tree for aesthetic and disease management reasons.

Also, as with any profession, there are also some shady characters in our own industry. FAQ from Client: "Can't you spray something to stop the branches from dying?" Answer from Shady Tree Service, "Sure, we can spray our very special elixir . . . but can't guarantee it will work," just like the magical formulas that are advertised on TV to grow hair on that bald spot within minutes of application. These so called "professionals" are unscrupulous

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and give our industry a bad name by doing a less than adequate job but often charging an exorbitant fee for their services. After being paid in cash, they will often have flown the coop never to be heard from again.

CONCLUSIONS

There are numerous reasons why we should embrace the concept of "Shady Prospects". Shade has its many purposes. Landscape trees as opposed to naturally existing trees often need a little help and tender loving care if we valuable their existence in our unnatural world (Photo 14). Leaves, twigs, branches and whole trees that eventually die serve a purpose in our natural environment (Photo 15). Trees contribute immensely to the diverse web of life we are so dependent upon.

Author's Note: My rationale for writing articles for *The Landsculptor* is not only to provide some educational information to the less experienced young'uns entering our industry but to also serve as educational materials to be distributed to our Michigander client friends. This and many other of the publications published in *The Landsculptor* are available in pdf form (free of charge) from me or *The Landsculptor* Editor for distribution to whomever it pleases. L

Photo 14: This landscape tree could have benefited from some TLC pruning many years ago. Now it is suffering from neglect and is slowly losing its upper crown due to stress placed on it by its extensive intermingling branches.

Photo 15: As leaves, twigs and branches fall to the soil, they are invaded and decomposed for the nutrients for the present and future generations of trees. Here, Xylaria (aka "dead man's fingers") has colonized a fallen branch and will breakdown its components in the constantly changing food web of life.

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