



The Plant Doctor's LANDSCAPE TIPS

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

THE BENEFITS OF WINTER PRUNING

INTRODUCTION

For many of us, winter conditions represent an uncomfortable period (Photo 1) when we'd rather stay inside near the wood stove or head towards warmer climes-Snow Birding, that is. Nevertheless, some of us have adapted to, and even enjoy, winters because of our proclivity for snowmobiling, skiing, and sitting around a fire place at a Michigan resort roasting chestnuts and marshmallows, and sipping a glass of wine or hot chocolate.

Winter is a season when arboriculture and landscape activities often come to a grinding halt. After all, we humans are adapted more towards moderate temperatures than to the cold and subfreezing temperatures of Michigan winters, which are often brutal. Plus, plants and their associated threatening enemies (diseases and pests, etc.) are largely inactive and dormant. So, why should we be concerned about arboriculture activities in the winter when most of us prefer to hibernate as well? The answer is that winter is a preferable time to address certain tree health issues precisely due to dormancy of tree threats such as pest and diseases . . . and humans, as the following examples exemplify.



Photo 1

Photo 1: Holiday lights signify the onset of the Holiday season and winter, a fantastic time to keep active by engaging in winter activities such as skiing, sledding, skating, and tree pruning.

FIRE BLIGHT

Fire Blight (aka Fireblight), caused by the bacterium *Erwinia amylovora*, is one of the most serious diseases of the Rosacea plant family. Members of the

Rosacea family include Apple, Crabapple, Serviceberry, Hawthorn, Mountain Ash, Pear (ornamental and fruit), Quince, Pyracantha, Cotoneaster, etc. In some situations, Fire Blight can be lethal to trees and shrubs. The infectious bacterium causes a "blight", hence the name Fire Blight, to branches, shoots, and flowers (Photos 2A, 2B & 2C). Because bacteria reproduce very rapidly during the spring and summer, pruning during the warmer

temperatures can result in serious spread the disease on affected trees or to other trees by contaminated pruners or saws. And bacteria may also be spread by rain/irrigation splashing or by insects such as bees. Bacteria can reproduce much faster than rabbits . . . sometimes every 20 minutes, or put another way, they double in population every 20 minutes, The Fire Blight bacterium overwinters in "Holdover Cankers" (Photo 2B). In the spring, if these cankers have not been eliminated from trees during the winter, the "Holdover Bacteria" start to reproduce during warm weather at very rapid rates until millions of amber droplets of highly infectious bacteria appear on these cankers; these millions/billions of bacteria spread by water splashing, and insect activity, etc.

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Photo 2C

Photos 2A, 2B & 2C: Fire Blight is one of the most serious diseases on landscape crabapples, pears and other members of the Family Rosacea. A shepherd's crook is usually considered a good diagnostic symptom of Fireblight (2A). The bacterium that causes Fire Blight overwinters in these Holdover Cankers, frequently from spur/flower infections (2B). When Fire Blight is so severe, it might be best to let it run its course; trees sometimes recover; note abundant blight infections on this pear (Photo 2C).



Photo 2A



Photo 2B



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The best time to prune these cankers from trees is in the winter when bacteria are dormant and, hence, inactive. During the winter there is little to no chance of Fire Blight spread and subsequent infection.

CANKERS

Various cankers often form on trees as the result of predisposing factors such as injuries and/or stress. Hence cankers are often called "Wound Parasites" or "Opportunistic Diseases". Most tree cankers are caused by fungi (Photos 3A & 3B). Every tree species is susceptible to cankers, whether general or specific to its host plant. During the warm season, cankers form reproductive structures that release spores, which, under the right conditions, such as injuries, may form new cankers. Not all imperfections on trees that appear to be "cankers" are caused by fungi. Some canker-appearing imperfections may be caused by other factors such as environment, pests, and human activity (Photos 3C & 3D).

CORRECTIONAL PRUNING

Trees may cause misdemeanors or felonies. Yes, you read that right. Trees that are not properly maintained may cause minor or serious problems for inhabitants of Planet Earth. We try to correct some of these deficiencies before catastrophes strike. To



Photo 3A

Photos 3A, 3B, 3C & 3D: Canker diseases are often caused by fungi. On branches, they may be pruned from the tree. However, they may also occur on the trunk, which will ultimately result in the death of the tree (3A). In Photo 3B, this tree was pruned during the warm season when canker diseases were active; note orange reproductive structures of the fungus around the pruning wounds (3B). Winter pruning would likely have avoided these infections. The term "Canker", used loosely, can mimic symptomatology of fungal cankers. Other factors may apply "cankers": Southwest Canker (aka Frost Crack) on maple due to sun heating during the winter (3C), and Disc Golf "whacks" on this young oak (3D).



Photo 3B



Photo 3C



Photo 3D

Professional Arborists, Crown Thinning, Crown Raising, Crown Reduction, and Directional Pruning are common terms whose practices result in specific outcomes that we hope are beneficial to us . . . and trees (Photo 4). Dormant pruning is best if we are to avoid the spread of a plethora of diseases and attacks by insect pests which may be attracted to injured plants (i.e. Oak Wilt) during the warm season.



Photo 4

Photo 4: Correctional pruning can help us maintain trees where they may not realistically belong. In this case, a maple has been subjected to Directional Pruning under power lines for safety and tree preservation. Other pruning techniques such as Crown Thinning, Crown Raising, and Crown Reduction may be applicable.

PRUNING FLOWERING PLANTS

We are always told that it is best to prune flowering plants after flowering. While this is undoubtedly good advice so as not to remove too many flower buds before the flowering period, which is usually spring, it is also a time when diseases are usually quite active (Photos 5, 2A-2C). Hence, we must be very careful and cognizant of the problems that could occur during our pruning activities.



Photo 5

Photo 5: It is often advised that we prune flowering plants after flowering; that is also the riskiest time for various diseases and pests to attack injured trees and shrubs. Flowering plants can also be pruned during the dormant season, but don't expect as many blooms during the first season after pruning. But that's OK.

"BASAL PRUNING"

Sometimes, "Basal Pruning", uh, Tree Removal, is an advisable approach to challenging tree problems even for those of us who are Tree Huggers. Various diseases and pests can be so threatening to the overall health of trees that it is unlikely trees will recover to good health. In Photo 3A, the fungal canker was initiated on a branch wound (center of photo) and is gradually growing through the trunk of the tree. This tree can never be "rehabilitated", so time is a factor. It's possible this tree could live for many years before succumbing to this eventually lethal

disease. However, a case could be made for removing this tree now and replanting a new tree for future considerations; it all depends on the timeline and desires of the tree owners. In other cases, trees have been so debilitated from disease or decline issues that it might be best to put them out of their misery (Photo 6). In yet other cases, trees have died; winter is the best time for dead tree removal because it can help us avoid problems resulting from injury to other trees and landscape plants.



Photo 6

Photo 6: Sometimes, trees become so debilitated or declined that they probably should be removed. This photo, taken in July, demonstrates the ravages Trellis Rust can have on ornamental pear. Winter is a great time to schedule tree removals.

OAK WILT

The "Elephant In The Room", of course, is Oak Wilt, caused by the invasive fungus, *Bretziella fagacearum*. As most of us know, injuries to oak trees, whether caused by pruning activities, storm damage, or other injuries (ex. lawn mowers) at the wrong time of year may result in lethal Oak Wilt infections (Photo 7). If oaks need to be pruned, and I sometimes think oaks and other species are pruned way too often, the best time to prune oaks is during the

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Photo 7

Photo 7: Perhaps the most important Michigan tree issue when it comes to pruning is Oak Wilt. Any injuries to oak trees during the high-risk period (early spring to summer) could result in lethal Oak Wilt infections. The oak tree to the right of this cabin at a religious camp died from an Oak Wilt infection when a small branch overhanging the house was pruned during the spring (Inset). Dormant pruning would have averted this infection.



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cold temperatures of winter (<45 degrees F) when insect vectors are dormant. While some arborists may believe it is fine to prune dead wood from oak trees during the warm season, I've seen way too many Oak Wilt outbreaks from "Deadwooding"; branches are often not as necrotic as we think they are; we may invade branch collars with live tissue when Deadwooding (Photo 8), and that invasion may attract sap beetle carriers of the Oak Wilt fungus. I have covered corrective pruning measures to avoid Oak Wilt in other articles available on my websites plantdoctorllc.com and oakwilt.info or from MGIA.

CONCLUSIONS

Depending on the situation, and there are many more not elucidated in this brief article, winter/dormant pruning is a viable Best Management Practice that arborists and landscapers can pursue during the off season. Winter pruning can keep us and our cohorts employed and active during the winter, adding to our business' bottom line. Perhaps our primary concern is to not slip on the ice and break a leg! Bah Humbug! 🌿

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Photo 8: Warning!!! In my opinion, "Deadwooding " is not a recommended practice during the high-risk period (early spring-summer) for Overland Spread of Oak Wilt; the reason is because I've seen way too many Oak Wilt infections by well-meaning arborists who caused Oak Wilt outbreaks when "Deadwooding". In this photo, there is a well-defined branch collar, and if we don't injure the live branch collar, it may be safe to prune the dead wood . . . maybe. However, the dead branch in the Inset exhibits no well-defined collar and there may still be live cambium tissue extending out into the branch, making pruning during the warm season a risky proposition. Winter pruning is best.