



The Plant Doctor's LANDSCAPE TIPS

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MORE MULCH MADNESS

INTRODUCTION

March is a special time of year for a variety of reasons. During most years, it is a time when the weather starts changing in our anticipation of warmer spring temperatures, which many of us look forward to after the doldrums of typical cold, cloudy weather so prevalent during the winter months in Michigan. For others, especially sports fans, the NCAA college basketball tournament playoffs occur and are frequently referred to as "March Madness". Hence the title of this article might be viewed as a play on words (pun), "Mulch Madness". Get it?

Mulching is a modern landscape practice that has many benefits for plants in our landscapes (Photo 1). Plant health care providers are essentially using mulch to enhance the landscape environment. But mulch can also be misused and create havoc for the health of trees and landscapes. In this article, I plan to briefly review the attributes often associated with mulching practices.



Photo 1

Photo 1: This large oak benefits from an unusually large mulch ring that keeps equipment at bay and mimics a natural forest floor environment, which is the best practice for its long-term health in this artificial (unnatural) landscape.

THE GOOD

If utilized properly, mulch can provide many benefits to trees and landscapes. For example, mulch can slow the evaporation of soil moisture, benefiting all plants in the landscape but especially new transplants. Mulch can aid in weed suppression. As mulch decomposes, it provides nutrients and organic matter to build up poor quality soils so common in many newer landscapes and developments. With the improvement of soil conditions, earthworms and beneficial flora, fauna (insect/critters), and microbes move in and stimulate better aeration, drainage and enrichment of the soil profile for better root growth and better health of plants. In addition,

mulch can minimize erosion, moderate temperature extremes, and serves as a border to prevent damage of landscape plants from maintenance equipment (Photos 2, 3, & 4). Among many other benefits, mulch can improve the appearance of landscapes (Photo 2). It looks cool and contributes to organization.



Photo 2

Photo 2: Excess mulch, as this photo represents, is usually referred to by plant professionals as "Volcano Mulch". Apparently, it looks cool to some people, which is why it is often copied throughout some neighborhood landscapes. It's possible that many people may even think this is the proper way to mulch trees (?). We need to pass the word along that this is not a good practice and that it may eventually stimulate circling root development into the mulch, often resulting in girdling roots (Photo 5).



Photo 3

Photo 3: "Lawn Mower Blight" and "Weed Trimmer Scorch" are much more common in landscapes where mulch is not used in the vicinity of trees.



Photo 4

Photo 4: This row of ash trees exhibit dieback that was initially believed to be from Emerald Ash Borer attack. However, at the time this photo was snapped there was no EAB activity in the area. Again, as in Photo 3, these trees are victims of the dreaded “Lawn Mower Blight” and “Weed Trimmer Scorch”.

THE BAD & THE UGLY

If misapplied by a variety of methods, mulch can also become detrimental to trees and landscapes. Too often, excessive mulch is applied. Too much mulch may result in poor drainage, poor aeration, and even anaerobic conditions resulting in root suffocation (death). A common practice by well-meaning property owners and some landscapers is the piling of mulch around the stems of woody plants and the trunks of trees, often referred to as “Volcano Mulch”. While Volcano Mulch may appear aesthetically pleasing, it is one of the worst mulch practices we can make to trees (Photo 2). Excess mulch, including volcano mulch, can stimulate root growth into the mulch, which most likely will eventually result in girdling roots (Photo 5). Girdling roots may subsequently result in decline and, possibly, eventual death of trees, especially if secondary influencers such as diseases and pests are attracted to stressed trees.

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Photo 5

Photo 5: Excess (Volcano) mulch had been removed from this tree, which exhibited decline in the branches and canopy. Sure enough, as expected, girdling roots were likely contributing to the tree’s poor health.

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"ROCK AND COAL" MULCH

Most mulches are comprised of organic materials such as bark and wood chips, which decompose over time. Other mulches may be artificial human-made materials such as rubber from ground up tires. The landscape in Photo 6 was mulched with coal. Hardscapes have become increasingly common as components of landscapes and are immensely popular and beautiful. Gravel, rocks, and even boulders have made their way into serving as "mulch" (Photos 7 & 8). These hard mulches will not decompose over time like plant-based mulches. Perhaps their advantage is that they rarely, if ever, need to be replaced. Perhaps their greatest disadvantage is that they rarely, if ever, need to be replaced.



Photo 6

Photo 6: While we're all familiar with colored mulch, this landscape is mulched with coal, which will likely break down much more slowly than bark or wood chips.

LASTING IMPRESSIONS

As with all things in life, there are downsides. Just as excess "organic" mulch (Photo 2) may result in problems for trees and landscape plants, hard mulches such as rocks and "boulders" may leave lasting impressions in our landscapes and trees (Photos 7, 8 & 9). I suspect that many people, especially our clients who may not have much understanding of plant biology, believe trees are tough and will simply push anything in their way out of their way, whether "hardwood" or "softwood". Nothing could be further from the truth. As trees grow each season, cell division adds new layers of cells we observe as growth rings-including cambium, which may be described as the growing part of the tree - producing new bark and wood tissues that transport water and nutrients from the roots to the upper branches and foliage. For optimum growth, cell division must remain unimpeded. Unfortunately, too much mulch that leads to girdling roots or hard mulches resting against tree trunks or roots will inhibit their growth . . . or be absorbed by the tree as each year's successive growth responds to pressure (Photo 10).

Although one of the major advantages to mulching landscapes is weed suppression, all mulched areas eventually invite unwanted plants (weeds) that need to be dealt with in highly maintained landscapes. While many people prefer the "organic" natural approach of hand weeding, they will invariably resort to the use of herbicides in larger landscaped areas. The misuse of herbicides due to bad labeling or failure to read the chemical labels can result in serious harm to trees and other landscape plants (Photo 11). 🌱



Photo 7

Photo 7: "Boulder Mulch" is becoming more popular. Unless a mower operator partied too much the night before, it is unlikely that "Mower Blight" will impact the lower trunk of this tree. However, boulder mulch may result in soil compaction and other adverse impacts on trees. Boulders/rocks should never touch live plant tissue such as root collar areas or trunks, because restrictions in growth may occur.



Photo 8

Photo 8: Another example of rock mulch in this parking lot island will eventually result in tree harm as these compressed rocks will impede normal tree growth in the trunk and root collar areas.



Photo 9

Photo 9: To emphasize the power of hardscapes, this old landscape feature (Jeep) is causing this redbud tree to gradually engulf and conform to the obstruction, much like hardscape mulch may affect trees.



Photo 10

Photo 10: I think most of us have seen trees engulf wires, ropes and other objects. In this case, a maple tree is consuming a sign on Maple Street!



Photo 11

Photo 11: Mulch applications can suppress weeds in landscapes. However, all mulch areas will eventually attract weeds. Herbicides provide cost effective and efficient weed control. Unfortunately, the landscape beneath these trees (Inset) was treated with an herbicide containing Imazapyr, which is lethal to many trees and shrubs. In the year following application of the herbicide, many trees are dying because the homeowner didn't know about the dangers of this herbicide.

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