

# Foliage, Frost and Fruit

## Fall Newsletter

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By Clark Van Hoosier

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### INTRODUCTION

Fall in Wyoming... blink and you will miss it! At least this is the case in most years. For 2022, we were fortunate enough to experience an exceptionally colorful autumn season. Typically our area is subject to at least one early frost that quickly ends the fall foliage season, but this year yellows, oranges and reds persisted well into October. There may not be a more prominent time in the year for trees to take the center stage in our community. I hoped you all enjoyed the fall display as much as I did.

At the time of writing, snow is on the ground and many of our trees are left bare. As winter sets in, it can be easy to forget about our trees as we trade in our sprinklers for snow shovels. However, fall and early winter provide tree owners with a number of opportunities to promote their trees' health. Below are a few items to consider over a hot cup of cocoa in the months to come.



A Pin oak at the Kendrick Arboretum in full fall display

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## “My tree still has leaves?”

A few people have reached out to me concerned that at the end of fall their leaves did not in fact fall. A head scratcher certainly, but nothing to be overly concerned with. As daylight decreases and temperatures begin to drop, physiological changes occur in the leaf. Most notably the creation of chlorophyll (green color) declines, increasing the ratio of other molecules such as carotenoids (oranges/yellows) and anthocyanins (reds) within the leaf, thus creating fall color.

This is the start of leaf senescence or leaf death in which the hormones, sugars and nutrients within the leaf are gradually transported back into the tree. While all of this is occurring another process is taking place at the base of the leaf stem (leaf petiole). This process is called **abscission**. In leaf abscission, new cells at the base of the leaf stem begin growing and pressing against the now senescing cells. Eventually the growing cells push against the dying cells until

detachment occurs. Certain species such as oaks, forgo abscission altogether and instead retain their leaves each winter in a process called [marcescence](#).

An early flash freeze or extended warm periods followed by rapid cooling can cause full leaf death before the abscission process can run its course. This is likely what happened to many of the trees around Sheridan that are retaining their leaves. This disruption of the abscission process is rarely detrimental to next year's growth and over time wind and snow will cause the leaves to fall from the trees. Perhaps the only concern is that branches that have retained their leaves could be more likely to fail if a heavy snow loading occurs. There will be some additional leaf pick up in the spring, but otherwise these trees will be just fine.



**A Silver poplar that retained its leaves through disrupted abscission**

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## Wyoming Winter Isn't for the Faint of Bark...

Preparing trees for the months of winter really begins months before the snow starts to fly. Adequate water, mulching and maximizing canopy through proper pruning; all of these actions typically occur in the summer. How we care for trees in the summer is critical to a tree's ability to sustain itself in the dormant season. However, there are a few actions tree owners can take to help their trees through the cold winter months, especially with younger trees.

### 1. **Mulch.**

Have you installed a wood mulch ring around your tree? If not, do so, immediately. If yes, good. Do it again. And by that I mean either topping off your mulch to make sure its depth is between 4-6" or expanding the ring's width. As trees grow, our mulch rings should as well. To the drip line of the tree is best, but any additional width will be beneficial. During the winter a mulch layer insulates roots, helps moisture retention and acts as a shelter for the beneficial creatures that create good soil.

### 2. **Fencing.**

Many promising young trees fall victim to deer each year. Whether it be from browsing on lower limbs or the raking of young bark from an unruly buck. Deer love to damage young trees. Even a small wire fence can be enough to deter the deer to find another tree to bother. As trees get older the bark will thicken (species dependent) and the branches can be lifted, but fencing trees for the first 1-5 years is important in Sheridan. A majority of this deer damage occurs in the fall and winter months.

### 3. **Trunk Wrap.**

Young trees and certain species have very thin bark that is very susceptible in the winter. Sun-scald, Snow-scald or Southwest injury are all names used to describe a common winter injury that occurs to thin bark trees. This type of damage is caused by day and night temperature fluctuations that occur in the winter. As the sun hits the trunk of a tree the trunk can heat up to the point where dormant cells become active. When these cells become active they lose some of their cold hardiness and are then injured when temperatures drop below freezing at night. The best way to prevent this injury is a simple one. Wrap trunks (and sometimes lower limbs) with white trunk wrap, which will reflect the light and keep tree surfaces cool. Remove the wrap after bud break in the spring. Tree selection and location at the time of planting can also go a long way to preventing injury.

#### 4. Winter Watering

As we shut down our sprinklers and roll up the hose during the late fall, it's pretty easy to forget that trees need water in the winter. Typically mother-nature provides the moisture trees require during dormancy, but this is not always the case. If we have extended periods of warm days (50 degrees or more) and there is no snow on the ground, winter watering may be necessary to keep trees functioning into the spring. These warm spells can occur in the middle of winter, but more often fall on the shoulder seasons between fall to winter and winter to spring. I always recommend tree owners purchase [a moisture meter](#), they are cheap, easy to use and can easily tell you if a tree needs a drink!



**A young Crabapple mulched, fenced, trunk wrapped and ready for winter!**



**Sunscald injury on the south facing side of a Sensation Maple.**

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## Winter Pruning

I'm often asked when is the best time to prune a tree, to which I usually say "show me the tree." There are an abundance of factors that go into creating a proper pruning plan and many recommendations on 'the best time' are contradictory. In actuality, the best time to prune a tree will always be based on the work to be completed and the individual tree itself. With that being said, here are some broad recommendations for winter pruning that our community should be aware of.

1. **Save the big cuts for summer.** If pruning requires removing a large branch from a tree, or a large amount (>20%) of canopy at one time; don't do it in the winter. Dormant trees don't have active defense systems or the energy to begin compartmentalizing (healing) wounds this time of year.

2. **A good time for deadwood removal.** Dead branches can really be removed anytime of the year, but many dead and damaged branches can more easily be identified when the leaves aren't around to block our view. Not sure if it's dead? The best way is to learn to identify the leaf buds, you can also look for discolored bark, "gray branches" or test the branch's flexibility.
  
3. **Prune fruit trees now.** This summer I wrote about the Fire Blight outbreak we were seeing in our fruit trees. Well now is the time to prune that blight out. Look for discolored, sunken bark on branches and make cuts 12" below the infection. Due to the potential for Fire Blight to infect open wounds on many fruit trees (Apple, Cherry, Pear, etc) any pruning on fruit trees should occur in the winter. Preferably when it's cold and when it's dry.
  
4. **Know your species.** Most winter pruning recommendations are made to avoid the potential for wounds attracting pests such as insects and fungi to susceptible species. Elm trees should be pruned in the winter to avoid [Dutch Elm Disease](#). Birch trees should be pruned in late fall/early winter to avoid attracting [Bronze Birch Borer](#). Many pine species should be pruned in the winter to avoid attracting bark beetles. Although oak wilt, thousand canker disease and [Emerald ash borer](#) have yet to be identified in Sheridan; Oak, Black walnut and Ash trees would best be served by also being pruned in the dormant season. Early vs late dormant season pruning can vary between pests, species and specific trees.
  
5. **Certified Arborist Consultation** Winter is also a great time to have an arborist visit your property to look at your trees. As mentioned before, winter provides the opportunity to examine trees from the ground when the canopy isn't obstructing the view. Every tree is different and thus has different maintenance needs. An arborist can help identify what those needs are. Find an arborist with [International Society of Arboriculture \(ISA\) Certification](#). This certification attests that the arborist has at least a basic knowledge of tree biology, proper pruning practices and safety requirements. Winter consultations can be a great way to get questions answered, it can also give you the jump on scheduling and budgeting for potential work next year.



**A dormant Cottonwood. Winter is an excellent time to examine & enjoy the architecture of trees.**

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## Into the new year...

I hope these tips prove helpful this winter and I'd just like to say how fortunate we are to live in a community with the ability to grow really amazing trees. Collectively we are all stewards of our little forest and it may be the best community forest in Wyoming.

I'll be back early next year with another edition of the Sheridan Community Forestry Newsletter. In it I'll link to the Community Forestry Annual Report and fill everyone in on the happenings of the winter. I'm also planning on doing a deep dive on pruning and why it's the absolute best and worst thing you can do to a tree.

As always, please feel free to reach out with any questions or observations that you are encountering in the field. ([cvanhoosier@sheridanwy.gov](mailto:cvanhoosier@sheridanwy.gov))

Until next time, stay warm and enjoy your winter!

Best Regards,

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