

Employment Opportunities: We are always on the lookout for new dedicated employees in our tree and nature care family. If you or someone you know loves the outdoors and nature and would prefer to work in God's beautiful creation, we may have an exciting opportunity for that person. Young people interested in rock climbing will find technical tree climbing a great adventure. Those with mechanical aptitude may enjoy machine and equipment operations. Those who just love to see plants thrive may find the plant health care field a challenging occupation. There are a variety of skill sets that most people don't realize exist in our "green industry". We are also, open to providing financial aid and a flexible schedule for those wanting to pursue further education in the industry.



Lawn Care Division – Reduced Risk Care

Cassity Tree and Landscape has been in the business of Plant Health Care for 40 years. With our motto of "Plant Health Care with a Conscience", we are now offering our expertise as Certified Arborists and Degreed Horticulturalists to Lawn care since 2015. We have found that many traditional lawn care companies apply products that are counterproductive to tree and shrub health and/or duplicate services to trees and shrubs that can be detrimental to the plants and the environment. We are excited to offer this service and have applied extensive research to provide you with environmentally friendly yet effective lawn care.

- Organically based
- Improves Soil
- Gentle on the Environment
- Spot Weed Control and reduced risk application
- Complimentary to all Plant Care



CASSITY TREE SERVICE

offers all of the traditional tree care operations (selecting, planting, pruning, removal) and specializes in Plant Health Care including:

- Bio-stimulant Soil Injection
- Root Zone Treatments
 - Fine Root Development
- Annual Care Programs and Diagnosis
- Direct Tree Injection
- Prescribed Tree and Shrub Spraying and Fertilizing
- Growth Regulators



CASSITY TREE & NATURE CARE SERVICE

Sturtevant, WI • 886-5224
 "Plant Health Care with A Conscience"
 Since 1978



This newsletter has adapted articles and graphics from the publications of the following organizations in addition to our original pictures and stories.



2021

Cantankerous Cankers

By: Kevin Nolan, Certified Arborist # MW-4399A

Canker disorders are among the most significant health issues found in our landscape. A plant canker begins with a small wound which becomes infected and slowly grows over time. Usually the infection is caused by a biotic pathogen such as a bacteria or fungi, though mycoplasmas and viruses may also be the culprit. The majority of these organisms are fairly specific to a particular Genus or even species, though there are a few "wide ranging" pathogens in our landscape.

So how does a tree get infected in the first place? As with any tree disorder, three factors need to be in place: a suitable host, a suitable environment, and a pathogen. This is commonly referred to as the disease triangle. Infection typically occurs when the tree is physically wounded. Wounding can include pruning cuts, broken limbs, root disturbance, and hailstorms just to name a few. Lawn mower and string trimmer injury to the lower trunk is a major source of canker infection and one of the many reasons to establish a turf-free zone at the base of your trees. Plant stress may also make them more vulnerable to infection. Sources of stress include exposure to extreme temperatures, drought, insect pressure, sunscald, and high winds.

Once a wound has been created, the pathogen has an opportunity to infect exposed tissues. Fungal spores are blown by the wind or present in the soil. Bacterial infections are more commonly spread by wildlife or are present in the soil. Going back to our disease triangle, infection can only occur if a tree (host) is wounded (environment) in the presence of an infectious agent (pathogen). This is a big part of why your proposal may include specific pruning times for your trees. By limiting pruning to times when the pathogen is not present we greatly reduce the chance for infection.

Nearly every tree species is susceptible to some kind of canker pathogen. Once a tree has become infected, management of the disease ranges from difficult to impossible. Removal is often recommended for many common ornamental trees. Pruning is beneficial in some situations, usually for pathogens such as fire blight which impact branch ends first. By pruning out infected tissue the canker can be slowed or eliminated, however this pruning must be performed when the risk for infection is low. Trunk injected products are also useful in slowing the spread of canker though they are most efficient when the infection is detected early. A soil based product, Cambistat, has shown promise in slowing canker growth but does not provide any curative action.

Pruning Cuts

By Brian Cassity – certified Arborist Wi- 0106A

To predict and appreciate how trees will respond to different pruning cuts, it is necessary understand some tree biology. Pruning live branches reduces a tree's ability photosynthesize and manufacture sugar, at least for a short period. Some practices such as topping can have adverse effects on both tree health and structure. Also, excessive branch removal from the interior of the crown (lion tailing) can actually increase the likelihood of branch failure. The benefits of proper pruning, such as improved branch architecture and reduced failure potential should be assessed when developing pruning objectives and deciding on pruning amounts. There are essentially 4 types of pruning cuts. 1. The branch removal cut or thinning cut removes the smaller of two branches at a union with the parent stem. This is the most common of pruning cuts. These cuts do not create a stub, but retain the branch collar and branch bark ridge. Making flush cuts is not an acceptable practice. 2. A reduction cut or a suppression cut removes the larger of two or more branches or co-dominant stems for the purpose size reduction or structural considerations, especially long term results. 3. A heading cut removes a branch or stem between nodes (natural growing points) or to a bud or very small undersized branch. This generally leaves a stub and often subject to decay and is rarely appropriate on established trees. It is often referred to as topping. However, these cuts are

used more typically and appropriately on shrubs for purposes of topiary, old flower heads, remove fruit, and rejuvenation to name a few. 4. Shearing is the practice of cutting through leaves, stems, branches to achieve a desired shape or size and is used in topiary and certain maintenance practices which creates a dense outer crown with loss of interior foliage. While it is often used as a time and labor saver, it should only be employed with species tolerant of this type of pruning. Many plants are adversely affected by this practice.

Because a tree's ability to close pruning wounds and minimize decay is crucial to the long term health and stability, the smallest diameter cuts that meet the objective are preferred, especially in mature trees.

Finally there is the question to use or not use wound dressings. Traditionally, they were formulated with asphalt base products and were once thought to accelerate wound closure and reduce decay. Research shows that these products do neither. However, some dressings do show there are beneficial effects to reducing insect attraction when and where appropriate. Non phytotoxic materials such as latex paints are best in such cases. At Cassity Tree Service, we have had some success treating fungal stem infections with latex paints combined with specific fungicides.

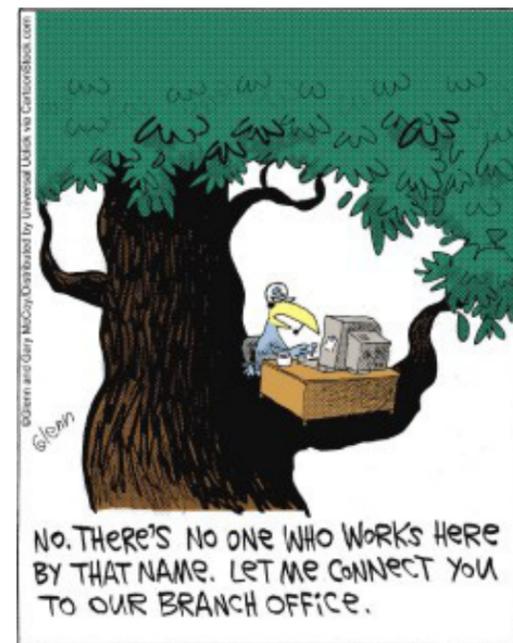
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The best control is prevention. Reducing plant stress through proper watering, fertilization, and managing pruning timing reduces the risk for infection. The single most effective method of canker management begins with tree selection: The right tree in the right place. For example, Colorado Blue Spruce (*Picea pungens*) are host to *Cytospora* canker. *Cytospora* is highly damaging to the health and ornamental value of blue spruce and is probably our most diagnosed canker in this area. No matter how well cared for, all blue spruce will almost certainly develop *Cytospora* at some point in their life. Injected and soil based products (along with foliar sprays to control other fungal/pest issues) can be applied to help reduce harm but the pathogen cannot be eliminated fully. Therefore it is better to not plant the darn things to begin with. Black hills spruce (*Picea glauca* var. *densata*), white spruce (*Picea glauca*), serbian spruce (*Picea omorika*) and Norway spruce

(*Picea abies*) are much better choices.

Other common cankers in our area include *Botryosphaeria* (impacts a very wide range of hosts), *Sphaeropsis* (largely impacts conifers), *Phomopsis* (another wide ranging pathogen) Black Knot Gall (easily observed on cherry and plum), and *Nectria* canker (common to maple and many other species) The list just keeps going folks, there's cankers aplenty out there that regularly send us back to the big reference texts and keep us on our toes.

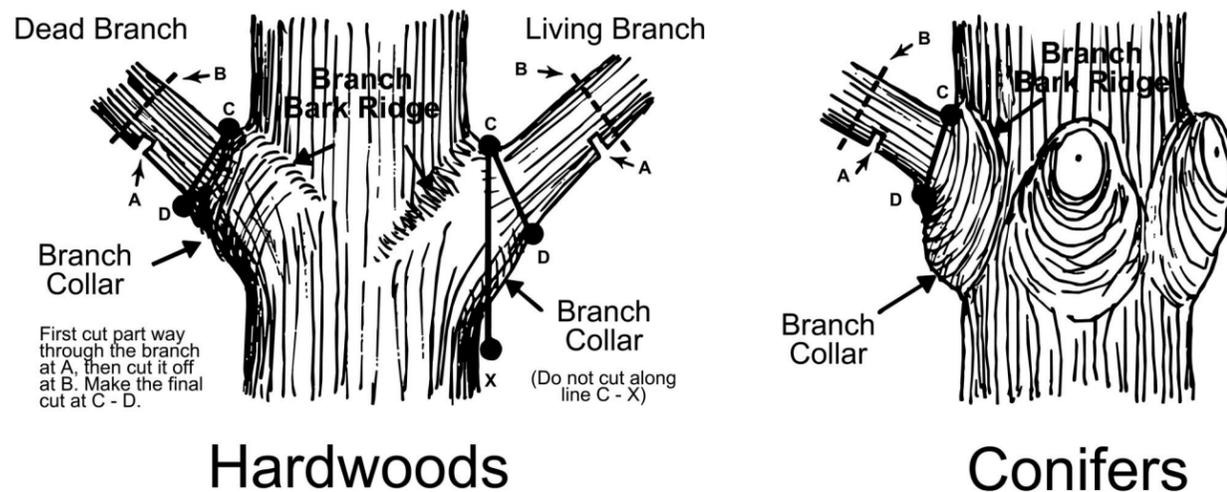
Selecting a suitable tree species and planting them in a site appropriate to their tolerances is the best way to reduce canker and many other plant health issues. The old saying truly applies to tree canker: "An ounce of prevention is worth a pound of cure" -Franklin



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Proper Pruning Principles



Know your zone

By Jim Moreno – Cassity Tree Service Plant Health Technician

The United States Department of Agriculture developed the USDA hardiness zone map of North America for the purpose of successful plant growth within different temperatures regions of the country. The zones are color-coded by the extreme minimum temperature. When you decide to plant new trees, shrubs, or perennials, take into consideration your zone and the plants will thrive there. A little research can go a long way when selecting the proper plant material for a new project and it will show in the prosperity of your landscape. "Right plant, right place" is a good motto to have when planning a new landscape or retrofitting an old one. It will save you time, money and disappointment in the long run. Stay Green. For more information visit <https://planthardiness.ars.usda.gov/PHZMWeb/>

In past newsletters, we had informed you about our very limited "Specialtree Nursery". We are still producing a variety of deciduous small scale trees or larger growing shrubs, plus Black Hills Spruce and Concolor Fir. All container grown, so 100% of the root system remains intact. Stop by anytime to browse our offerings.