

An Arborist takes  
care of a tree for life.



# OUT ON A LIMB

SUMMER 2019, VOLUME 39, ISSUE 2



A Few Thoughts About Tree Health" article by Tom & Vickie Wiens on page 6.

## A NEW INVADER ON THE HORIZON

By: Dave Olson, Forest Health Specialist, Nebraska Forest Service, University of Nebraska-Lincoln

A new invasive species is beginning to spread across the Eastern US with largely unknown impacts. Spotted Lanternfly (Lycorma delicatula) Family: Fulgoridae, is a planthopper native to Southeast Asia that first appeared in Pennsylvania near Reading in 2014. Since then it has established in several other Southeastern Pennsylvania counties, as well as in Delaware, New Jersey, and Virginia. Adults have also been discovered in Maryland, Massachusetts, and several counties in New York. The rapid spread is likely a result of human transport of egg masses.



Spotted Lanternfly Adult,  
Pennsylvania Department of  
Agriculture



Spotted Lanternfly Egg masses on tree-of-heaven, Kenneth R. Law, USDA APHIS PPQ, Bugwood.org

The preferred host of SLF is tree-of-heaven (*Ailanthus altissima*), an invasive tree species which has been present in North America for centuries and is widespread. However, the introduced pest will also readily feed on a wide variety of hardwood species, especially fruit trees and vines (apples, grapes, hops, etc.) Feeding in large congregations with piercing-sucking mouthparts, these insects cause weeping holes on the main stem of the tree and may impact the long term health and production of the plant as well.

Eggs are laid in the mid fall and resemble mud on the trunk of the tree, with small individual pods being hidden underneath. These egg masses, although usually laid on tree-of-heaven, will also be readily laid on any hard outdoor surface which has contributed to the rapid spread of this insect. Nymphs will hatch in the late spring and have four instar stages with the first three being black with white polka-dots, and the fourth developing a red color. Adults are less conspicuous with gray wings folded over the back like a tent, but underwings showing a bright red-orange coloration. Females also have a distinct bright yellow abdomen.

Currently, quarantines are only at the state level, with Pennsylvania restricting the movement of any outdoor articles out of the quarantine zone until they have been properly inspected for egg masses. The full impact of this insect is unknown at this time, although residents should be on the lookout for egg masses as well as nymphs and adults especially on tree-of-heaven. Please report any suspected finds to the Nebraska Department of Agriculture or the Nebraska Forest Service. If possible take pictures with an object for scale, noting location, and collecting the adult or nymph if applicable.



SLF Adults feeding on a grape  
vine, Pennsylvania Department of  
Agriculture

## A QUARTERLY UPDATE OF THE NEBRASKA ARBORISTS ASSOCIATION

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### SUBMIT ARTICLES:

If you have anything you'd like to submit for inclusion in the Quarterly Update, please contact Jim Keepers at [jlkeepers45@gmail.com](mailto:jlkeepers45@gmail.com) or (402) 332-0715 or (402) 618-8837.

Submission deadlines for the NAA 2019 quarterly newsletters:

3rd Quarter - September 13, 2019

4th Quarter - November 11, 2019

Photo contributions throughout  
courtesy of Jim Keepers.

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## FROM THE PRESIDENT

By Kevin Popken, NAA President



Great educational opportunities are coming up. Continuing education units (CEUs) are an important part of the arborists life. We are in an industry that is dynamic and ever changing. I think this reality is why many of us enjoy being involved with tree work. As business owners we are experiencing a rapidly changing market. Those changes affect how we reach clients within that market and the way we engage and monetize those engagements. As a plant health tech every tree is different, insect and disease issues are ever evolving, when you think you have a solution for one issue another surfaces ...often from half way around the world. If you're a climber doing trimming and removing,

is there ever a day that is a repeat of the day before? Each tree and the obstacles around that tree require time and thought to safely execute a removal or trim. This is not factory work, stamping out the same widget over and over again. If you have it all figured out today, tomorrow will present a new set of challenges. Regardless of the role you play in the company, there will always be this dynamic at play.... and I doubt most in this industry would have it any other way.

But to safely, efficiently and successfully meet ever changing challenges you need both experience and training. Arboriculture makes a strong case for continued education. As I have said often before...that is the primary function of our association.... to provide training you can use to improve your work life and experience.

As always, we have many educational opportunities coming up this summer and fall. From the ASTI SRT safety class, summer field day and the arborist school this fall. I hope you will all visit our website and select something you can sign up for and benefit from.

All the Best,

Kevin Popken  
NAA President

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# TERRY HUGHES TREE SERVICE SUPPORT FOR ARBOR DAY

By Wyatt DeWeese, Certified NE Arborist & Plant Health Care Manager, Terry Hughes Tree Service

Arbor Day in Nebraska and Hughes Tree Service, just seem to go together. As an annual tradition, Terry Hughes Tree Service loves to support a local cause by donating tree service and tree planting. This year to celebrate Arbor Day, Hughes Tree Service donated tree care and landscape maintenance, along with a new Birch tree and planting to the South Sary Athletics Program (SSAP) Soccer Complex, Springfield, Nebraska.



## CAN I EAT THESE MUSHROOMS?

From John Ball's Pest Update, May 22, 2019



John states South Dakotans are a frugal group of folks, always looking for a free meal. He receives numerous pictures every year of leaves, mushrooms, conks, anything coming out of a tree, etc. with the question "Can I eat this?" The answer to this question is easy – sure you can. The correct question is "Will this hurt me if I eat it?" is a better question because there are lots of plant material out there you can eat but shouldn't.

So what is the difference between mushrooms and conks? Mushrooms are fleshy fungal fruiting bodies that appear on the ground or decaying material such as a log. Conks are shelf-like (bracket) fungal fruiting bodies that grow on standing or fallen tree trunks and branches.

Some consider a conk a type of mushroom, so the terms are sometimes used interchangeably. Mushrooms and conks are both the fruiting bodies of fungi. The vegetative structure to these fungi are, the fine threads that form a network of fibers

in the wood or soil. The fruiting bodies are the reproductive structures that produce the spores.

Ganoderma are also saprotrophic forming a white rot in dead and dying hardwood trees though they can sometimes be found on conifers. Edible Ganoderma do not have poisonous look-a-likes, but they can become very woody and moldy and these should not be picked. Also NEVER assume a fungus is edible from a picture or description. ALWAYS go out with an experienced mushroom hunter to be sure of identification. Also, while considered edible they can cause problems if consumed in combination with certain medication so check with your physician first. And last point, our most common Ganoderma are far too tough to be considered edible but are sometime cut into small pieces and used as a tea. I would opt for Starbucks instead.



## UPCOMING EVENTS

### SRT/ Roping & Rigging Workshop

Thursday, August 8, 2019 - Carol Joy Holling, Ashland, NE

### Nebraska GREAT PLAINS Eastern Summer Field Day

Friday, August 9, 2019 - Carol Joy Holling, Ashland, NE

### 2019 ARBORIST SCHOOL

#### Tree ID, Evaluation & Selection, Planting & Establishment Seminar

Thursday & Friday, September 5-6, 2019  
VFW Hall & Wayne Park, Waverly, NE

#### Pruning, Climbing & Safety Seminar

Tuesday & Wednesday, October 1-2, 2019  
Carol Joy Holling, Ashland, NE

#### Plant Health & Tree Biology Seminar

Wednesday & Thursday, November 13-14, 2019  
Carol Joy Holling, Ashland, NE

### 2020 Nebraska GREAT PLAINS Conference

Monday & Tuesday, January 27-28, 2020  
Cornhusker Hotel, Lincoln, Nebraska

1Pest Update (May 22, 2019) Vol. 17, no. 14 John Ball, Forest Health Specialist SD Department of Agriculture, Extension Forester SD Cooperative Extension

# ARBORIST SPOTLIGHT

By: Jim Keepers, NAA Newsletter Coordinator

The Arborist being featured this quarter is Tom “The Tree Man” Wiens. He was born on January 3, 1955 in Colorado Springs, Colorado. He had two sisters, Ruth Tapio and Mary Clayton, and graduated from High School at People’s Bible College in Colorado Springs. From age 4 to 21, he received his basic tree care training working in his father’s tree business, Wiens Tree Surgery Company. Due to his studies and dedication to tree health during that time, it was natural for him to follow in his fathers footsteps and chose a career in arboriculture. After attending NAA’s Arborist School in 1985, Wiens started to take an active role in the NAA’s association and was elected NAA president in 1992.



Tom teaching about tree roots.

He holds the following certifications through the International Society of Arboriculture (ISA): Certified Arborist, Certified Tree Worker/Climber and Certified Arborist/Municipal Specialist. He is currently a member of NAA, ISA and the Tree Care Industry Association (TCIA) and was also one of the founding members of the Rocky Mountain ISA Chapter in 1974.



Tom age 22.

Tom worked for various tree companies over the years before starting his own company ‘A-1 Landscape’ in 1985. Renamed ‘Modern Arboriculture’ in honor of his friend and mentor Alex Shigo, his business is very diverse and serves the southern half of the panhandle and part of Wyoming. Tom’s wife, Vickie, stated the two main focuses of the business is to “Bring health to the trees as naturally as possible and leave them with structural integrity and their dignity.” Tree consultation, diagnosis, lectures, specialty removals, trimming, planting, spraying and fertilizing are just a few of the services offered.

At a young adult’s Sunday school class in 1978, Tom met his wife Vicki. She believes it was “their mutual love of country music” that brought them together. Reminiscing on their first date together, a Johnny Cash concert. They got married on June 8th, 1980 and have been married 39 years. Together they have one son, Brian, and two darling granddaughters Ana (5) and Ivy (3). Vickie completes all the secretarial work for the business, including editing Tom’s writing and help with some tree diagnosis, as needed.



## From the President’s Desk

Dear members,  
I consider it a tremendous honor to be able to serve as your president this year. I have enjoyed serving on the board the last several years and I hope to help the association accomplish three new goals in 1992.

I am currently contacting the South Dakota, Iowa and Kansas Arborist Associations about the possibility of holding a joint conference and trade show in January 1993. I think we could get an excellent variety of exhibitors and some big-name speakers if we could join together.

For a couple of years the board has discussed the need for a 100% hands-on school to give real-life, up-in-the-tree training that would compliment our classroom school. In September, we would like to bring Peter Jenkins, founder of Tree Climbers International, into Lincoln for a 2 or 3 day workshop, limited to 6-12 students. We are applying for an ATB grant to help with the costs.

I would like to encourage this association to have an educational impact statewide. To date, most of the impact has been in the eastern part of the state. There are 550-plus communities in our state that need to be educated even to the fact that trees require care throughout their lifetime. In order for board members to gain a greater understanding of



continued on page 2

Tom teaches at local Garden Clubs and has been involved with the local Master Gardener programs. Tom’s main goal in life is to educate people about healthy tree care. Vickie said it best when asked about Tom’s passion for trees, “Tom is very interested in our country and in building on the values of our forefathers, from government to trees.” His life is trees but in his spare time he loves the older country classics of Johnny, Merle and Willie, and enjoys singing karaoke whenever he can.

Alex Shigo completed numerous studies of tree decay which resulted in many improvements to our present standard of Arboricultural practices and was known for the following slogan: “You can believe what you want about tree problems, but the trees don’t lie.” Tom had a wonderful working relationship with Shigo, and some of his tree root photo samples are featured in some of Alex’s writings.

In closing, Vicki said it best, “Most people don’t realize the value of a healthy tree, therefore don’t understand the importance of maintenance, taking preventative measures against insects and disease and providing them with the necessary environment in order to thrive.” There are major challenges being a Certified Nebraska Arborist in Western Nebraska, and Tom fights the battle every day.



Wedding photo – 8 June 1980.



## BLACK KNOT

*(Apiosporina morbosa)* is a disease that really stands out on a bare tree. The cylindrical, black, rough textured galls on the branches are hard to miss and go by many descriptive names from “dead man’s finger” to “dog poop on a stick.” The disease is not only unsightly; it eventually girdles the attached branch through this often takes years. The disease is common on many cherries, particularly the ‘Schubert’ chokecherries and some plums. Spores are released from these knots in the spring and infection can occur from the time the buds are just beginning to expand (April) until shoot growth is completed (early June). Infections can start during this time period whenever the tissue is wet (after a rain) and the air temperature is above 60 degrees.

The disease is not easy to manage, and I tend to lean towards killing infected plants – basal pruning – rather than attempt to cut out the knots. First, one susceptible, always susceptible. There is some resistance to this disease among cherries and plums and some trees will never get the

disease and others will always have it (or become infected again after pruning). However, if you have a lot of time on your hands or the tree is important to you, prune out and destroy all the knots now. Prune away infected branches back to a healthy branch or limb. If the disease has progressed to the trunk, just kill the whole tree. And if you have enough time on your hands to cut the knots out of this tree, remove all the knots on any other cherry or plum within a couple of hundred feet of this tree. Second, even after you prune, you’ll see new knots the following year.

The shoots infected last year only have a slight swelling to them at this time and are easily missed while pruning. The larger, blacken galls will not form from these swollen areas until this summer. After all the knots are removed, fungicides can be applied to reduce future infections. Fungicides containing chlorothanil that are labelled for stone fruits such as cherries and plums (the trees with the most problem with black knot) can be used to help manage this disease. The first application should be made just before bud-break and then on a 10-day interval until shoot growth has stopped (late May or early June). The treatments are to prevent the tender new shoots from becoming infected by the spores being released from the knots. Fungicides containing chlorothanil or captan should not be tank mixed with oils or applied within two weeks before or after an oil spray as plant injury may occur. Chlorothanil application must stop at blooming for any tree you intend to harvest fruit for human consumption. The first applications are the most important so if flowering occurs before shoot growth ends (and expect this on cherries and plum) forgoing the last sprays will probably be okay.

*Pest Update (April 10, 2019) Vol. 17, no. 8 John Ball, Forest Health Specialist SD Department of Agriculture,*

## NEW MEMBERS

**Cole Housley  
John Housley  
Corey Becker  
Bill Wardell  
Kait Barth**

## NEWLY CERTIFIED ARBORISTS

**Cole Housley  
David Olson  
Brad Kindler**



**Damage from Flooding:** Trees may survive bark damage, depending on the severity. Assess how much of the trunk circumference is affected. If 10% or less of the tree’s circumference is affected, a previously healthy tree with little to no root damage has a good chance of recovery. If 50% or more of the tree’s circumference is affected, removal of the tree is the safest option as disease and decay are likely to create an unstable tree.

## 2019 SRT/ ROPING & RIGGING WORKSHOP

Join us on Thursday, August 8, 2019 at Carol Joy Holling near Ashland, NE for the 2019 SRT/ Roping & Rigging Workshop! We are excited to have instructor, Donny Coffey joining us this year! SRT Climber is a Tree Care Academy module that examines safe and efficient methods of work positioning through the tree on a stationary rope. Main topics of learning include anchoring, support points, redirecting the climbing line and vector forces as applied to tree strength for climbing. Physical registration copies for 2019 SRT/ Roping & Rigging Workshop are included in this edition of Out on A Limb. Hope to see you there!



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# A FEW THOUGHTS ABOUT TREE HEALTH

By: Tom Wiens, Past NAA president and wife Vickie Wiens

“Healthy trees defy disease!” This was the foundational concept in John Davey’s book “The Tree Doctor”, written around 1901. John Davey is the founder of the Davey Tree Expert Company in Kent, Ohio and he is considered the founding father of modern day arboriculture. They knew then that insects and disease are merely symptoms and are in no way the root cause of the tree health problems!

Insects never attack trees that are not stressed. It is impossible for them to do so because all trees have a powerful multi-faceted defense system, part chemical and part electrical, that will ward off all enemies if the tree is thriving. All trees emit an electro-magnetic field, received by the antenna of the insect. If the tree is vibrantly healthy, it emits a positive field that literally repels insects and drives them away. If the tree is stressed, ailing and declining, it will emit a negative field that attracts insects like a magnet. The outward appearance of a tree may not reveal the health of a tree; the insects may be the first indicator of decline.

In a forest situation, if the strong cross-breeds with the weak, over centuries of time the strong become weaker and weaker; it does NOT go the other way. Therefore, tree-killer type insects such as bark beetles are highly beneficial. They are involved in taking out the weak, leaving the strong, extending the life of the forest perpetually.

But in cities where we are dealing mostly with unhealthy trees, and are trying to save them from the insects that are merely doing their job, we have to resort to pesticide use. People get paid billions of dollars to treat the symptoms, but what caused the tree to be in poor health is NEVER addressed.

The insects and disease are merely attacking the tree because it is in poor health; if we dealt with the health issues, the insects and disease would disappear automatically! The top 3 problems created by man, that cause trees planted by man, to be in poor health, opening them up to insect and disease problems for life, however long that life might be, are:

**#1 THE CONDITION THE TREES ARE IN AT THE TIME OF PLANTING.** The old timers who were focused on tree health had two sayings: “As go the roots, so goes the tree” and “Give me a root system and I’ll grow you a tree.” In today’s world there is little focus on the quality of the root system. A high quality tree would have 100% of its original root system intact with NO girdling, encircling roots. The highest percentage of trees sold in America today should be in a landfill somewhere and frequently ends up there.

If the tree was grown in a container it will most likely be in survival mode for life and will never be healthy. When woody roots such as trees start in a direction, they continue in the same direction for life; therefore, once the roots of a container grown tree hit the inside of the container, they start circling, and will never straighten out again. Scientists have proven that roots grow approximately 2-5 feet annually. This means that these roots may have circled inside the container many times before the tree was planted in a landscape.



**Trees dug with tree spade that created crushed, mangled structural root ends which never send out new roots.**

Many people are taught that they can remove girdling roots on container grown trees before planting and everything will be rosy. But in reality, NO ONE has ever removed all of the circling roots that have to be removed. There is no way to, because, in the growing process, the tree most likely will have been transplanted from a small container where it grew girdling roots, into a little larger container where it grew more girdling roots, and a larger container, 4 to 5 times; the girdling roots are not just on the outside of the root ball; they are throughout.

Before purchasing a container grown tree, then scoring the roots on the outside of the ball with a knife or hand shear, a buyer should ask themselves “Would I buy a new car and pay full price for it, knowing full well that I will have to completely overhaul the motor before I can drive it?” That is insanity. Neither should we do it with trees. When you buy nursery stock doomed to poor health, you are financially helping the purveyors stay in business.

Often container grown trees with girdling roots are planted in a field and grown for several years before being dug with a tree spade and sold as B&B trees. Even though the container grown tree may be grown in the field for years, the girdling roots will not spread out from the original ball they were in at planting time. And by then, the girdling roots have had years to increase in diameter, radically increasing the restriction of sap flow to the top of the tree. This scenario continues for life, causing the health of the tree to decline, making it more and more susceptible to insect attacks as time goes on.

Every study done on balled and burlapped trees that have been dug with a tree spade has shown that inside the ball there will be anywhere from zero to a gross maximum of 5% of the original non-woody absorbing root system; the remainder was



**Galleries created by attacking insects, but the real problem was no roots on the tree.**

left behind in the nursery. So the tree has close to zero ability to absorb water and elements out of the soil, and at best will remain in survival mode, never thriving, never experiencing health.

A tree spade is a dull blunt instrument that goes in the ground by brute hydraulic force. When the spades come past the roots, the ends of the roots are crushed, mangled and broken, and will NEVER send out new roots again. In many cases, NO new roots ever form. This tree then survives on stored water and energy, until that supply is depleted, then succumbs. Sometimes, if there are dormant or buried buds between the cut ends and the trunk, they will sprout and help the tree survive. But it will never thrive.

The condition of the roots at time of planting will determine how insect and disease-free a tree will be. If it is already in survival mode when you buy it, it will always be subject to insect attack.

**#2 THE WAY THE TREE IS PLANTED.** On a properly planted tree, the root flare where the roots begin to fan out away from the trunk, will always be plainly visible above the ground. If the trunk is going straight in the ground like a telephone pole, it is an indication the tree was planted too deeply.



**The girdling roots constricted trunk so much that it snapped off.**

The deeper the root flare is submerged in the soil, the greater the negative impact on the growth rate and health of the tree; insect attack is eminent. Many of the trees we have excavated and examined were planted up to 20 inches too deeply. Trunks can't handle water and soil like roots can. On these trees, the trunk diameter below the soil line was smaller than above because of the pressure of the soil against it; the trunk below ground could not increase in diameter at the same rate as the trunk above.

Millions of trees are planted too deeply in the nursery, then get dirt piled against the trunk through weeding practices. If you plant the top of the ball level with the top of the ground as many teach, the tree may automatically be planted up to 20 inches too deeply.

We only get one chance to plant the tree correctly. There is NO remedy of any kind for an incorrectly planted tree. Planting depth affects the health of the tree positively or negatively for life.

**#3 MONOCULTURE** An insect or disease has its favorite tree; it won't attack trees of another species as a rule. When many trees of the same species have been planted in an area, and they become stressed and weak, it only takes one insect or one disease to wipe out the entire planting.



**Trees grown in containers will have circling, girdling roots. As root size increases, they constrict the trunk, causing it to snap off.**

Insects or diseases such as Dutch elm disease, Mountain Pine Beetle and Emerald Ash Borer are NOT the problem. These are a result of MONOCULTURE! If only 2% of the shade trees in Omaha were ash trees, would Emerald Ash Borer be the talk of the century? It's only when a huge percentage of the trees in any town are one species that insects such as Emerald Ash Borer can become an epidemic. In western Nebraska, so many Ash trees are being killed by Ash Bark Beetle, there may NOT be an Ash tree left for Emerald Ash Borer to kill. With such a crisis, why are Ash trees still sold and planted? If man made a decision that created the crisis, he can make a different decision that will create a better future.

In some virgin forests of the world they have found up to 2000 different kinds of trees, shrubs and plants growing in a few acres. This is part of the original design. In keeping with that design plan, if you are planting 100 trees, plant 50 deciduous and 50 evergreens, with NO two being the same tree. Look around your neighborhood or city and see what the most common species already growing there is, and do not plant more of them. You will be set for centuries-long success.

Be wary of the seller who insists on selling you the same trees that your area is already over dosed on! If the public refused to purchase these trees and insisted on others, the sellers would need to make other trees available. In western Nebraska, Green Ash, Hackberry, Honey Locust, Colorado Spruce, Austrian, Scotch and Ponderosa Pine, Eastern Red Cedar and Rocky Mountain Juniper, Siberian Elm and Cottonwood comprise 90% of the trees planted in the last 70 years. And these 8 species comprise 90% of what nurseries in western Nebraska are selling today.

The goal is not planting trees that merely survive, but that thrive! It is time for the tree industry to stand up for healthy trees. It is past time to end practices that have been known for decades to cause trees to be in poor health, making them subject to insect and disease attack. If we would deal with the problem, the symptoms would disappear automatically!

We can focus on the problem and make necessary changes, or continue to be smitten with the symptoms of insects and diseases. Wouldn't it be nice to have cities full of healthy trees that never get insects and diseases and never have to be sprayed or injected? Nebraska is the Home of Arbor Day. We ought to be leading the way and setting the standard for tree health.

*I want to take this opportunity to thank Vickie and Tom Weins for submitting this great article and photos for this article. Other NAA Arborists also have the same opportunity - Jim | Photos by Tom Wiens*

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# COMMON TREE REMOVAL – HOMEOWNER TREE RISKS



**Power Lines.**

Information an Arborist can pass along to the Homeowner when they want to do their own tree pruning or removal.

- **Power lines.** Working near power lines is risky, and you should always assume that the wires are live. If you, your tools, or the tree hits a power line, you may knock out the power in your neighborhood – if you're lucky. Most likely, you will be electrocuted. Another myth homeowners may believe about power lines is that the black coating on them is insulation. This is not true. The black coating on power lines is weather-proofing for the metal cable. You can still get electrocuted through the weather-proofing.



**Improper Equipment.**

- **Improper equipment.** OSHA requires tree removal professionals to wear protective gear from head to toe. Tree care professionals are also trained in using equipment such as chain saws, ropes, cranes, and wood chippers to safely fell and dispose of a tree. Homeowners would need all of this equipment – and the requisite expertise – to perform a successful and safe removal. Without it, they expose themselves to unnecessary risk.

- **Decaying wood.** A dead or dying tree is often decaying from the inside out, making it extremely unstable. Even professionals sometimes use cranes to remove such deadwood. If you think your tree is starting to decay, find a professional to remove it before it collapses without warning. There are critical tree biology processes to understand when removing decayed trees, so professional help is always necessary.



**Decaying Wood.**

- **Gravity.** Once the tree starts falling, you have no control over where it goes. It also may not fall the way you expect it to, even if you try to influence it with carefully cut indentations or ropes. Poor judgment could result in the tree falling on homes, power lines, or people.



**Gravity.**

*Reprinted from TREECARETIPS December 18, 2017*

## WIND POLLINATING TREES

Trees producing pollen resulting in an allergic reaction for sensitive people are the following wind pollinators:

- Ash (*Fraxinus*)
- Birch (*Betula*)
- Boxelder (*Acer negundo*)
- Cottonwood (*Populus deltoides*)
- Juniper (*Juniperus*)
- Oak (*Quercus*)
- Pine (*Pinus*)
- Poplar (*Populus*)
- Silver maple (*Acer saccharinum*)
- Walnut (*Juglans*)

Only the males of these trees produce pollen. So again it is the guys that are to blame! We never seem to get a break!

*Source: South Dakota Pest Update (May 8, 2019) Vol.17, no.12*



**Just another roadblock in life.**

# FUN FACTS ABOUT TREES

By: Justin Evertson, Green Infrastructure Coordinator, Nebraska Statewide Arboretum

Trees are almost universally appreciated by people across the globe. Although we don't always treat them well, there just seems to be something about them that we find interesting and comforting. That's at least partly because of the incredible range of shapes, forms and colors they come in and also because of the many benefits they provide.

A very smart person once said that a deeper understanding about trees is a deeper understanding about the universe. Okay, that was me, but I stand by it. Anyhow, here are just a few fun and fascinating facts about trees you can use to impress your friends and family members.

1. About 1,000 distinct species of trees are native to North America with about 50 species being native to Nebraska. It is estimated that another 40,000 to 50,000 species are native to tropical forests around the world.
2. Nebraska was only 3 percent forested at the time of settlement by European immigrants in the 1800s. However, the state is at a unique crossroads being at the western limit of the eastern hardwood forest and the eastern extent of the Rocky Mountain pinelands. Nebraska is also home to relic boreal species such as birch and aspen brought here with the last ice age over 10,000 years ago.
3. More than 250 distinct species and hybrids of trees can now be found growing somewhere in Nebraska, including at arboretums. About 50 species are evergreens, another 35 are oaks, 25 are maples, 15 are elms and 12 are nut trees.
4. The tallest tree in the world is a 379' coast redwood (*Sequoia sempervirens*) in California known as "Hyperion." It is nearly as tall as the Nebraska State Capitol which is 396' to the top of the tower.
5. The tallest trees in Nebraska can reach to about 110' tall including sycamores, cottonwoods and silver poplars. The national champion eastern cottonwood grows near Beatrice Nebraska and is 88' tall, has a 108' crown spread and a trunk circumference of 37'.
6. "General Sherman," a giant sequoia growing in California, is 275' tall with a trunk circumference of nearly 100'. It is the largest tree by volume in the world and is estimated to be 2,500 years old.
7. The world's oldest tree with a single trunk is a 5,070 year old bristlecone pine growing in California. The oldest trees in Nebraska are Rocky Mountain junipers growing in the Wildcat Hills near Scottsbluff and estimated to be over 800 years old. Some oaks in Nebraska have been dated to be over 400 years old.
8. "Pando," a clonal colony of quaking aspen in Utah, is estimated to be over 80,000 years old, weighs over 6,600 tons, has over 40,000 trunks and covers more than 106 acres, making it the heaviest living organism in the world.
9. Nebraska has seven native oak species: bur, red, black, chinkapin, blackjack, white and dwarf chinkapin oak. At least 30 other oak species can be grown in the state.
10. Native Nebraska trees tapped by American Indians for syrup included boxelder maple, silver maple and black walnut.
11. Limber pine, native to near the Wyoming state line in western Kimball County, is named for its extremely "limber" branches that resist heavy snow loads and that can be tied into knots.
12. Coffeetree is named for its hard seeds that were roasted and brewed into a coffee-like drink by early settlers. Its compound leaf is the longest leaf of any native tree, often reaching over 30" long. The tree's scientific name is "Gymnocladus" which means "naked branch" owing to the naked look of the tree when its large compound leaves are shed in the fall.
13. Coffeetree is considered an evolutionary anachronism since North American elephants and other mega-fauna that evolved to eat its fruit went extinct long ago, leaving the tree without good seed dispersers for the last 20,000 years.
14. Before being wiped out by a blight disease in the early 1900s, the American chestnut may have accounted for up to 25 percent of all eastern U.S. hardwood trees. The tree was so common that it was said a squirrel could climb up a chestnut tree in Maine and travel along interconnected branches all the way to Georgia without ever touching the ground. Scientists are working hard to develop disease-resistant varieties that can be reintroduced into the wild.
15. Hackberry (*Celtis occidentalis*) was recently reclassified from the elm family to the cannabis family. Fossilized seeds indicate that a grove of hackberry in Hackberry Hollow in Cheyenne County is tens of thousands of years old.





# EDUCATION



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# INSPECTING AND ASSESSING FLOOD-DAMAGED TREES

*Graham Herbst, Community Forestry Assistant, NFS, ISA Certified Arborist, NAA Certified Arborist  
John C. Fech, Extension Educator, ISA Certified Arborist, PNW ISA Certified Tree Risk Assessor*

## FIRST CONSIDERATION—SAFETY, SAFETY, SAFETY

Even under the best of circumstances, half of a tree's living tissue is under the soil and out of sight. Since the root system is the portion of a tree most adversely affected by flooding, signs of flooding damage in the canopy are usually delayed. As a guiding element, in a long-term flooding situation you should expect that some level of damage has occurred to the root system as a result of low oxygen conditions. In most cases, the root flare and lower trunk bark often sustain damage as well, leaving it vulnerable to decay. When coupled with pre-flood defects, flooding can render a tree unsafe and at increased risk of windthrow and structural failure.

### Symptoms of flood damage:

- Leaning trunk
- Mound of soil on the opposite side of the tree lean
- Exposed roots
- Cracks in the soil surrounding the root flare
- Early fall coloration
- Leaf yellowing, browning and/or wilting
- Leaf drop
- Branch or twig dieback

These symptoms may occur in stages or all at once. They can also occur several years after the flood, unlike other plants such as turfgrass, perennial flowers or crops. In subsequent years following an extended flood, large seed crops and water sprouts or suckers on trunks and branches are common.



## CARING FOR FLOOD-DAMAGED TREES

- Carefully remove silt or sand that flood waters have deposited over the roots. These deposits are low in nutritive value and are likely to reduce the oxygen available to tree roots in the future.
- Replace eroded soils with a 2-3 inch layer of aged wood chip mulch to prevent drying and mechanical injury, which can further reduce the likelihood of tree survival.
- Regularly inspect flood-damaged trees for various insects and diseases, as several pest species are opportunistic on weakened or stressed trees. Inspect for additional flood damage symptoms as well.
- Do not fertilize trees unless a soil test has determined there are nutrient deficiencies. Fertilizing flood-damaged trees can lead to excessive top growth at the expense of root health and increase susceptibility to insect and disease attack.
- Large trees exposed to extended periods of flooding that could cause serious property damage or are in an area frequented by people should be evaluated by a professional arborist (ISA or NAA Certified) with flooding experience and removed promptly if necessary.
- Core aeration and vertical mulching on high value trees surrounded by turfgrass may be helpful.
- Monitor the soil for moisture level and irrigate accordingly. As mentioned above, damage to the root system is likely to have occurred, leaving the tree less able to absorb water.
- Replace failed trees with ones more tolerant of flooding such as baldcypress, larch and black willow; consider if a new tree is appropriate in regularly flooded areas.

## WHAT CAN THE NAA DO IN WESTERN NEBRASKA FOR TREE CARE

*By: Vickie & Tom Wiens, Past NAA President*

Cities and towns in Western Nebraska require some tree workers to have a license and only ask a fee, but have no requirements for the quality of tree work done. NAA could help educate the town officials on the value of wise tree pruning and the public on how to find an arborist whose work reveals a focus on tree health.

Because most children are interested learners, it is imperative that we make any effort to get information into their hands, via workshops, programs or literature, on the value of trees and the importance of their care. The NAA should be the group to provide this service in Nebraska!

# LAWN CARE DETRIMENTAL EFFECTS ON WOODY PLANTS

1. 2, 4-D & Dicamba are the most common herbicides to kill weeds – sold under trade names (Weed-B-Gone, Trimec, etc.)
2. 2, 4-D & Dicamba are two of the most damaging herbicides to trees and other woody plants.
3. Dicamba is especially problematic because it persists in the soil for long periods of time & can impact a healthy woody plant for many weeks, if not months, after it was applied.
4. Pre-emergent herbicides that are commonly applied in the spring to prevent the germination of annual lawn weeds are also starting to reveal negative impacts on woody plants.
5. Carl Whitcomb – well-known tree researcher from Oklahoma, revealed that a pre-emergent product sold under the trade name “Oust” was negatively impacting the growth of tree roots.
6. Suspicion that common pre-emergents such as dacthal, Surflan & Pendimethalin can also harm tree roots.
7. Pre-emergents can persist over more than one growing season & can actually build up in the soil over time.
8. Moderate herbicide contact may not cause extensive damage or death for a healthy, well-established woody plant but biggest problem is the impact over time. This contact repeated year after year the woody plants are often put on a path of decline.
9. Death to established trees from herbicide damage is so gradual that other advantageous or compounding factors such as pests, disease or environmental issues are given the entire blame.



Source the Nebraska Statewide Arboretum

## NEWEST WESTERN NEBRASKA COMMUNITY FORESTRY SPECIALIST

By: Jim Keepers, NAA Newsletter Coordinator



I am pleased to announce the newest individual on the Forest Service Staff, Chrissy Land, Western Nebraska Community Forestry Specialist.

Chrissy supports western Nebraska communities in the development of their tree and landscape projects. She facilitates this through the Nebraska Forest Service (NFS) and Nebraska Statewide Arboretum (NSA) cost-share programs, technical oversight, and best practice recommendations. Over the years, the NFS and the NSA have grown their programs to focus on community beautification, tree inventories, green infrastructure improvements, all with the goal of creating a functioning forest for communities across Nebraska.

### Contact Information:

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## SPRUCE SPIDER MITES



**Spruce spider mite feeding damage.**  
Courtesy of Eric R. Day, Virginia Tech,  
Bugwood.org (#0717020)

These are considered one of the most destructive mites to trees. A cool season mite that attack spruce, junipers, pine, Douglas-fir and more. They are most active in spring and fall and will go dormant during the summer. Damage becomes noticeable during the summer. Multiple generations a year. Scout by holding a white piece of paper under a branch and tap. They are managed by the use of insecticidal soaps, water, and miticides such as acephate. More information here: <http://ento.psu.edu/extension/factsheets/spruce-spider-mite>

**Spider Mite adults and nymphs have four pairs of legs and are dark green to nearly black with the body surface clothed with salmon pink-colored spines. The adult's legs are also salmon pink.**

# NURSERY WHERE PLANTS INTFECTED WITH 'SUDDEN OAK DEATH' ORIGINATED SHIPPED TO NEBRASKA & IOWA



*Saturday 1st June, channel 7 news report | Provided by Hearst Television, Inc. State officials tracing plant shipments potentially infected with Sudden Oak Death*

State officials in Nebraska and Iowa are visiting nursery locations to find plants potentially infected with a pathogen that causes sudden oak death.

They are among officials in 14 other states investigating the distribution, according to the U.S. Department of Agriculture's Animal and Plant Health Inspection Service.

Officials with the Nebraska Department of Agriculture tell KETV NewsWatch 7 "a very small amount of potentially infected nursery stock" was shipped to the state.

There are no conclusive tests from samples of the material as of Thursday afternoon, and department officials did not say where in the state the nurseries are located.

The infected material was discovered first in Indiana, where 15 rhododendron plants so far have tested positive for *Phytophthora ramorum*, the water-mold pathogen that causes the disease. They originated from nurseries in Washington and Canada and plants from the same shipment arrived at nearly 90 stores in the state, according to reporting from *The Indianapolis Star*.

"We know that the problem is a bit bigger than we realized," Megan Abraham, director of the state's Division of Entomology and Plant Pathology in Indiana, told the newspaper.

The plants that test positive in any of the 17 states that received shipments from the originating nurseries will be destroyed, according to the USDA.

"All plants that are within a 2-meter radius of an infected plant will also be destroyed," explained a USDA spokesperson. A plant infected with the pathogen that causes sudden oak death can infect a tree if planted within 6 feet.

Once an oak tree is infected with the disease, there is no way to cure it, according to researchers at the University of California's integrated pest management program. The disease has already claimed 1 million oak trees in the last decade in the Pacific Northwest and coastal regions of California since it was first reported in 1995.

It has not established in the Midwest, but state regulators in the region are constantly watching for it.

There are more than 60 million kinds of oak trees in Iowa, according to federal statistics. The same U.S. Forest Service report shows about 25 million oak trees in Nebraska.

"Due to its potential to spread through infected nursery stock, USDA enacted a federal quarantine restricting the movement of host plants from known infected areas," said a Nebraska Department of Agriculture spokesperson, noting state investigators do routine inspections.

This year, 22 states are part of a special USDA survey to help spot the disease. It's unclear if Indiana, Nebraska or Iowa are participating in that particular program.

"These surveys ensure we can quickly detect and take action to prevent the further spread of this disease when infected plants are found in commerce," said a USDA spokesperson.



## 2019 NEBRASKA GREAT PLAINS SUMMER FIELD DAY

Join us on Friday, August 9, 2019 at Carol Joy Holling near Ashland, NE for the 2019 Summer Field Day! We are excited to offer a great line-up of educational sessions and activities for this year's event. Dr. John Lloyd will kick off the day with a keynote address and breakout sessions will include subjects such as bleed control, aerial tree rescue, advanced tree felling and much more. Demonstrations on the latest products and services will be

done by industry representatives and vendors will be showing their products. CEU's will be available for our certified arborists. Those who register early are guaranteed a FREE NAA T-shirt and Window Cling! Physical registration copies for 2019 Nebraska GREAT PLAINS Summer Field Day are included in this edition of *Out on A Limb*. We hope to see you at beautiful Carol Joy Holling!



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