

An Arborist takes
care of a tree for life.



OUT ON A LIMB

FALL 2021, VOLUME 41, ISSUE 3



Can you ID this tree by its fall color? Story on page 14.

BURL, AN UNUSUAL TREE GROWTH

By: Jim Keepers, Maturing Certified NE Arborist

What would be your reaction if you were told you had an unusual growth on your arm or leg? I know my first reaction would be fear. Then I would want to know what medical treatment I must face and how it will affect my overall health. Could a tree have the same response if presented with the same diagnosis? We all know trees cannot respond the same way as humans. So, the question at hand is, what actions does a tree take to climate an unnatural growth forming on its trunk or roots?

Before I go into more detail about this growth forming on a tree trunk or tree root, I need to give the growth its technical term: 'burl'. According to Wikipedia, The Free Encyclopedia: "A burl is a tree growth in which the grain has grown in a deformed manner." It is commonly found in a rounded outgrowth on a tree trunk, branches, or roots and is filled with small knots from dormant buds. One key point to consider is the burl doesn't have any decay inside of the rounded growth.

Most homeowners would become very distressed finding a mature tree in their landscape with a burl growth. They would become worried that their tree has some disease or is even dying. I must interject that I have never seen a burl on any tree in any of my customer's landscapes. I just happened to discover an old Cottonwood tree in one of my customer's woodlots with many, and I mean many large growths. If this tree had been in my same customer's landscape, I know the homeowner would have just gone crazy. When I discovered this tree, I immediately wanted to determine what these growths were and what caused them.

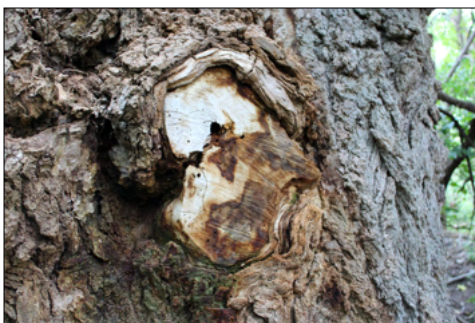
We now know what a burl is; we need to discover what caused it to form, what effect it will have on the tree, what actions need to be taken to remove the burl, and whether it has any value.

The good news is a burl is, for the most part, benign, and it carries some degree of mystery and value. Most burls are found underground on tree roots, but they are also found above the ground on a tree's growth.

Continued on page 3...



Burl on the side of a Cottonwood tree.



Exposed tree cut after burl was cut off a Cottonwood tree



Different types of burls growing on a Cottonwood tree

A QUARTERLY UPDATE OF THE NEBRASKA ARBORISTS ASSOCIATION

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SUBMIT ARTICLES:

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

Submission deadlines for the NAA 2021 quarterly newsletters:
4th Quarter - November 1, 2021

Photo contributions throughout courtesy of Jim Keepers.

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FROM THE PRESIDENT



What a time to be alive. What a time to be an arborist!

It was the year 2020. COVID was new and anyone who was anyone needed tree work done. Business was amazing...

2021, a year not to be out done, gave us the July storm: terrible for your social life; magnificent for your pocket book. Whether you're starting a business, growing a business, or doing your weekend hustle, never has it been easier to make money.

With summer winding down, it is good to remember that there is a season for everything. Autumn and winter bring a time to slow down, reflect, learn and grow from this season's lessons.

What have you learned from the frenzy of the last two years? What have you learned from the storm? How will you apply these lessons to the next major weather event we have? Are you ready to share the lessons you've learned with your arborist community? I know many of you reading this are, indeed, ready. I'd like to encourage you to become involved with the NAA. Join our Board of Directors. Cut Jim Keepers a break and contribute an article to the newsletter. Put yourself out there. Share with us your gifts and help our community grow in strength and numbers.

All the best,
Jeff Grewe, President, Nebraska Arborist Association

P.S. Make plans to attend the 2022 Winter Conference in January. It's time to invest in yourself and your people. You deserve it. They deserve it.

A quote worth sharing:

*"What happens if we invest in developing our people and then they leave us?"
"What happens if we don't, and they stay?"*

UPCOMING EVENTS

2021 ARBORIST SCHOOL

- **Pruning, Climbing & Safety Seminar**
Tuesday & Wednesday, October 14-15, 2021
Carol Joy Holling, Ashland, NE
- **Plant Health & Tree Biology Seminar**
Wednesday & Thursday, November 18-19, 2021
Carol Joy Holling, Ashland, NE

NAA Certification Exam

Thursday, afternoon, November 19, 2021
Carol Joy Holling, Ashland, NE

Save the Date!

Nebraska GREAT PLAINS Conference

"Remembering the Past to Build on the Future"
Monday & Tuesday, January 17-18, 2022
Embassy Suites, Lincoln, Nebraska

Continued from page 1...

It is usually in a deformed rounded shape. New tree buds can develop outside the burl. The bottom line is the tree's cambium produces the burl and the removal of it can do more harm than good for a tree.

There is still no scientific conclusion on what exactly causes the growths. It is generally thought to be the tree's response to insects, diseases, mites, stress, environmental conditions, or human-induced injury. The tree is experiencing uncontrolled or unusual growth in its xylem and cambium tissues for some unknown reason. The result is the formation of a large woody gall that is unsightly on the tree.

Burls can grow to great size in numerous tree species. You can find burls in Nebraska on Cottonwoods and Oaks. Burls are sought out by furniture makers, artists, and wood scriptures because the burl product is unique in color and texture. Burlwood is very hard to work with because the grain in the burl is not straight but misshaped. Different tree species produce different types of burls, and because of this, they are valued at a higher price. Burls with grain that has grown erratically are the one's artist prize the most.

Poaching of burls has become a major problem. The use of a chain saw to cut off a burl can cause an infection or disease in a tree. Some poachers have even cut down a healthy tree to be able to remove the burl. Unfortunately, the value of burls also led to vandalism in areas like Redwood National Park in recent years. Poaching of burls in Nebraska has not become a major problem because we don't have large forests like you will find on the east and west coasts.

So, the next time you have an opportunity to walk through an eastern Nebraska forest with your family, look for burls and spend some time educating them on this unusually shaped tree growth.



Oak tree



Cottonwood tree

ROOT FLARE & MULCH

By: Jim Keepers, NAA Newsletter Coordinator

Having a tree with proper root flare is probably the best way to ensure a tree is healthy, strong, grows as fast as it should, and lives as long as it should.

What is root flare? The root flare is where the tree's trunk starts spreading or flaring out and enters the earth. The root flare is the part of the tree where the trunk tissue makes the transition to root tissue.

Trunk tissue is everything needed to be above ground and not buried.

Besides protecting the tree, the root flare function is to bring water and nutrients up from the roots and into the trunk of the tree. The trunk and root flare need to be exposed to air and not covered by dirt. If it is covered by dirt, moisture will be trapped between the bark and the soil, causing rotting. Root flare planted too deep does cause encircling or girdling roots and impair the transport of water and nutrients from the ground into the trunk and branches of the tree.

Some trees growing in the forest display an enormous root growth at the intersection of the trunk and the root flare. This is normal root growth. A prime example of a tree planted too deep with no root flare looks like a telephone pole just planted straight into the ground.

When planted in the landscape, trees are classified as river bottom trees that have very shallow roots coming out of the tree's root flare. This can cause a problem when bricks and edging blocks are put around a tree. These shallow roots also can be damaged by the lawnmower. The only solution is to create a larger mulch tree ring around the tree and not put any edging around the tree. This includes concrete edging like Curb-it. Expanding the mulch ring as the tree grows in diameter is the best mulching method to follow.



Shallowed rooted tree breaking through block edging.



Large tree with normal root flare in the forest.



Mature tree in the forest with massive root flare.

Trees having volcano mulch mounded up around the root flare (and tree trunk) will cause a tree to form decay and develop poor roots in the mulch. The tree will fail in a storm and break off at the planting area. Mulch must be kept at least 2 inches from the tree's trunk with a mulch depth of 3 inches. The mulch ring should come out to the tree's drip line and expand as the tree grows.

ARBORIST SPOTLIGHT

By: Jim Keepers, NAA Newsletter Coordinator

Last quarter I introduced you to a young and upcoming Nebraska Certified Arborist, Brandon Bogus. This quarter I will be introducing you to one of our maturing Certified Nebraska Arborists, who happens to be a relative to Brandon Bogus. This individual had and is still having a major effect on Brandon's life. So, it was an easy decision for me as to who I would feature this quarter in my "Arborist Spotlight" article.

I now want to introduce you to Mark Bogus, the father of Brandon and the founder and operator of 'A-Plus Tree Service.' This is the first time I have had the opportunity to write back-to-back "Arborist Spotlight" articles on a son and father who are both Certified Nebraska Arborists.

Before telling you about Mark, I want to tell you a little about Cindy Bogus, Mark's wife, and Brandon's mother. She is the one individual who has had a significant impact on both Bogus' father and son. I want to take this opportunity to thank Cindy for taking the time to provide me information about Brandon and Mark and for the photos she sent me. It is not easy to start an Arborist Company from scratch and keep it profitable unless someone can back you up when working long hours under hazardous conditions. Cindy is the wife and mother who fits that description. Thanks, Cindy, for all you have done in support of Brandon and Mark.

Mark was born in February of 1957 in Lincoln, Nebraska. He was the 5th of 7 children born to parents Dorothy and John Bogus. He has two older sisters Carol and Ginger, and two older brothers John and Steven. Then he is followed by another brother Noah and sister Felicia. I want to take this time to thank Felicia for taking the time to provide me with some interesting information on her brother Mark. Based on Mark's birth date, we know he is only 64 years old, but he is beginning to think about retirement. When you retire, Mark, you have more free time, and we might convince you to spend some time helping the NAA. That is something we need to work on.



Live Edge Furniture created by Mark

Mark was raised in the small town of Ashland, Nebraska. Sister Felicia stated the following about Mark: "He was a great brother, always so smart and witty. I always felt he was blessed to be so smart and determined to succeed in everything he did. I have always been very proud of Mark." Mark very much enjoyed football and track and field in high school. He graduated from high school in 1975.

While Mark was growing up, he was constantly climbing trees and building tree forts. Felicia will never forget him taking the time to set up a tree tire swing for herself and her brother Noah. Mark spent time in the summer helping his father out on their small acreage. After high school, he went to work at a small lumber mill. Mark got into the Arborist career field, working with a friend trimming and removing trees on the weekends. He realized then he loved working outdoors, and he enjoyed tree work. He did know he needed to start hitting the books and learning proper trimming techniques and how to care for trees and diagnose tree problems. His studying paid off when he became a Certified Nebraska Arborist.

After working for Blume Tree Experts out of Omaha, Nebraska, for several years, he decided he wanted to have his own company. In 1992, he started A-Plus Tree Service, and he worked evenings and weekends besides keeping his day job at Blume. Starting his own business was a big jump for Mark. He was trying to work full-time at Blume, get his part-time company up and running, and be home to help care for his 18-month-old son Brandon. This is where Cindy comes into the picture by raising their family when Mark was away working in the trees. After a year of working this hectic schedule, Mark realized he couldn't do both, so he quit Blume, and that was the start of A-Plus Tree Service over 30 years ago.

Cindy entered Mark's life when they met on a double date and had so much fun, they couldn't wait to see each other again. I wonder if Mark still had on his Chaps, work shoes, and helmet when he proposed to Cindy. Proposals always make interesting stories. They were married on October 30, 1981, in Ashland, Nebraska.

Brandon, their only son, grew up right along with Mark working in the tree business. So, I can say Mark passed his love of trees to his son. It looks like Mark and Cindy are looking at retirement just over the horizon, and they wanted to leave the company in great hands. They decided to have Brandon take over the business which became official on March 1, 2020.



Mark & son Brandon at the NAA 2022 Summer Field Day



Mark and Cindy wedding photo, 30th Oct 1981



The Bogus Crew, Mark, Brandon, Benjamin and Chase



Amberjack fish Mark caught off the Florida coast

Mark is still working alongside his son in the career field he entered almost 30 years ago, but his goal is to retire next year.

Mark enjoys working with his hands. He has remodeled several homes over the years and enjoys making live edge furniture. This furniture is beautiful to look at, functional and is a focal point in any home décor. I hope to have Mark bring a few of his furniture items to show at the 2022 NE GREAT PLAINS Conference. Like a true Nebraskan, he is Husker football fan, and he has season tickets. Cindy and Mark try to go to every home game. Mark is also enjoying being a grandfather with two grandsons to play with. I wonder if he will pass along his love of trees to his grandsons, we can only hope so.

I had the opportunity to meet Mark and his son Brandon when his company worked with Jeff Davis, Ashland Tree Service, to remove a large Maple tree located in downtown Gretna using their grappler saw and crane. This was the first time A-Plus Tree Service worked with another Arborist company to remove such a large tree. It was fascinating to see two different Arborist crews coordinate their efforts and work together as one unit.

Again, it was a pleasure to take the time to research and then write up an Arborist Spotlight on another ‘Maturing’ Certified Nebraska Arborist dedicated to his trade, his family, and his church. With Mark going down the retirement path, I hope to convince him to help the NAA. We need individuals like Mark who have developed their Arborist skills to pass that knowledge to our younger Arborists. Cindy, your efforts are also appreciated.

Thanks, Mark, for your hard work, being an honest, caring professional, and always trying to provide the customer with the best tree care work possible. Another great example of an outstanding Certified NE Arborist!

HONORING OUR VETERANS

Veterans Day is not to be confused with Memorial Day. While Memorial Day honors those who died while in military service, Veterans Day honors all American veterans, living and the soldiers who are no longer with us. So, on Thursday the 11th of November, spend a few minutes out of your busy day and remember our Veterans who served our country, especially our Arborist Veterans.



HOT WINTER CONFERENCE NEWS

By: Jim Keepers, Winter Conference Committee Chairperson

I am pleased to announce a new exhibitor at the 2022 NE GREAT PLAINS CONFERENCE. Bartlett Arborist Supply will have a 20x20x20 exhibitor booth with a 10x10x10 trust to show off its Arborist equipment. This will be the same booth set up as they have at the TCI EXPO.

Our climbers will have the opportunity to see some of the hottest new Arborist equipment in our career field.

Bartlett Arborist Supply is owned and operated by tree climbers that have been in the tree industry for more than 25 years. The company was formed over 100 years ago and has always offered the highest quality products since its inception. They have grown on the philosophy of treating all their customers with the same respect and quality products they expect as a tree service. We are so thankful for their amazing customers and look forward to being an exhibitor at our NAA winter conference.

So, mark your calendar to attend one of NAA’s hottest and exciting NE GREAT PLAINS CONFERENCE on the 17th & 18th of January 2022.



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NAA GREAT PLAINS SUMMER FIELD DAY 2021

By: Jim Keepers, Field Day Attendee

COVID forced the cancellation of our association's 2020 NAA GREAT PLAINS SUMMER FIELD DAY, but your association has fought back, and the 2021 summer event was a complete success. The success of this year's summer training day can be credited to the work of the following individuals: NAA Executive Director Kathi Schildt, NAA Coordinator, Andee Arnoldy, and NAA Certified Arborists Lon Nutter, Tom Anderson, and the rest of the NAA board of directors. The success of the field day can also be credited to the exhibitors who came to show off their products and equipment. A listing of attending exhibitors can be found in this issue Summer Field Day Exhibitors article.

Your association's great summer event was again held at Carol Joy Holling Center, Ashland, Nebraska. This year we were forced to move to a large facility at the center because of our attendee base. The total for attendees was 138 attendees/instructors/staff and 12 exhibitor staff. So that gives us a total of 150 attendees compared to the 143 we had at the 2019 summer event. There were some sign-ups on the day of the event, and there were other no-shows because of work or other personnel issues.

Before I forget and as I mature, I seem to have the problem of not thanking everyone who helps make the summer field day a success. I want to thank the following conference sponsors: Gold Sponsors – Arbor Aesthetics, Rainbow Treecare Scientific Advancements, and Vermeer High Plains, Silver Sponsor – SiteOne Landscape Supply and Bronze Sponsor – A-Plus Tree Service Inc.

As usual, there were some hang-ups and the changing of the speaker's schedules, but all in all, the attendees did receive a great educational day and had a chance to unwind from a very hectic work schedule.

So, that recaps 2021 NE GREAT PLAINS SUMMER FIELD DAY. This year there will be an NAA Western Arborist event, "Ash Hollow, Fall Field Day" in Lewellen, Nebraska, on the 29th & 30th of September. It has been several years since the NAA has had an event in Western Nebraska. I am looking forward to attending. So, watch for an article about this event in the winter issue of the NAA Newsletter.

In addition, your association's Arborist School will kick off on the 9th of September and end on the 19th of November. If you are short some CEUs, there is still time to sign up for either the October or November class.

Thanks again for attending the NAA summer field day, and I hope to see you at another NAA event soon. Please keep safe and stay well!

SILENT AUCTION DONATIONS

By: Jim Keepers, 2022 Conference Committee Chair

I know it is early to talk about donations for our silent auction to be held on the first day of the 2022 NEBRASKA GREAT PLAINS Conference but the early bird does get the worm.

At our 2020 conference, we were able to raise over \$5,000.00 for our educational fund. These funds were allocated to scholarships for this fall 2021 Arborist School since we were unable to have a 2021 conference.

So, if you are buying a piece of equipment, getting an equipment item fixed, or buying company supplies think about asking for a donation for the NAA Silent Auction.



2020 NE GREAT PLAINS

THANKS FIELD DAY EXHIBITORS

By: *Jim Keepers, Summer Field Day Attendee*

On behalf of the association, I want to thank the following exhibitors for coming out and supporting the NAA at the summer field day and demonstrating their equipment, trees, or products. Without your support, our event wouldn't have succeeded.

Arbor Jet

ArborSystem, Inc.

Great Plains Nursery

Lincoln Public Power District (LES)

Rainbow Treecare Scientific Advancements

SiteOne Landscape Supply

Vermeer High Plains



DO TREES HAVE THEIR OWN WEB NETWORK?

By: *Jim Keepers, Maturing Certified NE Arborist*

Adults, no matter their age, when asked what the World Wide Web is, they will be able to give you an answer. It might not be a correct answer, but you will get a response. On the other hand, if you ask them to describe the 'Wood Wide Tree Web,' I am sure very few could give you a clear and conscience answer.

So, then the challenge becomes to explain the 'Wood Wide Tree Web' and how trees grow and interact in this unique web system. Do trees have their own internal computers, passwords, and Facebook pages? I know I have gone out on a limb with these questions, so let's come back to reality and explain this tree web system.

The key part of a tree's web system is the "mycorrhizal fungi" found in the soil. There are numerous of these "mycorrhizal fungi" attaching themselves to the fibrous roots of the trees and other plants in the mass root system under the ground. The mission of these fungi growing on the tree roots is to provide the tree with a pathway to absorb water and nutrients from the soil, and in return, the tree gives out sugars to the fungi.

That is not the end of the tree web story. In addition to the trees exchange with the fungi, mature trees look after their offspring by providing them with sugars to grow. Knowing their life span is limited, sick trees will use the webroot network to send their remaining nutrients to other trees. Trees also use the network to communicate with each other concerning the threat of insect invasion. Some trees use their web network, which I think is very unusual, to hijack nutrients out of the soil so other invading trees won't be able to absorb them—causing the invading trees to die. It sure sounds like something humans would do.

You can see why the scientific community has called the root area under our trees the 'Wood Wide Tree Web.' I hope you can now see why trees taken out of the forest or nursery and planted in a dominant grass landscape have a hard time surviving. Trees miss their community network found in the forest soil.

If we are going to plant trees in your landscape, they need to be planted in groupings so they can develop their 'Wood Wide Tree Web' over time. Remember, the competitive nature of grassroots must be eliminated when planting trees. A large mulch ring will help climate this problem.



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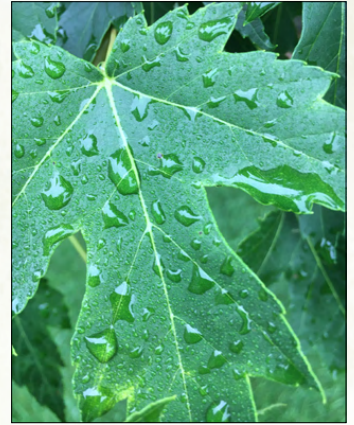
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WILL WATER DROPLETS ON A LEAF CAUSE IT TO BURN?

By: John Ball, Professor, SDSU Extension Forestry Specialist & South Dakota Department of Agriculture and Natural Resources Forest Health Specialist

There are two common myths regarding watering trees in South Dakota. One is that evergreens absorb 85% of their water needs through their needles. Spruce and pines can absorb minimal quantities of water through their needles during droughts, but only under high relative humidity, so it is not a likely event in South Dakota.



Rain drops on a Maple leaf.

The other myth is that if a water droplet sits on the needles during a sunny day, the sun's rays can be magnified through the drop and burn the foliage. This is also wrong.

However, as with almost all myths, there is a glimmer of truth. Rhoda, a horticulture extension specialist at SDSU, told me about an interesting article on this question (Egri et al. 2010. New Phytologist 185: 979-987). The researchers looked at whether a water drop could burn a leaf through the magnifying rays of the sun. It is not likely. Leaves with smooth surfaces, maples were their example, will not burn as the water evaporates. However, they found that it may be possible to have a water drop scorch a leaf if the water droplet is held above the leaf-like a tiny magnifying glass.

What would hold the water droplet just off the surface? Leaves with a hairy texture. But before everyone panics about a sprinkler causing the landscape to combust on a sunny day, there are a few important considerations. First, a large enough water droplet to magnify the sun's rays before evaporating will be shaken off by even a slight breeze. Second, some of the experiments used glass spheres to simulate water drops that do not evaporate. The authors concluded under the right conditions – the sun's rays entering a large water drop held at the precise distance from the leaf's surface – it is possible to scorch a leaf but not very likely. There is no need to panic if your trees have water dripping from the foliage after watering. Still, water is a valuable resource, and it is best to water the soil where the roots are so that water can be stored rather than just wetting the foliage.

Article from "Tree Pest Alert", June 16, 2021

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HISTORIC JULY STORMS

By: *Jim Keepers, Maturing Certified NAA Arborist*

Eastern Nebraska was hit this past July with two historic storms. The first thunderstorm blew through the metro and surrounding area early on the morning on Saturday the 10th of July causing great tree damage and knocking out power to 188,000 of OPPD's customers

The storm impacted the largest number of OPPD customers in recent OPPD history. The storm also caused our fellow arborists to work long hours and many days cleaning up the trees brought down by the storm. To add measure to a bad situation, another thunderstorm followed a few days later causing additional tree damage and OPPD power loss.

According to the National Weather Service, a path of 25 miles wide was caused by the first storm. One of my customers lives in the Elkhorn area and the tree damage looked like a war zone. What was strange was the first storm did some tree damage in the Gretna area but the second storm a few days later caused a lot more damage. The second thunderstorm caused the City of Gretna to open up the parking lot at Leo Royal Park for Gretna citizens to dispose of their storm tree damage.



The storm broke tree trunks like they were match sticks. storm because of codominant leader.



Mature Linden tree trunk



Hackberry tree split during storm because of codominant

The July 10th storm recorded 96 miles per hour winds in Omaha causing trees to be uprooted and knocking down countless tree limbs. The falling trees and their limbs brought down countless OPPD distribution lines, power poles and service line to people's homes.

Certified NAA Arborist Nolan Miller from Superior Tree Services stated he was swamped with calls from customers for tree removal. One of the largest trees they removed was an 82-year-old Dundee Oak tree. It was a tree no one thought would ever come down in a storm. Miller stated "This Oak was the largest tree they had to remove because of the storm". You can read the complete story "Might Oak No Match for Hurricane-Force Winds" by logging onto the Omaha World-Herald web site. I want to pass along a personal thank you to Nolan, his arborist crew and the rest of our NAA association members who worked tirelessly to remove the storm tree damage so OPPD could restore electrical power to our local homeowners.



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Emilie Steinauer**

NEW MEMBERS

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Josh Brobst
Ben Coates
Paul Delgado
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Alex Garner
Matt Grell
Kris Hans
Maverick Helgoth
Ben Holmes
Colby Holmes
Robert Hood
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Carlos Romero
Cory Rotondo
Seth Schuman
Michael Seuferer
Ethan Silrum
Brad South
Emilie Steinauer
Theodore Vaughn
Zach Wahl
Anna Wiebelhaus**

A SPECIAL OR UNIQUE TREE

By: *Jim Keepers, NAA Newsletter Coordinator*

My featured tree this quarter is not typically seen as a unique tree, but because it is Nebraska's State Tree, it makes it a special tree.

I hope most of my readers will remember enough of their Nebraska history to name the tree designated as Nebraska's State Tree. If not, then please take a few minutes to read this article.

The tree I am featuring is the majestic Eastern Cottonwood, *Populus deltoids*. So, why do I call this tree majestic? This large deciduous tree dominates the Nebraskan landscape with thick large green foliage providing dense shade during our hot Nebraska summer months. The leaves are triangle in shape, with toothed edges growing on flat stems hanging downward. The Cottonwood is related to the Aspen; during wind gusts, the leaves make a chattering sound similar to an Aspen. The tree doesn't display a dynamic fall color like the Red Maple, but it turns yellow and to a golden brown. It almost looks like it is raining leaves in the fall if you are standing in a grove of Cottonwood trees.

The bark on the Cottonwood is thick with deep fissures, which allows it to withstand droughts and wildfires. The female tree produces fuzzy buds (catkins) reddish or yellow in color. The buds also have a sticky substance on the outside, allowing them to stick to many different surfaces. During June, the tree produces fluffy cotton-like strands surrounding the seeds. As the fluffy strands fall off the trees, it looks like it is snowing. When the wind picks up, these white strands go everywhere. The tree is notorious for these strands because they get into everything. They tend to block air filters and can drive a human's nose crazy when mowing the lawn.

The tree is designated as a flood plain tree but can grow in arid environments like the sandy soil of old sandpits. It is one of the fastest-growing trees in North America, and it loves full sun and moist, well-drained soil. It can have an average growth rate of 3 feet per year under ideal conditions. The tree does produce a dense softwood used as a cheap type of hardwood in the flooring trade.



Cottonwood sticky buds.



Lone Cottonwood growing south of Gretna along Hwy 31/6.



Cottonwood trunk



Cottonwood leaf



National Champion

Eastern Cottonwood trees can live up to 150 years.

Within its first ten years, the tree can produce timber by having a straight trunk. An average Cottonwood can grow up to 100 ft. in height and have a canopy spread of 113 ft. Its growth feature sets it apart from other trees in our Nebraska deciduous forest. A lance leaf Eastern Cottonwood tree lives only 50 years, but I have never seen one.

Nebraska is fortunate to have National Champion Eastern Cottonwood registered by American Forest – “National Register of Big Trees.” The tree is located ten miles northeast of Beatrice, Nebraska. It is a multi-trunked tree 88 ft. tall with a trunk circumference of 36 ft. 9 inches and a canopy spread of 108 ft.

You do see magnificent old Cottonwoods alone in a pasture, and I have always wondered how this tree ever sprouted in this isolated location. Every time I leave Gretna going south, my eye catches a lone Cottonwood on the right side of the road, refusing to give up, and telling the world I still have several years left in my life.

The Eastern Cottonwood is not the ideal tree for a small landscape but is a perfect tree to plant if you have a few areas. I have one in my wood lot, and I have no idea how it got there, but this tree has found a home, and I would never cut it down.

OPPD'S STORM & OUTAGE CENTER

When you are looking for your one-stop power outage updates, storm and electric safety tips, and current weather conditions go to OPPD's Storm & Outage Center at stormandoutage.com. During our Nebraska unpredictable weather, this site will keep you safe and informed.

SAFETY IN OUR INDUSTRY

By: *Jim Keepers, Maturing Certified NE Arborist*

This year will mark my 26th year in our Arborist career field, and I must say, I have had only one trip to the emergency room. Yes, I have been lucky, but others have not been so fortunate.

Whenever I have had the opportunity to attend an Arborist conference, I have been drawn to all the new and fancy equipment items on the exhibitor floor. I regret not spending enough time looking at the items that will protect our most valuable asset, our people.

At the NAA's 2020 NE GREAT PLAINS Conference, there was a workshop titled "Bleed Control." We are looking at having this workshop again at different events. I do regret not spending more time at this workshop. All of us in the Arborist career must obtain more training in Bleeding Control principles to provide immediate, frontline aid in the field until the first responders can take over the care of an injured crew member.

I am by no means an expert when it comes to 'Arborist Safety,' so I must rely on a leading safety expert, Dr. John Ball, professor of forestry at South Dakota State University and a Board-Certified Master Arborist.

The following safety facts and figures are taken from Dr. Ball's "Do the Right Thing" TCI Magazine, Outlook Guest Column in the December 2019 issue. "Our Arborist career field is still listed in the top five occupational fatalities catalog with logging, and commercial fisheries still have the highest rating. I must say that is not a very good rating." The following are our most common fatality categories: 'Contact with an Object or Equipment (44%), Falls (31%), and Exposure to Harmful Environment or Substances (17%)'.

When we say 'Contact with an Object,' we are talking about; a chain-saw operator being struck by a falling tree, a groundworker being struck by a falling branch, ground workers being pulled into chippers, or climbers being fatally struck by the chain saw.

When talking about 'Falls,' we refer to; climbers falling with the tree, not connecting themselves properly after repositioning themselves in the tree, aerial-lift operators not wearing proper fall protection equipment, or not attaching themselves properly in the lift.

When talking about 'Exposure,' we deal with the climber using a metal pole pruner in the tree or trying to remove a pruned branch and contacting a primary distribution line.

Dr. Ball states the following: "We have expanded how we die." I know this is a harsh statement, but I believe it is very true. We are all human, and for some unknown reason, we do unsafe actions. Yes, you can go out and buy a new piece of equipment to replace the one that failed, but you cannot go out and buy a new crew member. So remember, safety is number one on a job site, and the safety of the crew depends on everyone.



Certified NE Arborists Luis Segoviano & Luis Villegas-Hernandez demonstrate aerial rescue during summer field day.



Alicia Gentle demonstrates the proper placement of a tourniquet during winter conference workshop

CONFERENCE SPONSORSHIP TRAIN

The conference sponsorships train is collecting funding so it can roll out of the station in Omaha and make the trip to Lincoln's Embassy Suites for the 2022 NEBRASKA GREAT PLAINS CONFERENCE starting on the 17th of January 2022. The goal for this train trip is \$7,000.

LISTING OF CURRENT CONFERENCE SPONSORS:

A-Plus Tree Service Advanced Association Management American Arborist
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Housley Lawn & Nursery Lincoln Electric System Mutchie Tree Care

CURRENT TOTAL: \$4,950



HOW SAFE IS YOUR ROPE?

By: Jim Keepers, NAA Newsletter Coordinator

This short article is being written by someone who is not a skilled climber. I have attended several climbing competitions, NAA Arborist Schools, and watched numerous Certified Nebraska Arborists working skillfully in the trees. The discussion of rope safety and its proper use for a specific Arborist task is complex.

As a climber, you need to know about the different rope designs when looking for a rope designed to accomplish a specific tree-related task. Choosing the wrong rope could lead to severe injury or even death.

Ropes can be classified as 3 Strand, 12 Strand, Hollow Braid, 12 Strand, Solid Braid, 16 Strand with Core Bundle, Double Braided, and Solid Braid. I can see how these classifications can cause a beginner climber great confusion and wishing they never decided to become a Certified NE Arborist.

According to Mark Chisholm, one of our featured speakers at our 2020 NE GREAT PLAINS Conference, stated the following, “When selecting the right rope for a job, the two main points to consider are construction and material.” Chisholm also says, “These two factors will change the effectiveness of a given rope for a given situation.”

Let’s take a look at how Chisholm states how construction and material will cause Arborist’s rope to have certain specific features:

1. Tensile Strength – the amount of weight the rope holds just before it breaks
2. Elongation – how much the rope stretches at different loads
3. Abrasion Resistance – how well the construction holds up against wear and tear
4. Hand – how the rope feels, 12-strand is rougher than 48-strand carrier
5. Slice-ability – some ropes are sliceable, and some are not
6. Use in Devices – more or less friction, holding power
7. Linear Density – the weight of the rope
8. Water Absorption – does the rope absorb or repel water
9. Heat Resistance – the temperature before it melts

So, Chisholm presents a lot of information for a climber to consider and evaluate when selecting a rope for a specific task. As stated before, the wrong rope for the wrong job could cause major injury or even death.

The goal of this article was not to educate you on all the qualities and characterizes of Arborist’s rope. I just wanted to open the reader’s window, so you realize ropes are not strands of different materials but tools of a skilled Arborist to be appropriately used.

If you have a desire to learn more about Arborist’s ropes use and safety, I recommend attending the NAA’s fall “Pruning and Climbing” Seminar. The seminar is conducted by Certified NE Arborist Jerel Converse, a professional climber & lead instructor, and is assisted by fellow climbers and Certified NE arborists Tom Anderson, Michael Ayres, Robert Schreiner, and other experience climbers. The NAA is fortunate to have individuals of such high caliber who have the knowledge and skill to select the right rope for the right job. These individuals have experience using the correct Arborist ropes properly, and just watching them work with the students, I have developed a new respect for our association’s climbers.

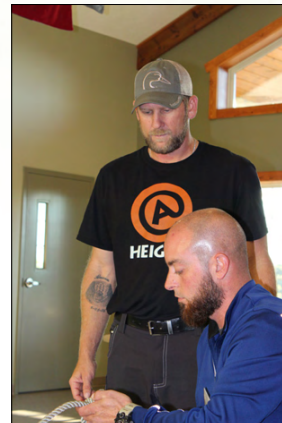
There will be a special Arborist rope presentation during the 2022 NE GREAT PLAINS Conference to further address climbing ropes, so make sure you attend the conference.



Michael Ayres instructing a student on proper rope knot tying.



Tom Anderson explaining the use of a specific rope for climbing.



Jerel Converse leading the knot instruction class.



Robert Schreiner working with students during rope knot instruction.

CALL FOR NAA AWARD NOMINATIONS

The NAA awards committee is requesting nominations for the association’s annual awards to be presented at the NAA business meeting during the first day of the Nebraska GREAT PLAINS Conference. All award nomination packages must be submitted to the NAA office by November 15, 2021.

The following NAA awards are open for nominations: Lifetime Achievement Award, Educator of the Year Award, and Arborist of the Year. The requirements for each of these awards can be found on the NAA website – www.nearborists.org. If you feel someone is qualified for one of these awards, please submit a nomination package to the NAA office prior to the deadline. Nomination forms should be mailed to NAA, 521 First Street, PO Box 10, Milford, NE 68405 or emailed to staff@nearborists.org.

WILL TREES PRODUCE GREAT FALL COLOR?

By: *Jim Keepers, Maturing Certified NE Arborist*

As the hot days of summer start to wane, we look forward to milder daytime temperatures and cooler nights. I have always felt fall was the best season here in Nebraska, but the question always remains, will we have great fall color this year?

Usually, the peak period for fall color in Eastern Nebraska doesn't start until late September, but our weather conditions are the driving factor, and some of our trees start to turn in late August. In other parts of the state, fall starts at different months of the year.



Black Jack Oak leaf turning color.

When the homeowner selects a tree for their landscape, they usually base their preliminary decision on the trees' fall color, which is a major mistake. They don't know if the ever-changing yearly weather conditions will allow the tree to display its beautiful fall colors. As Arborists, we need to educate our customers on how the tree looks and functions the other months of the year. Some years fall color could only last a few days, a few weeks, or none at all. The attributes of a tree, such as structure, flowers, and fruit, should be considered. Just take a look at our majestic Bur oak with its light brown leaf color but great form and shade provider during our hot Nebraska summer months. Another important consideration when selecting a tree is the planting location. "Right Tree for the Right Place."



Bald Cypress turning yellow and golden brown



Trees just starting to turn color



Maple tree in beautiful fall color

Let's take a short time to discuss what causes a tree leaf to turn color in the fall. The consensus is that frost and temperature are the key factors in causing leaves to change color, but this is not true. The driving factor is sunlight. As the daylight decreases, the cell layer in the leaf hardens. This action cuts off the chlorophyll, the green color in the leaf, and the other colors now show through.

Let's look at the other colors in a leaf. The pigments that produce the yellow and orange colors in a leaf are made by 'xanthophylls and carotenoids' (same as in carrots). These pigments absorb the green light from the chlorophyll in the leaf. The red and purple colors in the leaves are caused by the chemical 'anthocyanins' and are manufactured from the sugars held in the leaf. After all the pigments in the leaf are used up, only the 'tannins' remain, and you then have only brown colors. You can see how the sunlight decreases, the green color produced by chlorophyll decreases, and the other colors in the leaf show forth.

One of the greatest values in our fall color is that not all our trees turn color at the same time. First on the scene are our soon-to-be-gone Ash trees displaying both yellow and purple-red colors. Next, the Maples show displays their brilliant red and orange colors. Our Oaks then cap off our great fall color in shades of tan, yellow and maroon. The other trees usually not considered great fall color trees, but still worth mentioning are Cottonwood (yellow), Black oak (maroon), White oak (dusty red), Sassafras (mixture of reds, yellows, and orange), Black cherry (orange and red mixed), and Linden (missed yellow and green).

Yes, I do believe fall in Nebraska is the best time of the year. So, my question to you, my fellow Certified Nebraska Arborists, is the following: Can you identify a tree by its fall color? Are you able to explain to your customer why they should select a specific tree for their landscape?

Source material – Omaha World-Heard, September 2020 & Justin Evertson, Fun Facts, 2020.

WHAT IS THE OAK FALL CANKERWORM?

By: *John Ball, Professor, SDSU Extension Forestry Specialist & South Dakota Department of Agriculture and Natural Resources Forest Health Specialist*



Fall Cankerworm

Many of the bur oak groves in the county are presenting thin canopies. A closer examination of the trees will reveal the leaves have shot holes, with some leaves more severely affected, sometimes having only a few veins remaining. The insect creating this defoliation is the fall cankerworm (*Alsophila pometaria*). The larvae are about one inch long and light green, with white stripes running along the body. There are three pairs of legs near the head and at the end of the abdomen. The insect moves along with the leaf in a series of motions, where the caterpillar will arch up with the forward legs while gripped with the rear ones. They then pull the back legs up while gripping with the front legs. This strange means of movement give the other name to these insects – loopers. The caterpillars are still small and can be treated to prevent widespread defoliation of the host trees. One increasingly popular treatment is Spinosad, an insecticide derived from the fermentation of naturally occurring soil bacteria. This active ingredient can be found in many insecticides. **From Tree Pest Alert, June 16, 2021**



Philip Kelley demonstrating a proper notching technique when felling a tree.

SUCCESSFUL CHAINSAW AND CHIPPER OPERATOR TRAINING

By: Jim Keepers, NAA Newsletter Coordinator

On the 12th of August, your association conducted another successful Arborist workshop at the Carol Joy Holling Center, Ashland, Nebraska.

The workshop dealt with 'Chain Saw/Chipper Operator Training,' funded in part by a grant from the Tree Care Industry Association's Arborist Safety Training Institute (ASTI). Both workshops were conducted by the International Society of Arboriculture's (ISA) Certified Arborist Philip Kelley. A total of 3.75 CEUs were awarded per class. The morning chain saw workshop had

88 attendees, and the afternoon chipper operator training class had 73 attendees. Attendees at both workshops had various experiences when it came to chain saw and chipper operations.

Your association has been very fortunate to have received ASTI training grants in the past and will continue to strive to increase your association's training in the future through additional training grants.



Attendees sign in for the workshop.



Workshop attendees listening to Philip Kelley's presentation.



Philip Kelley talking about chain saw safety/PPE

TREES DON'T HEAL THEIR WOUNDS

By: Jim Keepers, Maturing Certified NE Arborist

The general public and some Arborists have some misconceptions when explaining how a tree takes care of a tree wound. Trees are not like humans and cannot heal themselves when part of their branch is damaged or removed.

A tree's main effort is to keep decay from forming in the damaged area. The tree closes its wounded area by sealing or compartmentalizing the wound. The technical term for the wood formed by the tree over the wounded area is called 'Woundwood' and not 'Calluswood.'

You can always tell when a branch has been properly pruned off a tree. The tree branch collar is the critical point for the pruning cut. If the cut is done properly, you will see a donut shape closing off the pruning cut over a period of time.



Tree forming 'Woundwood' after a pruning cut.

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Images taken prior to COVID-19

THE ROLE OF PPE IN ARBORICULTURE

By: *Jim Keepers, Maturing Certified NE Arborist*

I am continuing to be surprised with the number of Nebraska Arborists who don't wear the proper Personal Protection Equipment (PPE) they are required to, according to the American National Standards Institute ANSI standards. PPE is so important because it could be one item that could save your or your crew's life. So please make sure your Arborist crews have the proper PPE because the responsibility falls on the owner of the Arborist Company.

I would guess the general public had no idea what PPE meant until we were forced to deal with COVID-19. Now there is a realization that PPE is a major player in protecting our health care workers. On the other hand, tree workers have known PPE is equipment worn to minimize exposure to tree work hazards for years. Climbers are not excluded from wearing proper PPE while working high in a tree or near electrical lines.

The difference between hazard and harm is significant when it comes to tree work. "While hazard refers to potential harm, the risk is the probability that the hazard will cause harm." When a worker gets hurt on the ground, it is very different from when a climber gets hurt in a tree. The difference is the ability for emergency medical services (EMS) to get to the injured individual and provide quick and proper medical care. When a climber gets hurt in a tree, it is a different story, and the injury could be fatal because access to the climber is limited.

The bottom line is PPE doesn't eliminate a hazard, but it minimizes the outcome of the accident. Your PPE, no matter if you are on the ground or climbing a tree, is your last protection against serious injury.

Free tree climbing was most common until the 1920s, and there was little emphasis on proper PPE equipment. I have heard stories about climbers and the risks they took working in trees, and I still don't know how they accomplished the tasks without getting hurt. By the early 1970s, things started to change for the climber, but still, there were limited PPE requirements. There was still no requirement for a climber to wear a helmet because it was too hot, caught on branches, and fell off. Safety glasses were also not considered essential but were worn if it was a sunny day.

Times have now changed, and PPE has become a critical part of tree climbing. The 2017 ANSI Z133 Safety Requirements for Arboricultural Operations now states the following requirements when working in a tree:

1. Head protection that conforms to ANSI Z89.1 and Class E helmets while working in a tree.
2. Eye protection that conforms with ANSI Z87.1
3. Clothing and footwear appropriate to the known hazards and approved by the employer
4. A Climbing line and at least one other means of being secured (a work-positioning lanyard)
5. A handsaw
6. Hearing protection if the climber is operating a chain saw in the tree

When writing this article, I discovered no universal PPE requirements for tree workers in other countries. There are government regulations and or industry standards different or additional to those we have in the United States regarding PPE. There is a strong possibility that the PPE requirements in Europe will be moving to the states. So please make sure you are aware of any PPE changes.

There is no ANSI requirement to wear leg protection pants while operating a chain saw in a tree, but 'Clogger Ascend All-Season Chain-Saw Pants' are becoming more popular and protect a climber's legs. On the ground, it is a different story. It is an ANSI standard to wear leg protection like chaps when doing any chain saw work on the ground. This is one PPE equipment ground crews seem to refuse to wear. I saw the most severe violation of this ANSI standard when I was driving along 180th street. The tree worker was in the back of a stake truck full of evergreen branches. He was walking on top of the branches with no chaps, and he was using a chain saw with one hand to cut up the branches. I regretted not stopping to take pictures of this foolish task.

Remember, the employee is not fined for an OSHA violation for not wearing chaps, but the employer is. The fine could be doubled or tripled if the ground crew is doing tasks requiring chaps. There are additional items a climber can include in his PPE kit in addition to the basic requirements. Gloves to protect a climber's hands, saw pants as I mentioned previously to protect the legs, and boots providing proper support and grip.

I feel our most important PPE item is the helmet, and both climbing and ground crew helmets have gone through major changes over the years. Our climbing helmets now protect the top of the head and the side of the climber's face from swinging branches. Chin straps are now included also. I know that sounds strange, but in years past, not all helmets had chin straps. A visor is also being used more often, and a mic to communicate with the ground crew. There have been great improvements in the PPE offered for tree work, but the risk factor in doing tree work has not changed. Our Arborist's PPE is there to protect the climber and the ground crew, but it doesn't reduce the overconfidence to tackle a high-risk tree task and beyond the crew's capability.

Remember, your head is the most important Personal Protective Equipment item you have and not your helmet. The crew chief must understand the tree risks and not overestimate the crew's capability. Just because everyone on the crew has the proper PPE, don't be overconfident while accomplishing their tasks. The main goal always when doing tree work is to bring the crew home safe and sound.



Jeff Davis, Certified NAA Arborist and owner/operator Ashland Tree Service wearing the proper PPE

THE SPREAD OF EAB IN NEBRASKA

The Nebraska Department of Agriculture (NDA) in partnership with the U.S. Department of Agriculture (USDA), confirmed the presence of emerald ash borer (EAB) in Columbus, Nebraska. The insects were discovered in an NDA trap used to monitor the spread of EAB across the state. This is the first detection of EAB in Platte County. EAB, an invasive beetle that attacks and kills ash trees, was first discovered in Nebraska in 2016. Since that time, EAB has been confirmed in Cass, Buffalo, Dodge, Douglas, Hall, Lancaster, Saunders, Seward, and Washington counties.

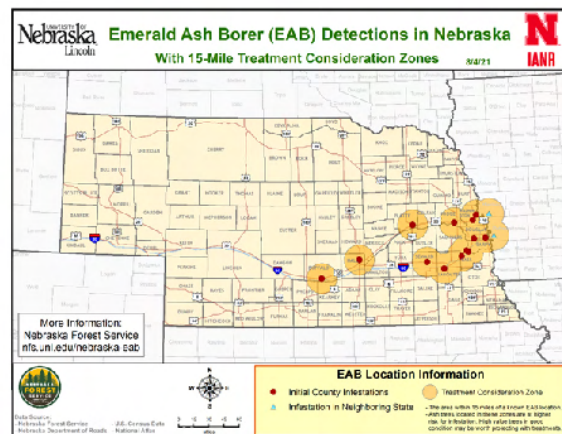
“Nebraskans are continuously trying to slow the spread of this destructive pest, but it’s difficult to stop its progress entirely,” said NDA Director Steve Wellman. “Monitoring for the pest as it moves within the state gives people more time to prepare for its arrival in their community and develop plans for managing for EAB and disposing of infested ash trees. Since August is National Tree Check month, it’s a good time to check your trees for invasive pests like emerald ash borer.”

The Nebraska EAB Working Group, offers the following suggestions to help prevent the human-assisted spread of the insect:

- Use locally-sourced firewood, burning it in the same county where you purchased it, as EAB can easily be moved in firewood.
- Consider treating healthy, high-value ash trees located within a 15-mile radius of a known infestation. Treatment will need to be continually reapplied and will only prolong the tree’s life, not save it. Trees that are experiencing declining health should be considered for removal.

If you are in a non-infested county and think you have located an EAB infestation, please report it to the Nebraska Department of Agriculture at 402-471-2351, the Nebraska Forest Service at 402-472-2944 or your local USDA office at 402-434-2345.

Nebraskans are encouraged to contact a certified arborist to assist with EAB treatment and tree removal. Find local certified arborists through the Nebraska Arborists Association at <https://nearborists.org/search-for-an-arborist/>



TREES AND FORGOTTEN BEASTS

By: *Justin Evertson, Green Infrastructure Coordinator*

One of the fun facts that some of our trees tell us is their evolutionary relationship to extinct animals. Nebraska and North America were much different places in the Pleistocene or “Ice Age” epoch, which lasted from about two million years ago to 10,000 years ago when the last ice age glaciers retreated.

This is the period when most of our native trees evolved alongside large animals that are no longer here (that’s another story). The variety of megafauna was remarkable and included mastodons, mammoths, rhinos, tapirs, camels, giant sloths, giant tortoises, huge bison, and stag-moose. These large animals exerted significant influence on trees as they fed on them (or tried to). And the trees, in return, evolved ways to co-opt some of these animals to help spread their seeds.

The clues of this shared evolution show in anachronist fruits, thorns, and other features of some of our trees (an anachronism is something that is chronologically out of place). Tree species with anachronistic traits that can be found growing in our area include Osage orange, Coffeetree, Honeylocust, Pawpaw, Persimmon, Hawthorn, and Ginkgo.

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Tree seeds with anachronistic traits

TOP 10 REASONS WE NEED TREES

Article introduction by Jim Keepers & obtained from the USDA Forest Service

The next time you find yourself in a position to save a tree from removal, or you want to help your local City Tree Board in their quest for planting more trees, keep in mind the following reasons why we need trees. Please consider having the following reasons published in your local city newspaper.

1. Trees help purify the air we breathe by absorbing pollutants.
2. Trees increase property values & improve the tax base in communities.
3. Trees improve neighborhood appeal, attracting business shoppers and homeowners.
4. Trees cool our cities & towns by reducing heat generated by buildings & paved surfaces.
5. Tree shade, properly placed, can save an average household up to \$250 annually in energy costs.
6. Trees reduce the number of pollutants in sewer systems, saving communities millions of dollars in water treatment costs.
7. Trees soften harsh building lines & large expanses of pavement, making urban environments much more pleasant.
8. Trees provide habitat for birds & other wildlife, maintaining a balance with nature even in urban areas.
9. Trees reduce the number of water-borne pollutants that reach streams & rivers.
10. Trees reduce levels of domestic violence & foster safer, more pleasant neighborhood environments.



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<https://www.campbellsnursery.com/careers>

TREE ROOT FACTS

The following root facts are great information to have when Arborists talk to customers, City Tree Boards, or the general public about tree issues.

- Tree roots grow well in soil temps over 40 degrees.
- Tree roots don't grow in soil temps over 96 degrees.
- Trees do better planted in the fall - soil temperature stays warmer so roots can develop.
- Gas exchange in the soil is the limiting factor for root growth.
- 90% of tree roots are lost on B&B trees.
- Bareroot trees have no soil, but the roots need to be kept wet.
- RootMaker bags have great root development.
- Container trees can have girdling & J root problems.
- Soil Volume is important. For example – a 6-inch diameter tree needs 1,000 sq. ft. of soil for its roots.
- Soil moisture buffers the soil temperature & controls the dormancy of the tree.
- Root to shoot ratio – more tree shoots than tree roots. The tree cannot support tree growth.



Tree growing in parking lot square



Tree dug out of the field with wire basket still attached.



Tree Grown in container.

FALL, IDEAL TREE PLANTING TIME

By: Jim Keepers, Maturing Certified NE Arborist

You might ask why I, as an Arborist, should be interested in tree planting. 'My job as an Arborist is to prune and remove trees, not plant them.' This is not a correct statement anymore. More and more Arborists are getting into the tree planting business because their customers want this service. Today's customer feels that the Arborist is more knowledgeable about tree issues than the local box stores and some of the local nurseries. Arborists are the ones who see all the diseases and insects our trees are facing on a daily basis. Based on this experience and knowledge, the homeowner respects their judgment regarding tree selection and planting.



Planting tree in Gretna, NE - Leo Royal Park

Why is fall the ideal time to plant a deciduous tree? The answer is quite simple. The soil temperature in the fall takes a long time to go down to freeze; thus, the tree roots can develop faster than in the spring when the soil is not ideal for root development. Spring is a good time for tree planting but not the ideal time. The cold soil temperatures cause the tree roots to grow more slowly, and newly planted trees need good root growth to sustain the tree through the rest of the growing season. Fall days are better than summer days because, with the milder day temperatures and cooler nights, the tree is not forced to lose moisture because of transpiration like in the summer.

When it comes to fall tree planting, Arborists must also be knowledgeable of the different tree growth sources such as the following: Bareroot, Container, Balled & Burlap (B&B), RootMaker and tree spaded trees.

I want to recommend the Nebraska Statewide Arboretum (NSA) as a great point of contact when looking for the right tree to plant in the fall in the correct location. NSA has a program called 'Plant of the Year.' In this program, NSA recommends perennials, shrubs, and trees (deciduous & evergreen) suitable for our Nebraska environment. Not all the plants recommended are suitable for both Eastern and Western Nebraska, so your location in Nebraska will be the governing factor when selecting a tree. A discussion of the difference between these various tree growing methods and their root structures will be discussed in a later newsletter.

You can see the advantages of fall planting establishes this time of the year as the ideal time for trees to survive the shock of tree planting. As an Arborist branching out into a new business venture, you should increase your knowledge of tree planting because after you remove a tree, your customer most likely would want a new tree to take its place.

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TWIG GIRDLER AND TWIG PRUNER

By: Professor Brue A. Barret, PhD, University of Missouri

Small branches accumulating on the ground, clean-cut twigs, and dangling (flagged) branch tips within a tree indicate the presence of the beetle pests: twig girdlers and twig pruners. These long-horned beetle species (Cerambycidae) attack numerous types of shade, nut, and fruit trees. Heavily damaged trees appear ragged and unattractive, and young trees can become deformed by repeated attacks.

Common hosts of the twig girdler include persimmon, pecan, elm, hickory, oak, honeylocust, hackberry, poplar, linden, redbud, basswood, dogwood, and various fruit trees.

The adult beetle is about three-fourths of an inch long, stout, grayish brown with a lighter colored band across its elytra (wing covers) and has antennae as long as its body (Figure 1).

Adult beetles typically begin to emerge in mid-August and continue through early October. The adult female chews a V-shaped groove around a small twig during this time, girdling it (Figure 2). She then deposits an egg beneath the bark in the twig section beyond the cut (severed portion). This is



Figure 1, Twig girdler

because the larva is unable to develop in healthy sapwood. The cut made by the adult female is deep enough around the twig so that the girdled portion dies quickly and usually falls to the ground, either because of wind or its own weight.

During the oviposition period, large numbers of girdled twigs often accumulate beneath the tree each day. After hatching from the egg, the developing larva bores into the dead twig to feed. The small larva will overwinter in the fallen twig. During the following spring, the larva resumes feeding, consuming most of the wood.

As the larva grows, it bores further down into the twig and fills the tunnel with wood shavings and waste. Adults emerge in late summer and early fall. Twig girdlers produce one generation a year.

Homeowners should collect and destroy infected twigs and branches they find on the ground, beginning in September or no later than May. If practical, prune infested twigs still in the tree.

Common hosts of the twig pruner include oak, hickory, maple, chestnut, locust, linden, honeylocust, hackberry, redbud, walnut, elm, sweetgum, pecan, quince, and flowering fruit trees.

The adult beetle is about one-half of an inch long, slender, grayish yellow, with long antennae. It has spines on the first few joints of the antennae and at the tips of the elytra.

During the spring, about the time of budding and new growth, adult beetles start to emerge. The adult female will chew a hole in the bark at a leaf axil near a twig tip, and there lay an egg. The larva bores into the twig and feeds on the wood as it tunnels toward the base of the twig.

When full-grown (late summer), the larva begins to make concentric cuts through the wood outward from the center and usually stops chewing at the thin bark layer (Figure 3). The larva then moves back into the severed portion of the twig. Shortly after that, an infested branch, which can range in diameter from 1/2 inch to 2 inches, usually breaks and falls to the ground.



HOLIDAY HOURS

The NAA office will close for Thanksgiving on Thursday, November 25 and Friday, November 26. The office will close for Christmas and New Year's on Wednesday, December 23 and reopen on Monday, January 3. The Nebraska Arborists Association staff wishes all of you a happy holiday season!

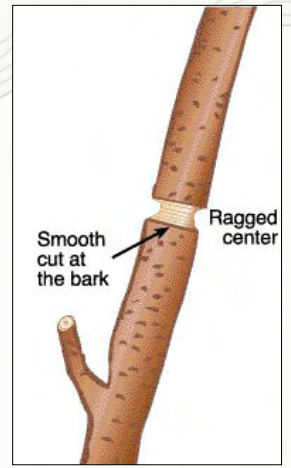


Figure 2, Adult female twig girdler chews a V-shaped groove from the outside inward, leaving a ragged center where the twig breaks and a smooth cut on the outside near the bark.

During the fall, small branches with smooth, concave cuts accumulate under infested trees. The larva will continue to feed for a time but will overwinter as a pupa in the fallen twig or branch. Twig pruners produce one generation a year.

During the fall or winter, gather fallen branches from the ground, prune suspected infested branches still in the tree, and burn them.

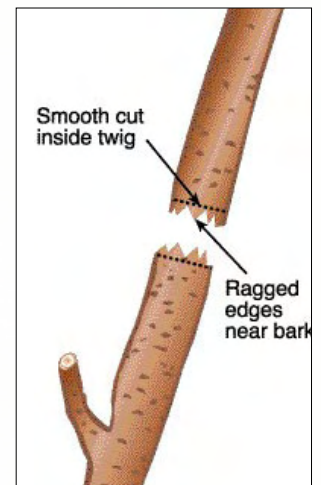


Figure 3, Full-grown twig pruner larvae chew through the wood from the inside outward, leaving a smooth cut on the inside of the twig with ragged edges near the bark where the twig breaks.

NEBRASKA SUPREME COURT WEIGHS IN ON 'CHAINSAW MASSACRE' OF DOZEN OF TREES

By Paul Hammer, July 25, 2020, Omaha World-Herald

Justin Evertson Comments: From the sad news, bad news, or frustrating news department. "It's a story about how little trees can be valued in the court of law—the value of 67 trees removed by mistake in Franklin County: \$200. The decision was based solely on the change in property value. Not the thousands of dollars each tree is actually worth. Yikes!"



LINCOLN — You could call it the “Franklin County chainsaw massacre,” a dispute over the wrongful falling of dozens of trees that was resolved Friday by the Nebraska Supreme Court. Officials in Franklin County, in rural south-central Nebraska, had sought and received permission in December 2015 to clear several trees on the property of Thomas and Pamela Russell. The goal: to improve visibility on an adjacent county road. But county workers, in cutting down and uprooting trees, strayed from the area that was designated for clearing. Before they could be stopped, 67 additional trees had been cut down or uprooted. While the county and the Russells agreed that trees were wrongly removed, a lawsuit ensued over the monetary damages. Franklin County argued in court that the landowners were only due damages equal to the diminished value of the property, which they estimated at \$200.

But the Russells, who said they used the property for hunting, recreation, and birdwatching, argued that damages should equal the cost of restoring the property to its prior condition. Using experts, including an arborist, they estimated the damages at \$150,716. District Judge Stephen Illingworth, citing a state law concerning the taking of property, sided with the county, ordering \$200 to be paid.

The Russells appealed, first to the Nebraska Court of Appeals, which upheld Illingworth’s judgment in a split decision and then to the state’s highest court. The Russells cited a clause in the State Constitution that says no one’s private property should be “taken or damaged for public use without just compensation ...”

But a 13-page ruling, written by Judge Jonathan Papik, rejected the landowners’ arguments. The court cited a 2000 court ruling involving a housing development sued after taking out trees and sod to replace a sewer line. In that case and the Franklin County chainsaw mistake, the damages warranted were limited to the reduced value of the property involved, not compensation to replace the trees or restore the property, the court ruled.

NAA BOARD NOMINATIONS

Nominations are due to the NAA office by November 30, 2021.

President Elect – This is a one-year term then move to President for a two-year term and one year as Past President

Director – This is a three-year term from January 2022 through January 2025

Nominations are due to the NAA office by November 30, 2021. Please visit the NAA website at www.nearborists.org to obtain a nomination form and read a general description of NAA board member roles and responsibilities. Nomination forms should be mailed to NAA, PO Box 10, Milford, NE 68405 or emailed to staff@nearborists.org. You can nominate yourself if you would like to run for one of these positions.

An advertisement for Nebraska811 utility service. The background shows a person's hands typing on a laptop keyboard in an office setting. A yellow hard hat is on the desk. The text "netcall.com" is in the top left, and "Nebraska811" is in large red and green letters in the top center. Below that, the text "Utility Service has never been more important." is written in large, bold, white letters with a black outline. At the bottom, a red banner contains the text "Contact Nebraska811 before your next digging or landscaping project. The telecommuters will thank you. Dial 811 or go online at ne1call.com" in white.



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