Branch flagging refers to dead or dying shoots or small branches with fading or brown foliage that contrasts sharply with the surrounding green color of the canopy. Flagging has many causes. Clues to the identity of the problem can often be found by examining the twig or branch just below the discolored foliage.

**Oak twig girdler** is a common cause of late summer flagging in red and pin oaks. The larval stage of this small beetle feeds in young twigs. Scrape the bark below a cluster of dead leaves to reveal the frass-filled tunnel or even the larva itself. Oak twig girdler, which has a 2-year lifecycle, typically causes flagging in odd-numbered years, so look for it this summer and fall. Damage is negligible, so control is not warranted.

**Kermes scale** is another initiator of flagging in oaks. These small insects often occur in clusters on leaf petioles or twigs, where they feed on sap. The adult female scales look like small brown marbles and are often mistaken for galls. Most species of Kermes scale cause little damage. In Colorado, however, one species may be working in concert with a bacterium to cause a disease known as “drippy blight.” Symptoms include significant twig gummosis (which may drip on sidewalks, cars, etc.), extensive branch dieback, and tree decline. The gummosis is not the same as honeydew, which aphids and some scales produce. Drippy blight affects red and pin oaks. Let me know if you are seeing extensive symptoms like this on trees with Kermes scale.

Egg-laying by cicadas can injure twigs and cause flagging on many hardwood trees. A female cicada cuts a series of slits through the bark of twigs, placing a dozen or more eggs within each slit. When the eggs hatch, the nymphs drop to the ground and feed on plant roots. Cicada damage on trees is rarely serious.

Flagging in many trees may be due to bark stripping by squirrels. I’ve heard several theories regarding the reason squirrels strip bark including feeding on the high sugar content of the phloem, looking for moisture or nesting material, gnawing to wear down their incisors (which grow continuously), and to obtain dietary calcium. Affected trees I’ve seen include elm, hackberry, maple and crabapple. Controlling squirrels is difficult. Metal collars installed on tree trunks may help.
I hope you all have had a safe and productive spring. As we roll into summer and our operations are in full swing, I want to stress the importance of keeping SAFETY at the forefront of everything we do.

As I am writing this, we are still in the clean-up phase of the storm that rolled through Eastern Nebraska on June 16. With any storm clean-up, there are many factors that work against us including wood under tension, reactive forces of the wood changing, defects in the tree from wind damage compromising rigging or tie-in points, fatigue, and many other factors. In these situations we need to take our time doing thorough hazard assessments, make sure we are not pushing ourselves too hard, and watch out for each other. Keep these things in mind when working any storm, as well as our day-to-day operations.

Another factor we need to consider as we roll into summer is heat related illness. Staying hydrated is key. Under normal conditions, we should drink 4 cups of water every hour to ensure proper hydration. As the heat and activity level rise, that amount of water intake should also rise. Stay away from soda and energy drinks as they will actually cause dehydration. Gatorade and other sports drinks are okay in small amounts to replace electrolytes, but stick to water for the majority of the fluid intake.

Later this summer, we have the Great Plains Summer Field Day event planned for August 4 at the Doane University Campus in Crete, Nebraska. I hope to see you all there for this opportunity to attend some great educational sessions, see some equipment demonstrations, network with others in the industry, and visit exhibitors.

Check the website for other events coming later this summer and into the fall.

Have a great summer, and keep ‘em safe!!
Flagging can be caused by fungal canker diseases that attack and girdle twigs and branches. Look for small dark structures breaking through the bark at the base of the killed tissue. These are the reproductive structures of the fungus.

Poplar, aspen, cottonwood, willow, elm, honeylocust, and Russian-olive frequently develop cankers; however, nearly all trees are susceptible to some type of canker. Stressful conditions (drought, flooding, untimely freezes), root problems (trees too deep, girdling roots) and poor pruning practices (flush cutting) promote canker development. Follow good tree care practices such as proper planting, pruning, watering and mulching to limit cankers. Fungicide sprays are generally ineffective.

Finally, wilt diseases such as Dutch elm disease and Verticillium wilt often produce large flags in the canopy of trees. Wilt diseases affect the movement of water in the plant. Look for discoloration in the xylem by stripping bark from affected branches or by examining a cross-sectional cut.

Trunk injection with propiconazole or thiobendazole may help elms with less than 5% of the crown affected by Dutch elm disease; unfortunately, symptoms often progress beyond this level before being noticed. Management of this disease focuses on cultural practices such as prompt identification and disposal of diseased trees on a community-wide level. Individual trees may be treated preventatively.

Verticillium wilt, which commonly affects maples, is not treatable. However, some infected trees show symptoms only periodically. Proper watering may help extend the life of these trees. Because the Verticillium fungus lives in the soil, trees that die from Verticillium wilt should be replaced with disease-resistant species, which include ginkgo, hackberry, hickory, honeylocust, oaks in the white oak group, sycamore, walnut and conifers.

NAA DIRECTOR’S BUSINESS WINS ASBC

In March, Slezak Ag & Natural Resources was chosen as a winner of the 2017 American Small Business Championship hosted by SCORE, the nation’s largest network of volunteer, expert business mentors, and generously supported by Sam’s Club, a leading U.S. membership club serving small businesses since 1983. The Championship awarded this title to 102 entrepreneurs for their dedication to the success of their small businesses. The American Small Business Champions will each receive a $1,000 Sam’s Club gift card, an all-expense-paid trip to a training and networking event, SCORE mentoring and publicity throughout the year.

Slezak Ag & Natural Resources broadened their offerings to Trees2Products, providing custom saw mill services to utilize the sustainable wood resources in Fillmore County and surrounding areas. Owner Kim Slezak, Certified Forester and NAA Director, explained that as trees are removed for ag growth and as our town and village tree canopies age, replacement trees need to be planted — ‘Right Tree, Right Place’ — and what is coming out should be utilized in some form. “Nothing over six inches in diameter should be mulched. We strive for best use for each tree’s parts,” she added.

Slezak Ag & Natural Resources is also eligible to win one of three additional $25,000 grand prizes by being named Grand Champion. A judging panel of small business experts will select three Grand Champions from the group of Small Business Champions this summer. Selection is based on how effectively Champions utilize the Sam’s Club gift card and the SCORE regional training events to grow business revenue, as well as how effectively the winners promoted the Championship in the media and social media. To learn more about The American Small Business Championship and to view the complete list of Champions, SCORE and Sam’s Club, visit www.championship.score.org.

HACKBERRY TWIG DROP, ABOUT 6” OF TIPS (TENDER GROWTH) DROPPING OFF

Across eastern Nebraska, dropping of young hackberry leaves or twigs (about 4 to 6” of tender new tips) is being observed. This is most likely due to cold temperatures occurring at a critical point in the development of new hackberry growth. It will not harm trees.

Hort Update 17 May 2017
Our association is very fortunate to have a diverse group of male and female Certified Arborists ranging in age from their early twenties to their late seventies. These individuals are gifted tree experts but also have unique talents not related to tree care.

The individual being featured this quarter is Nebraska Certified Arborist Jeff Grewe. Jeff and his wife Amy are the owners and operators of Arbor Aesthetics. In addition, Jeff is one of the newest members of the NAA Board of Directors. Jeff and Amy’s company philosophy is very plain and simple, “We Want You to Love Your Trees.”

Before we peel back the layers covering Jeff to reveal this individual, let’s look at the seven major features Jeff is proud of his company:

1. Certified by the Nebraska Arborists Association with three Certified Arborists on staff.
2. Licensed and fully insured up to $3,000,000.
3. Tree Risk Assessment Qualified (TRAQ) by the International Society of Arboriculture.
4. A member of the Tree Care Industry Association
6. Awarded the Angie’s List Super Service Award 8 years in a row.
7. Serving the Omaha Metro for more than 11 years.

Now that we know some information about Jeff’s company, let’s take a look at the nuts and bolts making up this talented and unique individual. Jeff grew up in Omaha and attended Creighton Prep. He was an accomplished swimmer and became assistant coach for Prep’s swim team after graduation. He attended both UNO and the University of Iowa, studying computer science, political science, and then settling on chemistry. So you can see we have a very learned individual among us. Nearing the end of his college coursework, Jeff put out some summer yard work flyers. On his first job, he was hired for tree trimming. He had no idea what he was doing, but he faced the challenge. He was able to get by with a ladder and a hand saw at first, but then he was hired for a large tree removal and that was too much for him to handle. After working day and night trying to get the tree down, he realized he would need to learn how to climb. He left the job unfinished and told the customer he’d be back after he got some gear and learned how to climb. Jeff followed through on his promise to the customer.

Jeff taught himself how to climb and quickly learned he had a physical aptitude for it, and not only that, but that he could make trees beautiful. Jeff felt he had found his calling and abandoned the pursuit of his chemistry degree. The chemistry field lost a talented individual but our arboriculture career field gained a talented arborist.

Around this time Jeff also got into photography, a hobby which wove together his love for climbing trees and capturing the beauty of nature. During the first several years of his business, Jeff spent more time behind the camera than he did in the trees. He captured hundreds of hours of time-lapse footage of storms and epic tree-climbs. Some of Jeff’s footage has even been featured in PBS documentaries and on Iowa Public Television. I have had the opportunity to view Jeff’s photography, and speaking from experience working in the military photographic career field for 30 years, Jeff does have a creative photographic eye.

Four years ago, a few life-changing events prompted Jeff to become more serious about his business. He had the good fortune to meet Amy. To quote Amy: “We found that together, we were like rocket fuel.” Amy always wanted to own a business, and her work experience and skills perfectly complemented Jeff’s and allowed them to grow Arbor Aesthetics to triple its size in just three years. They are also the proud parents of a son, Miles Frederick. Let’s hope Miles will follow in his father’s footsteps!

I now want to turn this article over to Amy because she knows Jeff in great depth, and I don’t have the talent to express in words his personnel qualities. Jeff’s incredible climbing abilities and obsession for making trees beautiful are what got his business off the ground 12 years ago. (Obsession is no exaggeration. I’ve never seen anyone get so excited about a bur oak!) What keeps the business growing these days is Jeff’s new-found passion for becoming a better leader and providing a great place to work for his employees. Jeff has become a mentor to his employees and colleagues. The tree industry can be a rough place, and he has committed himself to creating a work environment unlike anywhere else, where coaching replaces criticism, and where safety and integrity are at the heart of everything we do. I am so proud of the leader and arborist Jeff has become since I have known him. Jeff has opened his heart and his mind to growth in all areas of his life and business. I believe part of being an entrepreneur is never being fully satisfied. This is Jeff’s blessing and curse.

From better understanding the numbers of his business, to expanding his knowledge of the plant healthcare industry, to honing his emotional intelligence to be the best boss he can be (and the list goes on), Jeff is a stand-out in the industry and an inspiration to me as I grow in my own expertise as a business owner and Certified Nebraska Arborist. Of course, I might be a little biased!

I must take this time to thank Amy for helping me obtain information about Jeff and putting the words on paper to describe Jeff. They do say behind every successful married person is a strong and supporting spouse. Amy fits this definition to a tee! The future of the association looks bright with individuals like Jeff Grewe on the NAA Board for the next three years. When you see Jeff at summer field day or the winter conference, take the time to thank him for his service to the arboriculture career field and your association.
I’ve been a tree lover since I was a small boy. I grew up on a farm in rural Douglas County in the bluffs of the Elkhorn River. I can still vividly recall the massive cottonwoods, ragged and storm-worn, that towered above all else and provided shade for the cattle all summer. The wafting aromas of the black locust grown in flower made me aware that more than just lilacs can be lovely in spring. And the hulking bur oak in the lower pasture, 200 years old if it was a day old, made me wonder at the scale of time as I climbed its stout, low-slung branches.

Each of these trees, when I first encountered it as a kid, impressed upon me something significant about its character at first glance. The impressive size of the cottonwoods, the unexpected fragrance of black locust, and the longevity and strength of the bur oak. But with trees, as is also true for people, there is much more to their beauty than the first impression. The cottonwood brings a “summer snow” of seeds and a gentle rustle of leaves. The black locust produced interesting seed pods and resisted the sharpest chainsaw when it was dry. And the bur oak, more than any other tree, was a home to all kinds of life from raccoons to gall wasps, and everything in between.

It’s this feature of oaks that made me realize the importance of their place in our landscape. These oaks are a friend to all, providing food, shelter and a landmark to hundreds (if not thousands) of their neighbors. In a way, it’s the insects that connect our oaks to the rest of their surroundings, even more than the tree’s roots. These insects are the common currency of the ecosystem around them, making withdrawals and deposits of energy from plants to animals, and back again, as they go through what must appear from the tree’s perspective a blindingly fast cycle of life and death. Innumerable generations of tiny bugs provide the caloric foundation for larger animals such as birds and mammals. These birds and mammals, making their home in the oak, serve as critical laborers in the business of seed dispersal. Obviously, without these links in the chain, immobile oaks would have perished long ago, buried under their own rotting acorns.

So, as I became aware of the role of tiny insects in the survival of trees and their dependent ecosystems, I developed a deeper appreciation of their role in connecting trees (and us) to our surroundings. It’s not the size or age of a tree that connects it to its landscape, but the tiny insects that really integrate it within that context. And it’s not our first impression of a tree that makes it important to us, but the almost unseen services it renders that make it crucial in our landscapes.

Reprinted from the Nebraska Statewide Arboretum, “The Seed”, Summer 2016

REPORT SHOWS INCREASE IN TREE-CARE-RELATED OCCUPATIONAL FATALITIES IN 2016

ARBOR.AGE | In Daily News February 10, 2017

TCIA learned of 153 tree care-related occupational incidents* in calendar year 2016. Ninety-two of them were fatal. This report provides what TCIA knows about these incidents from the media accounts. Comparing 2016 with previous years, TCIA reported 79, 81 and 87 occupational fatalities in 2013, 2014 and 2015 respectively.

The youngest victim recorded was 18, the oldest was 70. The median age of the victim (all incidents) was 39. This relatively high median age suggests that complacency rather than ignorance plays a significant role in these incidents. Supporting this claim:

- The typical fall victim was unsecured
- The typical struck-by victim remained in the drop zone
- The typical electrocution victim violated MAD and made contact through a conductive tool/object. For those accounts in which an employer was identified, 23 percent of all incidents occurred with TCIA member companies, and 77 percent occurred with non-members.

The “Big Three” types of accident causation are the same as they have been in recent years: Fall, struck-by and electrical contact incidents comprise 31, 25 and 22 percent of the total incidents, respectively.

The consistently high number of incidents in tree care over the past few years has attracted OSHA’s attention. At the time this report was published, at least 19 states in five OSHA regions were running “special emphasis” programs targeted at tree care and landscape firms.

* TCIA relies on media accounts of accidents for this data. Less “newsworthy” accidents are less likely to be recorded. TCIA defines an incident as “occupational” when it is clear from the account that the victim(s) was/were engaged in tree work for compensation.

NEW AMERICAN NATIONAL STANDARDS (ANSI)

Announcing the publication of two new ANSI tree standards. These new standards are a must read for all NAA Certified Arborists and crew members


OSHA SAFETY NOTICE

As of January 17, 2017 all conventional body belts and lanyards used for fall protection in aerial lifts will no longer be acceptable.
I must admit that I’m not a big fan of dandelions. They exist like a botanical “whack-a-mole” game, popping up here and there while we hammer away at them.

But I also don’t lose any sleep over them.

In the grand scheme of things, dandelions really are benign. They will not ruin our lives or interrupt the spin of the earth. And we can even eat them if we choose.

Why then do we work so hard to eradicate them from our lawns? I don’t have that answer, but I do know that battling dandelions is not a benign act, as many trees and other landscape plants are harmed each year in our efforts to control them.

The primary choice of herbicide for dandelion control is 2,4-D, which typically is applied as a liquid spray, often in the spring when the weed is most noticeable. If the weather is warm or if there is any wind -- not a rare event in Nebraska -- then the chemical easily can volatilize and waft through the air, potentially damaging just about any leafy surface it comes in contact with.

Some people dismiss 2,4-D tree damage as just cosmetic, saying it’s nothing to worry about in the long term. It certainly does seem that most healthy trees can withstand a bit of chemical drift. But year after year of such exposure is a not a good thing for a tree. A thinner canopy and distorted leaves are not producing the same amount of energy as a non-impacted tree. It is very likely that trees damaged year after year will have significantly shortened life spans. Add to that severe drought and excessive heat, and many trees have been hit with a double or triple whammy this year.

This year has been an especially bad year for herbicide damage to trees in our region. Across the community, we found significant damage to hundreds of trees and shrubs. Its clear many people were out doing battle with the weed. It’s also clear that many of these people were not careful in their spraying and our very warm, windy and early spring weather no doubt played a big part in the damage as it lifted the herbicide in the air and spread it farther than intended.

Some people dismiss 2,4-D tree damage as just cosmetic, saying it’s nothing to worry about in the long term. It certainly does seem that most healthy trees can withstand a bit of chemical drift. But year after year of such exposure is a not a good thing for a tree. A thinner canopy and distorted leaves are not producing the same amount of energy as a non-impacted tree. It is very likely that trees damaged year after year will have significantly shortened life spans. Add to that severe drought and excessive heat, and many trees have been hit with a double or triple whammy this year.

Thankfully, with just a few simple measures, we actually can do quite well at controlling dandelions and other problematic weeds, while greatly reducing any potential impact to trees and other non-target plants. Anyone wishing to battle dandelions or other weeds in the lawn should keep these suggestions in mind:

1. The best time to spray for perennial weeds, including dandelions, is in the fall. Not only is the control of weeds better, the potential impact to trees and other non-target plants is greatly reduced as they no longer are actively growing.

2. If you are spraying for weeds and you can smell the chemical in the air (2,4-D has a very distinctive aroma), then you likely are damaging non-target plants, especially trees.

3. If spring treatment still is desired, there are granular 2,4-D formulations that are much safer to use.

4. Don’t spray when it is hot or windy – or if it is going to be hot and windy.

5. Make a dandelion salad or enjoy some dandelion wine and suddenly the weed won’t seem so bad.

Ultimately, in my opinion, we can do ourselves a great favor by learning to relax more about our lawns and try to be more accepting of benign weeds. A pristine, uniform carpet of green should not be the ultimate goal for a lawn. Remember that it exists in the context of a broader landscape, and our care for the lawn should not shortchange trees and other nontarget plants.

If our trees could talk, they would thank us for not harming them.

Additional Remarks by Jim Keepers, NAA Newsletter Coordinator:

I know most of you have already seen this article, but this spring I have seen numerous incidents of chemical drift damage to young and mature trees. On May 13, the Gretna Arbor Society (Gretna Tree Board) planted twenty-two RootMaker grown trees from Great Plains Nursery through a grant from the Papio-Missouri River Natural Resources District Celebrate Trees Program in Leo Royal Park. On May 17, I inspected these trees and discovered various distortions in the leaves of these trees. I also noticed distortions in the mature trees all along the east side of the park running along Hwy 31. I contacted the Nebraska Department of Agriculture (NDA) to report my findings and an investigation was started.

If you discover what you feel is a chemical drift problem on your trees, contact the Nebraska Department of Agriculture, Animal and Plant Health Protection, P.O. Box 94756, Lincoln, NE 68509-4756, 877-800-4080 or (402) 471-2351 or nda.nebraska.gov/pesticide

SIMPLY TREES: HERBICIDES FOR DANDELIONS CAN DAMAGE TREES
By Justin Evertson: Nebraska Forest Service for the Lincoln Journal Star, August 18, 2012

2017 GREAT PLAINS SUMMER FIELD DAY
Join us on Friday, August 4, 2017 at Doane University in Crete, NE for the 2017 Summer Field Day! We are excited to offer a great line-up of educational sessions and activities for this year’s event. Dr. John Ball will kick off the day with a keynote address on Diversity: Think Genera, Not Species. Breakout sessions will include subjects such as climbing techniques, utilization, 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. We hope to see you on the beautiful campus of Doane University!
COULD THIS BE THE SAME TREE?
By Jim Keepers: NAA Newsletter Coordinator

The tree in question is an Acer x Freemanii “Jeffersred” Autumn Blaze Maple planted 10 years ago. The tree was B & B and 1 ¼” caliber planted by me. The tree started to show iron chloroses and magnesium problems in 2015. By the summer of 2016 the tree was in very bad shape. The photo on the left shows how much the tree had declined. The tree was injected by a NE Certified Arborist in the fall of 2016. Immediately after the tree was injected it lost all of its leaves. The photo on the right shows the tree this spring with no signs of chloroses or magnesium problems.

I know injection does cause damage to a tree but if no action had been taken, I know this maple tree would have died. I have two other Autumn Blaze Maples on my property. One of them also showed some chloroses problems and was treated at the same time as the one in the photo. They are both located in my backyard. The other maple is in my front/side yard and has never shown any chloroses problems.

The Acer Freemanii is a cross between a Red Maple and Silver Maple. This cross gives you the red fall color of the Red Maple and the quick growing attributes of the Silver Maple. Based on my personal experience, I wouldn’t recommend the planting of any type cultivars of Acer Freemanii Maple.

BEST TREES & SHRUBS FOR BIRDS
By Justin Evertson: Nebraska Forest Service for the Lincoln Journal Star, August 18, 2012

The yard around your house may seem like it belongs just to you, but that’s not quite the truth. Even the most private, enclosed backyard is home to a whole range of other creatures, from insects and butterflies to birds and mammals. We may not want neighbors camping out there, but most of us love to have birds nesting or stopping by. According to the U.S. Fish and Wildlife Service, bird watching is the number one sport in North America, and it’s a sport that can be pursued from infancy to old age.

What trees are most likely to attract birds to our landscapes? Not surprisingly native trees offer the most extensive resources for native birds. It’s a mutually beneficial relationship, with trees supplying shelter, food and habitat and birds in turn helping trees spread far beyond their static boundaries.

If you’re thinking about planting some trees this year, here are some potential “bird magnets,” listed roughly by seasonal appeal and, for many, the particular species of birds that rely on them. Many of the early spring-fruiting trees are timed perfectly to help birds with the non-stop demands of feeding their young. For spring through summer, here are some great food sources:
- Cherry, Prunus—grosbeak, northern flicker and white-throated sparrow
- Chokeberry, Aronia
- Chokecherry, Prunus virginiana
- Coralberry, Symphoricarpos—upwards of 14 species eat coralberry, including American robin
- Cucumber tree, Magnolia acuminata—bright red berries in late summer and very easy-to-grow
- Juneberry or serviceberry, Amelanchier—one of the best early food sources for many birds
- Maple, Acer—cardinal, bobwhite, grosbeak
- Oak, Quercus—turkey, bobwhite quail, bluejay, rufous-sided towhee (dwarf chinkapin oak is a great choice as it produces an abundance of small acorns on a 15 foot tree)

Some of the best late winter food sources for birds are actually unpalatable earlier in the season, needing to freeze and thaw several times before birds will eat them:
- Crabapple, Malus—choose from smaller-fruited types that retain fruits into winter
- Hackberry, Celtis—cardinal, northern flicker and northern mockingbird
- Hawthorn, Cratageus—including our native downy hawthorn
- Sumac, Rhus—more than 30 species eat these persistent fruits
- Viburnum—cranberrybush, blackhaw and our native nannyberry are great choices
- Conifers offer late season food and, just as important, valuable shelter during harsh winter months when deciduous trees have lost their foliage: fir, juniper, pine, spruce and red cedar. But keep in mind that red cedar is an alternate host for rusts on hawthorn and crabapple and should not be planted near them. And keep in mind that leaving some leaves and litter underneath trees not only provides nesting material but also shelters insects as an additional food source.

TORDON NOT FOR LANDSCAPES DUE TO TRANSLOCATION ISSUES AND KILLING OF NON-TARGET PLANTS

Tordon is best not used in landscape settings due to translocation issues. Tordon is readily translocated to other plants and often results in killing non-target plants. Avoid the use of Tordon in landscape settings.

From Hort Update, 17 May 2017

NAA SCHOLARSHIPS

If you have a team member in training to become a NE Certified Arborist or if you are considering becoming certified, remember to submit your scholarship applications 60 days before the event.

Scholarship applications and instructions can be found on the NAA web page.
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**A SPECIAL OR UNIQUE TREE**

By Jim Keepers: NAA Newsletter Coordinator

This quarter I am featuring a special Pine tree, Pinus bungeana, or more commonly called the Lace Bark Pine.

This tree is native to the Northeastern United States and China. The tree is hardy enough to withstand our eastern Nebraska climate. What makes this pine tree unique is the bark. The smooth, grey-green bark slowly sheds into round scales to reveal patches of pale yellow, which turn olive-brown, red and purple on exposure to light as the tree matures. The branches of this tree are limbed up in later years to show off the unusual bark. The new candles in the spring enhance the shape and beauty of this evergreen. The tree has a great shape and is ideal for a small garden setting.

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**Dealing with Japanese Beetle**

Japanese beetles are invasive pests that are problematic both as an adult and as a grub. As grubs they are found in the soil feeding on the roots of turfgrasses. As adults they feed on >300 different species of plants!

Some of their favorites include:

- Linden
- Rose
- Birch
- Grape

Japanese beetle adults use their sharp mouthparts to eat the green tissue between the veins of leaves. This results in “skeletonization” where leaves take on a lacy or doily-like appearance.

**Management**

- Control adults
  - Prevent damage with a preventative systemic insecticide treatment around the base of a plant in April or May. Imidacloprid is the most common systemic used. You cannot use this product on linden trees, most other plants are acceptable though.
  - In June, July, and August, collecting beetles and placing them in a bucket of soapy water or using plant covers to exclude them are both viable options. Treating leaves with carbaryl or bifenthrin, or organic products like neem or pyre will provide some relief from Japanese beetles.

- Grub Control
  - A preventative treatment in May or June with chlorantraniliprole (Scott's GrubEx) ensures no grubs for that season. Treating for grubs in your lawn will not ensure no adult beetles. They can fly quite a distance, therefore do not rely on grub control to minimize adults.

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**BARK SLOUGHING ORNAMENTAL PEARS, MAPLES, LINDENS & CRABAPPLES**

Bark sloughing continues on ornamental pears, maples, lindens and crabapples. It is due to sudden cold temperature injury to the trunk cambium, most likely during November 2014. If trees are killed by a disease, such as fire blight, this too may lead to bark sloughing off. There is nothing to do for these trees but provide ideal growing conditions and enjoy them as long as they survive.

Hort Update May 17, 2017

Pictured: Bark Sloughing on Crabapple Tree Trunk & Branch.

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**SPRUCE BROWNING**

Variety of factors can be the cause! Spruce browning this time of year may be due to a number of different causes including winter desiccation or winter burn. In this case, the browning is usually fairly uniform and often on the north or west side of the tree. Wait until June 1 before pruning out any brown needles/twigs. New growth may occur and eventually hide the brown needles. Browning may be due to sirroccocus shoot blight. If so, only the tips of twigs may be affected randomly throughout the tree, usually near the lower half of the tree. - Hort Update May 17, 2017

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**TREES2PRODUCTS**

utilizetrees.com is forum to network tree removals with woodworkers, artists, custom builders, etc
402-629-4459 kim@slezakag.com
Let’s talk. See you at Summer Field Day
Sawflies can be befuddling insects. As larvae sawflies are almost identical in appearance to caterpillars save for the number of prolegs that they have. Prolegs are the fleshy nubs on the rear bottom portion of insect larvae. Caterpillars never have more than five pairs of prolegs, while sawflies have six or more pairs. Even though they look like caterpillars though, they don’t turn into a moth or butterfly, they become a wasp as an adult. So, they are called flies, look like caterpillars, but are wasps. Entomology at its finest.

One of the most common sawflies we encounter is the European pine sawfly. The larvae of this pest are a grayish green (think Army green) and they have black heads. Along their sides there is a dark gray stripe. European pine sawflies overwinter as eggs deposited on needles in mugo, Scotch, Eastern white, and Austrian pines. Eggs hatch and larvae feed from late April to mid-June, at which point they are about an inch long. Symptoms of this pest include pine needles eaten down to a nub and piles of sawdust like insect poop on the ground below trees. In June, the larvae will pupate and then emerge as adults in September to mate and lay new eggs for the next generation.

Managing sawflies requires an integrated approach. In the early spring you can inspect needles for eggs and squash or remove the ones you find. If you have pines that have been repeatedly infested, keep an eye on them in May for tufts of needles that are dray and brown. This could indicate that first instar larvae are feeding. At this point one can mechanically control the insects by simply pruning out the infested branch and disposing of it. Spraying the infested trees with a horticultural oil, insecticide soap, neem, or spinosad will all help to remove infestations. In terms of synthetic insecticides, carbaryl or bifenthrin are the typical choices.

On the left are small European pine sawflies, newly emerged and starting to feed. This initial feeding results in tufts of dry, brown needles that may also appear to have scales on them.

On the right are mature sawfly larvae consuming whole needles.
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Call the NAA office for more information at 402-761-2219 or email staff@nearborists.org.