SUMMER | FALL 2017

TreeIQ

The Minnesota Tree Inspector Quarterly Newsletter

Summer of pernicious pests

We weren't exactly sure what the Summer/Fall 2017 TreeIQ would look like back in June, but the reports are in. From Japanese beetle infested nursery stock, gypsy moth quarantines in Minneapolis, to the ongoing mystery surrounding non-EAB associated ash dieback, take a look and find out what's new in this issue of TreeIQ.

EAB Is Not The Culprit?

Tree Inspector Spotlight

On The Rise

TreeIQ&A - Call for questions!

Do you have any questions you would like to see answered by industry experts? Submit your tree inspector questions to **TreeIQ&A** at treesins@umn.edu and see them answered in a future edition!

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The Minnesota Certified Tree Inspector program was first implemented in 1974 and has since supported hundreds of participating communities around the state. Currently, there are more than 800 certified tree inspectors in Minnesota. TreeIQ is a seasonal electronic newsletter devoted to providing timely technical information and community connections for Minnesota's certified tree inspectors.

The Tree Inspector Program is administered by the Minnesota Department of Natural Resources in partnership with the University of Minnesota's Forestry Department.

DEPARTMENT OF NATURAL RESOURCES

Department of FOREST RESOURCES
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Upcoming Events

MnSTAC Field Day - August 17th, 10:00 am—Noon

This is a great opportunity to take some time off, catch up with old and new friends, and dig into what the UFore research team has been up to. Join us August 17th from 10:00 am—Noon. For more information and to RSVP for the event, visit us at www.mnstac.org/20170817fieldday

Tree Essentials Classes at the UFOR Nursery

Fridays, 10:00 am—Noon

These two hour classes are great way for Minnesota Tree Care Advocates (Tree Care Advisors, Citizen Pruners, Tree Stewards), Master Gardeners, Tree Inspectors, etc. to update their education on a variety of tree care and subjects. For a complete list of topics and to register for upcoming Tree Essential Classes visit www.mntca.umn.edu/tree-care-advisor/tree-essentials

Tree Inspector Recertification Workshops

October 9 in Brainerd & October 10 in Rochester

Join us for a day of tree inspector education. We will cover a range of topics including: injection techniques for EAB, nursery stock inspections, oak health updates, invasive species, structural pruning and more. Register now for fall Recertification Workshops in Brainerd and Rochester!

Save the Date — MSA Conference, November 7th

Safety is at the core of arboriculture. Our industry is based upon the safe interaction of people and trees. With new technologies and changing standards, it is important to make sure you are up to date on safe practices. Join us for this one-day conference to learn about the new ANSI Z133 standards, proper vehicle and machinery maintenance, promoting safety culture, and assessing a tree's structural integrity.

Make sure to mark your calendars for this year's Minnesota Society of Arboriculture Conference on November 7th. As always, an event you will not want to miss out on. Registration coming soon!

Scattered sickly green ash

in central and southern Minnesota

Brian Schwingle, Central Region forest health specialist

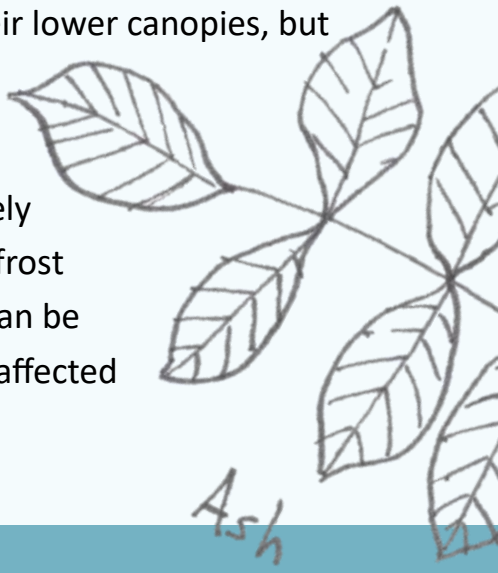
A number of communities around the state have been noticing that something is going wrong with their green ash trees, and emerald ash borer is not the culprit. Previously published in MNDNR Forest Health Newsletter, August 2016.

Green ash trees that look sick are widely scattered throughout much of central and southern Minnesota. They have dieback in various parts of their canopies, usually starting in the lower canopy. Before we get started here, you might be thinking, "Isn't EAB found everywhere by now?" The short answer is, "No, not at all."

The likely cause of this dieback is consecutive years of heavy seed crops, severe anthracnose, and late spring frosts.

Many tree species occasionally produce seed crops so large that individual branches are killed. It often appears that green ash produce the most seeds in their lower canopies, but heavy seed production also happens on upper canopy branches.

Anthracnose is a fungal leaf infection that increases in abundance with overly wet conditions during leaf emergence, and can completely defoliate ash during leaf elongation periods. During this same time, frost can cause some trees to simply drop their leaflets. Lower canopies can be severely impacted by anthracnose and frost damage, both of which affected communities across large portions of Minnesota in 2015 and 2016.



Some of these ash trees lost over 50 percent of the canopy they ought to have. Taking a positive outlook, those trees provide fantastic opportunities for communities to reduce their street ash tree population to prepare for the inevitable, but unpredictable, arrival of emerald ash borer.

Green ash with upper and lower canopy dieback

Brian's update from 2017

In 2016 and 2017, I've been noticing scattered dieback on green ash from Eagan to Sibley State Park to St. James to New Ulm. Dieback severity is variable and is not associated with emerald ash borer. Due to its widespread nature, the cause of the dieback has to be either past unfavorable weather events or some non-native mystery species that we haven't identified yet. I doubt it is the latter.

I submitted a wilting ash sprout from Sibley State Park to the University of Minnesota Plant Disease Clinic, and staff isolated a fungus called *Seimatosporium*. Isn't that a mouthful? This fungus is not a reported pathogen of ash, and it is probably a secondary or saprophytic fungus living on dead tissue. I have no recommendation at this time. It's a mystery.

See the full Summer – 2017 Forest Insect and Disease Newsletter

Japanese Beetles Are On The Rise

Steve Shimek, MDA Nursery Program Coordinator

First published July, 2017 in the Minnesota Department of Agricultures' Nursery Certification Program Newsletter. Steve will be bringing his extensive knowledge of Minnesota's nursery industry to the October Tree Inspector Recertification Workshop.

Minnesota has seen an increase in population and spread of Japanese beetle (*Popillia japonica*) to more locations around the state over the past few years. As a result, nursery stock has become more commonly infested both by the adult beetles, and in a recent incident as grubs and pupae in container grown nursery stock.

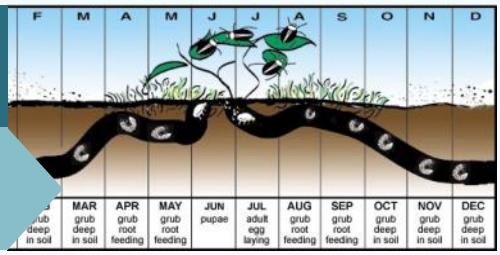
Japanese beetle grubs spend their lives below ground feeding on roots. They most commonly occur in turf. Turf that is fertilized and irrigated is particularly attractive for adult beetles to lay their eggs and for grubs to happily munch away until they pupate and emerge from the soil as the adult beetles the following year. Grub feeding can cause damage to turf. The adults can cause significant damage to a number of plants feeding on and skeletonizing leaves and feeding on flowers and fruits.

It is important to note that even stock that is in compliance with the Japanese Beetle Harmonization Plan (JBHP) for container accreditation can become infested. This certification method requires that container grown stock must be kept on an impervious surface such as gravel. This is meant to discourage egg laying in and around nursery containers.

Surveying for JB in containers is done by removing plants from pots, examining the potting media for life stages, namely grubs and pupae. Some samples can be destructive in nature, though staff try to minimize the operational and economic impact. (Continues on Page 7…)

Full Newsletter

JB Treatment Info



Observations from recent surveys of accredited container stock

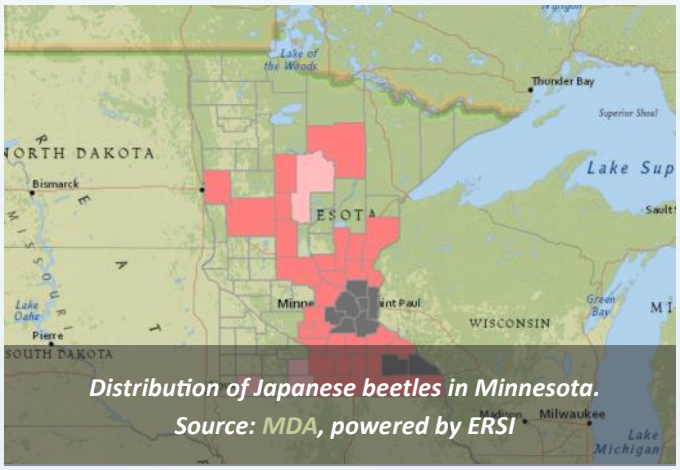
There seems to be no common denominator as to why containerized stock grown under the JBHP guidelines became infested during the past year. Production history or location of the stock to potentially infested surrounding areas did not seem to influence the likelihood of infestation. Stock that was positive included: *Physocarpus, Taxus, Thuja, Juniperus, Hosta, Heuchera, Atrium, Rosa, Rhus, Celastrus, Vaccinium, and Rubus*, several of which are not known to be commonly fed upon by JB larvae or adults.

During a survey of accredited containers at the end of June, larvae were most often found in the bottom 1/4 of the pots. Larger pots were favored. Some loose potting media at the bottom of the pot seemed to be more likely to harbor beetle grubs. Plants that had more or heavier roots were not favored by the beetle. When one larvae was found, it was likely that more than one was present, up to 6 or 8 per pot. Most of the grubs found were late instar in late June, and many pupae were also found. Grubs and pupae were confirmed as *Popillia japonica* by MDA personnel. Adult beetles were also found in traps placed nearby to determine the beginning of the adult flight period.

Regulatory Action

Blocks of plants where grubs were found are restricted pending treatment and control. Follow-up inspections will be conducted to verify efficacy of treatments.

Adult Japanese beetles.
Photo by Jeff Hahn, University of Minnesota Extension.



Distribution of Japanese beetles in Minnesota.
Source: MDA, powered by ERSI

What Can I Do?

If you think you have an infestation of Japanese beetles, and you're located in a county that Japanese beetle has not been reported or is not known to be abundant (see map above), please visit MDA's Arrest the Pest page to report your findings. Maps like the one above are made with the help of citizen's who report what they see.

Tree Inspector Profile

Marilyn Arnlund, City of Maple Grove

Each issue of the Minnesota TreeIQ will feature a Tree Inspector profile. It's a way for us all to get to know and learn from each other a little bit. Marilyn Arnlund is a good example of a Tree Inspector who takes the position and responsibilities to heart and makes the program what it is today!

Q. How long have you been a Tree Inspector?
Five Years, In 2012, when I also became a MN Tree Care Advisor.

Q. What is your educational background?
My full time job is deputy fire chief for the Maple Grove Fire-Rescue Department. My educational background for tree care is through the MN Tree Care Advisor program, the Hennepin County Master Gardener program and through continuing education courses. One of my favorite every year is the Shade Tree Short Course.

Q. What have been the greatest challenges for MN Tree Inspectors during your tenure as one?
I think the greatest challenge is staying current on all the topics related to tree health and care.

Q. What have been a couple significant contributions that the Tree Inspector program can take credit for, either state wide or in your community?
In 2012, I offered to put together a volunteer tree inventory program for the City of Maple Grove. Maple Grove is 36 square miles, so I knew it would be a big commitment. I used the tree inventory program from the University of MN with some changes. The tree inventory project was designed to inventory all public and private trees on residential front yards, business front yards and boulevards. I put together all the training materials, PowerPoint presentations and most of the forms. I also wrote articles to recruit volunteers.

It was necessary to find some sponsors to help pay for supplies such as reflective safety vests, t-shirts, tape measures, etc. I wrote letters to businesses and was thrilled to have two prominent businesses in Maple Grove pay for the t-shirts and reflective safety vests. Those were definitely the big cost items.

Another big wish was to have an electronic means to conduct the tree inventory so there would not be a huge data entry commitment. I was fortunate to have a GIS analyst (Doug) assigned to the project.

Doug came through with every wish and expectation. He designed an app that can be used on any i-phone or android smart phone. He made it user friendly and has made every update that was requested. It is awesome! Initially, the City of Maple Grove purchased 2 mini i-pads that could be checked out by the volunteers to use for the inventory. Last year, through a grant the City received through LCCMR Grant; Improving Community Forests Through Citizen Engagement, we were able to purchase three additional i-pads. This has enabled volunteers without a smart phone to volunteer and inventory trees. (Continues on Page 9…)

This year is the 5th year of the inventory project and will be the final year to finish it. The parks were not part of this inventory project. So far volunteers have inventoried 39,858 trees in Maple Grove.

Every year since the project started, I have had an afternoon and evening get-together/support meeting for the volunteers on the third Tuesday of each month. They were able to attend to ask questions, get clarifications, and meet other volunteers of the project. I also provided a report for the month.

The first year, in 2013, we had 71 volunteers. In 2014, there were 46 volunteers, in 2015 there were 54, in 2016 there were 41 and in 2017 there are currently 45. Each volunteer contributes as many hours as they are able. They were initially put in teams of three and then we changed that to two in a team.

Q. Is there one Tree Inspector experience or memory that you would be willing to share?

I drove to a house in Champlin, MN to look at a catalpa tree which the resident said was infested with some bugs. When I arrived instead of taking me to the backyard to look at the tree they handed be a Ziploc bag full of the bugs. I really don't like bugs and it was REALLY hard to take the bag they were handing to me…I wanted to scream and run the other way! But I bucked up, took a breath, and took the bag…then I had to carry it around with me until I left! Yuck! :0

Q. Is there one interesting thing about yourself that most people may not be aware of that you'd like to share?

I have been a paid-on-call firefighter for over 30 years and a full time deputy fire marshal/deputy chief for over 25 years.

Q. Thinking back on all of the courses, seminars, conference sessions that you have attended, is there any one that sticks in your mind that had an influence on you?

I attended a conference session at the Shade Tree Short Course about the Maplewood Mall project. It was presented by Erin Anderson Wenz, Senior Water Resources Engineer with Barr Engineering. It featured engineered soils and subsurface irrigation allow plantings to thrive even in challenging parking-lot conditions, including the trees. I watch trees die all the time in big parking lots on little parking islands and it is so sad. This project was amazing! I would love to see the City of Maple Grove adopt an ordinance to ensure more success with trees planted in parking lots on islands.

Q. How much longer do you plan on being a MN Tree Inspector?

As long as I can continue to volunteer as a MN Tree care advisor. I really enjoy helping people and love teaching. The Maple Grove Tree Inventory will finally be finished this year and I will be able to take on other volunteer activities.

Emerald Ash Borer Information Packet

A novel solution for a disastrous situation

The Minnesota Shade Tree Advisory Committee (MnSTAC) is the state's urban forest council. MnSTAC is made up of tree experts and advocates from around the state. MnSTAC's mission is, "To be the leading advocate for Minnesota's community forests and to empower and educate Minnesota's citizens to maximize the coverage, health, quality, function, and future of our community forests."

MnSTAC also works to advise the legislative and executive branches of Minnesota's government on the best ways to preserve, protect, expand, and improve Minnesota's community forests. One of the most pressing issues facing Minnesota's forests is the emerald ash borer. MnSTAC has been advocating for statewide funding to help communities deal with the impending decimation of Minnesota ash trees, which comprise on average approximately 20% of community tree canopy and in many cases even more.

"Their approach has the potential to preserve four times the amount of canopy, retaining the valuable benefits of mature trees."

VIEW THE PUBLICATION

In the publication entitled "Emerald Ash Borer Information Packet: A novel solution for a disastrous situation," MnSTAC delivers a vision for best management of EAB in Minnesota. Their proposed solution is a statewide program that will provide support for communities to initiate an integrated pest management solution that focuses on detection techniques, pest control measures, and the protection of high value, healthy trees. This method is in contrast to the classic approach of simply removing ash trees to limit the beetles' food source. The MnSTAC backed approach has the potential to preserve four times the amount of canopy, retaining the valuable benefits of mature trees. Take a look for yourself at this document.

Also, take a moment to check out the MnSTAC webpage at www.mnstac.org and sign up for the weekly MnSTAC email list.

Link to publication: http://www.mnstac.org/uploads/2/0/9/3/20933948/mnstac_eab_info_packet_022417.pdf

Gypsy Moth Quarantine in Minneapolis

Minnesota Department of Agriculture News Release

The Minnesota Department of Agriculture (MDA) is placing a gypsy moth-infested area in the Lowry Hill Neighborhood of Minneapolis under quarantine beginning July 1 after a neighborhood resident reported a large insect population. The quarantine will be in place until early next summer.

The quarantined area extends from Mt. Curve Avenue on the north to Franklin Avenue West on the south, and Irving Avenue South on the west to Dupont Avenue South on the east.

The MDA was contacted earlier this month by a resident in the neighborhood who suspected a gypsy moth infestation after he noticed caterpillars on trees. MDA staff conducted a survey and found thousands of gypsy moth caterpillars that had already started defoliating trees.

Gypsy moths have caused millions of dollars in damage to forests in the eastern United States. The moths are common in Wisconsin and are now threatening Minnesota. If present in large numbers, gypsy moth caterpillars can defoliate large sections of urban and natural forests. They feed on over 300 different types of trees and shrubs.

www.mda.state.mn.us/gypsymoth

What does the temporary quarantine do?

- **The quarantine restricts the movement of trees and woody material, including firewood, out of the area.** Trees may be pruned, but all branches and woody material must stay on the property (even if limbs are chipped, gypsy moth eggs are still viable). Grass clippings can be removed from the area.

- **The quarantine requires self-inspection of any equipment, household items, or vehicles that are sitting outside in the quarantined area and are being moved out of the quarantine.** This includes items such as wood pallets, patio furniture, grills, and trampolines, as well as trucks, campers, and boats. Residents should look for gypsy moth egg masses which are brown, fuzzy blobs the size of a quarter. They should scrape the egg masses off the item or leave the item where it is.

"This is one of the worst gypsy moth infestations I have seen," said Kimberly Thielen Cremers, MDA's Gypsy Moth Program Supervisor. "Trees and outdoor items are covered with caterpillars. We're confident this insect came to Minneapolis through the movement of infested wood or outdoor items. This raises the importance of the quarantine. Residents can help contain this pest by not moving branches, firewood, or outdoor items out of the quarantined area."

Your guide for Identifying Preventing the Spread of Gypsy Moth

Poison Hemlock in Minnesota

Source: Minnesota Department of Agriculture

Emerging Invasive of Concern in Minnesota

Even as we try to stay on top of managing the invasive and aggressive species that are already in Minnesota, it is important to stay abreast of the emerging concerns. Looking to other surrounding states, it is not surprising that the Minnesota Department of Agriculture reports Poison Hemlock to be spreading quickly near St. Charles and Lanesboro in the South Eastern region of the state. We have provided some resources for you to be able to identify and properly respond to any sightings of this noxious weed.

Identifying Poison Hemlock

White flowers will likely get your attention May through August, but many look-alikes (See here) have similar white flowers. Poison hemlock plants in their first year are attractive, shaggy mounds of lacy, dark-green leaves.

Poison hemlock plants in their second year are usually 4-6 feet tall (extremes are 1-9 feet) with a green but purple-spotted stem and multiple white flowers. Over the summer months the flowers appear high up on the plant, and very airy and lacy. This white lacy look is a distinguishing characteristic when viewed from a distance. Read more at My Minnesota Woods.

WARNING

— All parts of this plant are poisonous to both animals and humans. Use caution when managing this plant.

— Do not ingest any parts of the plant as it is poisonous to humans and livestock. We recommend using gloves when handling the plant.

— Poison hemlock contains highly poisonous alkaloid compounds that can be fatal to humans and livestock. Poison hemlock easily invades disturbed/early successional sites and is typically found along roads, streams, trails, ditches, forest edges and waste areas.

Juniper Tip Blight

Wet summers give me the fungal blues

Kabatina-or-sclerophoma-juniper credit_MNDNR

The Tip of an Emerging Problem?

Reports of a fungal blight causing dieback on juniper have been reported by MNDNR in the *Forest Insect and Disease Newsletter* as well as in the *Plant Health Care Report* from the Morton Arboretum. Symptoms of tip dieback on juniper are most likely to be observed in areas of the state that have been experiencing a wet spring and summer.

There are three candidate pathogen species potentially responsible for the dieback. These fungi are *Phomopsis juniperovora*, *Kabatina juniperi*, and *Sclerophoma pythiophila*. MNDNR reports that the likely cause of dieback in Minnesota junipers is either *Kabatina* or *Sclerophoma.* The *Plant Health Care Report* from the Morton Arboretum in Illinois has reported juniper dieback to be associated with *Phomopsis*. Note that while *Kabatina juniperi* infects mainly junipers, both *Phomopsis* and *Sclerophoma* are known to infect other conifer species. For *Phomopsis* this includes white cedars and cypress, while *Sclerophoma* will infect pine species and Douglas fir.

Management strategies for dealing with juniper blight include removing infected branches and spacing plants to allow proper air flow. Branches should be pruned back to living wood and the removed branches destroyed as fungal spores are present on the material.

Cornell's Plant Clinic
has produced an excellent fact sheet on the condition

UMN Extension
has listed many of the possible causes for the blight

The Morton Arb.
Is a great resource for management solutions

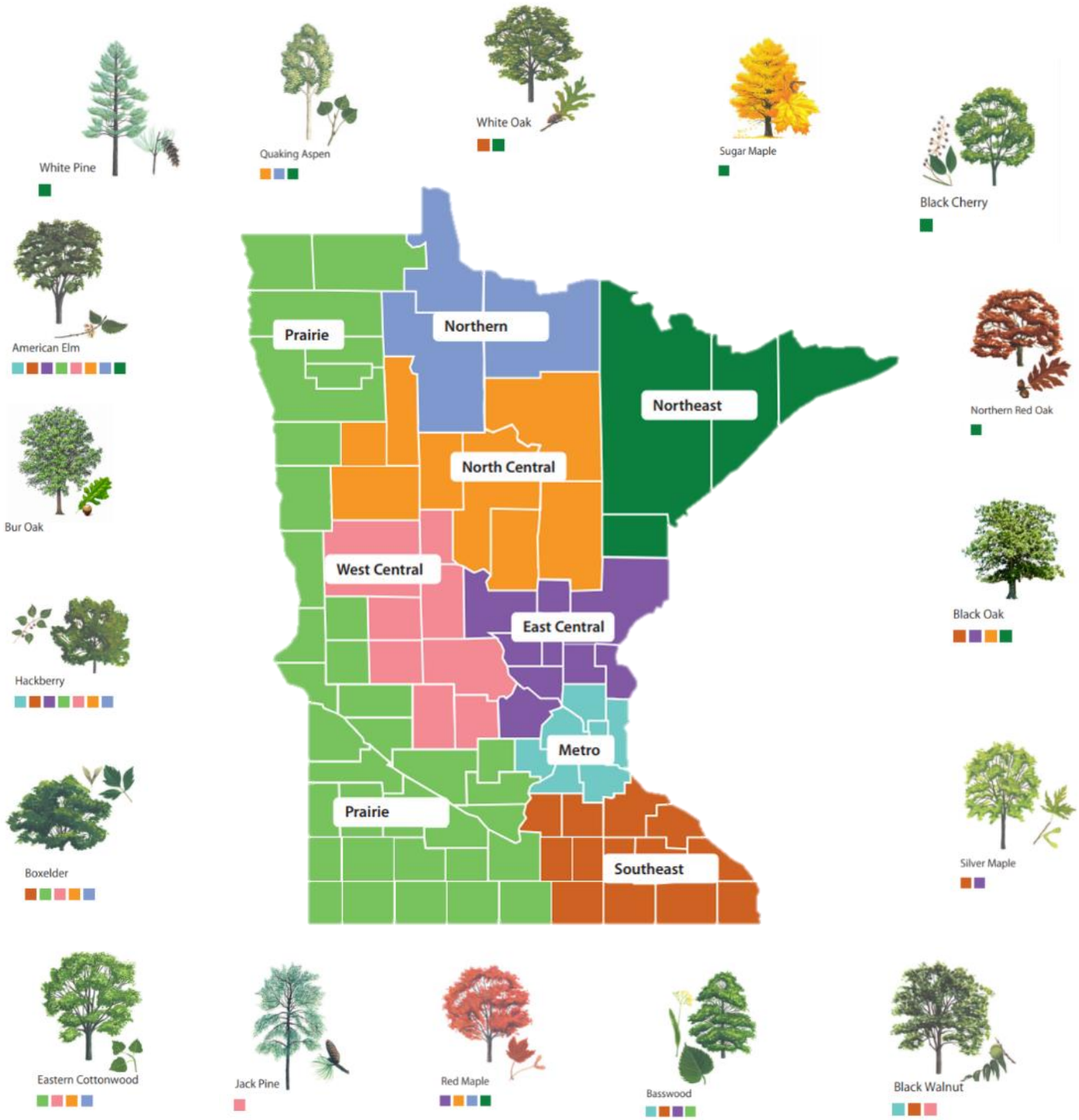
Need Even More Info?
The Connecticut Ag Experiment Station is here for you!

Phomopsis credit_M. Grabowski, University of Minnesota

Preview of Fall/Winter Tree IQ Issue

Native Trees that are projected to thrive in our future climate

Even though summer is still in full throttle, placing orders for 2018 nursery stock is just around the corner. Our next TreeIQ will focus on selecting tree species that will make sure your community forest thrives in the years to come. As our climate continues to change, which trees are expected to thrive in Minnesota is also changing. Here is an example of what's coming up in next seasons issue of TreeIQ!



Source: https://www.pca.state.mn.us/sites/default/files/trees_likely_to_thrive.pdf

Tree Inspector Program Notes

TreeIQ - The MN Tree Inspector Quarterly is a publication produced by the University of Minnesota in collaboration with agency partners aimed directly at Minnesota certified tree inspectors. *TreeIQ* is a seasonal electronic newsletter devoted to providing timely technical information and community connections for Minnesota's certified tree inspectors.

The University of Minnesota offers certification and recertification opportunities and proctors new certification exams at the certification workshops. For more information on the Tree inspector program, the certification, and other frequently asked questions, please visit us at www.mntreeinspector.com.

Contact treesins@umn.edu with any questions or submissions.

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