

# **Fhe Prairie Arborist**

The Official Publication of the ISA Prairie Chapter Issue 1 2022



# FROM THE PRESIDENT



For the first time in over two years, the entire Prairie Chapter Board met for a face to face meeting at the end of February in Edmonton.

Here, the 2022 budget was finalized, we moved forward with continual planning for our Tree Climb-

ing Competition, and we began finalizing the upcoming 2022 Prairie Chapter Conference to be held in St. Albert, AB on October 17 & 18.

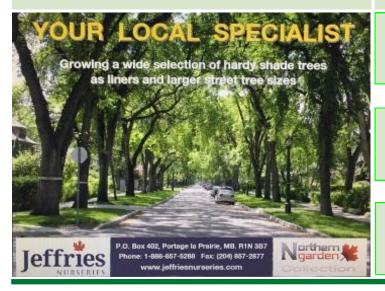
We were able to officially meet our new board members (elected at our AGM on ZOOM in October) and it felt great to shake some hands!

Currently our board covers a broad spectrum of the Arboriculture Industry. We have people in the private sector, municipal, commercial, educational; large companies and small companies; urban foresters, climbers, and Consulting Arborists. The wide range of expertise on this board has brought new ideas, strategic plan concepts, social media opportunities, and new contacts to the Prairie Chapter.

Along with that, we plan to continue with our webinars. We are grateful to those who have been willing to partner with and provide the Prairie Chapter membership some CEU opportunities. We plan to bring approximately four more from the Chapter to our membership before the fall Conference so keep an eye on the emails from Keith.

### TRAQ

Registration is open for TRAQ course that will be running in Olds, AB in May. The full workshop is now sold out, but



if you need to renew your TRAQ, there are lots of seats available in that.

Registration is now open for a second TRAQ taking place in Edmonton in June. Check the website for registration information and forms.

### **Chapter Awards**

The board would like to put a more active focus on Achievement Awards within the Prairie Chapter.

We have many worthy communities, companies and individuals in our industry, on the Prairies that should be acknowledged or recognized for their contribution to Arboriculture on the prairies.

If you know of a community with an exceptional Arbor-Day program or a company promoting arboriculture and contributing in a positive way to the urban forest, please contact VP Peter LaRue (his contact info is on page 15).

Or, you may know of someone in arboriculture education that has a long meaningful history teaching students for the future of the industry. You may know of someone doing research or a maybe a student excelling and contributing in some positive way, or, you may know someone who is just a phenomenal tree-person. We want to know. The board will be actively seeking out potential award recipients, but we would also like to hear from you!

If you have someone, a company, or group of people in mind, please contact the ISA Prairie Chapter Office, or Peter LaRue (our Awards Coordinator & Vice President).

Enjoy these lengthening days and remember that Spring is on the move! See you soon.



# Alberta Elm Pruning Ban April 1st to September 30

Manitoba Elm Pruning Ban April 1st to July 31

Saskatchewan Elm Pruning Ban April 1st to August 31

# Wassup? News You Can Use



### Save the Date

**Certification Exam** 

There are no paper based exam opportunities available at this time.

All Arborist Certification candidates are encouraged to write their exam on line

Apply for eligibility here: https://www.isa-arbor.com/Credentials/Apply-Now/Apply-for-Eligibility

Enroll to write the exam here: https://www.isa-arbor.com/Credentials/Apply-Now/Enroll-to-Take-Exam



### Save the Date

Tree Risk Assessment Requalification

Did you know that you can now renew your TRAQ designation on line? Its true.

You can register with any Chapter that is hosting an online TRAQ renewal.

For upcoming TRAQ renewal go here:

https://wwv.isa-arbor.com/events/eventscalendar/ index?category=ISA+Qualification%20Renewal

For more information please call the Prairie Chapter office at 866-550-7464

TPAQ TPAQ Total Constant CONSCIENT OF CONSULTING ARBORISTS

ASCA's Tree and Plant Appraisal Qualification (TPAQ)

This course is being revised and is expected to be available in 2023. There are no workshops at this time. **TRAQ Workshops** 

Registration is now open for two

TRAQ Workshops

May16 in Olds, AB-One day renewal.

May 17,18, 19 in Olds. Full Workshop Sold Out

And

June 21 in Edmonton-One day renewal

June 22,23,24 in Edmonton. Full Workshop

http://www.isaprairie.com/trag-workshops

Save the Date

The Prairie Chapter is planning a live Conference to be held in St. Albert, AB October 17 & 18 2022

Managing Growth, Limiting Liability,

Don't miss this long overdue opportunity to network and bump elbows with your Fellow Arbs

More information to follow as the planning unfolds



The 2022 Prairie Chapter Tree Climbing Competition

is being planned for August 27, 28 in Regina, SK.

2022 Prairie Chapter

Hope to see you there.

# Bird Nest Protection - What you should know

The Prairie Arborist

state that nests

proximate dates of April 20 through to August 30<sup>th</sup>. The implications of disturbing nests within this period are serious and include fines and possible imprison-

ment – see section 13(2)(a)(i) of the act. Note that

the few species that may nest in March would likely

be Raven, Great horned owl, and Canada goose. So

generally speaking, if you can avoid these 3 species,

Avoid tree and brush clearing activities wherever possible during the General Nesting Period of March 1 to

most birds and avoid contravention of the nesting bird

protection provisions under any applicable provincial

wildlife legislation and the federal Migratory Bird Con-

vention Act. Once again provincial regulations may

August 31 to protect the active nesting season of

you would likely be safe until April 20.



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Submitted by Andre Savaria

Arborists should be aware of the Federal Migratory Birds Convention Act Legislation that protects active nests and nests of protected birds year-round on crown land <u>and private property</u>, and ensure that they are in compliance to avoid any

possible fines.

Note that <u>provincial</u> legislation may also exist in each of Prairie provinces that could impact your operations. For example, under possible provincial regulations nests of eagles, peregrine falcons, gyrfalcons, osprey, herons, and burrowing owls maybe protected year-round, regardless of nest activity. From a <u>federal perspective</u>, great blue heron

nests are protected year-round.

Under the Federal Act, the following definitions apply

### migratory bird

means a migratory bird referred to in the Convention, and includes the sperm, eggs, embryos, tissue cultures and parts of the bird; (oiseau migrateur)

**nest** means the nest of a migratory bird and includes parts of the nest. (nid)



Google Image Photo credit: Mathew Schwartz

The link for the Federal Migratory Birds Convention Act legislation can be found

https://laws.justice.gc.ca/eng/acts/M-7.01/

In general, the legislation prohibits the disturbance or destruction of active nests and eggs. In Alberta a map of the Nesting zones in Canada can be found at this link <u>https://www.canada.ca/en/environment-climate-change/</u> <u>services/avoiding-harm-migratory-birds/general-nesting-</u> <u>periods/nesting-periods.html</u>

In terms of the ISA Prairie Chapter, the region of concern largely falls within Zone B on this map – and specifically zone B for the Edmonton area. In this map, there is a high likelihood of encountering active nests between the apnest surveys for protected nests must be conductear-round to avoid contra-

ed prior to tree clearing year-round to avoid contravention of the nesting bird protection provisions under the applicable provincial wildlife Act. Authorization from the Province and/or Federal Government is required to remove or modify a tree, snag, or other vegetation containing a nest of these species.

If tree and brush clearing must proceed during the General Nesting Period if trees or brush pose significant risk to the public or private property, or prevents safe access and use of trails, parks, and roadways, then individuals should undertake their due diligence to prevent harm to nesting birds. If tree removal during the General Nesting Period is unavoidable, a bird nest survey by a Qualified Avian biologist or avian naturalist, shall be conducted to identify any active or

(Continued on page 5)

### Issue 1 2022

# **Bird Nest Protection**

### (Continued from page 4)

protected nests. Tree and brush clearing may proceed if no active or protected nests are detected.

Works undertaken around active or protected nests must follow appropriate nesting season buffer zones and best practices to ensure compliance with any applicable provincial wildlife legislation and the federal Migratory Bird Convention Act.

If active or protected nests are detected and tree or brush clearing must occur, authorization by the province and/or Federal Government is required. Professionals must be familiar with and reference the resources listed below, where appropriate.

Reducing Risk to Migratory Birds. Available online: Guidelines to reduce risk to migratory birds - Canada.ca

NOTE: This is not considered legal advice. You should obtain legal counsel for interpretation of federal/provincial laws and regulations.

Article by: Andre Savaria RPF#317 ISA Certified Arborist PR-4880A Certified Tree Risk Assessor - TRAQ Ecofor Consulting Ltd Cell 780-288-8680



E.



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## Registration for the ISA 2022 Annual International Conference in Malmö Sweden is now open

ISA is excited to return to an in-person conference in 2022 with the ISA Annual International Conference hosted in Malmö, Sweden 12-14 September.

### All speakers will present in English.

For more information on this event or to register visit:

https://na.eventscloud.com/ISA2022Conference/









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# How Much Are Your Trees Really Worth?

# By Daniela Gonzalez Porch Magazine Used with Permission.

**Note from the editor:** Article is an excerpt from the U.S. but with some great general information.

# Learn just how much benefit your trees are adding to your property.

Everyone knows trees are valuable, but did you know you can actually calculate their specific added value to your property? If you've ever had to purchase a tree for your yard, you know that it can be an expensive investment, even for a young tree. And maintaining this tree can also be costly, such as leaf removal or tree trimming.

Having mature trees in your yard or property is usually

seen as value commodity: trees provide necessary shade for houses, can act as a screen for unwanted noise or views, protect slopes from erosion, and are pretty to look at. But they can block a desirable view, create a leafy mess, cause damage to the home from broken limbs, and roots can damage driveways or underground pipes. So, should you be planting more trees in your yard or paying for their removal?

### Overall benefits of trees

To get to the bottom of the question, "how much are my trees worth," let's take a look at the Tree Benefit Calculator. With just a few pieces of information, this website can tell

you just how much value your trees are adding to your property. For example, in my climate zone, a 25-inch diameter Big Leaf Maple tree provides overall benefits of \$196.00 per year to my property.

Other species, and their size, may lead to a larger or smaller cost-benefit. A similarly-sized Douglas Fir provides an annual benefit of \$232, with varying benefits to the property value, energy savings, and CO2 absorption. Overall, all trees benefit our environment, and it's always in our best interest to maintain them. Let's take a look at the specific cost benefits of owning trees.

### Stormwater absorption by trees

The calculator estimates that within the course of one year, this 25-inch diameter maple tree will intercept 2,188 gallons of stormwater runoff on my property. The

image below shows just how much a tree does for water runoff, important for both wet climates that see continual rain as well as semi-dry climates that occasionally see flash-flood type of conditions. When rain falls, leaves and branches slow down the flow of water to the ground. Roots absorb water and also act as a filter for water running into our waterways.

As our towns and cities become covered with more concrete and asphalt, it's incredibly important that trees are planted to help filter water before it ends up in our rivers and lakes. And if you've ever had a neighbor cut down a lot of trees, then see how your property fills with water during a rainstorm; you can immediately see the impact that those roots had in absorbing water. In fact, property flooding isn't necessarily due to too much water; it's too

much water with too few trees to absorb the excess.

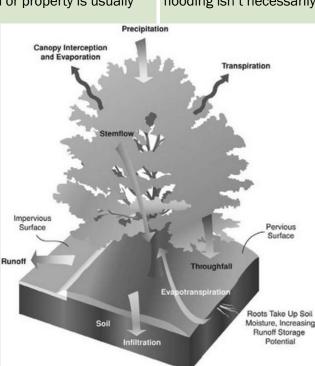
# Property value increases with trees

The presence of trees (or lack thereof) can significantly impact your property value. Using the same data. Tree Benefits calculates that this single maple tree will raise my property value by \$120 this year. Much of this calculation is based on Leaf Surface Area (LSA) models, "that's a researcher's way of saying that a home with more trees (and more LSA) tends to have a higher value than one with fewer trees (and lower LSA)," according to their website. The higher the LSA,

the higher the property value.

The Pacific Northwest Research Station recently conducted a study of just how much trees raise property values in the city of Portland, Oregon. Considering the annual maintenance cost that cities spend on trees, understanding the economic value of these trees is important.

In fact, this study found that the presence of trees along the street increased the sale prices of houses in east Portland neighborhoods by an average of \$8,870 and reduced time on the market by an average of 1.7 days. Trees in front of the house also increased the home's sale price by an average of \$7,130. "Citywide, street trees add \$1.1 billion to Portland's property value, or



# How Much Are Your Trees Really Worth?

### (Continued from page 6)

\$45 million a year. Annual maintenance costs of \$4.6 million are a small fraction of the trees' value and are

mostly borne by property owners." (\*Data and information from itreetools.org)

### Energy benefits of trees

Trees can provide necessary shade for houses, which creates a cooler interior environment. My example of the single maple tree is expected to help me conserve 92 Kilowatt/hours of electricity this year.

The illustration shows the

three primary ways trees can help reduce the amount of electricity or natural gas homeowners spend heating or cooling their homes. Trees provide shading for a house, making the house cooler and can reduce the amount of heat absorbed by the structure.

Evapotranspiration, which is the process of liquid water

converting to water vapor and subsequently cooling the air, helps create a slightly lower air temperature. Additionally, trees and tree canopies can slow down the surrounding wind, reducing the amount of heat lost through the house (like windows).

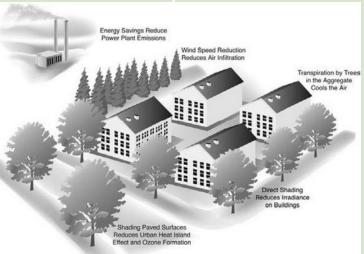
# Air quality improves with trees

Most of us are aware that

trees can provide oxygen to our environment as well as absorb carbon dioxide, creating a better air quality. Air

(Continued on page 8)





### Page

# How Much Are Your Trees Really Worth?

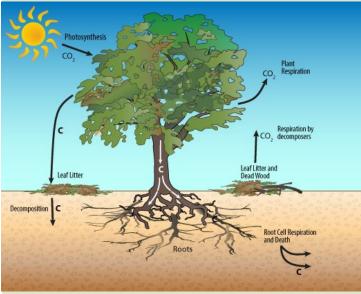
### (Continued from page 7)

pollution is a health hazard for many people globally, leading to asthma, cancer, or serious respiratory diseases. Trees can absorb numerous toxic chemicals like sulfur dioxide, nitrogen dioxide, and ozone. Trees can also absorb tiny particles like dust, ash, and smoke, which can get into our homes and lungs. Trees can lower the overall air temperature, reduce ozone production, and release oxygen into the air. The destruction of forests negatively impacts our overall air quality, but planting even one tree on your property can positively impact your surrounding environment and air quality.

### Carbon dioxide absorption by trees

Carbon dioxide is released into our environment in multiple ways, but the most common are vehicles and other forms of transportation. My single maple tree is expected to reduce atmospheric carbon by 694 pounds this year. In comparison, an average midsize car can generate about 11,000 pounds of CO2 per year. So although one tree doesn't cut out a person's entire carbon footprint, planting trees in your yard and helping to preserve trees in your neighborhood can significantly help absorb CO2 in your environment.

According to Tree Benefits, trees sequester CO2 in their roots, trunks, stems, and leaves as they grow. Additional-



Carbon Cycle of a Single Tree. Credit: Valerie Martin, TERC

ly, trees can help reduce the need for heating and cooling, leading to lower CO2 production.

Check out the National Tree Benefit Calculator. http://www.treebenefits.com/calculator/index.cf



**The Prairie Arborist** 

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### Summer Disease Refresher-European Elm Scale



Google Image

### By Toso Bozic

European Elm Scale (Eriococcus spurius, also known as Gossyparia spuria). European elm scale is danger to our elm trees and it can create significant damage on the Prairie Provinces. The elm trees add significant beauty to our Western Producer cities, towns and farms. These majes-

tic trees are mostly recognizable by the umbrella looking crowns, thick furrowed bark and unique leaves with very uneven bases at the leaf stalk: a familiar characteristic of all elms. It has been introduced insects from Europe in 1884 to the USA and spread very quickly from coast to coast.

### Pest ID

It is relatively easy to recognize this insect. It attacks only elm trees. From a short distance, you will notice the dark black colour of branches or stems on affected trees (compare to the brown/gray colour of healthy trees). This black colour comes from oozing soothing mold that is growing on the honeydew produced by the insect sucking sap from the branches and leaves. In closer inspection, you will notice a brown colour scale surrounded by a very distinct white waxy fringe around the body of the scale. The other scales do not have this white waxy fringe around the body of the scale. The scale is up to 10 mm (5/16 inch) long with males smaller than females. It has a one-year generational life cycle. Female scale overwinters between bark cracks or twig notches.



European Elm Scale Crawlers/nymphs Google Image from Utah State University

### How To Detect European Elm Scale-Symptoms

As results of attack of this insect, it can significantly reduce growth, kill branches and eventually kill trees.

There are several symptoms to recognize that elm trees are under the attack of this insect:

- The dark black colour of bark on branches or trunk due to soothing mold growing on honeydew
- Sticky honeydew secretion on leaves, bark, sidewalks, vehicles or nearby structures
- Yellowing of the leaves will lead premature leaves drops
- In springtime, leaves are developing later compared to healthy trees
- Branch dieback and the very thin canopy is usually a symptom of a very heavy infestation



Visible, Mature Scales Google Image from BioForest

(Continued on page 10)

# Keep Alberta DED free

- Under the Alberta Agricultural Pests Act (APA) "Pest and Nuisance Control Regulation (PNCR)" the Dutch Elm Disease (DED) pathogens, smaller European elm bark beetle, and the native elm bark beetle are named declared pests.
- DED prevention/control measures for Alberta are enforceable under the APA and are found on the STOPDED website.
- Elm trees from a DED infected province cannot be shipped into Alberta.
- Elm Pruning Ban is April 1 -September 30 annually



STOPDED

Society to Prevent Dutch Elm Disease www.stopded.org 1-877-837-ELMS (3567)

### Summer Disease Refresher-European Elm Scale

**The Prairie Arborist** 

### What Can You Do - Management

In Alberta, you are not allowed prune elm trees between April 1 to September 30. So any

pruning of affected trees should be done after these dates. European elm scales is danger and to reduce negative impact. Our services can help you with several management options for the control:

- Keep elm trees healthy by regular watering and if necessary adding fertilizer to boost growth and vigor of affected trees. Watering is critical during a drought period
- Use a pressure water gun to remove overwinter female's scales to produce new eggs once leaves drop or before

spring bud break. Make sure that you don't excessively damage bark during this process especially on young trees



Google Image from BioForest

To kill overwinter nymphs you can use dormant horticulture oil early in spring before bud breaks or in fall when leaves drop. When you apply horticulture oil, you need to be conscious of the

> weather. Weather is a critical factor when using horticultural oil. The temperature should be above O Celsius and there is no rainfall in the weather forecast with 24 hours allowing oil to dry

• On very small trees you can use a dry brush to physically remove scale instead of using water pressure or horticulture oils

• Use of insecticidal soap to kill crawlers as foliar control

• To protect trees you may use insecticide. For any chemical control, you may hire a professional pest licensed company to inject insecticide in the tree or for performing foliar spraying

Avoid root damage and soil compaction which overall will negatively impact the health and vigor of the elm tree

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# COME GROW WITH US

### Issue 1 2022

# Summer Disease Refresher-Cytospora Canker

**Prairie Shelterbelt Program** Agriculture and Agri-Food Canada Disease Leaflet

### CYTOSPORA CANKER Cytospora kunzei

Hosts: Colorado and White spruce

### **Distribution and Disease Cycle:**

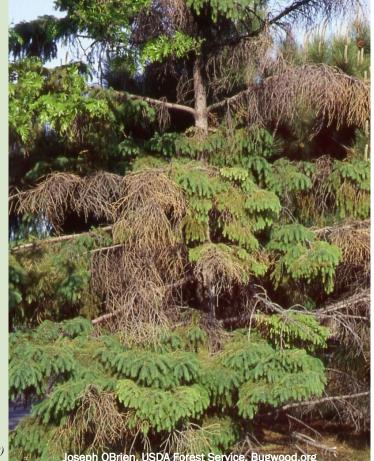
Cytospora canker is caused by a fungal pathogen which attacks many species of conifer, including Colorado, white, Norway, and Engelmann spruce and Douglas-fir, with Colorado spruce more susceptible than any other species.

Spores are released from cankered branches throughout the growing season and spread by rain, wind, insects, birds or man to other branches on the same or other trees. Infection typically occurs through wounds, first infecting and killing the bark and eventually spreading to kill the entire branch.

Cytospora can also be opportunistic, growing in bark killed by other pathogens. Damage is usually seen on older, larger trees.

### Symptoms and signs:

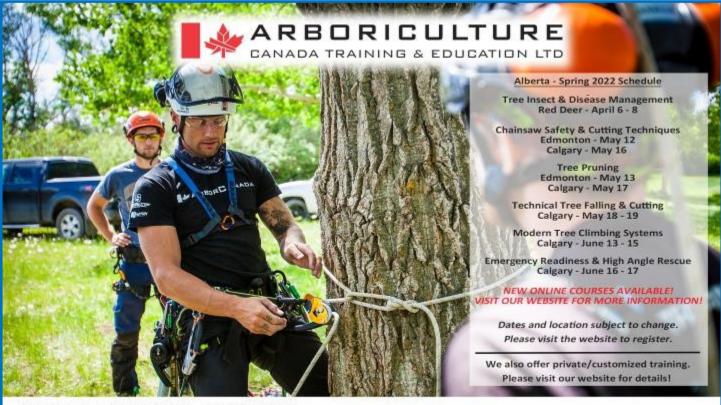
Cankers are a necrotic lesion on a localized area of stem/ (Continued on page 12)



ervice, Bugwood.org

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STIHL

#### Summer Disease Refresher-Bronze Leaf Disease **The Prairie Arborist**

(Continued from page 11)



trunk tissue where tissue has died. Symptoms of Cytospora canker typically start on lower branches, with all needles on a branch being equally affected. Needles on infected branches turn brown and eventually drop, leaving entire branches bare, with dead (cankered) areas of the bark exuding a white or bluish resin. Infection is usually most severe on crowded or stressed trees.

### Control:

Because Cytospora typically infects trees weakened by environmental stresses, maintain tree vigour by watering during periods of drought, do not cultivate deeper than a few inches nearby trees and avoid inflicting wounds to bark which act as infection entry points.

Remove and dispose of infected branches, these branches will not recover and only will serve as a source of infection. Prune during late winter or during dry periods whenever cankered branches are discovered. Prune to a lateral branch at least 10-15cm below any visible cankers or to the main trunk as required, sterilizing pruning tools with 5% bleach solution or alcohol between cuts.

When trees become large and crowded, thinning out some trees may help increase aeration and provide some control.

There are no chemicals registered for canker control in spruce.



Agriculture and

**BRONZE LEAF** Agri-Food Canada Apioplagiostoma populi

### Hosts:

Trembling aspen, Swedish columnar aspen, tower poplar

### **Distribution and Disease Cycle:**

Symptoms typically appear in midsummer. Spores are



dispersed from April-June when rainfall is present and temperatures are around 18°C. Once infected, the fun-

(Continued on page 14)





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I have created a wonderful lifestyle. I work very hard as an 'arborist' eight months of the year and enjoy traveling around the world the other four months. We are very lucky. I am not a big company, I usually employ three or four people to work with me, some of whom have been with me for many years. The rewards of our hard work are shared with my employees, as I never aimed to get rich off the backs of others. We work hard five days a week, but only about 140 days per year, as there is more to life than money. I could have grown the size of my business, but with annual sales of \$450,000, I make a comfortable living after all the bills are paid.

I have all the most up-to-date equipment in our industry, totaling \$600,000 in assets. Everything that is needed to operate a safe and efficient tree service is here and included. My company is very well known in the area and we always have more work then we can take on, with almost no advertising. There is definitely room for expansion if you want to work year round.

I'll be 63 years old this year and tree work is a young man's game. It is time to retire and let a young hardworking person take over. 'A good life' is what I'm selling, all the equipment, trucks, trailers, tractors and tools, my business name, contacts, website and a business reputation of integrity. This includes the acreage and our home with all its furnishings. We just take some personal items and start enjoying retirement.

You don't have to be an arborist, you just need to be willing to work hard and learn, everything is in place here for you.

> \$1,550,000 and you can have 'my good life' P.S. I am keeping the wife.

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### Summer Disease Refresher-Bronze Leaf Disease

#### (Continued from page 12)

gus moves systemically within the leaf 's vascular system, making it difficult to control.

### Symptoms and signs:



Leaf margins develop yellow, orange or reddish brown discolourations, which expand to consume the entire leaf. Often veins remain green while the remaining leaf tissue becomes discoloured.

Depending on the host, all leaves on a single shoot may exhibit symptoms of the disease or symptomatic leaves may be scattered throughout the crown of the tree.

Eventually, leaves develop a bronze or dark reddish brown hue, often remaining attached to the tree, rather than abscising in fall. As the disease progresses, the fungus will infect the stem and cause dieback after several seasons of infection.

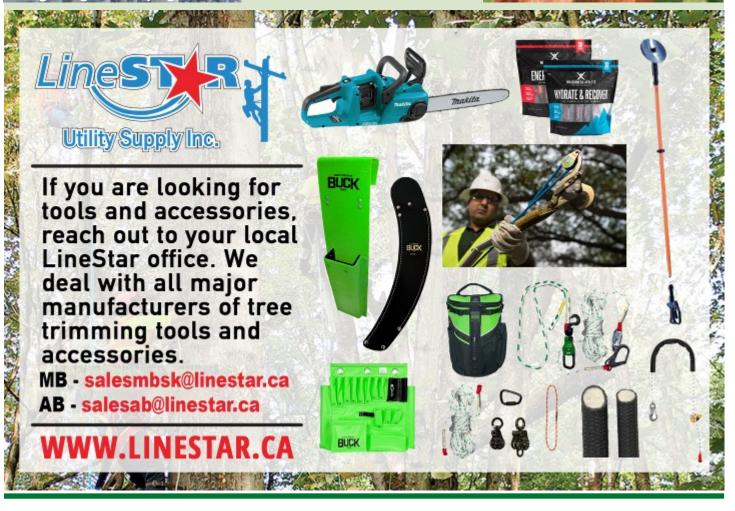
### Control:

Remove and destroy fallen leaves if

possible. Prune to remove dead branches and increase air circulation; avoid dense plantings that can reduce air fl ow. Avoid using monocultures of susceptible species in mass plantings or shelterbelts which can accelerate disease spread.







*Issue 1 2022* Page 15 ISA PRAIRIE CHAPTER EXECUTIVE & DIRECTORS **ISA Prairie Chapter Executive Provincial Directors** ALBERTA PRESIDENT Andre Savaria **Toni Marie Newsham** Edmonton, AB Didsbury, Alberta (780) 288-8680 403.415.5709 alsavar@telusplanet.net tmn200@gmail.com SASKATCHEWAN VICE PRESIDENT **Timothy Yeaman** Peter LaRue Prince Albert, SK Vegreville AB (306) 953-4802 780-603-5317 tyeaman@citypa.com peter@laruetree.com MANITOBA SECRETARY TREASURER Matt Vinet Mimi Cole Winnipeg, MB Rocky Mountain House, AB 204-471-8640 (403) 844-3571 mvinet@greendrop.com rockytreegrl@gmail.com DIRECTOR AT LARGE - Alberta **EXECUTIVE DIRECTOR Jacqueline Butler Keith Anderson** Beaumont AB (780)906-3823 Phone 1-866-550-7464 jacqueline.butler@edmonton.ca Fax 1-866-651-8423 office@isaprairie.com NEWSLETTER COMPILER, EDITOR, PUBLISHER **CERTIFICATION LIAISONS** Keith Anderson **Charlene Scott** Box 757 (403) 556-4730 North Battleford, SK S9A 2Y9 cscott2@oldscollege.ca 866-550-7464 **Keith Anderson** office@isaprairie.com office@isaprairie.com **ISA Prairie Chapter Office** 

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June	May 31
September	August 31
December	November 30

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# RELIABILITY THAT COUNTS

### MS 500i GAS CHAIN SAW



The **MS 500i** is the first chain saw in the world to feature electronically controlled fuel injection, making it a true innovation. When it comes to professionally harvesting large trees, this high-torque machine cuts through wood with ease. Rapid acceleration and dynamic pivot behaviour mean that the **MS 500i** is perfect not only for felling and cutting into lengths, but also limbing. With sensor-controlled fuel metering, it is an excellent starter with outstanding engine performance, regardless of the altitude and ambient temperature. There's also no starting lever, which makes starting very easy under all conditions. Its engine technology, which is revolutionary for chain saws, and resulting intelligent lightweight construction results in the best power-to-weight ratio on the market.

- Optimum engine performance from the first pull under all conditions
- Injection technology built-in sensors measure air pressure and internal/external temperature that ultimately passes information to the control unit, which determines the optimum fuel quantity and ignition timing
- Rapid acceleration in an unbelievable 0.25 seconds, enabling this high-torque machine to provide power immediately
- Captive nuts are connected to the lightweight sprocket cover so they don't get lost in the process of replacing the cutting attachments

Note: Wrap handle version is also available.

SPECIFICATIONS	
DISPLACEMENT	79.2 CC
POWER OUTPUT	5.0 KW
WEIGHT (0)	6.2 KG/13.7 LB

③ Weight with powerhead only.



