

Horticultural Inspection Society Central Chapter Newsletter

Join us for a Virtual Conference this year!

The **50th Annual HIS Central Chapter Conference** will be held online and 'virtually' this year, due to restrictions from the ongoing coronavirus pandemic. HIS Ohio was originally scheduled to host this year's meeting and is now making plans to host in October of 2021, barring further complications.

The **HIS Multi-State Group Inspection** scheduled to take place August 17—19 in Minnesota this year was also postponed, and has been rescheduled for August 2021 in Minnesota as conditions permit.

2020 HIS Central Chapter Conference Virtual Session Schedule

<u>November 5 – Cindy Music</u> – CERIS; Nursery Inspection Database, <u>Tom Creswell</u>; Purdue Plant and Pest Diagnostic Lab - Interesting Finds at the Lab

<u>November 19 – Eric North</u> – University of Minnesota; Why Nursery Inspectors Matter – The long term effects of quality nursery stock

December 3 - Bill McAdams - McAdams Consulting; What's Bill Seeing in Nurseries?

<u>December 10 - Monique Sakalidis</u> – Michigan State University; Oak Wilt, Phytophthora spp., and Spruce Decline

All online session rooms will open at 9:00 AM EST via Zoom with presentations beginning at 9:30 EST and running until approximately 11:30 AM EST.

Click on the links above to register for the individual presentations. You will then receive an email and link to join the meeting with an option to add to your calendar.

Also, don't forget to <u>renew your membership</u>, it's free this year! (See the details, next page - this is a great opportunity to introduce potential new members to the HIS Central Chapter, for FREE)

Enjoy the conference!

Volume 49, Issue 1

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HIS Central States Chapter Officers & Board

- President: <u>Charles Elhard</u>, North Dakota
- Vice President: <u>Fred Meyer</u>, Ohio
- Secretary: <u>Eric Biddinger</u>, Indiana
- Treasurer: <u>Deborah Davis-Hudak</u>, Minnesota
- Newsletter: <u>Tim Boyle</u>, Wisconsin



The President's Message

Thanks to everyone who attended the 49th annual meeting in Fargo in 2019 and to those who attended the virtual 50th annual meeting this past week. 2020 has been a year for the memory books with COVID-19 rearranging not only our daily lives but the way we conduct day-to-day business as well. Hopefully in 2021 we can all get together again. Our interstate inspection training is set to be hosted by Minnesota next August and our annual meeting in Ohio in October. During our 2020 business meeting, HIS members voted to suspend dues for 2021 year. We plan to use this 'free' year as an opportunity to recruit new members. We will also be offering an online speaker series and plans are in the works for special topic discussions for inspectors via online meeting rooms. Be on the lookout for membership renewal information and announcements for upcoming virtual training options. I hope you have a great winter and take some time for yourself. The 2021 inspection season will be here before you know it.

Respectfully,

Charles Elhard, HIS-Central Chapter President North Dakota Department of Agriculture

"During our 2020 business meeting, HIS members voted to suspend dues for the 2021 year. We plan to use this 'free' year as an opportunity to recruit new members."

HIS Membership Dues Structure

Dues for new members or as renewals are normally \$20 annually, but will be waived for 2020.

This allows free attendance to our virtual conference this year, access to any special virtual instructional workshops and sessions until the year's end, and a subscription to the HIS Central Chapter Newsletter.

Dues for 2021 will be due by the October 2021 Meeting (scheduled for Ohio) and if you are not attending the meeting your dues are required to be paid by December 31, 2021.

What?! No membership dues this year?!

That's right! Membership dues will not be required for Central Chapter HIS members for the year 2020.

In what may qualify as a tiny silver lining inside an otherwise dark cloud of coronavirus disruption and confusion, the HIS Central Chapter found itself with a relative budget surplus this year (how often does anyone say THAT these days?) and voted unanimously during the business meeting October 22, 2020 to suspend dues for the remainder of this year.

Without the costs of booking our usual physical annual conference and interstate group inspection event, it was decided that this year's 'extra money' would be best used to spare the current membership of another expense during what has been a difficult financial time for many, and also to create a cost-free opportunity to introduce coworkers, LTE's, and members of other agencies involved in our related work to the resources of being a member of the Horticultural Inspection Society.

Think about all the people throughout the many diverse areas that you work with; the people you go to for answers to those really unusual, interesting, and often difficult questions about horticulture, wood products, beekeeping, ecological interactions, invasive species, environmental sciences, plant pathology, compliance issues, and entomology, just to name a few. These are the folks that would benefit most from an HIS membership, and those that would be a valuable resource to HIS as well. Please ask if they would like a free membership to see what HIS is about—they can sign up at the link below.

Current and new members please visit <u>this link</u> to update your membership application and contact information so that we can maintain our database and membership list. Thanks!



Robert McAdams Awards Presented

Fred Meyer, veteran Plant Health Inspector from Ohio was the recipient of the 2019 Central Chapter's Robert McAdams Award, determined by vote during the 2019 HIS Business Meeting at the Annual Conference October 2019 in Fargo, ND.

Fred accepted his plaque commemorating the award along with a \$50.00 check from HIS President Elhard during the virtual business meeting on October 22nd.

For being recognized with the Robert McAdams Award, Mr. Meyer also became the Central Plant Board's (CPB) recommended nominee for the Carl E. Carlson Award.

The Carl E. Carlson Award is a issued annually by the National Plant Board (NPB) to one or more individuals nominated by each of the Regional Plant Boards as a Distinguished Achievement Award in Regulatory Plant Protection.

The 2020 nominations submitted for the Robert McAdams Award before this year's HIS Central Chapter Business Meeting included Susannah lott, from Michigan, and David Simmons, from Minnesota.

David Simmons was selected by popular vote as the recipient of the 2020 Robert McAdams Award during this year's virtual meeting, using online polling.

Mr. Simmons will have his name forwarded to the Central Plant Board Awards Committee Chair as next year's Central Chapter nominee for NPB's Carl E. Carlson Award in Regulatory Plant Protection.

Congratulations Fred Meyer and David Simmons!

Robert McAdams Award Winners		
2020	David Simmons (MN)	
2019	Fred Meyer (OH)	
2018	Ken Cote (IN)	
2017	Kathleen Pratt (NE)	
2016	Charles Elhard (ND) and Paul Anderson (SD)	
2015	Konnie Jerabek (WI)	
2014	Julia Thompson (MO)	
2013	Ryan Krull (IA)	
2012	John Bock (MI)	
2011	Bob Buhler (KS)	
2010	Todd Voss (IA)	
2009	Barry Menser (MI)	
2008	Susan Ehlenbeck (MO)	
2007	Stephen White (KS)	
2006	Dave Johnson (MO)	
2005	Steven Shimek (MN)	
2004	Lee Burgess (MO)	
2003	Bill McAdams (IA)	
2002	Vicki Wohlers (NE)	
2001	Bill Hilbert (KS)	
2000	Bruce Cummins (IN)	





Meanwhile, last year at this time...

North Dakota played host to the 49th Annual HIS Central Chapter Conference, October 21 - 24, 2019 at the Radisson Hotel in Fargo. Eleven of the twelve central chapter states were represented the conference and business meeting. The location was great, the autumn weather was nice, and it seemed like those that had never visited before came away finding Fargo much more interesting and cosmopolitan than they had expected.

Huge kudos to outgoing president Susie lott and the Conference Planning Committee, especially Charles Elhard and the North Dakota Department of Agriculture Plant Industries staff for a well-organized and smooth-running event.

Conference highlights featured presentations about a WIDE variety of interesting subjects, including what tree rings can tell us about a tree's history of flooding, growth, and environmental influences, research into phytoplasmas, North Dakota's winter hardy grape breeding project, the specifics of diagnosing stigmina needlecast versus other types of needlecasts and conifer pathogens, invasive forest and urban tree pests to be on the lookout for, entomological photography and the pitfalls of online insect identification, a view into the workday of North Dakota apiary specialists, and what it's like to be a customs agent for the U.S. Border Patrol stationed at Pembina, North Dakota, on the Canadian Border, along with much more. (!)

A round table discussion had the membership sharing experiences and future ideas concerning recent P. Ramoram regulatory issues in the nursery industry. Conversations over lunch and in the Hospitality Suite brought members from all corners of the chapter together informally, getting answers to their long-sought inspection questions, recalling war stories and wise-cracks, and sharing some incredible inspection images on the large flat-screen provided with the suite.

The conference's field day wrapped up with a tour of the Northern Crops Institute on the NDSU campus, and an excellent buffet dinner with refreshments at the Drekker Brewery in Fargo.

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Commodity Grading Laboratory



2019 Conference Highlights:

Dr. Joe Zeleznik, North Dakota State University Extension Forester: Tree rings and what they tell us

Dr. Jim Walla, Owner of Northern Tree Specialties and former NDSU pathologist: Spruce needlecast diseases and other conifer pathogens

Dr. John Ball, Professor, SDSU Extension Forestry Specialist & South Dakota Department of Agriculture Forest Health Specialist: Invasive forest pests on the horizon

Dr. David Dai, NDSU Plant Sciences: Woody Plant Physiology and Phytoplasmas

Dr. Harlene Hatterman-Valenti, Professor NDSU: High Value Crops Winter hardy grape breeding project

Dr. John Bonkowski, Purdue University Plant and Pest Diagnostic Lab: Sudden Oak Death, P. ramorum



Dr. Todd West, NDSU Assistant Dean, College of Agriculture, Food Systems, and Natural Resources, Horticulture Undergraduate Program Coordinator, Professor: Woody Plant improvement program

Dr. Gerald Fauske, NDSU Entomology Research Technician: Photographing and collecting samples for laboratory analysis and identification

Samantha Brunner, NDDA Plant Industries Director and State Apiarist: North Dakota Apiary Program



Neil Halley, U.S. Customs and Border Patrol Agricultural Specialist, Pembina, ND

Lezlee Johnson, ND Forest Service, Forest Health Specialist, and Dr. Joe Zeleznik: Tree House of Horrors and Hands-on Diagnostics Interactive

Left: Tour of the Northern Crops Institute -Images Top-to-Bottom:

- Two -For-One at the CGL

- Josh Plunkett, HIS MN receives the Golden Extrusion Die for Outstanding Pasta Watching
- The Incredible Tackle Box O' Puffed Grain Products
- One-armed bandits beckon students at the entrance of the flour milling and sifting room



Dinner at Drekker Brewing Company

Photos by Tim Boyle - WI-DATCP

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The Invasive Spotted Lanternfly: All You Never Wanted to Know

by Tim Boyle, Wisconsin DATCP Inspector

On January 15th, 2020, Wisconsin Nursery Inspectors Konnie Jerabek and Tim Boyle attended a lecture at the Minnesota Green Expo presented by Penn State Extension speaker Emelie Swackhamer titled, "The Invasive Spotted Lanternfly: What you need to know and how we are fighting the invasion."

In March of 2020, several WI-DATCP staff attended the Spotted Lanternfly Summit in Pennsylvania, and our working

group has been providing updates throughout the year. The following is a summary from those combined notes.

The Basics

The Spotted Lanternfly (Lycorma delicatula) is not a fly nor a true moth, it is a Fulgorid planthopper within the family Fulgoridae. In a number of genera, the front of the head is morphed into a hollow horn which was once believed (erroneously) to be luminous in some species, giving rise to the common name for the group.

The Spotted Lanternfly (SLF) is native to China, India, Japan and Vietnam; invasive in Korea and in the United States, introduced into Pennsylvania, Delaware, Maryland, New Jersey, New York, Virginia, West Virginia and Ohio. In 2020, Spotted lanternfly sightings in Pennsylvania are up 500% compared to last year.

At the time of this writing, all of these states except West Virginia and Ohio have SLF interior quarantines in place, with states such as California proposing exterior SLF quarantines.

A National Plant Board working group has developed state model SLF exterior quarantine regulations that are now posted on the <u>NPB website</u>.

In several states as far west as Oregon and California, dead Spotted Lanternfly adults have been found in materials and packaging shipped from infested areas. So far, the USDA has



Spotted Lanternfly Eggmass (Left) Gypsy Moth Eggmass (Right)

indicated no plans for a federal SLF quarantine.



Photos by Emilie Swackhamer - PA Extension

The Spotted Lanternfly is a sap feeder in both nymph and adult stages, leading to reduced photosynthesis, lower fruit crop yields, plant weakness and death. The typical large group feeding activity of SLF causes excess honeydew production which promotes sooty mold growth, thus attracting other insect pests.

Short distance movement of adults can be via flying, walking, or jumping.

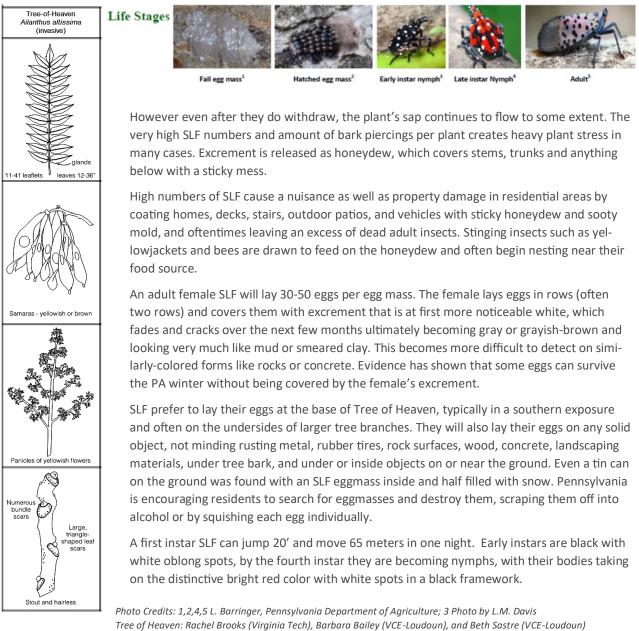
Adults lay 1"- 2" long waxy, grayish egg masses on nearly any flat surface (boats, ATVs, pallets, concrete, metals) in the fall. After overwintering, the eggmasses resemble dried, cracked mud before

hatching in the spring. After the hatch, the egg remnants appear as 4-7 rows of dark brown "seeds" bearing a darker stripe or slit.

Pennsylvania's Perspective

Spotted Lanternfly threatens important orchard plants including grapes and cherries, and many ornamental and timber trees including oak, black walnut, butternut, maple, birch, willow, poplar, sumac, sycamore, crabapple, and evodia. So far there has not been evidence of it feeding on Fraser Fir as a crop, but there is a huge fear factor regarding this in Pennsylvania because of their substantial Christmas Tree industry.

In her presentation, Emelie Swackhamer noted that in addition to Tree of Heaven (*Ailanthus altissima*) which is the preferred food source for SLF, roses may be scouted as good indicator plants. The SLF first instars (black with white spots, image below) prefer to feed on roses May-June in PA. SLF feed in large masses on tender leaves and drill through woody tissue with their piercing and sucking mouthparts. The current thinking is that since these insects don't have the physiology to "pump out" the plant fluids, that sap flow is more dependent on the plants' inherent "turgor pressure."



John Seiler, Edward Jensen, Alex Niemiera, and John Peterson

Adults are winged, with black spots. By July, the adult SLF emerge and prefer to feed on trees which offer greater turgor pressure. Typical group feeding can kill off entire grape vineyards in very a short amount of time.

Swackhamer interjected that when feeding on grape vines (they feed on the vines, not the fruit or leaves) the insects can literally "shoot out honeydew" because of the high-sugar food source. Some vineyards in PA indicate that SLF prefer specific varieties of grapes over others, but their presence is also influenced by the proximity and size of existing SLF populations.

The heavy sap loss and large branch dieback can severely damage or kill even mature trees, with additional stresses such as ambrosia beetle feeding being drawn to those areas. Notably, mature Ailanthus trees have been killed in three to four years, and seedling dieback has been observed in stressed black walnut plantings.

At one point in their adult stage, the SLF like to assemble at "high places" - atop tall utility poles, on the tall peaks of church facades, on gas station signage, and even among the leaders of Christmas trees. "They love telephone poles," Swackhamer noted. "And before the adult flight stages, they also tend to climb and drop, climb and drop..." causing issues similar to high numbers of GM caterpillars falling out of trees onto humans or property below. "Initially the public reacted to seeing their trees covered with hundreds of these bugs by using anything with a spray nozzle to try and knock them down; 2-4D, bleach, window cleaner..." she said.

Her photos showed the trunks of oak trees covered with adult SLF, and a video of a tree of heaven covered with

so many adults that the bark could not be seen. As a person ran their hand along the trunk, hundreds if not thousands of adult SLFs tumbled onto the ground.

As Konnie Jerabek put it, "It was a Yuck Factor moment."



Photos by Emilie Swackhamer - PA Extension

Studies of SLF are being conducted to learn what controls are most effective, what is the best way to survey trap for them, at what temperatures



can they survive winter, what predators will feed on them, and how to limit their feeding damage in fruit, ornamental crops and timber trees. Ground and low-feeding birds such as cardinals have shown circumstantial evidence as SLF predators, more studies are underway.

Targeting controls towards earlier nymph stages was most effective

By cutting down female Ailanthus trees and treating the remaining male trees with systemic insecticides to kill feeding instars, Pennsylvania found that early instar numbers can be lowered. Some trap trees in PA using systemics have been shown to kill over 10,000 SLF in a season.

Individual trees can be banded with sticky tape to catch the nymphs, surrounded by a wire cage to protect birds. "So far, research has shown that SLF eggs will not survive a continuous month of temperatures at or below 7 degrees Fahrenheit," Swackhamer stated.

It's difficult to say whether winter temperatures in the Midwest are likely to stay below 7 degrees for 30 days continuously, even in Wisconsin.

Contact sprays are being used to protect high value crops. Contact sprays must be applied regularly to best protect plants, as new SLF adults will move from forests and residential areas into agriculture fields each day. In some instances, growers report making up to 14 insecticide applications per growing season.

Systemic insecticides are used after flowering to protect bee populations.

Organic treatments, insecticidal soaps, and botanical oils work to a small extent, but are probably not the answer in the long run.

Beneficial biological control insects such as praying mantis, wheelbugs, spiders and parasitoid wasps help but don't provide singular control. Fungal pathogens have been found on some dead SLF (a similar situation to Gypsy moth in a wet season) and are being researched as control options. ("<u>Batkoa major</u>" and "<u>Beauveria bassiana</u>") were mentioned.

The Big Question

Currently, studies are underway to determine if Spotted Lanternfly can survive its entire life without access to the Tree of Heaven (TOH). In Pennsylvania, test farms were maturing SLF in isolation with plants other than Tree of Heaven as their only source of nutrition. At the time of the presentation earlier this year, SLF had been reared from first instar and into adult life stages, with the adult test females laying six egg masses without the presence of TOH as a food source. As of this article, the scientific results are still inconclusive. Researchers in PA strongly suspect that SLF does not need TOH to survive and lay viable eggs, but more testing must be done. This will be an important issue to watch going forward, as states with low or no populations of Tree of Heaven but having a susceptible climate for Spotted Lanternfly population development are very concerned about their risk of infestation.

Quarantines and Moving Forward

Many states in the mid-Atlantic region have issued a quarantine for counties where the presence of this pest has been confirmed. Businesses and organizations operating in the quarantine zone must have permits from their state Department of Agriculture to move vehicles, equipment and goods within and out of the zone. In Pennsylvania, a <u>free online course</u> is available to gain the permit, providing evidence of having completed training on how to follow the rules of the quarantine order, and agreeing to do all you can to ensure that you are not carrying SLF, including inspection of vehicles, shipments, and packaging.

Upon completion of the course, a vehicle tag is granted to show that you have the SLF permit. Usually an owner, manager, or supervisor within a company will complete the course, then must train others in the company on how to comply with the quarantine regulations before granting them a permit for a company vehicle.

Other states have similar procedures. If a business is not headquartered in a state that offers permit training, the business should take the course offered by the state with which they conduct the most business.

Going into 2020, Pennsylvania surveyed Garden Centers, Landscapers and Production Nurseries about the added costs to kill SLF, monitor and check equipment for compliance, and educate the public as part of the program. The survey reported a 48% increase in costs due to killing SLF, 52% extra costs in time to monitor/check equipment, and 3 % costs for education. Production nurseries reported a 78% loss of sales due to public avoidance of buying from SLF infested county areas. The quarantine seems to be affecting Christmas tree growers as well, as production nurseries must hold an SLF permit and compliance agreement.

Swackhamer's take away was that going forward, states will need a better press approach than was used in PA. One suggestion was to use an Invasive Species reporting app to report all findings of Tree of Heaven (TOH) in your state and to be sure people know how to properly identify it: Pinnately compound leaflets, with smooth leaf margins and 1-2 lobes at the base of the leaflets. If you break the stems of TOH, they smell like "rotten or burnt peanut butter" - not pleasant. Analyze the areas of your state with positive TOH findings on the survey map and survey between those areas for more TOH that has yet to be reported. Look to roses as indicator plants, where first SLF instars like to feed in May and June.

Learn what the covered eggmasses and singular eggs laid in a line look like, so that you can identify them with and without the covering. She added that at times when looking for SLF egg masses, you may only find four little eggs all lined up on the bark, with no covering at all. Others have found an eggmass with a covering, but missed the outlying eggs that were not covered by the female. Swackhamer said that Lancaster County, PA is one of their most heavily SLF infested counties, and also ranks as having the third highest Amish population per county in the US.

Many Amish have moved to other states from communities originating in these areas of Pennsylvania. Many Amish feature greenhouse operations, but may also operate farms, general stores, or wood products businesses that often source items from Pennsylvania that they need for their businesses in other states. She noted that outreach to these folks about Spotted Lanternfly would be a good thing.

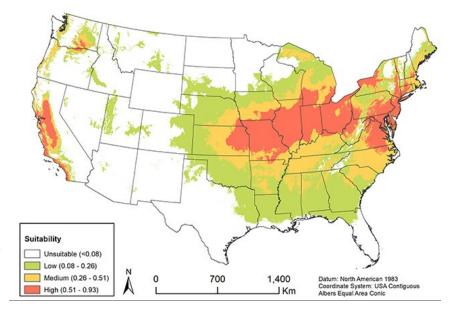
Into the Future

In October 2019, scientists from the Agricultural Research Service published a map identifying areas most suitable for the establishment of Spotted Lanternfly both <u>worldwide</u> and in <u>the United States</u>.

Using a more complex model than earlier attempts to predict suitability, their data included environmental factors such as temperature, elevation and rainfall as well as the current known locations of the species.

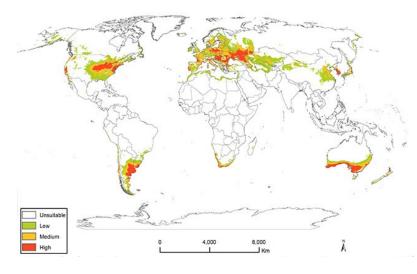
Their findings indicated that the most important factor in predicting SLF establishment is the mean temperature during the driest quarter of the year; optimally about 0 degrees C / plus or minus 7 degrees C; which is an equivalent range of 19 degrees F to 45 degrees F during this dry period.

This data, published in the Journal of Economic Entomology, suggested the potential for far reaching economic damage if SLF becomes widely established in the United States.



Added concern for crops such as

almonds, blueberries, and tree fruits come into question as newer risk projections included states in the central Midwest, California's Central Valley, and areas of the Pacific Northwest.



Worldwide, The MAXENT model used predicted highly suitable areas in Asia (Korea, Japan, China), Oceania (Australia, New Zealand), South America (Argentina, Chile, Uruguay), North America (US, Mexico), Africa (South Africa, Namibia, Morocco), and Europe (including Spain, France, Italy, Germany, Poland, Russia, Ukraine, Romania, Hungary, Turkey and eastern Kazakhstan).

Based on this model, tropical habitats are not suitable for Spotted Lanternfly establishment as was predicted using earlier modeling.

Map graphics from the Agricultural Research Service

The End of the Row

HIS Central Chapter

The Horticultural Inspection Society was founded in 1970 through the collaboration of state inspectors and with the support of the nation's Central Plant Board. Their goal was to establish an organization to maintain the shared ethics its member inspectors with the goals of:

- Promoting high standards of plant inspection work
- Providing a means of furthering acquaintanceship among plant pest control inspectors and allied workers
- Providing cooperative effort and cooperation with efforts of others toward stimulating interest in professionalizing plant inspection work
- Providing a means of disseminating information that is particularly pertinent to their work

The first regional group was designated as the Central Chapter, representing our twelve central member states: Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin. The Eastern Chapter was organized in 1974 and the Southern and Western Chapters in 1999.

Each Chapter works closely with their respective regional plant boards to stay abreast of changing compliance protocols and industry trends, share professional knowledge and techniques, provide training and instruction opportunities, and help maintain uniform and consistent investigative and compliance practices throughout the horticulture industry.

Our Inspector's Forte: "Make Professionalism a Part of Every Effort."

Pessimist: "Oh no, snow...!"

Optimist: "All right! Insulation!"

HIS Central Chapter

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- **2020 Virtual Conference Presentations** \Diamond and Registration
- \Diamond Membership
- HIS Inspector's Manual & Coincide Manual 0
 - **Previous Newsletters**

Chrysochus auratus aka "Dogbane Beetle" relaxing on Lo-Gro Sumac



Photo by Konnie Jerabek - WI-DATCP

