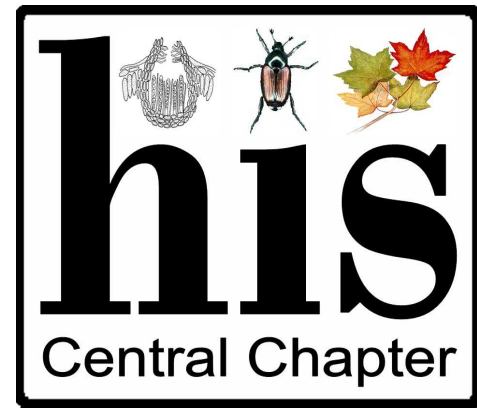


Horticultural Inspection Society Central Chapter Newsletter

Volume 48, Issue 1



President's Message

Susannah Iott, Michigan Department of Agriculture & Rural Development

I would like to thank all who attended the 48th Annual Central Chapter Horticultural Inspection Society meeting this past October in Holland, Michigan on behalf of all the individuals who worked so hard on planning and executing such a wonderful event. We had attendees from Delaware, Iowa, Illinois, Indiana, Kansas, Michigan, Minnesota, Missouri, North Dakota, Nebraska, Ohio and Wisconsin! We had a wide variety of speakers as well as a hands-on Plant Pest Identification Workshop. I hope everyone had a great time and learned something that helps them be a better inspector. The connections made at these meetings help us better develop a deeper professionalism we can carry into inspections. We received great feedback; thank you to everyone that took the time to respond to the evaluations. I want to thank the State of Delaware and the H.I.S. Eastern Chapter for supporting the attendance of Lianmarie Colon. I also want to congratulate Ken Cote on winning the 2018 Robert McAdams award. He is a great asset to our organization. I am looking forward to the upcoming meeting in North Dakota, and am sure there will be excellent and informative speakers.

Newsletter Submissions

If you have an interesting inspection event, disease scenario, or photograph from your daily experiences, please share the details to be included in the next newsletter edition!

Email: websterb3@michigan.gov

- Bryan Webster, Michigan
Department of Agriculture & Rural
Development

Listserv

Want to send something to the group? The listserv email address is: centralhis@nationalplantboard.org.



Save the Date!

We look forward to seeing everyone at the next H.I.S. Central Chapter annual meeting in Fargo, ND at the downtown Radisson Hotel from October 21-24, 2019.

In This Issue

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- ◆ Article: The Next Export Challenge for U.S. Nurseries.



Council on Licensure, Enforcement & Regulation

Promoting Regulatory Excellence

National Certified Investigator and Inspector Training, 2019

The Council on Licensure, Enforcement, and Regulation (CLEAR) hosted a training session in San Antonio, TX in February of 2019. Inspectors, representing many of the U.S. states, received hands-on training over the course of three days that focused on improving and standardizing our investigation techniques and inspection procedures.

Topic highlights included:

- Principles of administrative saw and quarantine processes.
- Professional conduct — communicating with fairness, respect, and integrity.
- De-escalation techniques.
- Investigator safety — evaluating your position within the work environment and those we interact with.
- Evidence collection and storage.
- Interviewing, report writing, and secondary review.



2019 HIS Central Chapter Officers/Executive Committee

President: Susannah Iott, Michigan

Vice President: Charles Elhard, North Dakota

Secretary: Eric Biddinger, Indiana

Treasurer: Deborah Davis-Hudak, Minnesota

Newsletter Editor: Bryan Webster, Michigan

2018 Robert McAdams Award

We're proud to congratulate Ken Cote, Indiana, on his selection for the 2018 Robert McAdams Award.

As the awardee, Ken's name will be submitted to the Central Plant Board as our suggested nominee for the 2019 Carl E. Carlson Distinguished Achievement Award in Regulatory Plant Protection.

2019 Membership Dues

Have you paid your dues for 2019? They are \$20/year and can be paid to the Treasurer, Deborah Hudak.

She can be reached at:
218-243-2058 Office/fax
218-368-2586 Cell

deborah.davis.hudak@state.mn.us

As a reminder, the purposes of HISCC are:

1. To promote high standards of plant inspection work.
2. To provide a means of furthering acquaintanceship among plant pest control inspectors and allied workers.
3. To provide cooperative effort and cooperation with efforts of others toward stimulating interest in professionalizing plant inspection work.
4. To provide a means of disseminating information particularly pertinent to their work.

49th Annual Central Chapter Horticultural Inspection Society Meeting -Charles Elhard, North Dakota Department of Agriculture

The North Dakota Department of Agriculture invites you to attend the 49th Annual Conference of the Horticultural Inspection Society – Central Chapter, to be held October 21-24th, 2019, in Fargo, North Dakota. Included is a draft conference agenda, registration, and hotel/shuttle information.

Meeting Registration

Please complete the registration form as soon as possible, and no later than September 20, 2019. Registration for the full conference is \$170. A one-day registration is available for \$100. Checks should be made out to HIS-Central Chapter. A draft agenda is included with this announcement. The agenda and meeting information is also available on the HIS website at <https://nationalplantboard.org/hiscc/>.

The registration will be open beginning Monday, October 21st from 4:00 pm – 7:00 pm and continuously during the conference. Payment will be accepted by check only. We are unable to process credit cards at this time.

(Continued on page 8).

Photos from 2018 H.I.S.C.C. Annual Meeting-Holland, MI



Clockwise from the top:

Annual conference group photo. Photo courtesy of S. Ehlenbeck.

Congratulations to Kathleen Pratt, recipient of the Robert McAdams Award! Photo courtesy of Jessica Shueth.

After hours hospitality show n' tell. Photo courtesy of John Bock.

Tree injection demonstration for managing Hemlock Woolly Adelgid. Photo courtesy of Jessica Shueth.

Walter's Gardens tour. Photo courtesy of Jessica Shueth.



Summary of 2018 H.I.S.C.C. Annual Meeting

-Bryan Webster, Michigan Dept of Agriculture & Rural Development

The Michigan Department of Agriculture and Rural Development hosted the H.I.S. Central Chapter's 48th annual conference in Holland, MI on October 15-18, 2018. We enjoyed having attendees from 11 of our 12-state chapter and were honored to have Lian Colon (Delaware) with us from the Eastern Chapter.

Many thanks to the MDARD planning committee (Iott, Bock, Eldred, and Jepsen) for arranging our tour stops and for assembling an informative group of speakers and presentations that included:

Succeeding with Succulents – Laura Robles from Walters Gardens showed us intriguing new phenotypes of succulent varieties in lieu of a growing market trend.

The Black and White (and Gray) of Plant Patents – Clarence Falstad of Walters Gardens is an expert at Plant Patents, and gave us insights to the successes, challenges, and overall process in managing intellectual property and associated trademarks of the nursery industry.

Asian Longhorned Beetle: The Threat in Black and White – Joe Boggs from Ohio State University provided us with critical background information, the importance of early detection for eradication success, and an OH update on ALB.

Plant Pest Workshop/Presentation – Elizabeth Dorman, MDARD's own plant pathologist and diagnostician, had an extensive plant disease and pest ID setup for inspectors to test their macroscopic skills with plant pathogenic symptomology on a variety of host material.

International Export Q & A – Tina McCay, our regional Export Certification Specialist with USDA-APHIS, was in attendance to provide guidance and clarification to inspectors/ACOs with export and PCIT issues and concerns.

Taxonomic Understanding: What's In A Name, and Why Do They Change – Mike Philip, MDARD's Plant Industry Specialist, delivered an enlightening exposé on the evolution of insect, I.D., classification and nomenclature.

What's Going On Here? A Review of Situational Awareness – Keith Eldred, Lead Nursery Inspector with MDARD, gave a talk on the potential dangers/risks involved with daily field work.

Spotted Lantern Fly – Dr. Rufus Isaacs of Michigan State University revealed the detrimental effects of SLF infestations as states in the east struggle with detection, control, and eradication efforts following the introduction of this dangerous pest in 2014. In addition to treatment-based management options that are being deployed, selection processes are ongoing to identify parasitoids from the same regions of China that SLF originates from.

Hemlock Woolly Adelgid: Will It Suck the Life Out of Hemlocks in Michigan? – Deb McCullough, also with Michigan State University, revealed adelgid biology, distribution, and pest control strategies. She also gave the latest updates with HWA in Western Michigan, including a bus tour to a local hot spot where eradication efforts have been underway to mitigate the spread among native hemlock trees along the Lake Michigan shore line.

Our final stop of the second day was a tour of Walters Gardens, where participants learned of the research and development, export activity, and many daily operations that allow this large-scale greenhouse to thrive in many plant industry markets both in- and outside of the U.S.

The Next Export Challenge for U.S. Nurseries

Bryan Webster, Field Scientist – Pesticide and Plant Pest Management Division

In many known cases, plant pathogens have evolved over time to be rather specialized when it comes to surviving on or within their plant host. This host specificity is often the result of a sort of arms race between plant defenses and the microbial pathogens that overcome them. Developing grower management strategies can then utilize avoidance by selecting resistant species and varieties as a means to removing host susceptibility from the equation. But what about the fungi, bacteria, and viruses that aren't so specialized? How do we manage the pathogens that have a broad host range that encompasses plants from both the nursery and food cropping sectors as they pose a far greater threat with our increasingly globalized markets? Finding short- and long-term solutions to these threats must continue to be a priority, as *Xylella fastidiosa* is quickly becoming an international nuisance that is impacting agricultural producers on multiple continents (Almeida *et al.*, 2019) (Fig. 1).

Xylella fastidiosa is a bacterium in the xanthomonadaceae family that's transmitted from host to host via insect vectors, grafting, or propagated cuttings (Overall & Rebeck, 2017; Redak *et al.*, 2003). Instead of targeting a specific host or variety, this bacterium can infect over 200 different plant species spread across 75 families according to the European Food Safety Authority from 2016, which includes several host plants that remain asymptomatic carriers. *X. fastidiosa* has a long history of causing diseases in grapevines (i.e., Pierce's disease), citrus-producing trees, and a broad range of relevant landscape plants in North and South America where much research has been carried out over the years. But these investigations have only touched on the complexity of genetically-diverse strains or their regionally-specific insect vectors, areas of study that are now more important than ever since *X. fastidiosa* was reported in Europe in 2013 (Almeida *et al.*, 2019; Saponari *et al.*, 2017; Saponari *et al.*, 2019). With that report, the advent of Olive Quick Decline Syndrome (OQDS) in Southern Italy during autumn of that year was a startling reality check that *X. fastidiosa* has become an international threat with devastating impacts to food commodities and the landscapes that produce them. News coverage of the recent devastation in the Apulia region of Italy illustrates the impact on the olive fruit and oil industry due to the rapid spread across tens of thousands of acres of olive groves (Fig. 2). This epidemic has spawned strict import quarantine measures, extensive surveys of susceptible hosts, and the need for immediate management strategies that still won't recover or replace family-owned olive farms that have been harvested for generations (Bosso *et al.*, 2016).

Among the varying disease symptoms caused by this pathogen, leaf scorch is the most common and has been observed on significant plants such as oleander, almond, coffee, elm, oak, and sycamore (Janse & Obradovic, 2010; Purcell, 2013) (Fig. 3). Leaf scorch symptoms are the result of bacterial accumulation of *X. fastidiosa* in the xylem vessels, thereby blocking the translocation of water and nutrients upwards to the foliage (Fig. 4). The rapid spread of the bacterium across a particular monocrop or landscape is due to sap-sucking insects that feed on diseased plant hosts and then move to feed on healthy ones. One example of a prevalent xylem-feeding insect in North America is the glassy-winged sharpshooter, an invasive leafhopper that was introduced to California in the 1980s. This insect vector became responsible for the spread of *X. fastidiosa* to economically-important crops even though the bacterium was already present among insignificant host plants in the region. Conversely, European researchers have identified a high number of spittlebugs in regions of Italy and Spain that are responsible for vectoring the pathogen throughout olive groves and other important hosts but found little to no leafhopper species such as winged sharpshooters (Almeida *et al.*, 2019). As a result, Europeans are facing the opposite challenge where native vectors are acquiring and spreading an exotic pathogen that was likely introduced through the channels of trade. This aspect of transmission by unrelated insects on different continents complicates our understanding of *X. fastidiosa* spread and management and is yet another piece of the research puzzle that is garnering efforts to determine the full range and diversity of xylem-feeding insect vectors (Jeger & Bragard, 2019). The relevance for Michigan nurseries comes down to the broad host range of *X. fastidiosa*. In addition to food crops and fruit trees, the list of susceptible ornamental genera is vast and includes popular plants such as

geranium, hibiscus, lavender, honeysuckle, verbenas, and rose in addition to several landscape and economically-significant trees/shrubs such as almond, oak, maple, peach, plum, and coffee (Hopkins & Purcell, 2002). A full list of known susceptible species, covering all 75 plant families and genera, can be viewed in the European Union's Commission Implementing Decision on preventing the introduction and spread of *X. fastidiosa* (EFSA, 2016). As a consequence of this extensive list of susceptible hosts, Michigan nurseries interested in trade/sales with countries in the European Union are being met with strict criteria for shipping susceptible plants. Interested nurseries must gain Pest Free Place of Production (PFFP) status since Michigan is not one of the states that can be categorized as a Pest Free Area (PFA has been assigned to certain counties in CA, OR, and WA because they have met stringent sampling and testing criteria). Establishing PFFP status for a nursery is accomplished by meeting standards that are described in the International Standard for Phytosanitary Measures, or ISPM 10, which provides procedural guidance on how to know what your operational responsibilities are, establish and maintain pest freedom in your facility and surrounding buffer zone, and prepare for a USDA audit/site evaluation. And on a more specific level, if a firm can establish an area within their facility that can be maintained as a separate unit, they can determine a Pest Free Production Site for spaces such as research or tissue culture laboratories. To date, there are companies in six U.S. states that have PFFP status, including the Midwest states of Michigan and Wisconsin. Through documentation of their operations and routine surveys that have proven pest freedom over a relevant timeframe, those firms are helping to prevent the spread of diseases caused by *X. fastidiosa* when shipping to European countries.

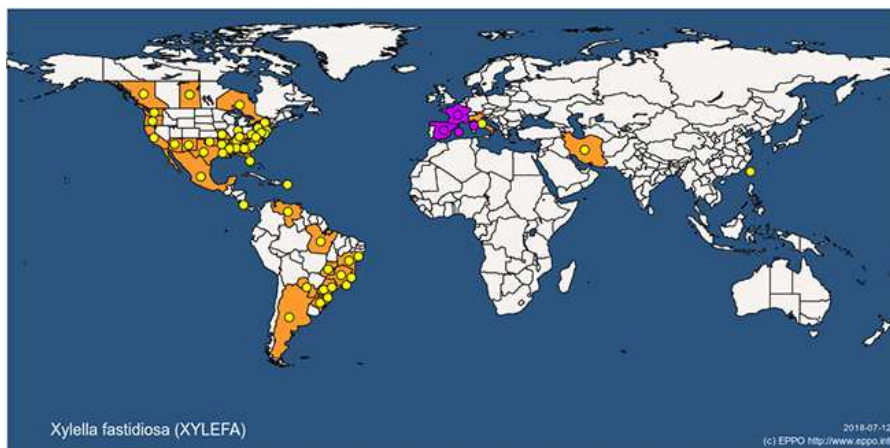


Figure 1. Global distribution of *X. fastidiosa*. Yellow=present; purple=transient.

As stakeholders look into the near future, it is clear that a harmonization between researchers, regulatory officials, and industry participants is key to dealing with the emerging changes that must take place as we learn more about this devastating disease and the vectors that spread it. Because there is a lack of knowledge on xylem-sap feeders that are responsible for European disease transmission, efforts will focus on the biological and behavioral characteristics of spittlebugs and related species that are responsible for many of the epidemics that have recently occurred in France, Italy, and Spain (Jeger & Bragard, 2019). Additionally, the evolution of the bacterium *X. fastidiosa* is another area of focus considering that subspecies are continuing to be identified (i.e., *fastidiosa*, *pauca*, and *multiplex*) and are known to inflict different hosts with varying disease symptoms and

may not share the same distribution on a geographical scale (Schaad *et al.*, 2004). As new epidemics arise, plant hosts and their vectors will need to be screened for strains of the bacterium in order to track the spread and development of new infections and should be met with additional quarantine protocols as a collective approach to managing susceptible commodities when possible (Overall & Rebek,

2017). Based on the complexities between the long list of host plants, the regionally-specific insect vectors, and the ongoing discovery and description of bacterial subspecies, taking a holistic approach that crosses national boundaries will have to take place so that industry stakeholders can interpret scientific and regulatory information the same way as we all seek to find more long-term solutions.

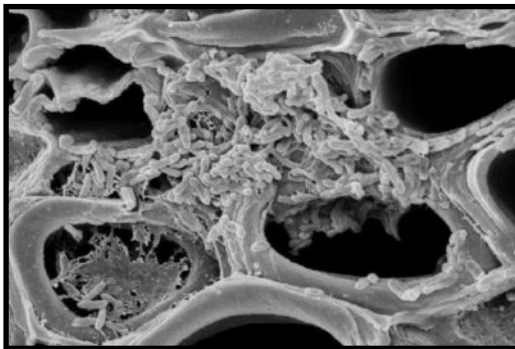


Figure 4. (Above) Scanning electron micrograph of *X. fastidiosa* colonizing xylem vessels. Photo by E.W. Kitajima.

(Below) *X. fastidiosa*-clogged vascular tissue in an olive trunk. EPPO Gallery.



Figure 2. Olive grove damaged by *X. fastidiosa*. EPPO Gallery.



Figure 3. Leaf scorch symptoms on olive branches. EPPO Gallery.

49th Annual Central Chapter Horticultural Inspection Society Meeting

Accommodations

This year's event will be held at the Radisson Hotel Fargo. The hotel is located at 201 5th St. N. Fargo, ND 58102. A block of rooms has been reserved for participants at the rate of \$94 per night, plus tax, (double occupancy is \$150/night, please call Charles if you have questions about this rate).

The hotel is in downtown Fargo and is within walking distance of many restaurants and local shops. A downtown Fargo walking map and visitors guide will be included in your welcome bag upon registration. Complimentary high-speed wireless Internet access is provided in all hotel rooms and public spaces. The Radisson Hotel houses a restaurant, lounge and a local Bean's Coffee. The Health Spa located on the Mezzanine level offers two whirlpools, steam sauna and exercise equipment including treadmills, weightlifting equipment, bikes and an elliptical.

Reservations can be made by calling 866-967-9033 or by booking online: <https://bit.ly/2LlrhNI>.

Rooms must be reserved no later than Friday, September 20, 2019. Ask for the North Dakota Department of Agriculture Room Block to reserve at the reduced rate. Please make your reservations early to ensure accommodations.

Transportation/Directions If you plan to fly:

- Hector International Airport is a 10-minute drive from downtown Fargo. The hotel offers a complimentary shuttle service to and from the airport. Vehicle rental is also available.

If you plan to drive:

- From the south coming into Fargo on Interstate 29: Take a right on exit 65 (US-10/Main Ave) toward Downtown Fargo for 2.7 miles; turn left onto S. Broadway Street, turn right onto 1st Ave. N., then take first left onto 5th St. N. The hotel will be on your right.
- From the east or west coming into Fargo on Interstate 94: Take exit 63B and merge onto Interstate 29 North. Then take a right on exit 65 (US-10/Main Ave.) toward Downtown Fargo for 2.7 miles; turn left onto S. Broadway Street, turn right onto 1st Ave. N., then take first left onto 5th St. N. The hotel will be on your right.
- Onsite ramp parking is available at a discounted rate.

Exhibit Displays

If you would like to bring a display and need a table, please indicate this on your registration form. An area will be available for tabletop or floor displays.

State Reports

A representative from each state is asked to provide a short, 5-7-minute summary of significant activities during the meeting (yes, we will cut you off if you go long). To reduce paper use, one PowerPoint slide is recommended. You can bring approximately 25 copies if desired or you can email a PDF of your written report to celhard@nd.gov by October 15, 2019 and the copies will be made and brought to the meeting for you.

Attire

Fargo. It could be 75 and sunny, or we could be in a fall blizzard. It's just hard to say. Pack with layers in mind. Average temperatures in October are 56 for highs and 26 for lows.

For additional local information, visit these websites:

Radisson Hotel Fargo: <http://www.radisson.com/fargo-hotel-nd-58102/fargo>

Hector International Airport: <http://www.fargoairport.com/>

Fargo-Moorhead Convention and Visitors Bureau: <http://www.fargomoorhead.org/>

