

The DPH Practitioner

“Educating Leaders for Tomorrow’s Sustainable Plant Production Systems”

Lee Briese receives ICCA award

Congratulations to DPH student Lee Briese on receiving the International Certified Crop Adviser (ICCA) of the Year award at the ASA/CSSA/SSSA Conference in Tampa, Florida, on October 21-25, 2017.

The award recognizes a Certified Crop Adviser who delivers exceptional customer service, is highly innovative, has shown leadership in their field, and has contributed substantially to the exchange of ideas and the transfer of agronomic knowledge in the agriculture industry.

Lee is an independent crop consultant for Control Ag Consulting in Edgeley, North Dakota. He is a vocal advocate for conservation, soil health and integrated pest management. He has given numerous presentations to farmers, students, colleagues and scientists illustrating some of the practical methods he and his clients have created to manage challenging problems. Lee is the chair of the North Dakota CCA board, attends the ICCA North American board meetings and is a volunteer EMT in his local community.



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DPH Faculty Steering Committee Members

Dr. Gerard Adams, Associate Professor of Practice, Plant Pathology

Dr. Roger Elmore, Professor, Agronomy/Horticulture

Dr. Richard Ferguson, Professor, Agronomy/Horticulture

Dr. Chuck Francis, Professor, Agronomy/Horticulture

Dr. Loren Giesler, Professor, Plant Pathology

Dr. John Lindquist, Professor, Agronomy/Horticulture

Dr. Lance Meinke, Professor, Entomology

Dr. Ellen Papparozzi, Professor, Agronomy/Horticulture

Dr. Anne Vidaver, Emeritus Professor, Plant Pathology

Dr. Brian Wardlow, Associate Professor, School of Natural Resources

Dr. Robert Wright, Professor, Entomology

Dr. Gary Yuen, Professor, Plant Pathology

Dr. Roch Gaussoin, Professor, Agronomy/Horticulture

DPH Program Staff

Dr. Gary Hein, DPH Director

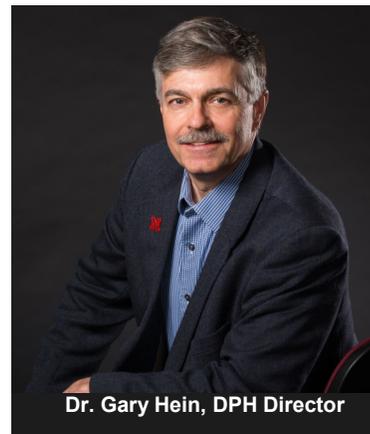
Linda Hellbusch,
Administrative Associate

Welcome to the Doctor of Plant Health newsletter

The Doctor of Plant Health program at the University of Nebraska–Lincoln is an innovative model for educating plant health practitioners. DPH is a professional degree parallel to a medical or veterinary degree; but instead, graduates are prepared to understand and diagnose plant health issues and manage the entire plant production system. Our program provides coursework and internship experiences that prepare you to make a difference in tomorrow's agriculture.

Graduates of the Doctor of Plant Health program are in demand worldwide for their comprehensive knowledge and experience, resulting in 100 percent job placement.

Interested in us? We're interested in you! Contact Dr. Gary Hein, DPH program director, at ghein@unl.edu, or call 402-472-3365 for more information. We look forward to visiting with you.



Dr. Gary Hein, DPH Director

Our DPH Family Is Growing

Introducing Walter Leon Sedivy-Hurst, born November 16, 2017, at 10:59 pm. Walter is the son of DPH student Aaron Sedivy and his wife Cassandra. Walter weighed 8 lbs. 7 oz. and was 20.5 inches long. Congratulations Aaron and Cassandra.



Congratulations to DPH student Christopher Wynn and his wife Jill on the birth of their daughter Allison Wynn. Allison was born October 25, 2017. Allison weighed 8 lbs. 11 oz. and was 20.5 inches long. Congratulations Christopher and Jill.

Faculty Highlight: Gary Yuen

Research: Biological control of plant pathogens is the primary thrust in the Yuen laboratory, with much of the focus on the bacterial species *Lysobacter enzymogenes* as the biocontrol agent. The lab has investigated biological control in greenhouse and field settings against a number of disease systems including Fusarium head blight in wheat, white mold and rust in dry bean, brown patch in turfgrass, and cyst nematode in soybean. Understanding how biocontrol agents inhibit pathogens is a major objective. Production of lytic enzymes (chitinases and glucanases) and a secondary metabolite (dihydromaltophilin, aka HSAF), as well as induction of host resistance, were found to play important roles in biological control of fungal pathogens and plant parasitic nematodes by *L. enzymogenes*. Current efforts in this research area are directed to elucidating environmental factors and genetic regulatory systems that influence the expression of biological control mechanisms.

Another research area in the Yuen lab is diseases of switchgrass being developed as a biofuel crop. The lab has shown the rust species (*Puccinia emaculata* and *Uromyces graminicola*) and the virus combination of Panicum mosaic virus (PMV) and the satellite virus SPMV to be major pathogens of switchgrass in the North Central region. We also identified switchgrass populations having resistance to rust and the viral pathogens. Current efforts involve the determination of environment conditions that drive epidemics of these diseases and the elucidation of genetic mechanisms behind disease resistance in switchgrass.

Teaching Activities: Courses being taught: PLPT369 Introductory Plant Pathology (3 cr., every fall semester); PLPT817 Plant Pathology Principles & Application (3 cr., on-line, every summer); PLPT414/814 Turfgrass Disease Management (1 cr., on-line, every spring semester); ENTO/PLPT813 Biological Control of Pests (3 cr., on-line, spring semester of even-numbered years).



DPH External Advisory Committee Members

Paul Carter—Sr. Agronomy Sciences Manager, DuPont Pioneer, Johnston, IA

Glen Franzluebbers—Director, Professional Ag Services, Central Valley Ag Cooperative, Oakland, NE

Thomas Hoegemeyer—Corn Breeder/Crop Professional Extraordinaire, retired

Billy McLawhorn—McLawhorn Crop Services, Inc., Cove City, NC

Bruce Monke—retired (formerly with Bayer), Kansas City, KS

Brian Olson—Learning Center Manager, Monsanto Company, Gothenburg, NE

Abby Stilwell—Supervisory Plant Protection and Quarantine Officer, USDA-APHIS-PPQ, Raleigh, NC

Tom Taylor—Twin Rivers Agronomics, Inc., Minden, NE

2018

Happy New Year

THE MISSION OF THE DOCTOR OF PLANT HEALTH PROGRAM AT THE UNIVERSITY OF NEBRASKA-LINCOLN

is to produce plant practitioners with broad expertise and experience across the various disciplines that impact plant health and plant management. These plant practitioners (plant doctors) will integrate from across this expertise to diagnose and solve plant health problems and to develop integrated plant and pest management systems that maximize the system's economic, environmental, and social sustainability.

Meet Our New DPH Students



Zachary Rystrom

Zach received his B.S. in Diversified Agricultural Studies (2012) and M.S. in Entomology (2015) at the University of Nebraska-Lincoln.

Zach worked as a Contract Research Scientist, managing field trials at Diamond Ag Research in Larned, KS after graduating. In April 2017, he accepted a position as Research Project Coordinator at the University of Nebraska Department of Entomology. Zach's responsibilities as Research Project Coordinator will provide him many opportunities to apply DPH coursework in the field.

"I am choosing the DPH program because I want to study all aspects of agronomic systems. The DPH program will also help me develop the leadership skills required to manage a successful research program. I plan to use my experiences in the Doctor of Plant Health program to improve my ability to work across disciplines and the focus on the big picture". ~Zach Rystrom



Lindsay Overmyer

Lindsay received her B.S. in Agronomy (2016) at Wilmington College in Ohio. She came to UNL in 2016 to begin her M.S. in Entomology. Her research is focusing on factors influencing wheat curl mite dispersal in wheat. She is also working on creating extension videos about managing wheat streak mosaic virus and symptomology of it.

Her passion for the broad scope of plant science/agronomy is instilled in her from her background with the family farm, vegetable and grain crops, as well as her undergraduate experiences. She has had internships with Crop Production Services, a local cooperative in northwest Ohio, and Ohio Agricultural Research Development Center. Lindsay's goal is to bridge the gap between the researchers and the producers by communicating to producers how the research being conducted can benefit their operation.

Lindsay was a 2017 Midwest Regional Winner for the Syngenta Agricultural Scholarship: <http://www.syngenta-us.com/scholarships/>

"The Doctor of Plant Health Program will allow me to further develop knowledge in multiple disciplines and build a broader foundation of agricultural knowledge to be able to better communicate to the producers the results from the research being conducted and the implications of one practice on a holistic approach. The combination of completing a master's degree and DPH will complement each other, allowing me to better understand the research process, as well as the holistic view of the interconnected disciplines of agriculture". ~Lindsay Overmyer



Jacob Nikodym

Jacob earned his undergraduate degree in Agronomy from UNL in May 2017; he wanted to continue to further his education in plant science and plant protection through the DPH program.

Jacob grew up on a family farm near Red Cloud, NE. He loved the ag industry and also discovered in high school that he enjoyed science and experimentation. Upon coming to college, Jacob decided to combine these two interests, taking a science-focused course load while pursuing his undergraduate Agronomy degree. He was able to participate in experiences that allowed him to get experience in applied crop protection research throughout his undergraduate career.

Professionally, Jacob hopes to take part in crop protection research and hoping to develop new products that will allow the ag industry to continue to grow. He has specific interests in weed science and plant pathology and he hopes to help educate producers in how to utilize newly developed technologies in order to maximize their productivity and resource efficiency.

"The DPH program will help me to meet these goals by giving me a well-rounded education in the varied fields of plant protection. With the interconnected nature of the various facets of plant growth, it is necessary to have an understanding of all of these fields. I hope that the program will give me experiences in communicating knowledge of the industry with peers and others that will allow me to be more prepared upon entering the workforce to interact with producers and the public in order to educate them about new advances". ~Jacob Nikodym

DPH Colloquium Class Field Trip

On September 14, 2017, the DPH Colloquium class went on a field trip to a Syngenta production research facility and the Bayer CropScience wheat research station, both near Beaver Crossing, NE. DPH graduate Dr. Dori Harris gave the DPH students the tour at Syngenta. The participating students were: Aaron Sedivy, Zach Rystrom, Chris Chen, Jacob Nikodym, Lee Briese, Amy Hauver, Emily Stine, Sarah Blecha and Lindsay Overmyer.



Salvador Ramirez II-Internship with APS Program

Salvador Ramirez II's internship in the summer of 2017 was working with the Applied Plant Systems Experiential Learning Program (APS) under the direction of Martha Mamo. By doing this internship, Salvador provided mentoring, teaching and research organization for the program:

Mentoring: APS students needed to navigate several challenges that are expected as they build the skill sets of a young professional. They needed to learn how to create professional posters and deliver presentations on their research work. Sal provided guidance of poster design and organized sessions for their poster development and delivery. There were also times where the APS undergraduates benefited from his interaction and advisement as they navigated personal challenges associated with living on their own in a new location. Sal created and managed a twitter site which allowed the APS students to share their day-to-day discoveries.

Teaching: Sal was central to instruction which happened at Friday afternoon think tanks and two off-campus tours. He arranged the speaker schedule and crafted an instructional plan for thinking about connections and problem solving in food and energy systems.

Research: Sal formulated a plan to measure the APS student status and progress in systems thinking. This involved a search of the literature, the adaption of a pre and post survey, and the deployment of a program which sought to connect the details of the APS student's daily and weekly work experience with the bigger picture fit into Nebraska food and energy systems.

Sal's success in delivering the mentoring, teaching and research goals was in part from his experience and ambition to tackle this work as a part of his professional development. The APS Program was successful with these goals because Sal was part of the planning team to map and carry out these objectives on a weekly basis.



Christopher Wynn- Internship at Monsanto

Christopher Wynn spent the 2017 summer at his internship at Monsanto's Water Utilization Center in Gothenburg, NE. Because of his machinery background, he was recruited to help plant corn and soybeans, and he was also working with wheat trials at the Learning Center that deal with fungicide applications and seeding rates. Chris gave a presentation and flight demonstration about using UAV's/drone's in agriculture to a group of 100 FFA members. During the summer he began working with a new drone equipped with different remote sensing cameras. With Chris's help, this tool will enable Monsanto to better observe their current studies at the Learning Center.



Distinguished Fellowship Award Luncheon

Congratulations to our DPH students that were recognized at the Distinguished Fellowship Award Luncheon on Monday, November 6, 2017.

Amy Hauver & Jacob Nikodym were recognized for receiving National Needs Fellowships in 2017.

Salvador Ramirez II received the 2017 NACTA Graduate Student Teaching Award.

Tiffany Heng-Moss, Interim Dean of the College of Agricultural Sciences and Natural Resources presented the students with their awards.



Amy Hauver and Tiffany Heng-Moss, Interim Dean, CASNR



Jacob Nikodym and Tiffany Heng-Moss, Interim Dean, CASNR



Salvador Ramirez II and Tiffany Heng-Moss, Interim Dean, CASNR

What the DPH Staff & Students Have Been Up To

The American Phytopathological Society (APS) Conference

August 6-8, 2017

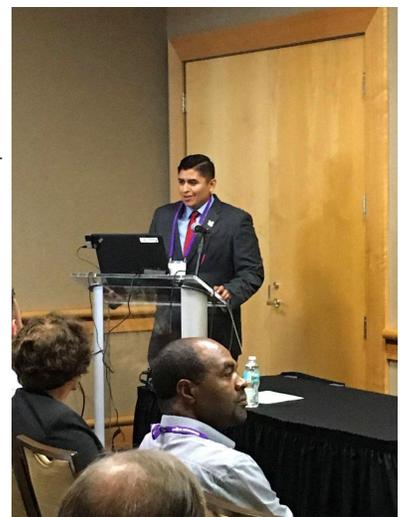
Dr. Gary Hein attended the APS Conference in San Antonio, Texas, to promote the DPH program and recruit students.

The ASA/CSSA/SSSA Conference

October 22-25, 2017



Dr. Gary Hein, Lee Briese and Salvador Ramirez II attended the ASA/CSSA/SSSA Conference in Tampa, Florida. Salvador presented three oral presentations: Soil Science Education, Crop Rotation and Organic Study. Lee Briese received the ICCA Adviser of the Year Award (see story on the cover page).



The Agriculture Future of America (AFA) Opportunity Fair

November 3, 2017

Dr. Gary Hein and Lindsay Overmyer attended the AFA Opportunity Fair in Kansas City, Missouri. The AFA Opportunity Fair is a great place to meet prospective students with a high interest in agricultural careers.

The Entomological Society of American Annual Meeting

November 5-8, 2017

Dr. Gary Hein attended the ENTO Society Annual Meeting in Denver, Colorado. The DPH program shared a promotion and recruiting booth with the DPM program at the University of Florida.



Sustainable Agriculture Summit

November 15-16, 2017

Dr. Gary Hein and DPH students attended the Sustainable Agriculture Summit in Kansas City, Missouri. The students attending were: Jacob Nikodym, Lee Briese, Lindsay Overmyer, Zach Rystrom, Chris Chen, Sarah Blecha, Emily Stine and Amy Hauver. The Sustainable Agriculture Summit seeks to strengthen the supply chain network of producers, agribusinesses, retailers and influencers who drive continuous improvement in agricultural sustainability and deliver food, fiber, and fuel to a growing world. The students joined agricultural experts, sustainability practitioners and thought leaders representing diverse perspectives from every facet across the food and agricultural value chain.

Help us grow the Earle Raun Plant Health Fund



Dr. Earle S. Raun



The Earle S. Raun Doctor of Plant Health Fellowship Fund was created to honor Earle Raun's efforts in establishing UNL's Plant Health Program and his professional contributions to crop consulting and agricultural education.

In addition to his work at UNL, Dr. Raun created Pest Management Company—the first independent crop consulting firm in the Midwest specializing in research and advice on pest management and crop production, and was instrumental in founding the National Alliance of Independent Crop Consultants (NAICC) and its Nebraska affiliate, Nebraska Independent Crop Consultant Association (NICCA).

Contributions to this fund will enable UNL to offer fellowships for Doctor of Plant Health students. To give, go to nufoundation.org/fundsearch and enter Earle S. Raun into the search window.

For more information, contact Josh Egley at 402-458-1176 or Dr. Gary Hein at 402-472-3345.

CAMPAIGN for
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