

The DPH Practitioner

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

DPH Presents Black Bag to Students

Lee Briese, Aaron Sedivy and Emily Stine received their DPH Black Bag at the awards reception on April 18. The black bag signifies that the student is half way thru the DPH program and doing an internship soon.

The awards reception was held in conjunction with the DPH program external review. The External Review Team consisted of: Team chair Dr. Marty Draper, Department of Plant Pathology, Kansas State University; Dr. John Capinera, Department of Entomology and Nematology, University of Florida; Dr. Thomas Hoegemeyer, former corn breeder, Agronomist, Lincoln; Jeff Barnes, Biology Group Leader and Senior Manager BASF Corporation, North Carolina; Dr. Haley Oser, Brewing Materials Supply Manager, MillerCoors Brewing, Denver; Dr. Dori Harris, PPT Parent Characterization Scientist, Syngenta, Seward; and current DPH students Lee Briese and Emily Stine.



Aaron Sedivy, Emily Stine, Lee Briese & Dr. Gary Hein—Black Bag recipients

Doctor of Plant Health
University of Nebraska-Lincoln
279E Plant Sciences Hall
P.O. Box 830933
Lincoln, NE 68583-0933

Phone: (402) 472-3365
Email: dph@unl.edu
www.dph.unl.edu

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#PlantDocs



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DPH Faculty Steering Committee Members

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Professor of Practice, Plant
Pathology

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Professor, Agronomy/
Horticulture

Dr. Richard Ferguson,
Professor, Agronomy/
Horticulture

Dr. Chuck Francis,
Professor, Agronomy/
Horticulture

Dr. Roch Gaussoin,
Professor, Agronomy/
Horticulture

Dr. Loren Giesler, Professor,
Plant Pathology

Dr. John Lindquist,
Professor, Agronomy/
Horticulture

Dr. Lance Meinke, Professor,
Entomology

Dr. Ellen Papanozzi,
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Dr. Brian Wardlow, Associate
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Dr. Robert Wright, Professor,
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Dr. Gary Yuen, Professor,
Plant Pathology

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: ghein@unl.edu or 402-472-3345 for more information. We look forward to visiting with you.



Dr. Gary Hein, DPH Director

Meet Our New DPH Student Callie (Meyer) Braley



Callie received her B.S. in Agronomy (2017) from the University of Nebraska-Lincoln and started the DPH program in January 2018.

Callie grew up on small farm near the tiny town of Brule, Nebraska and because of that she has been surrounded by agriculture her entire life. Because of her background, she gained an interest in pursuing a career in agriculture.

"This field has changed dramatically since I was young, and continues to change very rapidly. From self-driving equipment to drones to variable rate technologies, the ways of optimizing agricultural production has advanced so much. And with needs for increased production globally, it is no wonder that producers, researchers, and agriculturalists must make the most out of our finite land area and resources and take advantage of these technologies. I, for one, would love to be a part of this ever-changing industry to help do my part to improve it. I've thought about working for a seed or chemical company or becoming an independent agronomist; all I know for sure is that I want to gain a great deal of knowledge about plants, to work with them and make them better, and to maximize their potential while helping people make a profit not just in the short-term, but for years to come. It is for these reasons that I wanted to be a part of the Doctor of Plant Health program. With the DPH program combining plant science, soil science, weed science, entomology, and plant pathology, I believe that I will graduate from this program ready to take on any problem my career would throw at me." ~Callie (Meyer) Braley

Faculty Highlight: Loren Giesler

Research: Major diseases affecting soybean production are the focus of research in the Giesler lab. Soybean cyst nematode is a worm-like animal that takes the most yield from soybean farmers of any pathogen in the world, and outreach associated with aiding farmers to manage this problem is a main target. Another disease of importance to Nebraska farmers is Phytophthora Stem and Root Rot. Current research efforts in this area are aimed at identify the interaction of seed treatments with genetic resistance to better guide farmers with an integrated management plan.

Extension: The focus of the Giesler labs extension program is on soybean pathology. Each year soybean farmers make decisions on significant investments related to seed treatment and foliar treatment inputs. Research is aimed at developing resources locally and nationally to inform farmers of potential responses for these treatments from an unbiased source (University Extension). For the past 11 years there has been an extension program on soybean cyst nematode awareness for farmers in a partnership with the Nebraska Soybean Board. Additional projects include regional collaboration on studies and education related to key soybean diseases in the state.



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.

DPH External Advisory Committee Members

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

Glen Franzluebbbers—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

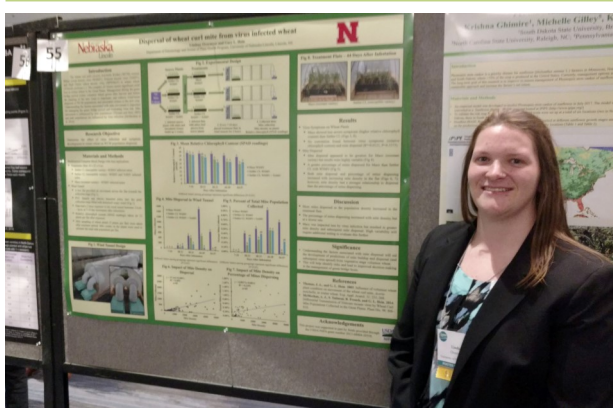
Tom Taylor—Twin Rivers Agronomics, Inc., Minden, NE

Lindsay Overmyer wins award at International IPM Symposium

Lindsay Overmyer won second place of over 40 student posters at the 9th International IPM Symposium on March 22 in Baltimore, MD. Lindsay presented her poster: “Dispersal of Wheat Curl Mite From Virus Infected Winter Wheat”.

Congratulations Lindsay.

Dispersal of Wheat Curl Mite
From Virus Infected Winter
Wheat—Lindsay Overmyer



Summer Internships 2018

Salvador Ramirez II—USDA-NRCS, Lincoln, NE

Salvador will be working with the United States Department of Agriculture Natural Resources Conservation Service (USDA-NRCS) for the summer of 2018. He will split his time working in the Kellogg Soil Survey Laboratory conducting chemical, physical, and biological soil tests and shadowing State Soil Scientist Neil Dominy. He plans to create a set of lectures describing soil test methodology and interpretation to either enhance existing UNL undergraduate soil and soil fertility courses, or design a course himself, drawing from his extensive teaching experience as a graduate student.

Emily Stine—Denver Botanic Gardens, Denver, CO

Emily Stine is working at Denver Botanic Gardens as the Doctor of Plant Health Horticulture Intern. Her duties include collecting data for the Arboreal Arthropod Diversity Study, hosting a weekly Plant Health Science Chat in the Science Pyramid, along with surveying and diagnosing pathogen, arthropod and nutritional concerns, including assessing tropical plant nutrition protocols in the Boettcher Memorial Tropical Conservatory within the Gardens. She will be providing support to Master Gardeners along with posting regular Plant Health Highlights on the Gardens' blog highlighting her experiences and developing resource sheets for common issues found within the Gardens. Beyond all of these tasks, she will be participating with the other interns learning about horticulture in Colorado with field trips and guest lectures. She is excited and ready to learn as much as she can over this summer.

Christopher Wynn—Centrol Ag Consulting, Edgeley, ND

Chris is working with DPH student Lee Briese this summer scouting fields for weeds like kochia, pigweed, common lambsquarter, dandelion, Canada thistle, and more. He'll also be checking for plant emergence and taking stand counts in corn and soybeans. They will also be setting and checking wireworm traps to see what kind of pressure they may have moving forward. With all this information they will create recommendations for the growers.

Chris reported: *"The other day I had a shining moment. While scouting a field I noticed an area that didn't look right. I was able to quickly diagnosis the issue as herbicide damage. Further investigation led me to know that it was a growth regulator herbicide that wasn't fully rinsed out of the sprayer tank. How did I know it was from the sprayer? The affected area was around the border of the field and approximately 120 feet across, the size of the boom for many sprayers out here. Because of the DPH and the extensive training and learning we go through I was able to piece together what was going on. Knowing that we found this area, we'll keep a close eye on it and we'll see how the crop will react moving forward. There's a good chance this area will be a complete loss"*.

Lee and Chris usually start their work day at 7:30am and run all day long until about 8pm or until there's not enough light on the field to properly see what's going on—too many shadows.

DPH Award Reception

The Doctor of Plant Health program held the spring award reception on April 18. Dr. Gary Hein and Georgia Raun presented the Earle S. Raun Fellowship to two DPH students: Aaron Sedivy and Christopher Wynn.

Dr. Hein presented the DPH Black Bag to three students: Lee Briese, Aaron Sedivy and Emily Stine.

The reception also enabled faculty and student interaction with the External Review Team.



Christopher Wynn, Aaron Sedivy, Georgia Raun & Dr. Gary Hein—Raun Fellowship presentation



Aaron Sedivy, Emily Stine, Lee Briese Black Bag presentation



Sarah Blecha Internship with ICARDA

International Center for Agricultural Research in the Dry Areas (ICARDA) is stationed in Rabat, Morocco, after moving from Syria. ICARDA is an international station with breeding efforts in several countries. They send their advanced lines to the national programs to be tested for release as a new cultivar. My time was spent on 'rotation', and toured different aspects of the wheat pipeline: seed health, entomology, pathology, Genetic Resources, wheat quality, and more. The main field is in Marchouch which is an hour drive from Rabat. It was a very hilly drive, but with amazing views. It is a major stripe (yellow) rust hotspot. I was able to see their field setup along with different pathological and entomological problems they face. Sunn Pest is the main insect pest, which can result in total grain loss post-harvest.



Irrigation is a major constraint in Morocco, and drought resulted in total field loss two years ago in Marchouch. Now, they have installed a lagoon to enable irrigation during drought. This year Morocco received a record amount of rainfall and drought stress will be nominal.



I also was a part of a three week wheat training group. The group consists of 20 small grains breeders from Africa, Asia, and Middle Eastern countries. They attended lectures about new technologies and how ICARDA runs their program. The main intention is for them to select advanced ICARDA lines to incorporate into their breeding programs. I also attended the Borlaug Global Rust Initiative (BGRI) in Marrakech. There were great lectures, mostly focused on rust, but also new technologies. The great aspect of this conference is continuing Norman Borlaug's legacy: teach the next generation and to share research. The wheat community is so open to sharing their research projects and ideas. The end goal is to give the best cultivars to farmers to fit their needs. ~Sarah Blecha

Sarah at BGRI in Marrakech



ICARDA



Sunn Pest



Peacock-Sarah's wake up call in the AM

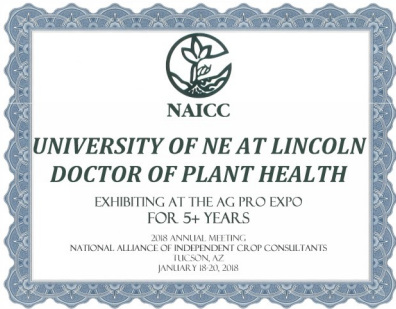


Sarah Blecha receives Award

Sarah Blecha has received the APS Foundation Browning Plant Medicine and Health Travel Award. This graduate student travel award, established by the generous gift from past president J. Artie and Arra Browning, helps graduate students majoring in the Doctor of Plant Medicine or the Doctor of Plant Health attend and participate in a professional meeting or conference appropriate to their interests. Funds may be used for participation in an APS meeting, or a meeting of another professional society. Congratulations Sarah.



What the DPH Staff & Students Have Been Up To

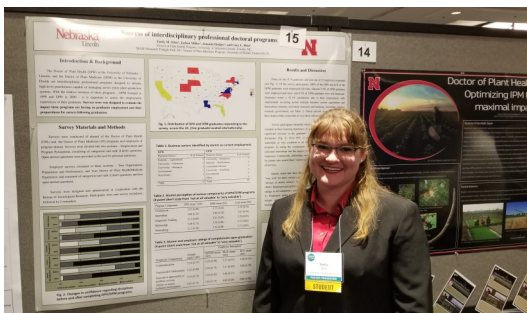


National Alliance of Independent Crop Consultants January 16-21, 2018

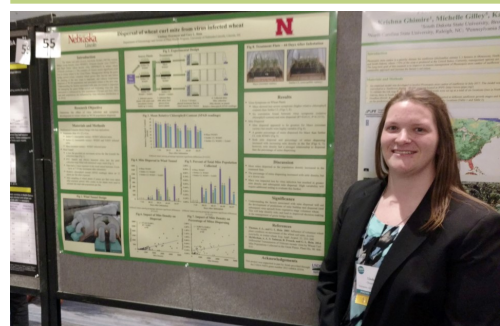
Dr. Gary Hein attended the NAICC Conference in Tucson, Arizona to promote the DPH program and recruit students. The DPH program was recognized for exhibiting at the Ag Pro Expo for 5+ years.

Integrated Pest Management Symposium March 19-22, 2018

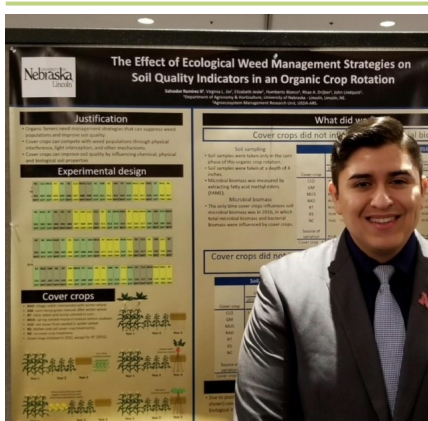
Dr. Gary Hein and four students attended the 9th International IPM Symposium in Baltimore, Maryland. The four students attending were: Lindsay Overmyer, Salvador Ramirez II, Aaron Sedivy and Emily Stine. The students presented their IPM-related posters:



Success of Interdisciplinary Professional Doctoral Programs—Emily Stine



Dispersal of Wheat Curl Mite From Virus Infected Winter Wheat—Lindsay Overmyer



The Effect of Ecological Weed Management Strategies on Soil Quality Indicators in an Organic Crop Rotation—Salvador Ramirez II



Policy visits in Washington, DC



Doctor of Plant Health: Optimizing IPM for Maximal Impact—Aaron Sedivy



In front of the USS Constellation in Baltimore Harbor

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 noundation.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.

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Doctor of Plant Health

University of Nebraska–Lincoln

279E Plant Sciences Hall
PO Box 830933
Lincoln, NE 68583-0933

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