

DPH degree Awarded

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**Congratulations Dr. Christopher Borman!**  
With Dr. Gary Hein (DPH Director) & Dr. Ellen Paparozzi (Agronomy & Horticulture)

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.

Christopher Borman received his Doctor of Plant Health (D.P.H.) degrees from the University of Nebraska-Lincoln on Friday, December 19, 2014 at the Pinnacle Bank Arena.

Chris's seminar and doctoral document was entitled "Managing Threats to the Urban Forest: from Dutch Elm Disease to Emerald Ash Borer—Learning from Experience".

Christopher (Chris) gained professional experience by participating in internships with Bartlett Tree Research Laboratories in Charlotte, NC., working in Bartlett's national diagnostic laboratory as a diagnostic intern. Along with diagnostics, Chris was responsible for sending out results and recommendations to arborists.

Chris's second internship was in Chicago, IL at The Morton Arboretum. Chris was a plant health intern in the plant pathology department. One of his main responsibilities was diagnostics of weekly

plant samples submitted by volunteers in the community who collect any plant abnormalities (disease, insects, discoloration, malformation, etc.).

Chris was also involved in an ongoing research project searching for Dutch elm resistant American elm trees. Another of his projects involved large tree transplanting and the use of air spades.

During the summer, Chris attended two professional meetings: the Illinois Arborists Association's Summer Conference, where he lead a workshop on tree canker diseases and the International Society of Arborists Annual Conference in Milwaukee, WI. where he had the opportunity to network with people in the Arboriculture industry.

Chris has accepted a position with the New York City Urban Forest Service as an Arborist. Best of luck to you Chris as you head to New York City!

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- Dr. Gary L. Hein, DPH Director  
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## DPH Graduate Update...

**Dr. Jeremy John Wagnitz** received his Bachelor of Science (B.S.) in Horticulture (2007), Master's (M.S.) in Entomology (2009), and his D.P.H. (2014) from the University of Nebraska–Lincoln.



He was awarded the Holling Family Award for Teaching Excellence, and he is a member of the American Association of Professional Apiculturists, Entomological Society of America, and Gamma Sigma Delta.

Jeremy gained professional experience with Research Designed for Agriculture (RD4AG) as a Research Biologist (RD4AG) as a Research Biologist Intern; and with the University of Nebraska–Lincoln Extension

working on a Soybean Translational On-Farm Research Project.

Jeremy's career goal is to ultimately blend his interest in insect pollinators with his love for plants. In June, Jeremy began a full-time position with BASF as a Ag Biologist II in Durham, NC.

**Dr. Laura Dotterer** received her D.P.H. (May 2014) from the University of Nebraska–Lincoln and is employed at DuPont Pioneer in Integrated Operations Education as an Emerging Leader.

Laura helps train and educate Pioneer's production agronomists. She spends time working on various training and education projects.

Laura shared this example, "I facilitated two field days at the Dysart Pioneer Hi-Bred International Production location where the University of Wisconsin presented information about soil health and management to Pioneer employees".



**Dr. Tara Wood** (May 2013 UNL DPH graduate) continues her position with the Norman Borlaug Institute for International Agriculture at Texas A&M as the Program Coordinator for Sub-Saharan Africa.

As the program coordinator for Sub-Saharan Africa at the Borlaug Institute, Tara is currently working on a unique, Public-Private Sector Partnership between USAID, the Borlaug Institute, SC Johnson Co., The University of Rwanda, Rwanda's National Agricultural Exports Board and Radio Lifeline. The overall objective of the project is to enhance the livelihoods of pyrethrum farmers by alleviating constraints in the Rwanda pyrethrum value-chain, and



empowering women farmers. Pyrethrum is a chrysanthemum flower cultivated for the extraction and refinement of pyrethrins, which are used in insect pest control products. Along with various project management and administrative responsibilities, Tara facilitates research aimed at identifying differences in yield and quality among py flower varieties. Tara has traveled to Rwanda to assist with variety experimental design, implementation, and harvest.

Tara is working alongside her colleagues to expand the Institute's Sub-Saharan Africa platform by generating concepts for projects in a number of African countries. Projects include activities in nearly all agricultural sectors from staple and cash crops to livestock and fisheries, and address issues spanning the entire value chain from improved production and post-harvest handling practices, to capacity building of organizations, institutions and business, to designing and marketing new products. Furthermore, all activities take into account the social, economic and environmental health of local communities and the region as a whole.



## DPH Students in the News



**Joshua Miller**, DPH & Ph.D. student was featured in two major new publications. Josh appeared on Market Journal-Television for Agricultural Business (Dec. 2014) to talk about Crop Sensing, how crop sensing technology may be able to teach more about soybean performance during the growing season. To view the segment on You Tube visit: <http://youtu.be/Q5pf7FB4XMg>

The October 2014 issue of Nebraska Farmer Magazine features Doctor of Plant Health student, “Vegetative index tested on soybeans.” Josh demonstrated his crop sensing soybean studies at a Soybean Management Field Days program. Follow this link to read the article: <http://farmprogress.com/searchFp.aspx?q=Vegetative+Index>



## Summer Work Experiences & Internships

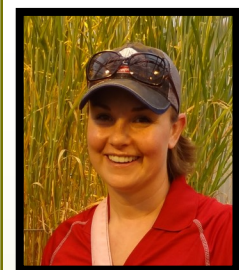
Ph.D. and DPH student **Anthony Justin McMechan** internship has consisted of a series of educational projects with the University of Nebraska-Lincoln Extension. These projects involved face-to-face programming, applied research, and electronic media. Face-to-face programming was done through a series of presentations to producers addressing the risk and management of wheat stem sawfly and wheat-mite-virus complex. In addition, an applied research project was conducted to monitor sunflower head moth populations using pheromone traps.

Finally, Justin and UNL Extension Specialist, Dr. Jeff Bradshaw put together a wheat cropping school with numerous speakers to address wheat production issues in the Nebraska Panhandle.



**Haley Oser**, 2014 Earle S. Raun Fellowship recipient, attended the 2014 Agronomy Society of America, Crop Science Society of America, Soil Science Society of America (ASA-CSSA-SSSA) annual meeting in Long Beach, CA.

Haley used the opportunity to attend workshops, presentations and network for future employment. Congratulations again Haley, on receiving this award that enables DPH students to attend professional meetings.



**Haley participated in an internship at MillerCoors/Golden Malting, Golden, CO.** The Beer Staling Enzyme Assay project Haley was involved in this summer at MillerCoors/Golden Malting involved identifying the Lipoxygenase (LOX) activity in malting barley varieties that were grown in various production regions (Idaho, Wyoming, Montana, and Colorado). This enzyme is a precursor to the compound trans-2-nonenal (T2N). T2N is attributed to causing the cardboard, or papery, off flavors described in ‘stale’ beer. She also worked on mapping LOX development over the course of seed germination and the decrease in the enzyme after the kilning process.

Haley also participated in “Barley Days”. MillerCoors/Golden Malting have over 900 farmers that grow barley for the brewery and they have 5 of their own grain storage elevators and 7 shared cooperator elevators. On an annual basis the brewery hosts regional field days for the cooperating farmers. The objective of these field days is to meet with the growers and educate them on the importance of the quality of the barley that will be used in the malting process and express the company’s appreciation for the growers. Haley attended three different barley day events, manned the company booth, and talked to farmers about barley production and quality as well as sustainable agricultural practices.

*Haley said “Overall this was an amazing experience and I was able to learn a lot, teach, and engage with all the different people involved the entire supply chain that provides the barley for the production of beer.”*



DPH and M.S. (Agronomy) student Salvador Ramirez practices during a microphotography lecture

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

Faculty and DPH students showed up to celebrate the graduation of Dr. Christopher “Chris” Borman. Chris is the fifth DPH graduate since inception of the program in 2009.



## Internship Experiences



Summer Internship—The summer of 2014 **Gregory Brittain** worked for the Hermiston Agricultural Research and Extension Center—Oregon State University in the plant pathology diagnostic lab. Greg handled

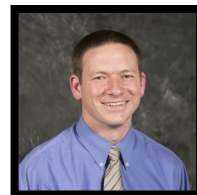


diagnostic cases submitted to the lab, from start to finish. This work included learning how to run the lab, process submissions and deduce the problem.

Greg said *“For most of our submissions, the problem was relatively common and required a few molecular tests to confirm. Some submissions were novel to the lab and necessitated development of a new protocol or collaboration with other labs”*.

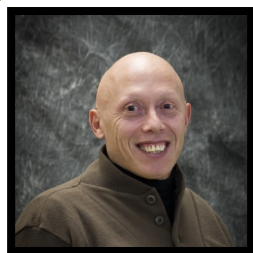
As part of his internship, Greg participated in some studies on potato psyllids, screening for potato viruses in field seed potato trials, as well as education extension projects, including a presentation for the local master gardener’s club.

## Midwest Research INC.



**Jon Derek Pruitt** worked for Midwest Research, York, NE. Midwest Research is a contract research company that conducts a large number of trials for research and production, operating numerous sites for testing in different soil types. The primary crops used are corn and soybeans, but numerous studies are done with all different kinds of crops, including sorghum, alfalfa, potatoes, sweet corn, as well as spring and winter wheat just to name a few.

Derek was responsible for trait trials involving regulated transgenic crops, including all aspects of sampling and data collection process and regulatory compliance. In addition, he was able to get experience with the different types of trials common to contract research. Another interesting component of the internship was getting to help in the product demonstration plots. Plots were prepared to demonstrate different products or scenarios, such as drift or failure to wash the tank after an application. The opportunities to learn were abundant at Midwest Research, and the people there were very knowledgeable.



**Kenneth Roché** worked as a PPQ technician during his summer internship with the United States Department of Agriculture—Animal Plant Health—Plant Protection Quarantine (USDA-APHIS-PPQ). A majority of his internship involved extensive travel, monitoring and collecting samples for Emerald Ash Borer and Grape Commodity Survey. Kenny assisted the Nebraska Department of Agriculture with commercial nursery inspections and the South Dakota Department of Agriculture with nursery and pesticide storage inspections. Kenny said it was *“A worthwhile and insightful experience into what goes on at the federal, regional and state level”*.



# Doctor of Plant Health

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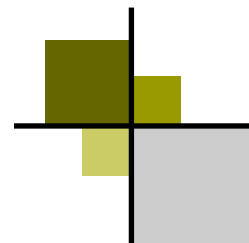
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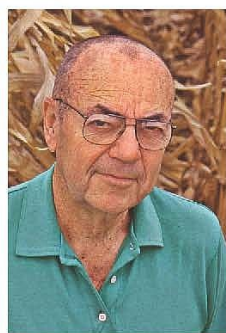
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## Help us grow the Earle Raun Plant Health Fund



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](http://nufoundation.org/fundsearch) and enter Earle S. Raun into the search window.

For more information, contact Ann Bruntz at 402-458-1176 or Gary Hein at 402-472-3345.

**CAMPAIGN for  
NEBRASKA**  
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