

DPH 2012-2013

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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.

Back Row: DPH Director, Dr. Gary Hein, Kevin Korus, Justin McMechan, Chris Borman, & Jeremy Wagnitz
 Front Row: Tara Wood, Dori Osantowski, Haley Oser & Carolina Camargo
 Not pictured: George Biliarski, Greg Brittain, Laura Dotterer, Kenny Roché, Gary Stone, Roger Yerdon & Margo Wright

KEVIN KORUS Named to Plant & Pest Diagnostic Clinic Position



Kevin Korus
 Coordinator of the UNL Plant and Pest Diagnostic Clinic And DPH Student

On May 1, 2012, **Kevin Korus**, joined the UNL extension plant pathology department as the new coordinator of the Plant and Pest Diagnostic Clinic.

A native of Nebraska, Korus received his bachelor's degree in horticulture and his master's degree in agronomy (plant pathology) from the University of Nebraska-Lincoln. Kevin has been in the DPH program since January 2011 and will continue to pursue his Doctor of Plant Health (DPH) degree.

In addition to developing an

exceptional background in all areas of plant science, Korus has participated in Extension activities and received several honors and awards while at UNL. He is a member of the American Phytopathological Society, the national horticultural honor society, Pi Alpha Xi, and the agricultural honor society, Gamma Sigma Delta.

Korus is passionate about plant science. He is looking forward to working with industry professionals, growers, and the general public and applying his passion for diagnostics to new opportunities with UNL Extension.

| <i>Inside this issue:</i> | |
|---|---|
| 2012 Summer Internship Reports | 2 |
| William J. Curtis Fellowship Recipients | 3 |
| DPH Student Summer Activities | 4 |
| Travel & Awards, Recognition | 5 |
| Help us grow—Foundation gift | 6 |



2012 Summer Internship Reports

DORI OSANTOWSKI—USDA-NIFA NATIONAL NEEDS FELLOWSHIP RECIPIENT



Dori Osantowski

Dori worked for Dow AgroSciences as a Field Research and Development Intern, under the supervision of Dr. Deane Zahn, a field scientist for

Dow. Dori assisted Dr. Zahn in conducting field trials involving seed treatments and crop tolerance. Dori helped stake out trials, spray chemicals, and rate trials; spending the majority of her time over the summer rating trials and preparing for a new technology showcase.



Corn tolerance trial

Dr. Zahn and Dori organized the set up of showcase plots for a new technology. The purpose of the showcase was to demonstrate to sales representatives and growers how the new technology works by offering visual comparisons.

Dori said, *“overall I thoroughly enjoyed my summer and learned a lot about research in industry”*. Dori plans to intern with Dr. Zahn and Dow AgroSciences again in the summer of 2013, where she will be given more responsibility when working with trials.

LAURA DOTTERER—USDA-NIFA NATIONAL NEEDS FELLOWSHIP RECIPIENT

Laura’s summer internship for 2012 was with the Nebraska On-Farm Research Program.

The Nebraska On-Farm Research (OFR) program revolved around corn production with three focus areas being irrigation, nitrogen, and corn plant population.



Laura Dotterer

Laura’s duties included following up with each participant to schedule an appointment to collect information about the farming operation and research comparison. Laura said she *“learned something new at each farm I visited and with each farmer I talked with”*.

Another key part of her internship was creating a document to help farmers with doing on-farm research entitled "A Grower's Guidebook to On-Farm Research". This guidebook answers the questions that may arise when a farmer is thinking about and/or in the process of conducting OFR.

KEVIN KORUS—SYNGENTA-FEAE INDUSTRY FELLOWSHIP RECIPIENT 2010-2012

now COORDINATOR FOR THE PLANT & PEST DIAGNOSTICS CLINIC AT UNL

Kevin spent the summer (2012) coordinating the Plant and Pest Diagnostic Clinic at the University of Nebraska–Lincoln. During his internship Kevin said he gained valuable experience in the area of plant disease diagnostics through the use of



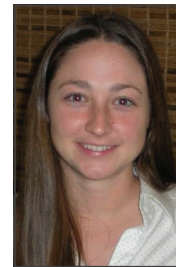
Kevin Korus

serological testing, microscopy, and proper culture techniques. He used the knowledge gained in the clinic to educate growers and the general public about plant pathogens and the management strategies that they can employ to help reduce disease incidence and severity.

Kevin said he was able to use several difference media sources to deliver his information including television (appearing on Backyard Farmer), the radio and the internet (Crop Watch).

Kevin also gained experience in business management which included evaluating the clinic sample fee structure and soliciting funds to ensure that the clinic will be self-sustainable in the future.

TARA WOOD—USDA-NIFA NATIONAL NEEDS FELLOWSHIP RECIPIENT

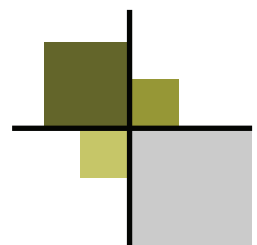


Tara Wood

This was Tara’s second internship experience in the DPH program. Tara plans to graduate with her DPH degree in May 2012.

For her 2012 summer internship, Tara traveled to Ghana, where she volunteered her time and expertise on a Farmer-to-Farmer project called ADVANCE (Ghana Agricultural Development and Value Chain Enhancement Program).

SUMMER INTERNSHIPS—CONTINUED



SUMMER INTERNSHIPS—CONTINUED

The ADVANCE project is a four-year project developed by a ACIDI/VOCA and funded by USAID (United States Agency for International Development). Based in Washington, D.C., ACIDI/VOCA is an economic development organization that supports broad-based economic growth, and raises living standards through its work in agribusiness, food security, enterprise development, financial services and community development.



Tara’s assignment included facilitating and supervising the training and demonstration of good agronomic practices to small-holder farmers in the northern regions of Ghana. Tara served as the Environmental Specialist at Demonstration Sites to ensure activities were in compliance with environmental regulations. She was also responsible for monitoring crop health at Demonstration Plots and local farmer’s fields. Where appropriate, Tara was able to provide valuable recommendations to mitigate production, environmental, plant health and value-chain issues.

Tara said upon her return home, *“This internship truly was an incredible, life changing opportunity. I cannot wait to go back to Ghana!”*

New Curtis Fellows!



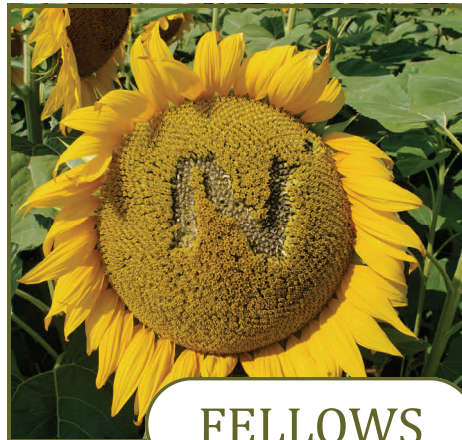
Haley Oser

HALEY OSER

Haley is a Biology graduate (2010) from Metropolitan State College of Denver (MSCD).

Haley appreciates the complexity associated within a plant health system. She believes by

completing the courses in associated disciplines, she will confidently attain a



FELLOWS

William J. Curtis Fellows

diverse understanding of plants and the connected ecosystems in which they thrive.

Haley plans to pursue a career as a diagnostician and consultant for various agricultural practices.

KENNETH ROCHÉ

Kenny has his Bachelor of Science (Botany) (2010) from Metropolitan State College of Denver (MSCD). It was at MSCD that Kenny decided botany would be the focus of his studies.



Kenny Roche'

Kenny’s plans to use his DPH degree in small-scale food/fiber/forage production systems (<15 acres) utilizing sustainable methodologies. This would include aquaculture, vermiculture, compositng of plant materials and livestock manures along with water conservation and soil fertility preservation.

Kenny said growing up certain philosophies were imprinted on him: self motivation, public activism, function over form, have what you need not what you want, reduce, re-use, recycle, bike or bus before driving, sustainability, responsibility, accountability, and respect for other people and cultures, these values all remain important to him as they were then.

ROGER YERDON

Roger received a B.A. and M.S. in Biology from the University of Nebraska at Kearney. Roger’s Master’s degree thesis was on: “Rotational grazing effects on above-ground biomass, species diversity, and forage quality in tallgrass prairie in Southern Manitoba”.



Roger Yerdon

His professional goal is to be a consultant either in the private sector or for the government.

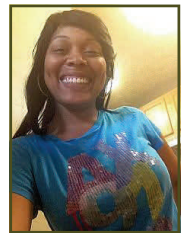
Prior to entering the DPH program, Roger was with the Army National Guard and the Nebraska Department of Agriculture as an Agricultural Inspector Specialist.

Roger is enthusiastic and experienced in learning new skills and looks forward to pursuing his DPH degree and the potential it holds.

New DPH Student!

MARGO WRIGHT

Margo is an Agriculture and Natural Sciences graduate from the University of Maryland Eastern Shore. A South East Washington, DC native, Margo says although she spent the majority of her life so far in the city, she loves the environment.



Margo Wright

Margo’s career goal is to work for Animal and Plant Health Inspection Service, Plant Protection Quarantine (APHIS-PPQ), focusing on solutions to plant health and sustainability for feeding a hungry world.

Margo believes a DPH degree will help her obtain the skills to allow her to consult and address agricultural/plant health issues.

SUMMER ACTIVITIES

Projects, Work Assignments and other Activities DPH Students were involved in over the Summer



Justin McMechan

Wheat Curl mite-
Virus Work at HPAL

Justin McMechan recently received his master's degree in entomology at the University of Nebraska-Lincoln where he worked on the transmission of Triticum mosaic virus and its impact on the biology of the wheat curl mite. Justin has continued to work with the wheat curl mite for his PhD, focusing on the window of risk for pre-harvest hail in winter wheat and the overwintering survival of wheat curl mites on alternative hosts. He is pursuing joint DPH-Ph.D. degrees.

The wheat curl mite is the only known vector of three viruses in wheat, wheat streak mosaic virus, wheat mosaic virus and Triticum mosaic virus. This complex of viruses is the leading cause of disease loss in winter wheat production in the western Great Plains. Justin will be conducting his research over the next few summers at the High Plains Agricultural Lab, a few miles north of Sidney, Nebraska.



Kenneth (Kenny) Roche' (William J. Curtis Fellowship Recipient) spent his summer (2012) working as a Weed Science Technical Assistant to Lowell Sandell in Weed Science Extension at UNL.

His responsibilities included preparation and maintenance of weed species (mainly waterhemp- *Amaranthus rudis* and giant ragweed- *Ambrosi trifida*) of interest in three greenhouses that tested suspected resistance species to herbicides. Along with field studies in southeastern Nebraska among corn and soybean crops documenting herbicide-weed species-crop interaction/response. This included preparation, mixing, loading, spraying and documenting of herbicides for field trials.



Kenny worked alongside Lowell on field trials for industry that included regulated (GM) corn and soybean seed. Kenny attended three Field Days in David City, ARDC and Mead .

Kenny also acquired his Commercial Pesticide Applicators License for Agricultural crops and Demonstration/ Research from the Nebraska Department of Agriculture.



Chris and a Japanese black pine that has been there (and pruned and trained) for hundreds of years

Christopher (Chris) Borman (William J. Curtis Fellowship Recipient) worked at Earl May Garden and Nursery Center. His main duties included helping people find the correct plant for their situation, building displays with plant material, and his favorite part—diagnosing plant problems and giving advise. Chris said that people always came in with issues, and he loved trying to figure out what happened from either the sample they brought in, or the story they told him. Once the problem was figured out, Chris advised them on what to do and showed them products that could possibly help.

Chris also travelled to Japan last summer to visit friends he made while living there 4 years after earning his B.S. in Horticulture from UNL. He traveled from Hokkaido in the North to Ehime in the Southwest, visiting many botanical gardens.

Carolina Camargo (Becas Caldas Fellow) worked during the summer on a research proposal on the effect of neonicotinoids seed treatments on the Minute Pirate Bug, *Orius insidiosus*.

The idea of this project is to evaluate the compatibility of insect predators with seed treatment insecticides as a base knowledge for integrated pest management programs for managing soybean aphid.

Carolina developed some of the experiments to test the lethal and sub-lethal effects on the Minute Pirate Bug exposed to thiamethoxam (one of the most used insecticides in seed treatments). The results of those experiments were presented at the Entomological Society of America Meeting in November 2012.



DPH Students were recognized in many ways over the year!

It was an exciting year of travel and awards for students in the UNL Doctor of Plant Health!



In **March 2012**, **Chris Borman**, **Greg Brittain**, **Kevin Korus**,

Haley Oser, **Jeremy Wagnitz** and **Tara Wood** attended the Integrated Pest Management (IPM) 7th International Symposium in Memphis, TN. representing the DPH program. Five of the students were awarded \$1,000 IPM Travel Scholarships.

The poster *"A new paradigm in IPM education: professional practitioners for managing a more sustainable future"* was presented by **Gary Hein**, **Tara Wood**, **Laura Dotterer**, **Kevin Korus**, **Dori Osantowski** and **Chris Borman**.

Tara Wood was awarded the 2012 Browning Plant Medicine and Health Travel Award from the American Phytopathological Foundation. The Browning Travel Award was



established to assist graduate students majoring in the DPH/DPM programs to attend and participate in other professional society meetings, in addition to APS. This is the second year of the award.

Tara used this award to travel to the 2012 ASA/CSSA/SSSA meeting in Knoxville, TN in October 2012. Tara presented a poster

"Effects of density, species ratio and nitrogen supply on biomass accumulation of spring oat and field pea in sole and intercropping" (co-authored with Rodrigo Werle, Chengchou Han, Katja Koehler-Cole, Dori Osantowski, Jeremy Wagnitz, Kevin Korus, Chris Borman, Evan Sonderegger and John Lindquist.)

Congratulations go to **Tara Wood** for being voted UNL Graduate Student Association, Legislative Representative of the Year! (2011-12)



Chris Borman, **Greg Brittain**, **Haley Oser**, **Kenny Roche** and **Jeremy Wagnitz** were all recognized in October at the 2012-2013 Agricultural Research Division and College of Agricultural Sciences and Natural Resources IANR Distinguished Fellowship Award Luncheon for their William J. Curtis Fellowships. Well done!



2012 Weeds Team - Back Row: Renato Marques, Evan Sonderegger, Greg Krueger, Chad Hemelbracht, Jason 'Conner' Ferguson, Cody Creech, Greg Rentschler, Front Row: Leonardo Lombardi Perez, Kenneth Roche', Laura Dotterer, Dori Osantowski, and Rodrigo Werle

DPH Program Represented at the NCWSS

Congratulations!

Three DPH students were part of the UNL Weeds Team that participated in the North Central Weed Science Society (NCWSS) 2012 Collegiate Weed Science Competition.

The team captured 1st place Team Calibration and 3rd place Overall.



3rd Place Overall Graduate Team—Rodrigo Werle, Laura Dotterer, Kenneth Roche', and Dori Osantowski

Gary Stone

DPH Student and UNL Extension Educator shares why he chose to pursue a DPH degree...

...we DPH students) are all members of a very exclusive group of what I believe to be a very exclusive program that is making history. Think about it, this is a new program for the University and you are the first in that program; not many can make that claim. So what WE do with it for the others that will follow will be the standard.

And we have that opportunity to set the standard."

..."I will do whatever I can from my far-away place to help out. It will be a year or so until I get down there and I know some of you will have already graduated and gone on to better things. In the meantime,

don't hesitate to ask of me, I have a little more experience than most of you and maybe all of you and probably old enough to be your grandfather (that doesn't sound good does it!?!?) Why am I doing this, because it is something I want. I wanted a program like this 30 some odd years ago and it wasn't available and I have this opportunity that I won't pass up."

-- Gary Stone, DPH Student and UNL Extension Educator



Doctor of Plant Health

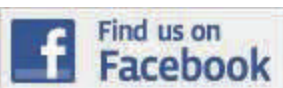
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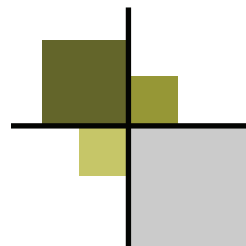
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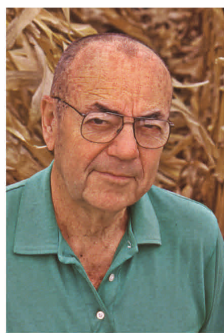
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Help us grow the Earl Raun Plant Health Fund



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 Ann Bruntz at 402-458-1176 or Gary Hein at 402-472-3345.

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