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INSTITUTE OF AGRICULTURE AND NATURAL RESOURCES
Nebraska Lincoln
Agricultural Research Division
News

December 2006 Volume 39, Number 6

Comments from the Dean

This past October I had the great pleasure of being invited to the annual Nebraska Extension Conference in Kearney. In exchange for a "free" lunch, I was asked to talk for a few minutes and share some of my perspectives on the nature and importance of the relationships and interdependence of extension, research and academic programs in a land-grant university. I could not pass up that opportunity to talk about something that has been a major focus of my career over the past several years and something that I feel lies at the heart of the value and values of land-grant universities.

I was pleased and gratified by the response I received from the audience, and I am almost certain that at least one person asked if I would include my remarks in this occasional column. Being no more immune to flattery than the next fellow, I will try to recapture here my comments.

One of my major reasons for choosing to come to the University of Nebraska–Lincoln was my perception that IANR formed an ideal structure to nurture a highly valuable and productive relationship among academic programs, extension education and research. After just about a year of working with you, I can report that my perception and insight were excellent. Not only is the structure right for effective cooperation, the people are also right. The IANR faculty, staff and administrators all work hard to ensure seamless cooperation and coordination of extension, research and teaching missions.

Whether each of you realize it or not, you all seem to act as if you understand and live by the fundamental unifying principle of IANR: We are all in the knowledge business. What I mean by that is that our job, collectively, is to ask: Who needs to know what? And then to make sure that they do know it. Our job is to deliver the knowledge people need through extension or academic programs if the knowledge exists. But sometimes it does not. Then we need to create the knowledge they need through research. If the state of the science is well advanced, we might be able to do this through applications or development - research, but sometimes very fundamental basic research may be required to create new principles or processes. In all of this, however, we must keep these end users of the knowledge in mind.

One of our best tools for keeping those users in mind is our strategic plan. Viewed in its simplest terms, the strategic plan of an organization which, like ours, is in the knowledge business should lay out goals and outcomes that tell us who needs to know what to achieve those outcomes. The IANR strategic plan does just that in a way that allowed ARD and Extension to develop their joint and integrated five-year plan-of-work to address the program themes of the strategic plan. The themes of the strategic plan become goals and outcomes of logic models telling us who needs to know what, how we find that what and deliver the knowledge our clients need to achieve the desired outcomes. Research, extension and academic programs become an integrated effort to meet the knowledge needs of Nebraskans now and in the future.

The future need for knowledge is a major purview of our academic programs and the central reason that land-grant universities became the home of knowledge creation and delivery. Almost always a large part of the answer to the question (who needs to know?) is the next generation of decision makers, practitioners, and knowledge creators. This means that academic programs become part of the logical process for long-term goal achievement. We cannot hope to achieve society's goals through knowledge generation and delivery by only dealing with our own generation. If we are to succeed in our goals and outcomes, we must ensure well-educated and knowledgeable future generations. Put in this context, our student recruitment efforts take on a new and more important meaning. They are really an integral part of achieving our mission and serving the citizens of Nebraska.

Gary L. Cunningham
Dean and Director

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IANR

William G. Whitmore Student Travel Endowment

The William G. Whitmore memorial fund was established at the University of Nebraska Foundation in 1980 as a memorial to William G. Whitmore, a member of the Board of Regents at the University of Nebraska from 1902-1916. The income from the fund supports a travel grant program for graduate students within IANR whose advisor or co-advisor has an ARD research appointment. In accordance with the donor instructions, this program will support attendance to professional society meetings in the fields of animal science, agricultural education and leadership, and veterinary and biomedical sciences. Priority for grants will be given to graduate students who are personally presenting the results of their research and/or scholarly investigations.

The Whitmore Research Travel Committee makes grants for expenses, including transportation (which is not to exceed coach class airfare), registration, lodging, meals, etc. Grants under this program are limited to a maximum of $500 per individual per fiscal year. The following IANR students received William G. Whitmore memorial funds for travel during the period Jan. 1 through June 31, 2007:

Name: Chrystal Bucker
Department: Animal Science Department
Meeting: ASAS/Midwest Section Annual Meeting
Place: Des Moines, Iowa

Name: Jared Bates
Department: Animal Science Department
Meeting: ASAS/Midwest Section Annual Meeting
Place: Des Moines, Iowa

The next call for these travel funds will be sent to the unit administrators around the second week in April 2007 for travel from July 1 to Dec. 31, 2007.

UNDERGRADUATE HONORS RESEARCH PROGRAM

Funds for the 2007 Academic Undergraduate Honors Student Research Program have been allocated to units for support of undergraduate student research projects. This program is open to junior and senior University Honors Program students proposing to work with a faculty research mentor who has an ARD appointment. Two proposals were received and funded. The following students have received funding:

Brenden Nemecek (Biochemistry) $2,500
Mentor: Dr. S. Madhavan
"Isolation and Characterization of Cinnamyl Alcohol Dehydrogenase from Switchgrass Plants"

Jeanine Frey (Biochemistry) $2,500
Mentor: Dr. Julie Stone
"Role of ANNAT1, a Protein Predicted to Function in Plant Programmed Cell Death"

David H. and Annie E. Larrick Fund, 2007

The David H. and Annie E. Larrick fund supports travel of graduate students who are conducting research in fields other than animal science, agricultural education and leadership, and veterinary and biomedical sciences. The Larrick endowment will assist the following students with $500 for travel grants to present research findings at national or regional meetings.

Name: Nathan Mueller
Department: Agronomy and Horticulture
Meeting: Water Conference USDA/CSREES
Place: Savannah, Georgia

Name: Paul Schroeder
Department: Agronomy and Horticulture
Meeting: Society for Range Management
Place: Reno, Nevada

Name: Pratima Doddapaneni
Department: Biological Systems Engineering
Meeting: American Society of Agriculture and Biological Engineers
Place: Minneapolis, Minnesota

Name: Ajay Kumar
Department: Biological Systems Engineering
Meeting: American Society of Agriculture and Biological Engineers
Place: Minneapolis, Minnesota

Name: Mary Carla McCullough
Department: Biological Systems Engineering
Meeting: American Society of Agriculture and Biological Engineers
Place: Minneapolis, Minnesota

Name: Cixin Wang
Department: Family and Consumer Sciences
Meeting: Society for Research in Child Development
Place: Boston, Massachusetts

Name: Afuo O. Ofori-Anti
Department: Food Science and Technology
Meeting: American Academy of Allergy, Asthma and Immunology
Place: San Diego, California

Name: Yap Ching Chew
Department: Nutrition and Health Sciences
Meeting: American Society for Nutrition
Place: Washington, DC

Name: Yousef Hassan
Department: Nutrition and Health Sciences
Meeting: American Society for Nutrition
Place: Washington, DC

Name: David M. Guderian, Jr.
Department: Nutrition and Health Sciences
Meeting: American Society for Nutrition
Place: Washington, DC

Name: Heather Rasmussen
Department: Nutrition and Health Sciences
Meeting: American Society for Nutrition
Place: Washington, DC

Name: Elliot D. Jesch
Department: Nutrition and Health Sciences
Meeting: American Society for Nutrition
Place: Washington, DC

Name: William Rittenour
Department: Plant Pathology
Meeting: 24th Fungal Genetics Conference
Place: Asilomar, California

Name: Haoyu Si
Department: Plant Pathology
Meeting: 24th Fungal Genetics Conference
Place: Asilomar, California

Name: Camile Semighini
Department: Plant Pathology
Meeting: 24th Fungal Genetics Conference
Place: Asilomar, California

Wishing you a New Year of peace and happiness!

ARD Staff

Gary *Z B* *Dan* *Dora*

Nelvie *Karen* *Nancy*

ARD Foundation/Grant Processes

The Agricultural Research Division administers several NU foundation grants. The process for faculty obtaining foundation grants is the same for all the grants. The steps to follow are:

- Department Heads receive notice that the foundation grant is available from the Agricultural Research Division (grant information and tentative deadlines are on the ARD website)
- Send proposal to the ARD office by deadline date - need to be sure it is labeled as to what foundation grant you are applying for
- ARD will have these reviewed by the Associate Dean, the ARD Advisory Council and/or other department heads who have been assigned
- Faculty are notified if they have received the award or not
- Faculty receiving the award **must complete the Foundation Income Form** that is sent to them by ARD, sign it, have it signed by their department head and forward it back to the ARD office. (If there is a student working on this project, the name must be listed on the form in order for the foundation to approve.)
- The ARD office will sign and forward it to sponsored programs, who sends it on to the foundation for approval. Sponsored programs will then assign a WBS number to that particular foundation grant.
- The faculty have a timeline in which to work on their project and use these foundation funds. If they have received a two-year project, they need to send a progress report along with a summary sheet to the ARD office for approval for their second-year funding at the end of the first year. No second-year funding will be given unless the above process has been followed. At the end of the two years, the faculty must send in a "final" report along with a summary sheet. If it is only a one-year grant, then a "final" report along with a summary sheet must be forwarded to the ARD office at the end of grant.

The foundation grants to watch for in 2007 are as follows:

- Anna H. Elliott (letter sent around Dec. 15, 2006 - deadline sometime in March)
- Sampson Range and Pasture Management (Jan. 15)
- Helen Porter Van Spronssen Charitable Trust (Feb. 1)
- Ralph H. Bainbridge Memorial Fund (Feb. 1)
- Jorgensen Fund (Feb. 1)
- Channing B. and Katherine W. Baker Fund (Feb. 1)

New or Revised Projects September and October 2006

NEB 22-315 Effectiveness of irrigated crop management practices in reducing groundwater nitrate concentrations
Investigator: Roy Spalding, Agronomy and Horticulture
Status: Grant project effective Sept. 14, 2006, through Sept. 14, 2009

NEB 22-316 Increased drought resistance and yield potential in sorghum by enhancing its adaptability to cold
Investigator: Ismail Dweikat, Agronomy and Horticulture
Status: Hatch project effective Sept. 1, 2006, through Aug. 31, 2011

NEB 23-004 W-1173, Stress factors of farm animals and their effect on performance
Investigator: Anne Parkhurst, Statistics
Status: Multistate project effective Oct. 1, 2006, through Sept. 30, 2011

NEB 26-180 W-1112, Reproductive performance in domestic ruminants
Investigator: Andrea Cupp, Animal Science
Status: Multistate project effective Oct. 1, 2006, through Sept. 30, 2011

NEB 27-059 The social convoys of Latino adolescents in Nebraska: Understanding paths to positive outcomes
Investigator: Maria de Guzman, Family and Consumer Sciences
Status: Hatch project effective Aug. 1, 2006, through July 31, 2011

NEB 27-060 Strength and resiliency in rural and underserved families
Investigator: Richard Bischoff, Family and Consumer Sciences
Status: Hatch project effective Aug. 1, 2006, through July 31, 2011

NEB 31-109 How does peanut protein travel around the body once ingested and exert its harmful effects?
Investigator: Steve Taylor, Food Science and Technology
Status: Special grant project effective Aug. 15, 2006, through Aug. 14, 2007

NEB 31-110 Improving safety of shell eggs and egg products by addressing critical research needs for Salmonella Enteritidis and Salmonella spp.
Investigator: H. Thippareddi, Food Science and Technology
Status: Grant project effective Sept. 1, 2006, through Aug. 31, 2009

NEB 35-104 W-1147, Managing plant microbe interactions in soil to promote sustainable agriculture
Investigator: Gary Yuen, Plant Pathology
Status: Multistate project effective Oct. 1, 2006, through Sept. 30, 2011

NEB 36-064 Folate bioavailability of legumes
Investigator: Julie Albrecht, Nutrition and Health Sciences
Status: Hatch project effective Aug. 15, 2006, through Aug. 14, 2007

NEB 38-049 W-1082, Evaluating the physical and biological availability of pesticides and pharmaceuticals in agricultural contexts
Investigator: Pat Shea, School of Natural Resources
Status: Multistate project effective Oct. 1, 2006, through Sept. 30, 2010

NEB 39-143 Functional analysis of proteins encoded by the bovine herpesvirus
Investigator: Clinton Jones, Veterinary and Biomedical Sciences
Status: Grant project effective Sept. 15, 2006, through Sept. 14, 2009

NEB 39-144 Management model for diagnosis, control, and monitoring for bovine viral diarrhea virus in beef cattle herds
Investigator: Gary Rupp, Veterinary and Biomedical Sciences
Status: State project effective Sept. 1, 2006, through Aug. 31, 2011

Proposals Submitted for Federal Grants September and October 2006

The following is a listing of proposals that were submitted during September and October 2006 by faculty for federal grant programs. While not all grants will be funded, we are appreciative of the faculty members' outstanding efforts in submitting proposals to the various agencies.

Scott Hygnstrom – USDA-APHIS – Toward development of spatially explicit models of wildlife disease – $133,000

Alan Baquet – USDA – Rural Policy Research Institute – $92,459

Milford Hanna – NSF – Expansion of biopolymers during extrusion – $106,535

David Steffen – USDA-APHIS – Classical swine fever surveillance – $128,078

Sunil Narumalani – USDA-APHIS – Mapping, quantifying, and predicting current and future invasive plant species in the North Platte corridor from east of Lake McConaughy to North Platte – $25,000

Konstantinos Giannakas – USDA/Economic Research Service – The market and welfare effects of Country-Of-Origin-Labeling (COOL) for specialty crops – $7,000

Stephen Baenziger and Stephen Wegulo – U.S. Wheat and Barley Scab Initiative – To enhance variety development of scab resistant hard winter wheat varieties – $53,798

Stephen Wegulo – U.S. Wheat and Barley Scab Initiative – Predicting development of fusarium head blight and DON in winter wheat – $26,536

Anatoly Gitelson – USDA-ARS – Development and validation of remote sensing algorithms to detect cyanobacteria in catfish ponds – $5,000

David Steffen – USDA-APHIS – AI lab testing for the State of Nebraska (PO #47305) – $25,200

David Steffen – USDA-APHIS – AI lab testing for the State of Kansas (#51053) – $21,700

Jaekwon Lee – NIH – Mechanistic insights into homeostatic copper acquisition – $1,065,560

Gary Yuen – U.S. Wheat and Barley Scab Initiative – Control of fusarium inoculum production in crop residue – $18,620

Gary Yuen – U.S. Wheat and Barley Scab Initiative – Effects of spray application methods on biocontrol agents – $26,830

Gary Yuen – U.S. Wheat and Barley Scab Initiative – Uniform tests of biological control agents against fusarium head blight – $12,900

Stephen Wegulo and Gary Yuen – U.S. Wheat and Barley Scab Initiative – Integrating strategies to mitigate fusarium head blight and DON in winter wheat – $25,350

Jeyamkondan Subbiah – NSF – A project to establish a National Bioprocess Education Consortium– $22,714

S. Madhaven, Timothy Arkebauer, Daniel Walters, John Markwell, Don Weeks, Dave Wedin and Shashi Verma – NSF – Acquisition of a state of the art stable gas isotope ratio mass spectrometer with a dual inlet system and a micro volume capability – $519,810

Richard Perrin – USDA-ARS, NPA and NRRC – Ex-ante economic evaluation of a food safety technology – $27,400

Gary Yuen and Liangcheng Du – U.S. Wheat and Barley Scab Initiative – Control of DON production in grain with hypovirulent strains of fusarium – $18,630

Dave Dunigan – U.S. Geological Society – Identify algal virus DNA signatures in ancient sediment cores – $5,000

Gary Hergert – USDA-NRCS – Demonstrate and adapt remote sensing technology to produce consumptive water use maps for the Nebraska Panhandle– $239,950

Dave Marx – USDA-ARS – Improving breeding designs using spatial statistics and covariates – $50,000

John Yohe – U.S. AID – Collaborative research support program (INTSORMIL) – $400,000

Andrew Benson – NIH – Functional consequences of genome evolution in listeria monocytogenes – $1,448,915

Marjorie Lou – NIH – Protein-thiol mixed disulfide in cataractogenisis – $2,024,298

Paul Hanson and Robert (Matt) Joeckel – USGS – 2007-2008 State map – $106,236

Rick Funston – University of Minnesota (USDA) – Effect of supplemental nutrition on embryo survival and pregnancy rate in beef heifers – $10,000

Grants and Contracts Received for September and October 2006

Agricultural Economics:

Alan Baquet – USDA	$92,459.00
Miscellaneous Grants under $10,000 each	$7,000.00

Agricultural Research Division:

Gary Cunningham – USDA-ARS	$923,600.00

Agronomy and Horticulture:

Ken Cassman – Nebraska Soybean Board	$56,612.00
Ken Cassman – Nebraska Corn Board	$36,189.00
George Graef – Nebraska Soybean Board	$56,696.00
George Graef – Nebraska Soybean Board	$147,360.00
George Graef – Nebraska Soybean Board	$39,500.00
Roy Spalding, Mary Exner, Richard Feguson, David Marx and Peter Nowak – USDA-CSREES	$158,000.00
Roy Spalding and Mary Exner – Nebraska Ethanol Board	$46,150.00
James Specht – USDA-ARS	$88,397.00
Charles Wortmann – National Pork Board	$12,300.00
Miscellaneous Grants under $10,000 each	$26,750.00

Animal Science:

Chris Calkins – Nebraska Beef Council	$37,696.00
Chris Calkins – Nebraska Beef Council	$79,144.00
Chris Calkins – National Cattlemen's Beef Association	$27,233.00
Rodger Johnson – Nebraska Pork Producers Association	$20,000.00
Terry Klopfenstein – Nebraska Corn Board	$20,353.00
Phillip Miller – Nebraska Pork Producers Association	$17,000.00
Miscellaneous Grants under $10,000 each	$5,250.00

Biochemistry:

Donald Becker – NIH	$92,406.00
Vadim Gladyshev – NIH	$295,287.00
Melanie Simpson – NIH	$10,919.00

Biological Systems Engineering:

Milford Hanna – O2DIESEL	$60,500.00
Jayamkondan Subbiah – National Cattlemen's Beef Association	$37,607.00

Entomology:

Leon Higley and Stephen Spomer – Nebraska Game and Parks Commission	$22,760.00
Lance Meinke – BSAF Corporation	$14,175.00
Blair Siegfried – USDA-ARS	$25,000.00
Miscellaneous Grants under $10,000 each	$8,500.00

Food Science and Technology:

Richard Goodman, Stephen Taylor, Lingyun Chen and Vicki Schlegel – EPA	$450,000.00
Miscellaneous Grants under $10,000 each	$1,810.00

Northeast Research and Extension Center:

Tom Hunt – Nebraska Soybean Board	$31,815.00
Terry Mader, Qi Steven Hu and Rick Rasby – USDA-CSREES	$98,000.00
Miscellaneous Grants under $10,000 each	$25,000.00

Panhandle Research and Extension Center:

Robert Wilson – Monsanto	$660,000.00
Miscellaneous Grants under $10,000 each	$22,000.00

Plant Pathology:

Loren Giesler – Nebraska Soybean Board	$23,218.00
James Steadman – USDA-ARS	$15,600.00
James VanEtten – NIH	$306,524.00
Miscellaneous Grants under $10,000 each	$32,500.00

Sustainable Agriculture Research and Education Program:

Bill Wilcke – W. K. Kellogg Foundation	$30,000.00

School of Natural Resources:

Zun-Hong Chen, Ashok Samal, Leen Kiat Soh, Alan Tomkins and Sandra Zellmer – NSF Digital Government Program	$452,100.00

F. Edwin Harvey – Nebraska Game and Parks Commission	$30,747.00
Cynthia Hays – Penn State	$22,000.00
Kyle Hoagland – National Park Service	$17,963.00
Kyle Hoagland – National Park Service	$10,000.00
Kenneth Hubbard – NOAA Climate Data and Detection Program	$53,475.00
Scott Hygnstrom – USDA-APHIS	$133,000.00
Scott Hygnstrom – Sub-contract with Mississippi State University-Berryman Institute	$16,500.00
Mark Kuzila – Department of Natural Resources	$143,051.00
James Merchant – Nebraska Department of Health and Human Services	$170,000.00
Sunil Narumalani – USDA-APHIS	$25,000.00
Sunil Narumalani – Nebraska Military	$61,754.00
Kevin Pope – Nebraska Game and Parks Commission	$397,628.00
Don Rundquist – Nebraska Emergency Management Agency	$14,447.00
Patrick Shea – USDA-CSREES	$570,000.00
Dan Snow and Shannon Bartelt-Hunt – Nebraska Department of Environmental Quality	$15,000.00
Dan Snow – Nebraska Department of Environmental Quality	$11,000.00
Roy Spalding and Mary Exner – Nebraska Department of Environmental Quality	$61,772.00
Richard (Drew) Tyre – Nebraska Game and Parks Commission	$62,748.00
Shashi Verma, Ken Cassman, Timothy Arkebauer, Achim Doberman, Daniel Ginting, Ken Hubbard, Johannes Knops, Andrew Suyker, Daniel Walters and Haishun Yang – Department of Energy	$350,000.00
Don Wilhite – NOAA Climate and Global Change Program	$300,000.00
Miscellaneous Grants under $10,000 each	$5,000.00
Statistics:	
Kent Eskridge – Nebraska Department of Health and Human Services	$11,150.00
Veterinary and Biomedical Sciences:	
Clinton Jones – NRI	$374,475.00
David Smith – Nebraska Department of Agriculture	$11,000.00
David Steffen – Nebraska Department of Agriculture	$20,000.00
David Steffen – Nebraska Department of Agriculture, Bureau of Animal Industry	$68,000.00
David Steffen – USDA-APHIS	$128,078.50
David Steffen – Nebraska Department of Agriculture	$17,500.00
David Steffen – USDA-APHIS, MRPDBS/ASD Procurement Branch	$21,700.00
David Steffen – USDA-APHIS, MRPDBS/ASD Procurement Branch	$25,200.00
David Steffen – Nebraska Department of Health and Human Services	$28,000.00
West Central Research and Extension Center:	
Rick Funston – University of Minnesota (USDA)	$10,000.00
Robert Klein – Nebraska Soybean Board	$12,000.00
Miscellaneous Grants under $10,000 each	$32,200.00
TOTAL	**$7,874,298.50**