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INSTITUTE OF AGRICULTURE AND NATURAL RESOURCES

University of Nebraska Lincoln

Agricultural Research Division News

February 2008 Volume 41, Number 1

Comments from the Dean

Dear Colleagues:

I am sitting down to write this letter as usual at the last possible minute before the newsletter goes to press (perhaps even a little past the last possible moment). It is a very cold day in mid-February, the kind of weather that turns one's thoughts to dismal subjects like the President's FY 2009 budget proposal to Congress. The President's budget is always a dismal subject, but for FY 2009 the implications are even less favorable than usual. Reductions are proposed for all three of the formula-funded research programs. Hatch funds would drop by 29%, McIntire-Stennis funds by 32% compared to their FY 2008 level, and as usual, Animal Health and Disease funds would go to zero. If these proposed reductions are enacted by Congress, ARD's formula-based federal funds would decrease by over $800,000. A decrease in the National Research Initiative competitive grants program is also proposed. Available funds would drop from $291 to 251 million.

But there is good news that can, even as I look out at a cold February day, give me some confidence that spring will come and Congress will not decimate federal funding for the research partnership between USDA and the land-grant universities. My first confidence builder is that in this election year, the appropriation committees in Congress will pay even less attention than usual to the President's budget proposals. Even in "normal" years, the appropriators look first at what they did last year rather than at what the Administration recommends. This tendency is often amplified when there is sure to be a new Administration - shortly after, if not before, the new budget takes effect.

My second confidence builder is a little closer to home. We are very fortunate at IANR to have a strong and dedicated group of Nebraska citizens who value our work and are willing to devote their time, energy and talent to help us carry our federal funding needs and requests to our Congressional delegation. These are our four delegates to the Council for Agricultural Research, Extension and Teaching (CARET). CARET is a national grassroots organization created in 1982 by the National Association of State Universities and Land-Grant Colleges' Division of Agriculture. CARET has members from all 50 states and the U.S. territories with land-grant agriculture programs. CARET members provide testimony to Congressional committees, individual members of Congress and federal agencies in support of agricultural programs. Nebraska's CARET delegates make sure IANR needs are represented as Congress considers its funding priorities – just like our faculty, our CARET delegates are at work for Nebraska. When it comes to influence on our federal appropriations, I am betting on Nebraska's delegates both in Congress and in CARET.

Gary L. Cunningham
Dean and Director

121st ARD Annual Report

The 121st Annual Report for the Agricultural Research Division was recently published. Although this report is required by legislation establishing the Nebraska Agricultural Experiment Station on March 31, 1887, it is published primarily as a means to communicate faculty research accomplishments to key decision makers. The publication also serves as a historical record of faculty accomplishments, active projects, faculty and graduate student recognition and outputs from the research program.

The annual report is sent to wide range of people, including the Governor, members of the Nebraska Legislature, the Nebraska Congressional Delegation, University of Nebraska Board of Regents, NU and UNL administrators, state agency directors, USDA officials, ARS collaborators, experiment station directors in other states and selected IANR clientele. This report may be accessed on the World Wide Web at: http://www.ard.unl.edu/report.shtml.

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Agricultural Research Division, Office of the Dean
P.O. Box 830704, Lincoln, NE 68583-0704
Phone (402) 472-2045, Fax (402) 472-9071

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Endeavors

Endeavors provides short reports of significant findings from ARD faculty research projects. Each year, this eight-page document highlights the accomplishments of 25 to 30 research projects. The 2007-2008 publication features a broad range of research topics from a new approach to delay soybean irrigation to supplemental nutrition late in pregnancy that can produce heftier heifers with improved pregnancy rates.

Endeavors is the principal publication provided to members of the Nebraska Legislature to report on the impacts of Nebraska's investment in agricultural research. Likewise, we use the publication in our meetings with the Nebraska Congressional Delegation and their staffs. It has also been used as the basis for discussions with IANR clientele and support groups. Copies are available for use by unit administrators and faculty in their meetings with unit external advisory committees or other clientele groups. Please contact the ARD office if you would like copies.

New or Revised Projects November and December 2007

NEB 22-326 Evaluation of the effectiveness of farm management on groundwater nitrate and the environmental impact of catastrophic ethanol releases
Investigator: Roy Spalding, Agronomy
Status: Hatch project effective Oct. 1, 2007, through Sept. 30, 2012

NEB 22-327 Community structure and functional diversity of arbuscular mycorrhizal fungi in high-yielding cropping systems
Investigator: Rhae Drijber, Agronomy
Status: Hatch project effective Nov. 1, 2007, through Oct. 31, 2012

NEB 24-160 Multi-stage production and farm structure: The case of U.S. hog farms
Investigator: Azzeddine Azzam, Agricultural Economics
Status: Grant project effective Jan. 1, 2008, through Dec. 31, 2008

NEB 26-182 NC 1042, Management systems to improve the economic and environmental sustainability of dairy enterprises
Investigator: Paul Kononoff, Animal Science
Status: Multistate project effective Oct. 1, 2007, through Sept. 30, 2012

NEB 26-183 Predictors of response and genetic resistance/susceptibility in pigs to infection with porcine reproductive and respiratory syndrome virus
Investigator: Don Levis, Animal Science
Status: Animal Health project effective Oct. 1, 2007, through Sept. 30, 2012

NEB 26-184 Does dam parity affect progeny health status and growth performance
Investigator: Thomas Burkey, Animal Science
Status: Animal Health project effective Nov. 1, 2007, through Oct. 31, 2012

NEB 26-185 Role of VEGFA in follicle development and oocyte competence in the bovine
Investigator: Andrea Cupp, Animal Science
Status: Animal Health project effective Oct. 1, 2007, through Sept. 30, 2012

NEB 27-062 Early childhood education settings and young children's development
Investigator: Helen Raikes, Family and Consumer Sciences
Status: Hatch project effective Oct. 1, 2007, through Sept. 30, 2012

NEB 28-092 Arthropods associated with buffalograss and other grasses in Nebraska
Investigator: Fred Baxendale, Entomology
Status: Hatch project effective Jan. 1, 2008, through Dec. 31, 2012

NEB 37-032 Building research collaborations to enhance rural economic development
Investigator: Nancy Miller, Textiles, Clothing and Design
Status: Grant project effective Jan. 1, 2007, through Dec. 31, 2007

NEB 35-109 Mitigation of diseases of dry edible bean and stem rot of soybean by managed plant resistance
Investigator: James Steadman, Plant Pathology
Status: Hatch project effective Nov. 1, 2007, through Oct. 31, 2012

NEB 38-059 Groundwater resources of Nebraska: Water-level data and trend analysis
Investigator: Mark Burbach, School of Natural Resources
Status: Hatch project effective Oct. 1, 2007, through Sept. 30, 2012

NEB 43-104 Weed control systems for Western Nebraska irrigated crops and rangeland
Investigator: Robert Wilson, Panhandle Research and Extension Center
Status: Hatch project effective Oct. 1, 2007, through Sept. 30, 2012

Proposals Submitted for Federal Grants November and December 2007

The following is a listing of proposals that were submitted during November and December 2007 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.

Donald Becker – NIH – Role of proline in redox homeostasis and apoptosis – $1,415,892

Michael Hayes – Department of Commerce-NOAA-NCTP – Transitioning the drought impact reporter into an operational system – $453,523

George Graef – North Central Soybean Research Program – $16,829

Konstantions Giannakus – USDA-ERS – The market and welfare effects of a country of origin labeling (COOL) for specialty crops – $10,000

Tom Clemente, Jack Morris and Jim Alfano – North Central Soybean Research Program – Enhancing disease resistance in soybean through biotechnology – $161,328

Eric Thompson and Randolph Cantrell – RUPRI Center for Rural Entrepreneurship – Forecasts of population and deaths in Pennsylvania counties 2005-2055 – $14,000

Stephen Mason – USAID – Phosphorus management and seed production to optimize cowpea yield in West Africa – $380,000

Xiao Zeng, Dennis Diestler and Ruqiang Feng – NSF – Modelling of multiscale processes in heterogeneous solid systems: a hybrid-atomistic-quasicontinuum statistical-mechanical treatment – $490,065

James Steadman – USAID – Sustainable management strategies for biotic constraints to bean production in Africa and the Americas – $416,474

Kevin Pope, Larkin Powell and Mark Pegg – USGS – Understanding the ecological effects to climate extremes: River dynamics in a changing world – $249,865

Richard Goodman and Pramod Siddanakoppalu – NIH – Goodman bioactive IgE cross rxns – $372,982

David Marx – USDA-ARS – Improving breeding designs using spatial statistic and covariates – $52,440

Raul Barletta – Philisa Technology Corporation-NIH – Development of a pro-poor rapid diagnostic instrument for tuberculosis – $19,931

Craig Allen and Gary Lynne – USGS – Impacts of climate change on the resilience of working agricultural landscapes – $104,414

Craig Allen, Robert Oglesby and James Merchant – USGS – Scenarios of the impacts of climate change: Forecasting the risk from invasions – $110,182

Asit Pattnaik – NIH – LCMV GP1 in immune response – $144,726

Grants and Contracts Received for November and December 2007

Agricultural Economics:	
Konstantions Giannakus – USDA-ERS	$10,000.00
Agricultural Research Division:	
Gary Cunningham – USDA-ARS	$200,000.00
Agronomy:	
George Graef – USDA-ARS	$69,978.00
James Specht and George Graef – Nebraska Soybean Board	$44,970.00
Miscellaneous Grants under $10,000	$41,913.00
Animal Science:	
Miscellaneous Grants under $10,000	$2,500.00
Biological Systems Engineering:	
David Billesbach – Department of Energy –	$73,451.00
Curt Weller – USDA-ARS	$32,000.00
Miscellaneous Grants under $10,000	$9,000.00
Entomology:	
Gary Brewer and Frederick Baxendale – USDA-ARS	$80,000.00
Tiffany Heng-Moss and Fred Baxendale – Bayer Environmental Science	$23,055.00
Miscellaneous Grants under $10,000	$7,600.00
Food Science and Technology:	
Miscellaneous Grants under $10,000	$520.00
Northeast Research and Extension Center:	
Miscellaneous Grants under $10,000	$18,950.00
Panhandle Research and Extension Center:	
Gary Hein – USDA-ARS	$45,000.00
Gary Hein – USDA-ARS	$15,000.00
Miscellaneous Grants under $10,000	$23,750.00
Plant Pathology:	
Loren Giesler – Nebraska Soybean Board	$19,107.00
James Steadman – USDA-ARS	$204,650.00
Miscellaneous Grants under $10,000	$13,300.00
School of Natural Resources:	
Craig Allen – Nebraska Game and Parks Commission	$22,000.00
Michael Hayes – Department of Commerce-NOAA-NCTP	$310,137.00
Mike Hayes and Don Wilhite – Bureau of Indian Affairs	$160,000.00
Scott Hygnstrom and Craig Allen – USGS	$54,855.00

Kevin Pope – USGS CRU Program	$107,391.00
Kevin Pope – Nebraska Game and Parks Commission	$74,379.00
Larkin Powell and Craig Allen – National Park Service-USGS	$20,950.00
Donald Rundquist – CUNY-City University of New York	$17,260.00
Don Wilhite – USDA-FAS	$35,519.00
Miscellaneous Grants under $10,000	$10,482.00
Veterinary and Biomedical Sciences:	
David Steffen – USDA	$30,000.00
Miscellaneous Grants under $10,000	$11,339.00
West Central Research and Extension Center:	
Miscellaneous Grants under $10,000	$5,000.00
TOTAL:	**$1,794,056.00**

ARD Out-of-State Travel Policy - Professional Society Meetings

The current policy within the Agricultural Research Division is to not allow the use of state-appropriated funds (2162XX0001) for travel support to attend professional society meetings. This policy also applies to the use of revolving account funds, which in the eyes of the state financial offices are the same as state-appropriated funds.

This policy was adopted several years ago by ARD as a result of attempts by state government accountants to identify areas within the University budget that could be easily reduced or deleted without significant impact on the program. While we believe it is very important for faculty members to attend professional society meetings, it has been difficult to communicate the importance of this to state government. In order to reduce this vulnerability, a decision was made that travel to such meetings would have to be on other funding, primarily grant funds, IANR professional development funds and IANR research travel grant funds. The ARD administration also feels that it is desirable to use appropriated funds to the greatest extent possible to support research programs, rather than for travel support. This policy was recently reviewed and reconfirmed as standard operating policy for ARD.

Exceptions to this policy have been made on a case-by-case basis. There are instances with new faculty and other situations whereby alternative sources of travel funds may not be available, but it is still highly desirable to have the faculty member attend the meeting with travel costs paid. Unit administrators wishing to use state appropriated funds to support a faculty member's attendance at a professional society meeting should seek ARD approval before travel is initiated.

Fall 2007 Graduate Census

Graduate student data represents students enrolled on the sixth-day census (Fall 2007) and non-enrolled students actively pursuing graduate degrees. The graduate program in the Agricultural Research Division (College of Agricultural Sciences and Natural Resources and the College of Education and Human Sciences) increased 8.9% from Fall Semester 2006 to the Fall Semester 2007. 53% of the graduate students in CASNR degree programs are supported by assistantships (state appropriated GRA and GTA; fellowships; and international agency or foreign country support). 29% of the students in the College of Education and Human Sciences are supported. 27% of CASNR students and 28% of CEHS students were not enrolled in IANR graduate programs on the sixth day of the semester.

Institute of Agriculture and Natural Resources

	M.S.				Ph.D.										
Major/Unit	**GRA**	**GTA**	**Other**	**Self**	**GRA**	**GTA**	**Other**	**Self**	**2007**	**2006**	**2005**	**2004**	**2003**	**2002**	**06-07% Chg.**
College of Agricultural Sciences and Natural Resources															
Agricultural Economics	10	1	6	7	6	0	1	2	33	33	31	33	36	35.5	0.0%
Ag. Leadership, Education & Comm.	0	3	1	72	0.5	4	1.5	33	115	101	87.5	82	86.5	84	13.9%
Agronomy	8	0	8	11	14.5	0	14	12.5	68	59.5	66.5	69	80.5	75	14.3%
Animal Science	13	1	16.5	5	9	0	6	13	63.5	60.5	64	62.5	72.5	79	5.0%
Biochemistry	0	0	6.5	1	2	0	19	0	28.5	29.5	37.5	36	31	33	-3.4%
Biological Systems Engineering	2.5	0	6.5	4.5	3	0	5	4	25.5	24	30	20	26	21	6.3%
Entomology	1	1	6.5	71	3.5	0	10.5	4.5	98	102	121.5	116	108	94	-16.0%
Food Science and Technology	28	0	1	7	7	0	0	0	43	30.5	26	33.5	33	41	41.0%
Horticulture	3	2	1	5	0	0	1	0	12	12	10	12.5	14	15.5	0.0%
Master of Agriculture	0	0	1	32	0	0	0	0	33	39	32	23	8	10	-15.4%
Mechanized Systems Management	1	0	2.5	1.5	0	0	0	0	5	6	3	3	4	6	-16.7%
Plant Pathology	1.5	0	3	1.5	4	0	2.5	5	17.5	13.5	14	16	16	12	29.6%
School of Natural Resources (MA/MS)	12	0	28	14	8.5	0	15.5	13	91	83.5	73.5	72.5	73	88	9.0%
Statistics	0	4.0	10.0	3.5	1	11.5	5	6	41	40.5	39.5	43	37.5	30.5	-1.2%
Veterinary and Biomedical Sciences	5.5	0	3	2	10	0.5	4.5	1	26.5	37	24.5	26	30	31.5	-28.4%
Total	85.5	12	100.5	238.0	69	16	85.5	94	700.5	671.5	660.5	632	656	656	4.3%
Grand Total			**436**				**264.5**		**700.5**	**671.5**	**660.5**	**632**	**656**	**656**	4.3%
College of Education and Human Sciences															
Child, Youth and Family Studies	4	8	2	76	0	0	0	0	90	58	67	70	42	43	55.2%
Nutrition and Health Sciences	0	9	0	26	0	0	0	0	35	26	33	44	28	39	34.6%
Textiles, Clothing and Design (MA /MS)	4	1	3	17	2	0	2	2	31	28	26	32	25	26	10.7%
Interdepartmental Nutrition	2	0	1	1	5	1	6	4	20	21	20	6	16	15	-4.8%
HUMS (FACS, NUTR, TXCD) (PhD)	0	0	0	0	3	1	6	21	31	29	27.5	34	30	34	7.3%
Total	10	18	6	120	10	2	14	27	207	162	173.5	186	141	157	27.8%
Grand Total			**154**				**53.0**		207.0	162.0	173.5	186	141	157	27.8%
Grand Total CASNR & CEHS			**590**				**317.5**		**907.5**	**833.5**	**834.0**	**818**	**797**	**813**	8.9%

11/29/2007