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ARD News February 2003

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February 2003

Comments from the Dean

Dear Colleagues:

The period from January 1 to March 15 is the most hectic time of the year for members of the IANR Deans Council. In addition to the normal amount of meetings, e-mail and correspondence, we are reviewing all of the Annual Reports of Faculty Accomplishments (ARFA), conducting Planning Sessions for all units, and writing performance evaluations of unit administrators. This is written as an explanation of why the Deans are not as available to you as they are normally and why a response from us may not be as timely as usual.

It is refreshing to read ARFAs and Unit Planning Sessions reports that contain descriptions of the wonderful accomplishments of our faculty members. We all need a lift in spirits, given the budget situation, and I receive that from the enthusiasm evident in the ARFAs of many faculty members.

The federal funding situation continues to be murky. Prior to adjournment in December, Congress had passed only two of 13 FY2003 appropriations bills, although the fiscal year started October 1. A series of continuing resolutions has provided funding to USDA agencies at levels no more than the FY 2002 appropriation. Congress has decided to package the remaining appropriations bills into an “Omnibus Appropriation” and has appointed a large Conference Committee to resolve differences in funding between the House and Senate versions of the appropriations bills. The Senate version of the USDA-CSREES appropriation is much more favorable than the House version. Included in the Senate version is a $44 million increase in the NRI, a $5.5 million increase in Hatch Act funding, and $60 million for an IFAFS-like program. We are hoping that the Senate version prevails but the proposed tax cut, ballooning budget deficit and possibility of war may result in appropriations that are at the FY 2002 levels.

The President’s budget for FY 2004 is very much status quo for agricultural research. The only encouraging sign was a recommendation that the NRI be funded at $200 million — an $80 million increase from FY 2002. Unfortunately, the President’s budget did not fund IFAFS for FY 2004.

The University of Nebraska System is making strong efforts to obtain additional state-specific grants for our programs. I am proud that 10 ARD projects were among the requests presented to the Nebraska Congressional Delegation in January. Of these projects, five are collaborative efforts with other states in the region. We are hopeful that several of these large projects will receive funding. Although these state-specific projects do not eliminate the need for competitive grant awards, the proposed grants will allow ARD faculty to conduct research in highly important areas not currently listed in RFAs distributed by federal agencies.

Darrell W. Nelson
Dean and Director

Endeavors

For a number of years, Vicki Miller of CIT has written and coordinated printing of Endeavors, an important accomplishment reporting publication of the Agricultural Research Division. Endeavors provides short reports of significant research findings from ARD faculty. Each year, this eight-page document highlights the accomplishments of 25 to 30 research projects. The 2002-2003 publication features a broad range of research from alternative crops to the impacts of consolidation in the food processing industry.

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 meet­
chings with the Nebraska Congressional Delegation and
their staffs. It also has been used as the basis for dis­
cussions 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.

116th ARD Annual Report

The 116th Annual Report for the Agricultural
Research Division was recently published. Although
this report is required by legislation that established
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 his­
torical record of faculty accomplishments, active
projects, faculty and graduate student recognition and
outputs from the research program.

The annual report is sent to a 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 direc­
tors in other states and selected IANR clientele. Copies
of the annual report have been provided to each unit
administrator for circulation to faculty. Anyone inter­
ested in having a personal copy of the report should
contact the ARD office at 2-2045.

William G. Whitmore Student
Travel Endowment

The William G. Whitmore memorial fund was es­
established at the University of Nebraska Foundation in
1980 as a memorial to William G. Whitmore, a member
of the University of Nebraska Board of Regents from
1902-1916. The fund designates several potential uses.
Additional donations and endowment income has
accumulated to a level that grants now can be made
available. After discussions with the Agricultural
Research Division Advisory Council, it has been
decided to use part of these funds to establish a travel
grant program for graduate students within IANR
whose advisor or co-advisor has an ARD research
appointment. In accordance with the donor instruc­
tions, this program will support attendance to profes­
sional 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 pre­
senting 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.
Twenty-two students applied for the travel award.
These five IANR students received the William G.
Whitmore Memorial Award for travel during July 1 -
December 31, 2002:

Brent J. Gortzen $300.00 Institute of Behavior and
Applied Management, Denver, CO — AgLEC
Department

Kyle J. Vander Pol $500.00 American Society of Ani­
mal Science National Meet­
ing, Quebec City, Canada
Animal Science

Derek Petry $500.00 Congress on Genetics
Applied to Livestock Pro­
duction, Montpellier, France — Animal Science

Janice Rumph $500.00 Congress on Genetics
Applied to Livestock Pro­
duction, Montpellier, France — Animal Science

Melissa A. Inman $500.00 Annual Meeting of the
American Society for
Virology, Lexington, KY — Veterinary and Biomedical
Sciences

The following IANR students received the William
G. Whitmore Memorial Award for travel during
February 1 — June 30, 2003 as follows:

Travis B. Farran $430.00 Annual Meeting of the
Midwestern Sections of the
American Society of Ani­
mal Science and Dairy Sci­
ence Assn., Des Moines,
IA. — Animal Science

Kimberly M. Hargrave $500.00 Experimental Biology/
American Society for
Nutritional Sciences in San
Diego, CA — Animal Science

Bruce DeGroot $500.00 Joint Annual Meeting of the
American Dairy Science
and American Society of
Animal Science, Phoenix,
AZ — Animal Science
How to State the Value of Your Research

The December 2002 issue of ARD news contained an excerpt from a white paper sponsored by the National Association of State Universities and Land Grant Colleges (NASULGC), Experiment Station Committee on Organization and Policy (ESCOP). The paper is: McKenzie, David R.; How to State the Value of Your Research, Topic 1, Advocating for Science, a Series on Science Communication, March 2002.

The following article is an additional excerpt from the same paper giving additional points on how to state the value of your research. These points can relate to communicating with potential funding organizations as well as reporting value and impacts of completed research to sponsors and supervisors.

How to State the Value of Your Research

by David R. McKenzie

A Check List (of What to Include)

Here is a check list of what should be found in a statement on the value of a research project. I leave it to you to figure out the logical flow of the information. But, every good statement on the value of one’s research should:

Name your donors: State your donors’ names and repeat them as appropriate, especially when you are in a public setting. It never hurts to give your donors public recognition or to note their thoughtful wisdom by investing in your work.

Thank your donors: It always pays to be grateful for the resources your donors have invested in you. This is usually given as money, but it could also be as in-kind donations (e.g., laboratory space, computer access) or human resources (e.g., technical advisors, student workers). And, if the money was given without restrictions, you have an even greater obligation to point out how wisely the money has been invested.

State your goals: In addition to taking into account your donor’s goals, it is important to state up-front your project’s goals. What are the intentions of the work in terms of outcomes and impacts? Exactly what are you trying to do?

Attach your work to their goals: You must show how working on your goals is contributing to completing your donor’s goals. That is what they will want to see; the linkages of these two sets of goals, through your work. You should already know why they chose to invest in your project. Was it to alleviate poverty? To make food safer? To reduce farmers’ dependency on pesticides? Be sure to state the link between their goals and your goals.

Describe your project’s organization: A short statement on how you have organized your activities is necessary to assure the donor(s) that you are not wasting their money through some organizational inefficiency.

Share your research strategies: Most research activities have implicit, if not explicit, research strategies. You should not assume that your donors would easily guess your research strategies. You need to tell them and explain why those strategies are important to the project.

State your accomplishments: Scientists tend to focus on what needs to be done next, and too often they forget to state what has been accomplished so far. When accomplishments are left unstated, the impression donors get is nothing has been done. That’s a bad move. Spell out in a logical statement just what has been accomplished and what it means in terms of the donor’s goals. Be sure to share credit with your partners.

State again the importance of your research: The justification for investing in your project was no doubt based on some “Statement of Importance,” or “Statement of Justification” found in your original proposal. You will need to clearly re-establish your topic’s importance to the donor(s). Failing to do that convincingly may cost you the continuation of your funding.

Verify the importance of your work: Quantitative information obtained in the course of conducting your research may be very useful for documenting the importance of the work. Measurement of effects and estimates of changes are most useful indicators of importance. But, testimonials by the individuals impacted by your work are also worthwhile. Example are crop farmers who are grateful for no longer being dependent on daily pesticide sprays, or photos of children no longer exposed to pesticide drift.

Describe your efficiencies: Everyone wants to hear that his or her money is being well-spent. This axiom is especially true for donors. For example you might tell of how the costs of sample analysis were reduced through some innovation. Or you might have saved money by partnering with another institution. But be sure you can document your claims.

Tell of the actions taken: What implementation
steps, corrective actions, mitigations, remedies or policy changes have been enacted to improve the operation of your research project? You will need to tell of changes under way, or anticipated improvements, even when research is not yet completed. The intent here is to provide assurances that proper attention to management principles is being observed.

State your discoveries: Scientifically disclosed facts that give new understanding, new knowledge revealed and what it means, or new technologies developed and how they can be used are but a few categories of research outputs that need to be clearly stated to your donors as your research discoveries. This should form the centerpiece of your presentation, and should clearly establish the research progress that has been made.

Describe the (anticipated) outcomes: Estimates of the return on investments (ROI), counterfactual analyses, and cost-benefit and risk-benefit assessments, even when preliminary, are helpful for establishing the value of your research as outcomes. A $250,000 research project that is showing the potential for saving millions of dollars in reduced pesticide costs is a great story to tell as a donor’s “return on investment”. And, for this example, the associated social, health, and environmental benefits of the reduced pesticide dependency should be described as well. Be sure to be clear on stating the outcomes that are ex ante (predicted) versus those that are ex post (actual).

Reveal your plans and next steps: If you are planning changes (e.g., to take on new partners, address the next set of research objectives, change the project’s direction), you should point out those changes to your donor(s). And you should be sure to spell out why the changes are being implemented, especially if it is intended to strengthen the project, or if it will use their money more effectively or more efficiently.

Give them a summary: The public speaking advice to “tell them what you are going to say; say it; and then tell them what you just said” has merit in most applications. Telling them what you have just said, in a summary statement, is a very good way to leave them with your bottom line message. Your summary statement should list your accomplishments, link those accomplishments to their goals, and state where you are going from there. You should note the broad applicability of your research (if appropriate), and state the general applications of your current and anticipated research findings. Finally, you should do yourself a favor by stating your need for continued (or more) resources, while hinting at how hard you are working.

Make a pledge: The final point to include in your statement on the value of your research should be your pledge to deliver the goods. Your donors view your project as an investment, not a gift. You need to clearly pledge your commitment to their investment decisions.

**New or Revised Projects**

The following station projects were approved recently by the USDA Current Research Information System (CRIS):

**NEB-12-293 (Agronomy and Horticulture) Assessing Nitrogen Mineralization and Other Diagnostic Criteria to Refine Nitrogen Rates for Crops and Minimize Losses**
*Investigator:* Daniel T. Walters  
*Status:* New Hatch project that contributes to regional project NC-218 effective October 1, 2001

**NEB-13-157 (Animal Science) Management Systems to Improve the Economic and Environmental Sustainability of Dairy Enterprises**
*Investigator(s):* Richard J. Grant and H. Douglas Jose  
*Status:* New Hatch project that contributes to regional project NC-1119 effective October 1, 2002

**NEB-14-123 (Veterinary and Biomedical Sciences) Develop Pre-Harvest Version of the USDA-FSIS Fast Antibiotic Screening Test and Antibiotic Residue Avoidance Education**
*Investigator:* Dickey D. Griffin  
*Status:* New USDA Grant effective September 15, 2002

**NEB-14-126 (Veterinary and Biomedical Sciences) Pathogenesis of Bovine Viral Diarrhea Virus and Bovine Respiratory Syncytial Virus Infections**
*Investigator:* Clayton L. Kelling  
*Status:* New Animal Health Project effective October 1, 2002

**NEB-16-095 (Food Science and Technology) HACCP Training and Research to Assist Meat Processors with Process Deviations for Lethality and Stabilization**
*Investigator(s):* H. Thippareddi and Dennis E. Burson  
*Status:* New USDA Competitive Grant effective September 19, 2002

**NEB-17-079 (Entomology) Dynamic Soybean Pest Management for Evolving Agricultural Technologies and Cropping Systems**
*Investigator(s):* Leon Higley and Tom Hunt  
*Status:* New Hatch project that contributes to regional project S-1010 effective October 1, 2002

**NEB-21-069 (Plant Pathology) Characterization of Wheat Leaf Rust Virulence in Nebraska and Its Implication for Breeding for Resistance**
Grants and Contracts Received

December 2002 and January 2003

Agricultural Economics
- Perrin, Richard and James Roberts — USDA/ARS $90,000
- Roayer, Jeff — Farm Credit Services via UN Foundation 18,500
- Supalla, Ray — USDA/ARS 20,000
- Miscellaneous Grants under $10,000 each 5,050

Agronomy/Horticulture
- Cassman, Ken — USDA/ARS 100,000
- Dobberman, A. — Foundation for Agronomic Research via UN Foundation 25,000
- Russell, W. Kenneth — Anna H. Elliott Fund via UN Foundation 15,000
- Schacht, Walter, Lowell Moser and Jerry Volesky — Nebraska Department of Roads 61,912
- Specht, James — USDA/ARS 59,748
- Wortmann, Charles — Alan and Irene Williams Endowment via UN Foundation 14,000
- Miscellaneous Grants under $10,000 each 74,352

Agricultural Research Development Center
- Duncan, Dan — Barta Bros. Fund via UN Foundation 30,000

Animal Science
- Beermann, Donald — USDA/ARS through Colorado State University 28,939
- Erickson, Galen and Terry Klopfenstein — Cargill, Inc. 24,375
- Johnson, Rodger, John Weber, Fernando Osorio and Alan Doster — Nebraska Pork Board 21,000
- Jones, Steve and Chris Calkins — National Cattlemen’s Beef Association 122,875
- Miller, Phil — Nebraska Pork Board 12,000
- Scheideler, Sheila — Mussehl Poultry Research Endowment via UN Foundation 31,260
- Miscellaneous Grants under $10,000 each 29,338

Biological Systems Engineering
- Adamchuk, V.I. — John Deere Product Engineering Center 14,500
- Koelsch, Rick — Nebraska Pork Board 16,155
- Martin, Derrel and William Kranz — USDA/NRCS 25,000
- Miscellaneous Grants under $10,000 each 18,525

Biochemistry
- Banerjee, Ruma — NIH 1,486,317
- Stone, Julie — NSF 35,000
- Weeks, Donald — Consortium For Plant Biotechnology Research 78,000

Biometry
- Marx, David — USDA/ARS 40,000
- Marx, David — Rivers Corporation, Inc. 60,000

Entomology
- Kamble, Shripat — Dow Agro Sciences, Inc. 15,000
- Siegfried, Blair — Consortium for Plant Biotechnology Research Inc. 47,000
- Miscellaneous Grants under $10,000 each 60,595

Food Science and Technology
- Benson, Andrew — USDA/NRI 260,236
- Hutkins, Robert, Andrew Benson and Rod Moxley — USDA/NRI 38,150
- Zeece, Michael — Mussehl Poultry Research Endowment via UN Foundation 14,500
- Miscellaneous Grants under $10,000 each 87,127

Northeast Research and Extension Center
- Shelton, David P. — Alan and Irene Williams Endowment via UN Foundation 14,991
- Miscellaneous Grants under $10,000 each 36,900

Nutritional Science and Dietetics
- Lewis, Nancy — USDA/ARS 40,000
- Miscellaneous Grants under $10,000 each 3,000

Panhandle Research and Extension Center
- Baltensperger, David — High Plains Grass Seed Association 39,000
- Harveson, Robert M. — Anna H. Elliott via UN Foundation 10,000
- Harveson, Robert M. — Western Sugar Company 28,000
- Hibberd, Charles — Panhandle Chicory Growers Association 15,675
- Wilson, Robert — BASF Corporation 20,000
- Miscellaneous Grants under $10,000 each 111,600

Plant Pathology
- Vidaver, Anne K. — USDA/ARS 92,490
- Miscellaneous Grants under $10,000 each 15,800

School Natural Resource Sciences
- Hoagland, Kyle — NPS/CESU 12,000
- Kuzelka, Bob — The Groundwater Foundation 10,000
- Miscellaneous Grants under $10,000 each 3,000
**South Central Research and Development Center**

Miscellaneous Grants under $10,000 each

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**Proposals Submitted for Federal Grants**

The following is a listing of proposals that were submitted the past few months by faculty for federal grant programs. While not all grants will be funded, we are appreciative of faculty members’ outstanding efforts in submitting proposals to the various agencies.

Lloyd Bullerman and Dojin Ryu — USDA/NRI — Naturally Occurring Antifungal Agents from Lactic Acid Bacteria — $227,017


Lilyan E. Fulginiti — USDA/NRI — Resources and Functionings: Well-Being and Inequality in Rural Nebraska — $163,789

Konstantinos Giannakas — USDA/NRI — Truthful Adoption of Agricultural Conservation Practices in the Presence of Auditor and Producer Uncertainties — $97,983

Roger Elmore, James R. Brandle, Robert M. Caldwell, Qi Steven Hu, Lenis A. Nelson and Fred W. Roeth — USDA/NRI — Early-Season Wind Effect on Corn Leaf Placement, Plant Growth, and Development — $296,196

Azzeddine M. Azzam, John R. Schroeter and J. David Aiken — USDA/NRI — State Corporate Farming Restrictions and Industry Structure — $28,258

Donald J. Lee and Alex R. Martin — USDA/NRI — Gene Sequencing and Expression of Glyphosate’s Target Enzyme (EPSPS) in Weed Species — $197,449

Terry Mader, Anne Parkhurst and John Harrington — USDA/NRI — Cattle Responses to Climatic Challenges — $299,826


Robert G. Wilson, Gary L. Hein and Robert M. Harveson — USDA/NRI — Use of Patterns of Fructan Metabolism in Roots of Canada Thistle to Develop Integrated Control Strategies in Cropland and Range Ecosystems — $200,646

Emily J.H. Ross — USDA/NRI — Transcriptional Regulation of Programmed Cell Death (PCD) in Plant Development — $90,000


Raul G. Barletta and Charles J. Czuprynski — USDA/NRI — Molecular Analysis of a Mycobacterium paratuberculosis Colony-morphology Attenuated Mutant — $298,864

Han H. Asard — USDA/NRI — Biochemical Properties and Physiological Function of Plant Cytochromes b561 — $311,647

Osvaldo Jorge Lopez and Fernando A. Osorio — USDA/NRI — A Sub-Unit Vaccine and Diagnostic Tests for Porcine Reproductive and Respiratory Virus (PRRSV) — $211,052

Subramaniam Srikumaran — USDA/NRI — MHC Class 1 Down-Regulation by Bovine Herpesvirus 1: Viral Proteins Involved, and Underlying Mechanisms — $288,895

Clayton L. Kelling, Amelia R. Woolums, Subramaniam Srikumaran, Ruben Donis and Bruce Brodersen — USDA/NRI — Apoptosis and Cellular Immunity in BVDV and BRSV Co-Infection — $346,944

Amit Mitra — USDA/NRI — Utilization of Direct Repeat-Induced Gene Silencing in Plant Functional Genomics — $233,252
Too many sound arguments are all sound.
Graduate student data represents enrolled and non-enrolled students for the Fall 2002 semester. Only non-enrolled students actively pursuing graduate degrees within the time limit for granting degrees established by the Office of Graduate Studies are considered. The graduate program in the Agricultural Research Division (College of Agricultural Sciences and Natural Resources and the College of Human Resources and Family Sciences) increased 7.7% from the Fall Semester, 2001 to the Fall Semester, 2002. Fifty-four and 5/10 percent of the graduate students in CASNR majors are supported by assistantships (state-appropriated GRA's and GTA's; grants; fellowships; and international agency or foreign country support). Thirty-four and 7/10 percent of the students in the College of Human Resources and Family Sciences are supported. Thirty-two percent of our graduate students are not enrolled in IANR graduate majors on the sixth day of the semester.

### M.S.
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<th>Self</th>
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### Ph.D.

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Grand Total CASNR & HRFS 195 19 10 315.5 159.5 6.5 27.5 96 829 7.7%

*Other includes grant support, international agency or foreign country support, and fellowships.

(1) = Ph.D. students obtain degrees in Teachers College.

(2) = Engineering degrees are offered through the College of Engineering and Technology.

(3) = The Ph.D. program is in the Horticulture and Forestry major.

(4) = Degrees obtained through the School of Biological Sciences.

(5) = The Ph.D. program is in the Horticulture and Forestry major, or other departments.

(6) = Ph.D. degrees are offered through UNMC.