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ARD

Agricultural Research Division News

Office of the Dean, 207 Ag Hall, P.O. Box 830704, Lincoln, NE 68583-0704, Phone (402) 472-2045, FAX (402) 472-9071

June 2002 Volume 35, Number 5

Comments from the Dean

Dear Colleagues:

Given the current budget situation, accountability in the use of public funds is even more of a pressing issue than in the past few years. In an attempt to inform the general public and decision makers regarding ARD research, we have created a comprehensive database of active research projects. This database is entitled "Pioneering the Future" and is a component of the ARD Web site. The URL for the ARD "Pioneering the Future" database is:

http:// ard.unl.edu/pioneeringdatabase.shtml

The database contains each project's title, investigator name, summary in lay language, project contact information, performing unit, start and termination dates, objectives, approach, progress report, publications, project type, financial support and staff support. The database is searchable by keyword, research problem area, subject of investigation and field of science.

The database was constructed from CRIS reports routinely filed by faculty and units as required by federal regulations. The basic information is taken from the Form AD 416/417 data filed by the investigator as a new project is approved or when a project is revised. The progress report and publications are taken from the Form AD 421 prepared by the investigator once each year to document progress on research projects. The financial support and staff support information is taken from the Form AD 419 reports filed by units each year to document expenditures and staff effort devoted to each project.

This project database is very transparent to anyone accessing the ARD Web site. Therefore, it is important that the Form AD 416/147/421 reports be prepared with care. It is very likely that a staff person in a Congressional office or someone in state government will be looking at your project description in the database sometime during the next year. I encourage you to think about the quality of your reports, rather than to consider reporting a bureaucratic exercise.

Although ARD has attempted to make maintenance of the database very simple for all of our project leaders, we believe that it would be useful for each of you to examine the description of your project(s) twice a year. Some of the project information is currently missing and we invite you to send the missing information to Dora Dill. This information will be added to the database to ensure completeness and accuracy. Thanks for your assistance with this matter.

Darrell W. Nelson
Dean and Director

ARD Advisory Council

The ARD Advisory Council has addressed a variety of important issues in the past year and has facilitated information exchange between faculty constituents and Dean Nelson. Important issues facing ARD scientists such as budgetary decisions, faculty hiring, policies on salary increase and information related to facilities management have been topics of discussion. Council members also have assisted in the selection process for a number of ARD-sponsored grants and fellowships and helped establish guidelines for distribution of newly established funds.

Over the last year, the council met with a variety of individuals whose programs and operations directly impact ARD faculty. Specifically, Dr. Prem Paul, Vice Chancellor for Research, addressed the council regarding facilities and administrative costs and his goal to increase federal research funding both in the number of grants and the size of the grants received. Ms. Bethany Throener from the University of Nebraska foundation explained the types of funds that are handled by the Foundation and described opportunities for departments/units to have discretionary funds that can be used for a variety of functions. Dan Duncan, ARDC Director, was invited to provide information relative to his role as director and to present his vision on how the ARDC can work with faculty interested in developing research programs to utilize this facility. Dr. John Allen, Director of the Center for

Applied Rural Innovation, visited with the council and provided information on CARI activities and its efforts to become nationally recognized. Dr. Rebecca Bernthal, CYT Head Librarian, met with the Council to discuss summer hours policies, electronic publications and the impact of budget cuts on library functions.

The overriding issue facing the council over the last 12 months was on the 2001-2003 budget cuts and their impact on ARD scientists. Discussion of these issues with Dean Nelson will continue to benefit from faculty input. The council urges constituents to contact their representatives and share their thoughts about these important issues.

Blair Siegfried, Chair
ARD Advisory Council

ESCOP/ACOP Leadership Development Program

The ESCOP/ACOP Leadership Development Program is a national program designed to provide participants with experiences in administration and an appreciation for the operation of our Land Grant System. The program included two extensive workshops, the first being a self-assessment of leadership strengths and weaknesses and the second an exposure to the USDA, budgeting and national politics. At each home institution, the program and experiences of each participant are unique. In the Agricultural Research Division, Deans Darrell Nelson and Dale Vanderholm have traditionally involved the participant in day-to-day operations of the office and some of its traditional duties; the program participant acts as an administrative intern.

As an administrative intern in the ARD office, I had the opportunity to follow the progress of various issues as decisions were made; this year, they included budget discussions, program prioritization and evaluations. The deans and department heads encouraged my participation in the weekly ARD planning meetings, monthly ARD Advisory Council meetings, Vice Chancellor's Council meetings, and dean's breakfast meetings. These activities allowed me to view the processes our administrators used to devise strategies and come to decisions.

One of the most enlightening internship activities was reviewing the content of the ARD Annual Report and tabulating some of the quantitative measures of research productivity (grant activity, journal publications, dissertations completed, etc.). Frankly, as a faculty member, I never bothered give the document more than a cursory examination. A more complete reading, however, provides a good overview of the scope, productivity and diversity of IANR's research faculty and staff. As faculty and staff, we should be proud of our accomplishments and our contributions to Nebraska! Nevertheless, we also should recognize that not all taxpayers view our activities as being of high value, and every effort to maintain our excellent productivity and assist the administration in highlighting our contributions via *Research Nebraska* and other publications is valuable.

The five-year U.S. Department of Agriculture "Hatch Project" development, review process and yearly reporting tends to be seen by faculty (or at least me) as both a useful planning exercise and a yearly bureaucratic chore. During the past year, I had the opportunity to lead several faculty project reviews as well as gain an appreciation of additional financial data generated by IANR. The IANR-generated data, as required by USDA, details the financial and staff support dedicated to each project. I personally had little understanding of the support provided to our Hatch projects. As research impacts have come under increasing scrutiny, the expenditures required to support the productive efforts of faculty have not been fully appreciated. Details of the support provided to you and your colleague's projects can be found on the ARD Web site at *http://ard.unl.edu/* — click on *"Pioneering the Future"* near the bottom of the menu list. This new Nebraska database, updated yearly from the USDA CRIS database, includes Hatch project summaries and objectives, as well as yearly updates with financial/staff support data. While the summary data is available for all USDA-funded projects via a USDA Web site, the financial information associated with each project is not normally searchable. It is hoped that clientele will use this database to gain an appreciation for our efforts and the financial resources required to maintain our productivity.

One of the final Nebraska activities associated with the leadership program was the opportunity to visit with numerous administrators throughout campus. Our interviews covered all levels of administration, including the chancellor, deans, and department heads. I was struck by the diversity of styles and approaches used by equally successful administrators. There also were some common traits, such as poor two-way communication with peers and faculty colleagues, which have hindered the success of others.

The internship was an extremely valuable experience, and I encourage others who might be interested in leadership development and/or those considering university administration as a potential career to apply for this opportunity. It is likely that IANR will have its next ESCOP/ACOP intern near the end of the next fiscal year.

David S. Jackson
ARD Intern

ARD Advisory Council Election Results

The following faculty members have been elected to the ARD Advisory Council for a three-year period beginning July 1, 2002.

District 1: **Shelly McKee-Hensarling**
(Food Science and Technology) Representing faculty in the departments of Agricultural Economics and Food Science and Technology

District 6: **Gerald Duhamel**
(Veterinary and Biomedical Sciences) Representing faculty in the departments of Biometry, Entomology and Veterinary and Biomedical Sciences

District 7: **Julie Stone**
(Biochemistry) Representing faculty in the departments of Biochemistry and Plant Pathology

Continuing ARD Advisory Council members are:

District 2: **Roger Selley**
(South Central Research and Extension Center) Representing faculty in the Biological Systems Engineering Department, Northeast Research and Extension Center, and South Central Research and Extension Center

District 3: **Achim Dobermann**
(Agronomy and Horticulture Department) Representing faculty in the Agronomy and Horticulture Department

District 4: **David Wedin**
(School of Natural Resource Sciences) Representing faculty in the School of Natural Resource Sciences

District 5: **Andrea Cupp**
(Animal Science Department) Representing Animal Science Department faculty

District 8: **John DeFrain**
(Family and Consumer Sciences Department) Representing faculty in Agricultural Leadership, Education and Communication, Family and Consumer Sciences, Nutritional Science and Dietetics, and Textiles, Clothing and Design departments

District 9: **Jerry Volesky**
(West Central Research and Extension Center) Representing faculty in the West Central Research and Extension Center and the Panhandle Research and Extension Center

Please join the ARD staff in expressing appreciation to **Susan Cuppett, Blair Siegfried** and **Tom Powers** for their dedicated support of the ARD Advisory Council during the past three years. Their contributions have been invaluable in surfacing faculty issues to ARD administrators. We wish them continued success in their faculty careers.

Layman Awards

IANR faculty submitted 19 proposals for funding by the Layman Trust. A subcommittee of the ARD Advisory Council carefully evaluated each proposal and ranked the submissions in relation to quality of science and the potential impact of the proposed research. All proposals were forwarded to the Vice Chancellor for Research.

The primary aim of the Layman Awards is to provide seed money to enhance the possibility of obtaining external support for the research project. Only untenured faculty or tenured faculty who have not yet received an external grant are eligible for the program.

Six of the 19 proposals submitted by ARD faculty were funded:

Brian Beecher, Agronomy and Horticulture Department
"Investigating the Relative Impact of Each Gliadin Protein Class Upon Wheat End-use Quality"
Total Amount Received $10,000
Funding Period: May 1, 2002 - April 30, 2003

Andrea Cupp, Animal Science Department
"Molecular and Cellular Regulation of Testis Morphogenesis"
Total Amount Received $10,000
Funding Period: May 1, 2002 - April 30, 2003

Brett White, Animal Science Department
"Molecular Mechanisms Underlying Murine Gonodotropin-releasing Hormone (GnRH) Receptor Gene Expression During Early Embryonic Development"
Total Amount Received $10,000
Funding Period: May 1, 2002 - April 30, 2003

Larkin Powell, School of Natural Resource Sciences
"Breeding Bird and Mammalian Predator Populations in Rainwater Basin Wetlands"
Total Amount Received $10,000
Funding Period: May 1, 2002 - April 30, 2003

Scott Josiah, School of Natural Resource Sciences
"Accelerating the Development of the Hybrid Hazelnut as a Value-added Crop for Nebraska"
Total Amount Received $10,000
Funding Period: May 1, 2002 - April 30, 2003

Tala Awada, School of Natural Resource Sciences
"Ecosystem Consequences of Forest Establishment in the Nebraska Sandhills"
Total Amount Received $10,000
Funding Period: May 1, 2002 - April 30, 2003

ARD Interdisciplinary Research Grants Program

Eleven proposals were submitted to the ARD Interdisciplinary Research Grants Program and three proposals were selected for 2002-2003 funding. We were, however, able to fund one continuation project and one extension. New ARD Interdisciplinary Research Grants were awarded as follows:

Kay Stanek, Sheran Cramer, Rochella Dalla, Mary Balluff, Kathy Blanke (Nutritional Science and Dietetics, Family and Consumer Sciences, Health and Nutrition Services)
"Lead status, food provision competence and the parenting of iron deficient children enrolled in the special supplemental food program for women, infants and children (WIC)"
Total Funded: $19,812
Funding Period: July 1, 2002 - June 30, 2003

Galen Erickson, Dennis Schulte, Rick Stowell (Animal Science Department and Biological Systems Engineering Department)
"Science-based air quality data for the beef cattle feedlot industry and rural communities in Nebraska"
Total Funded: $19,560
Funding Period: July 1, 2002 - June 30, 2003

Xin Bin, Janos Zempleni, Peter Moeller (Biochemistry Department and Nutritional Science and Dietetics Department)
"Regulation of biotinylation of histones in Saccharmyces cerevisiae"
Total Funded: $20,000
Funding Period: July 1, 2002 - June 30, 2003

The following continuing project has been evaluated and will continue for 2002-2003:

Dennis Brink, Laurice Matulka, Clayton Kelling, S. Srikumaran (Animal Science Department and Veterinary and Biomedical Sciences)
"Effect of virus infection on cellular gluthathione concentration"

Total Funded: $20,000
Funding Period: July 1, 2002 - June 30, 2003

The following project was granted an extension and will continue for 2002-2003:

William Zanner, Rhae Drijber, David Wedin, X. Ding, Scott Josiah (School of Natural Resource Sciences and Agronomy and Horticulture Department)
"Long-term forest establishment on prairie soils: Effects on soil microbiological, mineralogical, physical, and chemical properties"

Grants and Contracts Received March, April and May, 2002

Agricultural Research Development Center	
Miscellaneous grants under $10,000 each	$ 10,000
Agronomy and Horticulture	
Baenziger, P.S. — USDA/ARS	100,819
Cassman, Ken — Pioneer Hi-Bred International, Inc.	25,000
Mackenzie, Sally — Ralph and Alice Raikes Chair in Plant Science via UN Foundation	20,000
Read, Paul — Small Fruit Research Fund via UN Foundation	55,459
Miscellaneous grants under $10,000 each	97,171
Animal Science	
Erickson, Galen — Cargill, Inc.	16,500
Klopfenstein, Terry, Charles Francis, Daniel Walters and James Brandle — USDA/Special	55,186
Scheideler, Sheila — USDA/IFAFS through University of Kentucky	57,369
Miscellaneous grants under $10,000 each	41,870
Biochemistry	
Spreitzer, Robert — USDA/CSREES	195,000
Entomology	
Miscellaneous grants under $10,000 each	71,850
Food Science and Technology	
Benson, Andrew — USDA/ARS through University of Wisconsin-Madison	40,183
Miscellaneous grants under $10,000 each	79,493
Northeast Research and Extension Center	
Miscellaneous grants under $10,000 each	31,000
Nutritional Science and Dietetics	
Betts, Nancy — USDA/CSREES	400,000
Panhandle Research & Extension Center	
Blumenthal, Jurg — Burlington Northern via UN Foundation	10,500
Lyon, Drew — Anna H. Elliott via UN Foundation	12,000
Rush, Ivan — Biotal, Inc	25,600
Smith, John — Sugarbeet PROFIT	12,500
Wilson, Robert — Michigan State University	12,000
Miscellaneous grants under $10,000 each	101,609
Plant Pathology	
Miscellaneous grants under $10,000 each	4,867
School of Natural Resource Sciences	
Miscellaneous grants under $10,000 each	20,700
South Central Research and Extension Center	
Elmore, Roger — Heuermann Foundation Fund for Applied Agronomic Research via UN Foundation	15,000
Veterinary and Biomedical Sciences	
Donis, Ruben — USDA/CSREES	275,000
Moxley, Rod — USDA/CSREES	370,000
Miscellaneous grants under $10,000 each	12,890
West Central Research and Extension Center	
Miscellaneous grants under $10,000 each	8,264
Grand Total	**$2,177,830**

New or Revised Projects

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

NEB-31-004 (Animal Science) Integrated Crop/Livestock/Agroforestry Research for Sustainable Systems in Nebraska
Investigator(s): T.J. Klopfenstein, J.R. Brandle, C.A. Francis and D. T. Walters
Status: New Special Grant project effective June 1, 2002

NEB-42-028 (Northeast Research and Extension Center) Ecology and Management of European Corn Borer and Other Stalk-Boring Lepidoptera
Investigator: T.E. Hunt
Status: New Hatch project that contributes to Regional Project NC-205 effective October 1, 2000

NEB-43-070 (West Central Research and Extension Center) Sources, Dispersal and Management of Stable Flies on Grazing Cattle and Dairy Cattle
Investigator: J.B. Campbell
Status: New Hatch project that contributes to Regional Project S-1005 effective October 1, 2001

NEB-91-054 (Nutritional Science and Dietetics) Regulation of Biotinylation of Histones in *Saccharomyces cerevisiae*
Investigator: J. Zempleni
Status: New State Project effective July 1, 2002.

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 the faculty members' outstanding efforts in submitting proposals to the various agencies.

Brian Beecher — USDA/NRI — Function of Wheat and Barley Grain Softness Genes — $217,772

Tom Clemente — USDA/NRI — Characterization of Ds Transposition in the Soybean Genome — $314,563

Yiqi Yang — USDA/NRI — Property Improvement of Poly(lactic acid) Textile Fibers via Process Innovation and Structural Investigation — $240,597

Ismail Dweikat and **Sally Mackenzie** — USDA/NRI — Investigation of Mitochondrial Genome Dynamics in cms of Pearl Millet — $362,764

Amit Mitra — USDA/NRI — Efficient Inactivation of Gene Expression by Intrinsic Direct Repeats: Mechanism and Utilization — $229,329

David Scott Jackson — USDA/NRI — The Vexing Issue of Starch Solubility — $123,036

Robert W. Hutkins — USDA/NRI — Stability and Functional Activity of Prebiotic Oligosaccharides in Foods — $141,236

Milford Hanna, David Jones and **Girish Ganjyal** — USDA/NRI — Neutral Network Modeling of Extrusion Process — $152,147

Milford Hanna and **Girish Ganjyal** — USDA/NRI — Value Added Processing of Sapodilla — $79,857

Konstantinos Giannakas — USDA/NRI — Accounting for Observability, Uncertainty and Payment Mechanism in Agricultural Conservation Program Compliance — $179,449

Randy L. Wehling — USDA/NRI — Measuring Degree of Cooking in Extruded Cereal-Based Products by Near-Infrared Spectroscopy — $150,298

Larkin Powell — U.S. Fish and Wildlife Service — Comparing Sustainability of Grazing in the Nebraska Sandhills: Which Regime is Best for Cattle and Wildlife — $104,681

Marjorie Lou — NIH — Protein-thiol Mixed Disulfides in Cataractogenesis — $1,286,072

Michael Zeece, Ron Cerny and **Shelly McKee** — USDA/NRI — Proteomic Analysis of Factors Associated with Stress Syndrome in Meat Animals — $246,961

David W. Stanley and **Jon Miller** — USDA/NRI — Prostaglandins Mediate Insect Cellular Immunity: Biochemical Characterization of Prostaglandin Receptor Sites — $190,582

Dojin Ryu, Lloyd B. Bullerman and **Milford Hanna** — USDA/NRI —Efficacy of Extrusion Processing in Reducing Toxicity of Deoxynivalenol and Zearalenone — $287,587

Dickey Dee Griffin, Susanne Hinkley and **Henry Cerny** — USDA/NRI — Development of a Pre-Harvest Version of the USDA-FSIS Fast Antibiotic Screening Test — $185,219

Rhae A. Drijber — USDA/NRI — Complex Lipid Biomarkers for Improved Quantification of Vesicular Arbuscular Mycorrhizal Fungi in Soil Systems — $163,784

Lloyd B. Bullerman, Milford Hanna and **Dojin Ryu** — (subcontractor) — USDA/NRI through Iowa State University — Chronic Toxicity of Fumonisin Products Formed by Extrusion Processing of Corn — $66,225

Lloyd B. Bullerman, Milford Hanna and **Dojin Ryu** — (subcontractor) — USDA/NRI through Iowa State University — Reduction of Fumonisin Acute Toxicity in Swine by Extrusion Processing of Corn — $66,225

Clinton Jones and **Yange Zhang** — USDA/NRI — Functional Analysis of biCPO, a Bovine Herpesvirus 1 Gene that is a Promiscuous Transactivator — $320,041

Thomas Powers — NSF — Vertical Assemblages of Nematode Species in Tropical Forests of Costa Rica — $185,840

Sally Mackenzie — NSF — Construction of a Physical Map in *Phaseolus vulgaris*: An essential Component for Cross-Comparative and Evolutionary Studies of Legumes — $3,780,624

Thomas E. Elthon, Ronald L. Cerny and **Gautam Sarath** — NSF — Mitochondrial Proteomics — $925,199

Blair D. Siegfried and **Lance J. Meinke** — USDA/NRI through University of Maryland — QTL Mapping and Population Structure of Insecticide Resistance in Corn Rootworm — $98,148

Lloyd Bullerman and **Jitka Stiles** — USDA/NRI — Inhibition of *Fusarium graminearum* Using Biological Control Agents — $213,332

Jeffrey D. Cirillo — USDA/NRI — Role of Entry Mechanisms in Virulence of Mycobacterium *marinum* — $357,503

Amit Mitra — USDA/NRI — Broad-Spectrum Virus Resistance in Transgenic Potato — $289,920

Clayton L. Kelling, Ameila R. Woolums, Subramaniam Srikumaran, Ruben Donis and **Bruce Brodersen** — USDA/NRI — Apoptosis and Cellular Immunity in BVDV and BRSV Co-Infection — $406,632

Subramaniam Srikumaran — USDA/NRI — Mapping of *Mannheimia (Pasteurella) haemolytica* — $204,093

Subramaniam Srikumaran, Clinton Jones and **Clayton Kelling** — USDA/NRI — Pathogenicity and Immunogenicity of a Virion Host Shut-Off Gene Deletion Mutant of Bovine Herpesvirus 1 — $297,885

Stephen D. Danielson, James R. Brandle and **Erin Blankenship** — USDA/NRI — Effects of Vegetational Diversity on Farm Insecticide Use — $174,537

Gary Yuen, Martin Dickman and **Gautam Sarath** — USDA/NRI — Induced Resistance as a Biocontrol Mechanism — $256,870

Michael E. Fromm, Michel R. Gribskiov, Pamela C. Ronald, Wen Y. Song and **Jiam-Kang Zhu** — USDA/NRI — A Protein Interaction Database for Rice Protein Kinases — $6,764,387

Raul Barletta — USDA/NRI — Molecular Analysis of a *Mycobacterium paratuberculosis* Colony-morphology Attenuated Mutant — $292,123

Fernando A. Osorio — USDA/NRI — Role of PRRSV-Specific Antibodies in Protective Immunity Against Porcine Reproductive and Respiratory Syndrome Virus Infections — $299,202

Terry Mader — USDA/NRI through University of Missouri-Columbia — Dynamic Responses of Feedlot Cattle Exposed to Cold Stress — $130,846

C. William Zanner — USDA/NRI — Multi-proxy Reconstruction of Climate Variability on the Great Plains over the Last 1230 ka From Modern and Buried Soils — $133,159

Lori A. Allison — NSF through Cornell University — From Proplastid to Chloroplast: Understanding Plastid Differential in Maize Through Microarray and Proteome Analysis — $577,460

Michael E. Fromm, Ismail Dweikat, David S. Jackson and **Tom Clemente** — INTSORMIL — Breeding and Biotechnology Traits for Sorghum for Food and Feed Quality Improvements — $945,000

Janos Zempleni — NIH — Vitamin-dependent Modifications of Histones — $1,120,731

Jeffrey D. Cirillo and **Ronald L. Cerny** — NIH — Signal Transduction by Legionella in Macrophages — NIH-NIAID — $1,268,750

Chris R. Calkins — USDA/FAS — Enhancing the Export Value of the Beef Chuck by Identifying and Developing Potential New Markets in Korea — $92,271

David P. Shelton — USDA/CSREES — A Systems Approach to Conservation Buffer Establishment — $499,355

Michael Jess — USDA/CSREES — The Missouri, Iowa, Nebraska and Kansas Water Network (MINK) — $200,000

You Zhou, Heriberto Cerutti, Ruben Donis, Vadim Gladyshev and Clinton Jones — NIH — BioRad Radiance-2100AGR-3Q/BLD Confocal/TE2000 Microscope — $256,279

Pat Shea — USEPA/EPSCOR — Strategic Implementation Plan — SIP — $17,400

Steve Comfort and **Paul Burrow** — USEPA/EPSCOR — Using Vertical Attachment Energies to Predict Dehalogenation Rates of Environmental Contaminants — $177,831

Patrick Shea and **Tian Zhang** — USEPA/EPSCOR — Kinetic and Mechanistic Framework for Remediation Using Zero Valent Iron — $215,061

Writing Clear and Understandable Competitive Grant Proposals

Most faculty recognize that one of the elements of success in grantsmanship is writing clear and understandable proposals. A point sometimes overlooked is the question of "clear and understandable" to whom? More precisely, "clear and understandable" to reviewers with what qualifications and background? There is a very large variation in the types of reviewers used by many granting organizations and agencies. When preparing and submitting proposals, it may be advisable, if one doesn't know the nature of the review to be used, to learn more about it, if possible.

Faculty submitting proposals to the Competitive Grants programs run by major federal agencies are well aware that they will normally be reviewed by panels consisting of peer scientists. For these proposals, use of normal scientific and technical language is appropriate and expected. In significant contrast to this, state commodity check-off boards may have proposals reviewed only by board members who are active agricultural producers. They may have little knowledge of the field of research being proposed. In this case, too much scientific and technical language or jargon would not be appropriate and could be detrimental to success. Some commodity check-off boards use both board member reviewers and external scientific review panels. In this situation, a proposal needs to be clear and understandable to a group of reviewers ranging from those with little or no expertise to those with significant knowledge of the research field.

Some granting organizations, such as private foundations, may have internal review processes or they may involve external reviewers from widely varying backgrounds. The Agricultural Research Division manages several modest competitive grant programs funded with state funds and NU Foundation endowment funds. Reviewers for these may include unit administrators or representatives from the Agricultural Research Division Advisory Council. Most commonly, a number of different disciplines are represented among the reviewers.

It is a common experience for these ARD panels to receive proposals that apparently were written without the authors realizing that someone outside their discipline would be reviewing them. In these cases, being clear and understandable to scientists from a variety of disciplines is the key for enhancing chances of success.

Another aspect to consider is that depending on the program, a grant reviewer may have one to two proposals, or as many as 30 or more proposals to read. The following quote from the grantsmanship manual *Playing to Win*, by David Stanley makes a good point in this regard. *"Serving as a grant reviewer is a service to the granting agency and to the community. Grant reviewers typically add this service to their schedules without some compensating release from regular duties. Since many grant reviewers are busy people in the first place, we need to be completely aware of grant reviewers' workloads. We may be able to turn our knowledge to a competitive advantage by developing our writing styles to accommodate them. We do that by writing very clearly and making our points explicitly. We avoid murky thinking and murky writing and we do not ask busy reviewers to spend time trying to figure out what we are trying to say."* (Stanley-Samuelson, David; Playing to Win, A Guide to Preparing and Processing Competitive Grant Proposals in the Institute of Agriculture and Natural Resources.)

It may not always be possible to find out the nature of the review process to be used by a potential sponsor when one is submitting a proposal. In many cases though, this information is available and investigators should take advantage of it to write proposals geared to the nature of the review and to enhance their chances of success.

Diane says

Freedom is only a word until you have been close to losing it.

Research Grant and Contract Income During the Last Four Calendar Years Expressed on Dollars per Research FTE Basis*

Unit	1998	1999	2000	2001	Average 1998-2001
Agricultural Economics	24,409	24,511	19,958	12,903	20,445
Ag Leadership, Ed and Comm**	-0-	-0-	-0-	8,381	2,095
Agronomy and Horticulture	134,051	98,633	126,409	166,655	131,437
Animal Science	58,342	61,589	146,076	139,655	101,416
Biochemistry	414,194	344,416	215,232	292,905	316,686
Biological Systems Engineering	22,902	41,638	91,986	141,065	74,397
Biometry	14,970	36,569	12,539	1,101	16,294
Entomology	134,446	125,557	100,837	123,257	121,024
Family and Consumer Sciences	-0-	602	-0-	14,021	3,656
Food Science and Technology	495,135	355,539	556,265	381,421	447,090
Northeast R and E Center	243,917	45,018	48,272	54,760	97,992
Nutritional Science and Dietetics	1,003	9,766	8,127	248,501	66,849
Panhandle R and E Center	103,847	134,992	119,762	104,646	115,812
Plant Pathology	124,770	126,765	192,602	164,151	152,072
School of Natural Resource Sciences**	218,217	266,917	295,943	407,086	297,041
South Central R and E Center	115,893	67,085	73,734	81,201	84,478
Textiles, Clothing and Design	-0-	-0-	1,288	127,103	32,098
Veterinary and Biomedical Sciences	221,454	161,627	274,453	100,924	189,615
West Central R and E Center	44,914	37,583	21,568	48,050	38,029
Average	**124,121**	**106,232**	**119,033**	**137,778**	**121,501**

* Grants obtained by interdisciplinary centers and the ARD Dean's office are not listed. These funds are largely expended by faculty in academic units. Therefore, the listing is not a completely accurate representation of all external funds available for faculty use.
**Included in listing for the first time in CY 1998.

Highlights of the 2002 Farm Bill*

President Bush signed the 2002 Farm Bill in mid May after the legislation was passed by Congress. The new Farm Bill makes significant changes in farm program structure and funding including the following:

- Provides needed stability to the income of farmers and ranchers.
- Continues direct payments based on historical plantings and yields.
- Creates a system of countercyclical payments based on market prices in relation to target prices.
- Revises and rebalances loan rates for the marketing loan program for major grains and oilseeds.
- Provides record-level support for conservation — an 80 percent increase, 85 percent of which will be for programs on working farmlands and adding new programs to preserve wetlands and improve soil and water quality.
- Contains the first energy title ever in a Farm Bill.
- Invests more in research, animal and plant disease protection, food safety and rural development.

The Farm Bill has been widely criticized within the United States and in other countries. Some of the criticisms and the USDA responses are:

- **The Farm Bill provides a 70 percent boost in farm program support over the 1996 Farm Bill.** USDA responds that when all support for agriculture is considered, emergency supplemental support over the last four years totaled $30.5 billion (roughly $7.5 billion per year). The new Farm Bill provides about $7.4 billion each year of additional spending for farm programs. Thus, the new Farm Bill provides roughly the same amount of support that has been provided to the U.S. farm sector over the past four years through the 1996 Farm Bill and supplemental support.
- **The Farm Bill undermines our international trade obligations.** USDA responds that the WTO permits the United States to spend $19.1 billion annually for certain types of farm program support. This compares to $31 billion for Japan and $62 billion for the EU. Additionally, U.S. markets are relatively open, compared with other countries. Our tariffs on agricultural products average about 12 percent. This is compared to a whopping 59 percent for Japan, 30 percent for the Cairns Group, and 30 percent for the EU. In addition, the EU has some of the worst trade distorting support in the form of export subsidies (the EU uses 90 percent of all the export subsidies in the world).

* Excerpted from a USDA communication explaining the 2002 Farm Bill.

Adoption of Biotechnology-Enhanced Crops in Selected Cornbelt States*

The Nebraska Agricultural Statistics Service has collected and published the following information regarding the adoption of biotechnology-enhanced corn hybrids and soybean varieties in selected Cornbelt states during the 2002 cropping year.

State	*Insect Resistant*	*Herbicide Resistant*	*Stacked Gene Cultivars*	*All Biotech Cultivars*
	% of acres planted			
Corn:				
Illinois	20	3	1	24
Indiana	8	7	1	16
Iowa	30	9	4	43
Kansas	24	11	3	38
Minnesota	31	7	3	41
Nebraska	32	9	2	43
South Dakota	35	22	8	65
Soybeans:				
Illinois	—	71	—	71
Indiana	—	83	—	83
Iowa	—	78	—	78
Kansas	—	80	—	80
Minnesota	—	69	—	69
Nebraska	—	86	—	86
South Dakota	—	86	—	86

*Adapted from the NASS report entitled "Nebraska Biotechnology Varieties and Chemical Usage" issued in May 2002.

It is evident that Nebraska crop producers have rapidly adopted biotechnology-enhanced corn varieties and soybean varieties as have producers in other Cornbelt states. Dr. George Graef, Professor of Agronomy, developed the first Roundup Ready-soybean varieties well adapted to Nebraska conditions. The Foundation Seed Division produced a large amount of foundation seed of these varieties and certified seed production of the varieties is currently under way in Nebraska. These varieties will be in producers' fields next year. The University of Nebraska is the second public university to obtain an license from Monsanto to sell foundation seed of soybean varieties containing the Roundup Ready gene. All employees involved in this development, particularly Graef, Dan Duncan and Gary Cross, deserve our congratulations for this significant accomplishment.