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ARD News August 2003

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ARD

Agricultural Research Division News

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August 2003

Volume 36, Number 4

Comments from the Dean

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Dear Colleagues:

This is a time of change in the Agricultural Research Division. As you are aware, Dale Vanderholm retired from his position as Associate Dean and Associate Director on June 30, 2003. Dr. Nancy Betts, Professor of Nutritional Science and Dietetics, was hired as the ARD Interim Associate Dean and Associate Director on a 0.5 FTE basis for a one-year period starting July 1, 2003. Nancy brings to ARD a wealth of experience in nutrition education research and has an excellent knowledge of federal funding opportunities. She has served as a Panel Manager for a CSREES-NRI program and during the previous fiscal year was the Interim Associate Dean for Research and Graduate Studies in the College of Human Resources and Family Sciences. We are delighted to welcome Dr. Betts to the ARD Office and suggest that faculty make an attempt to meet her.

Vice Chancellor Owens has authorized a national search for a permanent Associate Dean and Associate Director. I intend to appoint a search committee and begin the recruitment process early this fall. We hope to have a new Associate Dean and Associate Director in place by July 1, 2004.

Although the last round of budget cuts did not permanently impact the ARD budget, there will be significant cash flow constraints during FY 2004. These cash flow challenges for IANR arise from the fact that funding is needed for periods up to one year to pay the salaries and fringe benefits for faculty and staff that are being terminated because the state funding for the position was eliminated on July 1. In addition, IANR agreed to pay the tuition subsidy for three classes of Nebraska students in the College of Veterinary Medicine at Kansas State University. The tuition subsidy for FY 2004 is nearly \$1.5 million. Thus, ARD will have limited flexibility to address one-time or continuing resource needs at the unit level during the next year.

This issue of ARD News contains listings of faculty members who received grants during the past two months as well as graduate students who are receiving fellowships from University of Nebraska Foundation endowments. These fellowships consist of stipends that are in addition to the students' normal GRA salaries. I offer my congratulations to the fellowship recipients and to faculty members successfully competing for grant awards.

As the new academic year begins, I extend best wishes to all ARD employees for continued success in research. We had remarkable success during FY 2003, and I expect even greater success in the current fiscal year. Thanks to each of you for your terrific efforts last year.

*Darrell W. Nelson
Dean and Director*

Nebraska Research Initiative FY2004

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The following faculty received funding for FY2004 from the Nebraska Research Initiative (NRI). Congratulations to those faculty who received awards and thanks to all faculty who submitted proposals.

<i>Researcher:</i>	Tom Clemente
<i>Department:</i>	Biotechnology Center/Plant Science Initiative
<i>Project:</i>	Production of Value Enhanced Soybean Oil Through Biotechnology
<i>Amount:</i>	\$201,101
<i>Researcher:</i>	Milford Hanna
<i>Department:</i>	Industrial Agricultural Products Center
<i>Project:</i>	Encapsulation of Chemicals and Biochemicals
<i>Amount:</i>	\$150,000



Researcher: James Van Etten
Department: Plant Pathology
Project: Gene Expression and Signaling in Plants
Amount: \$330,476

Researcher: Patrick Shea
Department: School of Natural Resources
Project: Building Surface Analysis into Environmental Science
Amount: \$110,000

Layman Awards

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IANR faculty submitted 24 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. Priority is given to non-tenured, tenure-track faculty and to other eligible faculty who propose projects of high promise and who make a compelling case that Layman funding is critical to their success.

Seven of the 24 proposals submitted by ARD faculty were funded:

Ismail Dweikat, Agronomy and Horticulture Department

*"Use of Johnsongrass (*Sorghum halepense*) as a Source of Cold Tolerance in Sorghum (*Sorghum bicolor* L)"*

Total Amount Received \$10,000

Funding Period: May 1, 2003 - April 30, 2004

Melanie Simpson, Biochemistry Department

"Role of Hyaluronan in Prostate Cancer"

Total Amount Received \$10,000

Funding Period: May 1, 2003 - April 30, 2004

Joseph Barycki, Biochemistry Department

"Investigation of Enzymes Involved in Glutathione Metabolism"

Total Amount Received \$10,000

Funding Period: May 1, 2003 - April 30, 2004

Julie Stone, Biochemistry Department

*"Testing the Hypothesis that Overexpression of Yeast or *A. thaliana* ABC Transporters Confer Resistance to the Fungal Toxin Fumonisin B1"*

Total Amount Received \$10,000

Funding Period: May 1, 2003 - April 30, 2004

Harshavardhan Thippreddi, Food Science and Technology

*"Microbiological Validation of Organic Acids and Acidified Sodium Chlorite for Reduction of *Escherichia coli* O157:H7 on Chilled Beef Carcasses and Sub-Primals"*

Total Amount Received \$10,000

Funding Period: May 1, 2003 - April 30, 2004

Shaorong Chen, Plant Pathology Department
"High Throughout Yeast Function-based Screens to Identify Plant Genes That Regulate Programmed Cell Death"

Total Amount Received \$10,000

Funding Period: May 1, 2003 - April 30, 2004

You Zhou, Veterinary and Biomedical Sciences

"Analysis of Central Neuonal Gene Expression and Functional Integrity from Genetically Selected Mouse Lines with Different Stress Responsiveness"

Total Amount Received \$10,000

Funding Period: May 1, 2003 - April 30, 2004

Widaman Trust Distinguished Graduate Assistant Award

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The Widaman Trust was established in 1975 through a generous gift provided to the University of Nebraska Foundation by Ms. Blanch Widaman. Ms. Widaman asked that the income from the trust be used by UNL for basic research in agriculture and the funds support people rather than purchase supplies and/or equipment. She suggested that the money be used for scholarships or fellowships for graduate students conducting basic research in agriculture.

The criteria established for the Widaman Trust Distinguished Graduate Assistant Award specifies that only 5% of the graduate students in a department can receive the recognition and that the awardees must demonstrate outstanding scholarship and excellence in research. We congratulate the following graduate students for receiving the Widaman Trust Distinguished Graduate Student Award for 2003-2004:

Name: Atlene Adviento
Thesis area: Plant Nutrition
Department: Agronomy and Horticulture
Advisor: Achim Dobermann

Name: Ricardo Abdelnoor
Thesis area: Genomics
Department: Agronomy and Horticulture
Advisors: Sally Mackenzie

Name: Leslie Stalker
Thesis area: Ruminant Nutrition
Department: Animal Science
Advisors: Terry Klopfenstein and Don Adams

Name: Sandra Senneke
Thesis area: Breeding and Genetics
Department: Animal Science
Advisors: L. Dale Van Vleck

Name: Joao Camargo
Thesis area: Agricultural Engineering
Department: Biological Systems Engineering
Advisor: George E. Meyer

Name: Dan Su
Thesis area: Biochemistry
Department: Biochemistry
Advisor: Vadim Gladyshev

Name: Paula Macedo
Thesis area: Entomology
Department: Entomology
Advisors: Philip Scholl and John Campbell

Name: Subhashinee Wijeratne
Thesis area: Food Science
Department: Food Science and Technology
Advisors: Susan Cuppett

Name: Wei Li
Thesis area: Plant Pathology
Department: Plant Pathology
Advisor: Martin Dickman

Name: Rohana Dassanyake
Thesis area: Veterinary Science
Department: Veterinary and Biomedical Sciences
Advisor: Gerald E. Duhamel

Hardin Distinguished Graduate Fellowship for 2003-2004

The recipient of the Hardin Distinguished Graduate Fellowship for 2003-2004 is **Walter Philip Suza** from the Agronomy and Horticulture Department. The fellowship is made possible by an endowment established at the University of Nebraska Foundation by former University of Nebraska Chancellor Clifford Hardin to support outstanding graduate students doing research in plant physiology. He will receive a \$2,000 supplement to his graduate assistantship and the Agronomy and Horticulture Department will receive \$1,000 of operational support for his research program.

Suza is completing his Ph.D. in the Agronomy and Horticulture Department. His dissertation research concerns jasmonic acid signaling and the role of this hormone in regulating several plant responses to stress. He is working to further our understanding of how the plant "stress hormone" jasmonic acid helps plants to protect themselves against several biotic and abiotic stresses. Jasmonic acid is an important plant hormone involved in conferring resistance to plants against disease. Jasmonic acid is also essential for plant resistance against insect herbivory and damage by UV light. Suza received the "Best Student Award" from the faculty of Agriculture and Natural Resources from the University of Africa (Mutare, Zimbabwe) in 1996. Paul Staswick is his advisor.

Shear-Miles Fellowship 2003-2004

The Shear-Miles Agricultural Scholarship and Fellowship was established at the NU Foundation with a \$173,000 gift from the estate of Dorothy S. Miles. James Dennis, executor of the Miles Estate, said Dorothy Miles planned that the gift memorialize her father and father-in-law, Corneilus Lott Shear and George Miles. Shear and Miles both graduated from the NU College of Agriculture. Shear received his bachelor's and master's degrees in 1887 and 1901 and Miles graduated in 1903. This endowed fund provides scholarships and fellowships to benefit the Agricultural Research Division and the College of Agricultural Sciences and Natural Resources.

Three students listed below will be recipients of this \$2,000 award given for the second time by ARD:

Name: Kelly W. Creighton
Thesis area: Ruminant Nutrition
Department: Animal Science
Advisor: Don Adams and Terry Klopfenstein

Name: Analiza Piovesan Alves
Thesis area: Toxin Resistance
Department: Entomology
Advisors: Blair Siegfried

Name: Kathleen D. Eggemeyer
Thesis area: Ecology
Department: School of Natural Resources
Advisors: Tala Awada

John and Louise Skala Fellowship 2003-04

The John and Louise Skala Fellowship was established at the NU Foundation. Fifty percent (50%) of the net income of this fund shall be used annually or otherwise for one or more fellowships awarded to full-time graduate students in the university's Institute of Agriculture and Natural Resources. The recipient of this fellowship shall be engaged in research in areas relating to the new industrial uses of agricultural products.

Four students are the recipients of this \$5,000 award through the Agricultural Research Division and the College of Agricultural Sciences and Natural Resources:

Name: Oscar Esquivel
Thesis area: Meat Sciences
Department: Animal Science
Advisor: Roger Mandigo

Name: Girish Ganjyal
Thesis area: Biological Systems Engineering
Department: Biological Systems Engineering
Advisor: Milford Hanna

Name: Junjie Guan
Thesis area: Biological Systems Engineering
Department: Biological Systems Engineering
Advisor: Milford Hanna

Name: Yixiang Xu
Thesis area: Food Analysis
Department: Food Science and Technology
Advisor: Milford Hanna

Al Moseman International Studies Fund 2003-2004

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The "Al Moseman International Studies Fund" was established through a trust in the NU Foundation. This fund supports students with the potential to contribute to international development. The U.S. role in technical assistance in future international agricultural development programs requires leadership in identifying and creating initiatives to achieve cooperation among multidisciplinary team members and to surmount traditional precedents in host country scientific and administrative procedures. This award is designated for graduate students in the Agronomy Graduate Program, with interests in international agriculture and world food development. Preference will be given to students who are working in plant breeding and genetics.

The recipient of the \$2,500 award through the Agricultural Research Division and the College of Agricultural Sciences and Natural Resources is:

Name: Fufa Hundea Birru
Thesis area: Cereal Genetics and Breeding
Department: Agronomy and Horticulture
Advisor: Lenis Nelson and Steve Baenziger

David H. and Annie E. Larrick Fund 2003-2004

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The David H. and Annie E. Larrick fund supports 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: Luc Veyssiere
Department: Agricultural Economics
Meeting: American Agricultural Economics Association
Place: Montreal, Canada

Name: Renee Ritchie
Department: Agronomy and Horticulture
Meeting: Crop Science Society of America
Place: Denver, Colorado

Name: Ryan Duysen
Department: Biological Systems Engineering
Meeting: American Society of Agricultural Engineers
Place: Las Vegas, Nevada

Name: Girish Ganjyal
Department: Biological Systems Engineering
Meeting: American Association of Cereal Chemists
Place: Portland, Oregon

Name: Alejandro Amezcuita
Department: Biological Systems Engineering
Meeting: IV Ibero American Congress of Food Engineering
Place: Valparaiso, Chili

Name: Junjie Guan
Department: Biological Systems Engineering
Meeting: American Association of Cereal Chemists
Place: Portland, Oregon

William G. Whitmore Student Travel Endowment

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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. Fifteen students applied for the travel award. Two IANR students received the William G. Whitmore Memorial for travel during the period July 6 - December 31, 2003

Name: Leanne LaBrash
Department: Animal Science
Meeting: Poultry Science Association Meeting
Place: Madison, Wisconsin

Name: Paula A. Macedo
 Department: Entomology
 Meeting: American Association of Veterinary
 Parasitologists
 Place: Denver, Colorado

The next call for these travel funds will be sent to the unit administrators around the second week of October 2003 for travel from January 1 to June 30, 2004.

Undergraduate Honors Research Program

Funds for the FY 2003-2004 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. Ten proposals were received and seven were funded. The following students have received funding:

Rick Smith (Agribusiness/Agricultural Economics Department) \$2,300
 Mentors: Wesley Peterson and Richard Clark
 "An Evaluation of Labor Costs of Nebraska Feedlots"

Trent Blare (Agricultural Economics Department) \$2,200
 Mentor: Wesley Peterson
 "WTO Trade Negotiations: Implications of an Agreement Upon U.S. Grain and Oilseed Producers"

Andrew Vaughan (Biochemistry Department) \$2,500
 Mentor: Donald Weeks
 "Determination of the Essential or Nonessential Nature of CO₂ Responsive Genes to the Carbon Concentrating Mechanism of *Chlamydomonas reinhardtii* Using RNAi Technology"

Kristin Ahrens (Food Science and Technology Department) \$2,500
 Mentors: Susan Cuppett and Robert Hutkins
 "Selective Advantage of Fructooligosaccharide-fermenting *Lactobacillus acidophilus* in a Model System"

Adam Rogers (Veterinary and Biomedical Sciences) \$2,500
 Mentors: Grasso Ebako and Clinton Jones
 "The Regulation of Immune-mediated Cell Death by the LR (Latency Related) Gene"

Karen Lee (Veterinary and Biomedical Sciences) \$2,500
 Mentor: Jeffrey Cirillo
 "Role of *enhC* gene in Entry into *Legionella pneumophila*"

Michelle Pavelka (Veterinary and Biomedical Sciences) \$2,000
 Mentor: Bruce Brodersen
 "Equine Herpes Virus-1: A Possible Cause of Equine Ataxia Syndrome"

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.

James L. Van Etten — NIH — DNA Replication and Gene Expression of Chlorella Viruses — \$1,120,000

Qi "Steve" Hu — NOAA — Climate and Atmospheric Research — \$40,000

Joseph J. Barycki — NIH — Characterization of *H. pylori* — Glutamyl Transpeptidase — \$1,226,877

Gerald E. Duhamel — NIH-NIAID — Polymicrobial Associations in Inflammatory Bowel Disease — \$138,700

Daniel Pomp — NIH — Genetic Architecture, Biological Variation, and Complex Phenotypes — \$3,042,011

Andrea S. Cupp and John S. Weber — NIH/NCRR — Novel spermatogonial stem cell mutagenesis system — \$385,919

David Billesbach and Timothy Arkebauer — USDOE — Carbon, Water, and Energy Exchange in a Mid-Latitude, Mixed Prairie Grassland Ecosystem — \$600,207

Robert M. Caldwell and David R. Swanson — USDOE/NIGEC — The value of detail in ecosystem models for predicting county-level wheat yields throughout the Great Plains — \$363,361

Scott J. Josiah — USDA/SARE — Improving Small Farm Profitability with High-Value Products: Accelerating Commercialization and Producer Adoption of Woody Florals and Hybrid Hazelnuts — \$149,846

Stephen D. Danielson — USDA/SARE — Conservation Biological Control for Insect Pest Management in Alfalfa — \$149,442

Loren J. Giesler — USDA through University of Illinois — Evaluation of Fungicide Application Methods for Control of Soybean Rust in *Glycine max* — \$12,500

Viacheslav I. Adamchuk — USDA/SARE — Alternative Grain Harvesting Technology for Sustainable Agriculture — \$149,960

Daniel Pomp — NIH — Genetic Architecture of Obesity Predisposition — \$3,042,011

Jeffrey D. Cirillo and Ronald L. Cerny — NIH/NIAID — Acanthamoeba-Pathogen Interactions Mutant Analysis — \$1,631,250

Etsuko Moriyama — NSF — ISGA: Discovery and Molecular Evolutionary Analysis of Transmembrane Protein Families from Plant Genomic Data — \$487,739

Loren J. Giesler — USDA through University of Illinois — Evaluation of Fungicide Application Methods for Control of Soybean Rust on *Glycine max* in Post Flowering Soybeans — \$12,500

Donald Becker — NIH — Mechanistic Studies of PRODH2 Variants in Schizophrenia — \$606,825

Robert M. Caldwell and David R. Swanson — USDOE through NIGEC — The Value of Detail in Ecosystem Models for Predicting County-Level Wheat Yields Throughout the Great Plains — \$120,104

Xun-Hong Chen — USGS — Modeling of Streamflow Dynamics in Alluvial Valleys with Irrigated Agriculture — \$111,227

Kenneth Pruess and Thomas O. Powers — NSF — North American Black Flies in the Genus *Cnephia*: Population Structure and Phylogenetics — \$21,225

Melanie A. Simpson — NIH — Role of Hyaluronan Matrix in Prostate Cancer Progression — \$1,276,166

Gary Hein, Drew Lyon and Paul Burgener — USDA/ARS — Biologically Intensive Areawide IPM of the Russian Wheat Aphid and Greenbug — \$124,900

Larkin Powell — USDA/SARE — Comparing Sustainability of Grazing Systems in the Nebraska Sandhills by Monitoring Density, Species Richness and Productivity of Grassland Birds — \$35,450

Sunil Narumalani — National Park Service — Noxious Weeds Inventory and Mapping at Capulin Volcano National Monument, Fort Union National Monument, and Lake Meredith National Recreation Area — \$81,997

Ruma Banerjee — NIH — Nebraska Redox Biology Center — \$10,068,285

Donald Becker — NSF — CAREER: Spectroelectrochemical Studies of the Novel PutA Flavoprotein and its Macromolecular Associations — \$309,000

Qi "Steve" Hu and Gary Lynne — NSF — Toward the Higher Plane of Decision-Making — \$99,869

Patricia W. Freeman and Cliff A. Lemen — NSF — Collaborative Research: Unraveling the Origin, Phylogeny, and Adaptive Radiation of *Pteropodidae* — \$267,058

William K. Russell — USDA/ARS — Selection for Phosphorus Concentration in Maize Grain — \$4,390

Donald P. Weeks — NSF — Molecular and Genetic Analysis of the Carbon Concentrating Mechanism of *Chlamydomonas reinhardtii* — \$854,027

Stephen W. Ragsdale — NIH — Enzymology of the Reductive Acetyl-CoA Pathway — \$1,807,878



Grants and Contracts Received June and July, 2003

Agronomy and Horticulture

Baenziger, P. S. — U.S. Civilian Research Development Foundation	\$10,300
Beecher, Brian — USDA through Montana State University	20,000
Clemente, Tom — United Soybean Board	95,000
Specht, James — USDA/ARS	68,185
Specht, James — North Central Soybean Research Program	218,778
Specht, James — United Soybean Board via USDA/ARS	47,748
Stubbendieck, James — National Park Service	15,760
Miscellaneous grants under \$10,000 each	115,950

Animal Science

Calkins, Chris — National Cattlemen's Beef Association	34,090
Cupp, Andrea — NIH	71,217
Miner, Jess — Pharmagra, Inc.	29,000
Pomp, Daniel — NIH	281,549
Weber, John — Baylor College of Medicine	88,595
Miscellaneous grants under \$10,000 each	35,083

Biochemistry

Gladyshev, Vadim — NIH	253,750
Spreitzer, Robert — U.S. Department of Energy	220,000
Stone, Julie — Layman Fund through UN Foundation	10,000
Miscellaneous grants under \$10,000 each	10,000

Biological Systems Engineering

Billesbach, David — DOE through Lawrence Berkeley Lab	66,071
Schulte, Dennis, Lakshmi Koppolu, David Billesbach and Rick Koelsch — Nebraska Department of Agriculture	19,632

Biometry

Eskridge, Kent — Nebraska Department of Health and Human Services	11,000
Eskridge, Kent — ACTON Int'l	25,951

Entomology

Meinke, Lance — USDA/ARS	62,407
Siegfried, Blair — Pioneer Hi-Bred	25,000
Miscellaneous grants under \$10,000 each	41,450

Food Science and Technology

Benson, Andrew — Beacon Venture Management	546,177
Hefle, Susan — USDA through University of Arkansas Medical Sciences	17,364
Miscellaneous grants under \$10,000 each	16,208

Industrial Agricultural Products Center

Hanna, Milford — Certain Teed, Inc.	70,000
Hanna, Milford — USDA/CSREES	59,438

Northeast Research and Extension Center

Miscellaneous grants under \$10,000 each	26,100
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Nutritional Science and Dietetics

Albrecht, Julie — USDA/FSA/MSD	15,000
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Panhandle Research and Extension Center

Lyon, Drew — Anna Elliott via UN Foundation	15,000
Miscellaneous grants under \$10,000 each	132,860

Plant Pathology	
Alfano, James — USDA/CSREES	80,000
Alfano, James — Cornell University	66,500
Chen, Shaorong — Layman Fund via UN Foundation	10,000
Mitra, Amit and Leslie Lane — North Central Soybean Research Program	49,300
Mitra, Amit — USDA/FAS	30,000
Van Etten, James — NIH	288,000
Vidaver, Anne K. — USDA/ARS	23,930
Yuen, Gary — USDA through Rutgers University	17,000
Yuen, Gary — USDA/ARS	19,229
Miscellaneous grants under \$10,000 each	9,300
Plant Science Initiative	
Mackenzie, Sally — USDOE	97,000
School of Natural Resources	
Hayes, Michael, Don Wilhite and Ken Hubbard — USGS	81,310
Hoagland, Kyle — Nebraska Department of Environmental Quality	350,000
Hoagland, Kyle and James Brandle — USDA/FS	23,570
Hoagland, Kyle — DOI Bureau of Reclamation through CSU	10,000
Hu, Qi "Steve" — NOAA	202,841
Hu, Qi "Steve" — Missouri Department of Natural Resources	19,000
Peters, Ed — U.S. Fish and Wildlife	50,185
Peters, Ed — Nebraska Game and Parks Commission	16,700
Powell, Larkin — Sandhills Task Force	18,000
Verma, Shashi, Timothy J. Arkebauer, Ken Hubbard, J. Knops and Gary Lynne — USDOE-EPSCOR	621,762
Wilhite, Donald, Ken Hubbard and Michael Hayes — NOAA	45,665
Wilhite, Donald — USDA Risk Management Agency	95,198
Textiles, Clothing and Design	
Yang, Yiqi — University of Massachusetts — Dartmouth	35,000
Veterinary and Biomedical Sciences	
Barletta, Raul — USDA/ARS	57,505
Cirillo, Jeff — Oregon State University	71,261
Cirillo, Jeff — NIH	290,000
Donis, Ruben — NIH through Yale	120,361
Grasso, Ebako — Nebraska Department of Agriculture	30,003
Marjorie Lou — University of Nebraska Medical Center (Merck and Co.)	273,142
Schmitz, John — Nebraska DHHS	20,000
Miscellaneous grants under \$10,000 each	18,012
West Central Research and Extension Center	
Payero, Jose — Anna Elliott via NU Foundation	15,000
Tarkalson, David — Anna Elliott via NU Foundation	11,000
Miscellaneous grants under \$10,000 each	5,125
Grand Total	\$ 5,982,158

New or Revised Projects

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

NEB-12-002 (Agronomy and Horticulture) Genetics, Breeding and Evaluation of Winter Small Grains Crops for Nebraska

Investigator(s): P. Stephen Baenziger and Brian Beecher
Status: Revised Hatch project effective April 1, 2003

NEB-12-296 (Agronomy and Horticulture) Cultural Practices to Minimize Environmental Stress on Horticultural Crop Production

Investigator: Laurie Hodges
Status: New Hatch project effective April 1, 2003

NEB-12-297 (Agronomy and Horticulture) Improving the End-Use Performance Characteristics of Wheat and Other Cereal Grains

Investigator: Brian Beecher
Status: New Hatch project effective May 1, 2003

NEB-12-298 (Agronomy and Horticulture) Development of a Transposon Tagging System for Soybean (*Glycine max Merr*)

Investigator: Tom Clemente
Status: New Hatch project effective May 1, 2003

NEB-13-164 (Animal Science) Alternative Growing-Finishing Beef Systems

Investigator: Terry J. Klopfenstein
Status: New Hatch project effective May 1, 2003

NEB-13-165 (Animal Science) Role of Hyaluronan During the Ovulatory Process in the Beef Cow

Investigator(s): Andrea Cupp and Melanie Simpson
Status: New State project effective July 1, 2003

NEB-15-100 (Biochemistry) Regulation of Photosynthetic Processes

Investigator(s): Raymond Chollet, John Markwell and Robert Spreitzer
Status: New Hatch project effective October 1, 2002, that contributes to Regional Research Project NC-1142

NEB-16-098 (Food Science and Technology) Near Infrared Spectroscopic Applications for Food Quality Measurement and Process Control

Investigator: Randy L. Wehling
Status: New Hatch project effective April 1, 2003

NEB-17-082 (Entomology) Management of Subterranean Termites in Urban/Rural Environments

Investigator: Shripat Kamble
Status: New Hatch project effective May 1, 2003

NEB-17-083 (Entomology) Synchronizing Habitat Enhancement Practices with Predator Mobility for Control of Alfalfa Insect Pests

Investigator(s): Stephen Danielson, James R. Brandle, Thomas Hunt and Erin Blankenship
Status: New State project effective July 1, 2003

NEB-21-085 (Plant Pathology) The Fungal Response to Genotoxic Stress

Investigator: Steven Harris
Status: New Hatch project effective May 1, 2003

NEB-44-055 (Panhandle Research and Extension Center) Intensification of Winter Wheat-Based Dryland Cropping Systems for Western Nebraska

Investigator: Drew Lyon
Status: Revised Hatch project effective May 1, 2003

NEB-44-063 (Panhandle Research and Extension Center) Irrigation Management with Limited Water Supplies

Investigator: C. Dean Yonts
Status: New Hatch project effective June 1, 2003

Federal Research Budget for FY 2003

The FY 2003 federal appropriations for research were primarily level except for significant increases in NIH and NSF accounts. The President's FY 2004 budget recommendations for federal research agencies are decreased from FY 2003 appropriations for USDA, USGS and DOD (basic research). We anticipate that it will be difficult to obtain funding increases in the USDA account for FY 2004, although significant efforts to improve funding are under way. Listed below are the FY 2003 appropriations, the President's budget recommendations for FY 2004 and the percent change between FY 2003 levels and the recommended levels.

Agency	FY 2003 Level	FY 2004 Request	% Change
----- Millions of Dollars -----			
National Institutes of Health	23,632	27,893	15.7
National Science Foundation	5,310	5,480	3.0
Department of Defense (basic res)	1,495	1,309	-12.4
Department of Energy (science)	3,284	3,310	0
NOAA	3,150	3,300	4.7
Environmental Protection Agency	823	836	1.0
U.S. Geological Survey	925	896	-3.2
NASA	6,023	6,639	10.2
U.S. Department of Agriculture	567	484	-14.7

Adoption of Biotechnology-Enhanced Crops in the Cornbelt*

Crop	State	Percent of acres planted to biotech varieties	
		2002	2003
Corn	Illinois	22	29
	Indiana	13	13
	Iowa	41	47
	Minnesota	44	51
	Missouri	34	40
	Nebraska	46	55
	South Dakota	66	72
	Wisconsin	26	32
Soybeans	Illinois	71	78
	Indiana	83	91
	Iowa	75	82
	Minnesota	71	75
	Missouri	72	80
	Nebraska	85	87
	South Dakota	89	90
	Wisconsin	78	79

* Data obtained from "Nebraska Biotechnology Varieties and Chemical Usage," May 2003 release from the Nebraska Agricultural Statistics Service, USDA.

Certified Organic Acreage of Selected Crops by State – 2001*

The USDA-compiled acreage of certified organic crops grown in the United States during 2001 is below. Fifty-three organic certification organizations - 14 state and 39 private - conducted third-party certification of organic production during 2001. U.S. farmers and ranchers have added another million acres of certified organic cropland and pasture since 1997, bringing the 48-state total to 2.34 million acres in 2001. Overall, certified organic cropland and pasture accounted for 0.3 percent of U.S. cropland and pasture in 2001, although the share is much higher in some crops such as vegetables at over 2 percent.

State	No. of Certified Operations	Field Crops and Hay	Fruits, Veg. & Herbs	Other Crops Unclassified	Pasture
----- acres -----					
California	1011	32,632	70,158	44,053	14,682
Colorado	228	40,713	5,816	11,632	511,820
Iowa	384	69,908	0	1,607	8,839
Minnesota	421	87,802	0	10,330	5,165
Montana	83	58,527	0	14,632	137,957
Nebraska	108	39,012	940	4,230	2,820
North Dakota	176	129,033	0	14,337	14,337
Wisconsin	469	73,295	916	5,497	12,827

*Extracted from "U.S. Organic Farming in 2000-2001: Adoption of Certified Systems," Agricultural Information Bulletin Number 780, USDA Economic Research Service, Washington, D.C., 51 p.

Diane says

To keep in the middle of the road, one must be able to see both sides.