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## ARD News August 2000

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### Agricultural Research Bixision News

August 2000 Volume 34, Number 5

#### Comments from the Dean

Dear Colleagues:

Our responsibilities as scientists have increased during the last decade to include formal "accountability" for resources provided to public institutions by taxpayers. For many years, federal and state statutes have required that ARD maintain an active portfolio of research projects, submit annual reports of accomplishments for each project (Form AD 421) and publish an ARD Annual Report. In addition, ARD is required to submit an annual report for each research project that details the FTE assigned to the project and dollars expended on the project during the past year (Form AD 419).

In recent years, decision makers and stakeholders have demanded that universities explain how public funds were used and describe accomplishments and impacts resulting from these investments. ARD has responded to these concerns by creating Research Nebraska! magazine, working with CIT to disseminate high quality news releases and actively participating in the USDA-CSREES Science and Education Impact program. In addition, we have recently developed the ARD Pioneering the Future World Wide Web database that provides the public with information about each of our research projects in lay language. We also have made special efforts to provide specific research accomplishment reports to members of the Nebraska Congressional Delegation, leaders of the Nebraska Legislature and state agency administrators.

Faculty members play a key role in each of these "accountability" activities. Faculty's first responsibility is to conduct cutting-edge research that will have immediate or longer-term impacts on the lives of Nebraskans. The second responsibility is to ensure that the federally mandated accountability activities (current research project and Form AD 421) are completed and submitted in a timely manner. Faculty's third responsibility is to work with CIT staff on the development of news releases,

articles for Research Nebraska! and to establish and annually update information about their research project in the Pioneering the Future database. Although CIT staff members will write the accomplishment and impact releases and articles in lay language, it is important that faculty explain their research findings and implications of these findings to the CIT science writer to ensure that this information is technically correct.

ARD is asking that each faculty member be sensitive to the increasing need for accountability. Please provide your unit administrator with ideas for potential news releases or Research Nebraska! articles and cooperate with CIT writers when contacted regarding an article based on your research findings. About 55% of ARD's research expenditures come from annual state and federal appropriations. These funds pay the salaries of faculty, staff and graduate students and provide a base level of operating support. About 33% of our research expenditures come from grants and contracts with two-thirds of these funds from federal and state agencies that use a competitive process to award tax dollars for specific research projects. If taxpayers believe that research funds are not being well-spent, both the annual appropriated funds and competitive grant funds are at risk. Thus, all scientists must be cognizant of the need to disseminate information about their research accomplishments to decision makers and the public.

> Darrell W. Nelson Dean and Director

# ARB Advisory Council Annual Report to Faculty

During the past year, the Council has dealt with a number of substantial issues related to reorganization, reallocation, budget cuts, indirect cost allocation policies and position papers. Faculty comments and questions via Council representatives have greatly assisted in



providing Dean Nelson with a sense of the faculty's position on these issues and their input was appreciated. The Council spent considerable time standardizing the application process for various ARD grants and fellowships. This should make future applications to these programs easier. The Council had the opportunity to hear directly from Dr. Marsh Torr, Vice Chancellor for Research, concerning research funding and indirect cost policy; Dr. Ellen Russell, Director, NN-21; and Dr. Gordon Karels and Ms. Rebecca Carr, Office of Academic Affairs, concerning the status of the Nebraska Performance Model. As expected, the diversity of views contributed to spirited discussion and provided Dean Nelson with the pros and cons of various options.

Many of these issues are still under active discussion. Reallocation will continue to be an issue over the next several years and the structure of the Nebraska Performance Model may well play a significant role in the process. The development and incorporation of good assessment tools for research, teaching, extension and service programs into the performance model will be necessary if the model is to be successful. Grants and publications may work for research; however, evaluation of teaching, extension and service programs presents some real challenges. Considerable work remains to be done in this area, and the various faculty advisory committees must be actively involved in the discussion.

The Life Sciences Task Force Report raises a number of issues, and progress on further integration of the biological and agricultural sciences may well be a major issue in the coming year. Additional pressure for further reorganization, such as the combination of Agronomy and Horticulture and the formation of the School of Natural Resource Sciences, will continue to challenge the Council's view of the future structure of IANR. Discussion of these issues will benefit from faculty input, and faculty are encouraged to contact their Council representative and share their thoughts about these important issues.

## Natural Resources and Research Update

Representatives from IANR, UNL Facilities Management and Planning, and Davis Design have been working for several months on the preparation of program statements for Phase I and Phase II of the planned Natural Resources and Research Complex (NRRC). A state appropriation in the amount of \$6.655 million was approved by the legislature in 1998. However, the facility which can be built at that funding level is far too small to accommodate all of the natural resources programs, and necessitated the project being divided into two phases. It was necessary to do the program statement development for both phases to project and decide which components of the program could be in the Phase I facility and which would be housed in Phase II. In addition, this programming effort was

critical for estimating the cost requirements for the Phase II project.

In addition to those phases, a third component, or phase III, is also being proposed. This component would house a number of federal natural resources programs currently located in Lincoln but not on the UNL campus. These programs currently have a high level of interaction and cooperation with UNL faculty, and a facility such as this, located on East Campus, would enhance that relationship.

The program statement for Phase I is complete and will be submitted to the Board of Regents for approval at their August meeting. Following approval of that program statement, the architect selection process for the facility design will begin. It is anticipated that construction bids will be received and approved during the summer of 2001 and that the Phase I construction will be completed in late summer, 2002. The planned site for the Natural Resources and Research Complex is the area currently in grass and surface parking immediately north of the College of Dentistry and east of Maxwell Arboretum.

The program statement preparation and efforts to secure funding for Phase II - NRRC are continuing. A request for the state funding portion was the first priority on the UNL Capital Construction Request submitted to Central Administration in 2000. The university-wide list, approved by the Board of Regents at their July meeting, did not include this or any other projects from UNL in the request for the 2001 legislative session. There may be a possibility of amending that list at a later date, however. A significant development to assist the funding was the approval by Congress of an appropriation to the U.S. Department of Agriculture in May, 2000, with an earmarked allocation to the University of Nebraska of \$10 million "for laboratories and equipment for research on soil science and forest health and management". Congress intended that this appropriation be used for equipment for a building to be constructed with state and other funds.

UNL has proposed that a portion of these funds be used in conjunction with the state funds already allocated for Phase I, and that a portion be used with state funds to be obtained for Phase II. At the time of this writing, this proposed arrangement had not yet received formal approval.

An additional complication to this process is that following the completion of Phase I, the chilling capacity which the utility plant can provide for East Campus facilities will be essentially at capacity. This means that additional chilling capacity, which will have a significant cost, must also be added before or at the same time that Phase II is constructed. These funds will also be sought through a state appropriation.

Significant challenges remain to accomplish these projects, but the state appropriation for Phase I and the federal appropriation are excellent starts. We hope to continue with this success.

#### ARD Advisory Council Election Results

The following faculty members have been elected to the ARD Advisory Council for a three-year period ending June 30, 2003:

- District 2: Roger Selley (South Central R and E Center)
  Representing faculty in the Biological Systems
  Engineering Department, Northeast R and E
  Center and South Central R and E Center
- District 5: **Austin Lewis** (Animal Science Department) Representing faculty in the Animal Science Department
- District 8: John DeFrain (Family and Consumer Sciences)
  Representing faculty in Communications
  and Information Technology Unit and the
  Agricultural Leadership, Education and
  Communication, Family and Consumer Sciences, Nutritional Science and Dietetics,
  Textiles, Clothing and Design Departments

Continuing ARD Advisory Council members are:

- District 1: Susan Cuppett (Food Science and Technology)
  Representing faculty in Agricultural Economics and Food Science and Technology Departments
- District 3: Timothy J. Arkebauer (Agronomy/ Horticulture Department) Representing faculty in the Agronomy/Horticulture Department
- District 4: James Brandle (School of Natural Resource Sciences) Representing faculty in the School of Natural Resource Sciences
- District 6: **Blair Siegfried** (Entomology Department)
  Representing faculty in Biometrics, Entomology and Veterinary and Biomedical Sciences
  Departments
- District 7: Thomas Powers (Plant Pathology
  Department)
  Representing faculty in Biochemistry and
  Plant Pathology Departments
- District 9: Don C. Adams (West Central R and E Center)
  Representing faculty in the West Central
  R and E Center and the Panhandle R and E
  Center

Tom Powers will serve as Chair and Susan Cuppett as Secretary of the ARD Advisory Council during fiscal year 2001. Faculty are encouraged to bring research-related issues to their representative for discussion and resolution at Council meetings.

ARD expresses appreciation to Lois Scheyer, Thomas Franti and Richard Grant for their dedicated support of the ARD Advisory Council during the past three years. We wish them continued success in their research programs.

### **Anna Elliott Proposals**

Eight proposals were granted second-year funding from the Anna H. Elliott fund. This fund was established in the University of Nebraska Foundation with the stipulation that earnings be used for research in some area of agriculture, particularly the field of plant sciences, with preference to plant science in Western Nebraska. Proposals were funded to:

### Jim Steadman (Plant Pathology), Dermot Coyne (Horticulture)

"Genetics of and Agronomic Merit of Adult Plant Resistance to Rust, Leafhopper Resistance, and Leaf Pubescence in Dry Beans in Western Nebraska"

Total Funded: \$8,

\$8,500

Funding Period:

May 1, 2000 - April 30, 2001

Drew Lyon (PREC), David Baltensperger (PREC), Jurg Blumenthal (PREC), Dillon Feuz (AgEcon/ PREC), Burt Weichenthal (AniSci/PREC)

"Solving the Transition Dilemma for Moving from Summer Crops to Winter Wheat"

Total Funded:

\$12,000

Funding Period:

May 1, 2000 - April 30, 2001

Robert Wilson (PREC), Alex Martin (Agronomy)

"Using Freezing Temperatures Plus Growth Regulations to Control Biennial and Perennial Weeds"

Total Funded:

\$14,500

Funding Period:

May 1, 2000 - April 30, 2001

Jurg Blumenthal (PREC), David Baltensperger (PREC)
"Intensive Nitrogen Management for Competitive
Yields of Irrigated Wheat in Western Nebraska"

Total Funded:

\$11,000

Funding Period:

May 1, 2000 - April 30, 2001

**Gary L. Hein** (Entomology/PREC), **Roy French** (Plant Patholgy/USDA)

"Movement Patterns of Wheat Curl Mite Population in Various Acroecosystems and Its Influence on Virus Epidemiology"

Total Funded:

\$ 9,880

Funding Period:

May 1, 2000 - April 30, 2001

David Baltensperger (PREC), Robert Shearman (Horticulture), John E. Watkins (Plant Pathology)

"Kentucky Bluegrass Seed Yield as Influenced by Stem Rust Incidence and Post-Harvest Crop Debris Management"

Total Funded:

\$12,000

Funding Period:

May 1, 2000 - April 30, 2001

David Baltensperger (PREC), Robert Graybosch (Agronomy)

"Development of Waxy Proso Millet Cultivars Adapted to Western Nebraska"

Total Funded:

\$11,000

Funding Period:

May 1, 2000 - April 30, 2001

Patrick Reece (PREC), Walter Schacht (Agronomy), Jerry Volesky (WCREC), Lowell Moser (Agronomy)

"Short-term Drought and Defoliation Effects on

Native Warm-season Grasses Total Funded: \$6,630

Funding Period: May 1, 2000 - April 30, 2001

### Sampson Range and Pasture Management Endowments

Three proposals were funded from the ARD Sampson Range and Pasture Management Endowment for second-year funding for 2000-2001. This endowment was established in the University of Nebraska Foundation by the widow of Arthur William Sampson to support range and pasture management programs at the University of Nebraska.

Second-year funding was awarded to:

C. Montealegre (PREC), J. Blumenthal (PREC), K. Vogel (ARS)

"The Genetic Diversity of Rhizobia Associated with Native Legumes in Western Nebraska"

Total Funded: \$10,000

Funding Period:

May 1, 2000 - April 30, 2001

J. Volesky (WCREC), P. Reece (PREC), W. Schacht (Agronomy)

"Defoliation Effects on Root Growth of Subirrigated Meadow Forage Species"

Total Funded:

\$7,000

Funding Period: May 1, 2000 - April 30, 2001

P. Reece (PREC), W. Schacht, L. Moser (Agronomy), J. Volesky (WCREC)

"Short-term Drought and Defoliation Effects on

Native Warm-season Grasses" Total Funded: \$10,000

Funding Period: May 1, 2000 - April 30, 2001

Third-year funding was awarded to:

D. Baltensperger (PREC), K. Vogel (ARS),

R. Shearman (Agronomy/Horticulture), R.L. Ott

"Forage Grass Seed Production Research"

Total Funded: \$9,500

Funding Period: May 1, 2000 - March 31, 2001

### Widaman Trust Distinguished Graduate Assistant Award

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 that 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 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 graduate students receiving the Widaman Trust Distinguished Graduate Student Award for 2000-2001:

Name: Alejandro Onofri
Thesis area: Agricultural Economics
Department: Agricultural Economics

Advisor: Lilyan Fulginiti

Name: Brigid Amos

Thesis area: Agricultural Meteorology
Department: Agronomy/Horticulture
Advisor: Timothy J. Arkebauer

Name: B. Todd Campbell

Thesis area: Plant Breeding and Genetics
Department: Agronomy/Horticulture
Advisor: Stephen Baenziger

Name: Nedim Mutlu

Thesis area: Plant Breeding and Molecular Genetics

Department: Agronomy/Horticulture

Advisor: Dermot P.Coyne

Name: Yi Zhang Thesis area: Water Science

Department: Agronomy/Horticulture

Advisor: Roy F. Spalding
Name: Kelly Creighton

Thesis area: Relly Creighton
Ruminant Nutrition
Department: Animal Science

Advisors: Terry Klopfenstein and Don Adams

Name: Sheng Feng
Thesis area: Biometry
Department: Biometry
Advisor: Anne Parkhurst

Name: Sebastian Oltean
Thesis area: Biochemistry
Department: Biochemistry
Advisor: Ruma Banerjee

Name:Jenny A. StebbingThesis area:EntomologyDepartment:EntomologyAdvisor:Lance Meinke

Name: Andrew B.T. Smith

Thesis area: Entomology Department: Entomology

Advisors: B. Ratcliffe and M. Jameson

Name: Leela Alamalakala

Thesis area: Insect Molecular Genetics

Department: Entomology

Advisors: John E. Foster and S.R. Skoda

Name: Alex Moreno-Sotomayor

Thesis area: Agronomy

Department: School of Natural Resource Sciences

Advisor: Albert Weiss

Name: Marilyn J. Buhman
Thesis area: Feedlot Epidemiology

Department: Veterinary and Biomedical Sciences

Advisor: Laura L. Hungerford

Name: Sahar H. El-Etr Thesis area: Medical Sciences

Department: Veterinary and Biomedical Sciences

Advisor: Jeffrey Cirillo

Name: Ji-Young Lee Thesis area: Nutrition

Department: Nutritional Science and Dietetics

Advisor: Timothy Carr

## Hardin Distinguished Graduate Fellowship for 2000-2001

The recipient of the Hardin Distinguished Graduate Fellowship for 2000-2001 is Emily Ross from the Biochemistry 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. She will receive a \$2,000 supplement to her graduate assistantship and the Biochemistry Department will receive \$1,000 of operational support for her research program.

Ms. Ross is completing her Ph.D. in the Department of Biochemistry and her dissertation deals with "Understanding the function of a hemoglobin in the rice plant". Her work suggests that hemoglobin expression is predominant in terminally differentiating tissues and may participate in xylogenesis, a programmed cell death event in plant tissue differentiation. Her Ph.D. research deals with understanding the signaling cascades in plant programmed cell death. This is a very exciting and challenging aspect of plant stress research.

Ms. Ross has been recognized for her plant-related B.A. research experience at Reed College in Portland, OR. She has one first-author paper (Ross, Kramer and Dalton) published from her B.A. research in the international journal *Phytochemistry*. Dr. Gautam Sarath is her advisor. Ms. Ross has two published abstracts and has done three poster presentations and is a member of the American Society of Plant Physiologists.

### Shear-Miles Fellowship 2000-2001

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 were both NU College of Agriculture graduates. 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.

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

Name: Neil Heckman

Thesis area: Turfgrass Physiology/Management

Department: Agronomy/Horticulture

Advisor: Garald Horst

Name: Kevin J. Delaney
Thesis area: Biotic/Abiotic Stresses

Department: Entomology Advisor: Leon Higley

### National Research Initiative Report for 1999

A total of 2,736 research proposals were considered for funding in FY 1999. Thirty-one peer panels reviewed and ranked the proposals, evaluating them on scientific merit, the qualifications of proposed project personnel, the adequacy of the proposed facilities and the relevance of the proposed project to long-range improvements in and the sustainability of U.S. agriculture.

Awards totaling \$111,785,962 were made to the highest ranked 690 proposals submitted to the NRI. The success rate for proposals was 24.7%, which was comparable to the rate in FY 1997 and 1998. The average grant award for new standard research projects in FY 1999 was \$165,224 for 2.2 years. The NRI also provided funds totaling \$189,101 in partial support of 25 conferences.

Crosscutting program areas for FY 1999 included plant genome, forest biology, global change, sustainable agriculture, animal genome, animal health, water quality, food safety and integrated pest management. Fundamental and mission-linked research funding totaled 49.8% and 50.2%, respectively. Funding for multi-disciplinary and single discipline projects totaled 43.4% and 56.6%, respectively. Listed below are the NRI funding allocations by research area for FY 1999.

Program Area	Number of Grants	Total Dollars Awarded
Natural Resources		
and Environment	86	\$ 17,247,889
Nutrition, Food Safety		
and Health	60	\$ 13,999,247
Animals	124	\$ 24,998,650
Pest Biology and Management	99	\$ 15,035,678
Plants	113	\$ 18,922,433
Markets, Trade and		
Rural Development	38	\$ 3,693,000
Enhancing Value and		
Use Ag Products	63	\$ 8,855,164
Crosscutting Programs*	104	\$ 6,933,901
Inter-Agency Programs	3	\$ 2,980,713
Grand Total	690	\$112,666,675

<sup>\*</sup>Includes Agricultural Systems program and Strengthening Grant programs.

### NRC Assessment of the National Research Initiative

The NRC Board on Agriculture and Natural Resources has recently completed an assessment of the National Research Initiative's effectiveness after 10 years of operation. The NRC report indicates that the NRI is supporting high-quality science but is languishing due to "small program size, short grant duration, small size of grants and low overhead allowance". In addition, the report notes that the NRI has not been effective in attracting scientists from outside the traditional food and fiber research communities.

Some key recommendations from the NRC report include:

- The NRI should put more focus on forwardlooking research on cutting-edge topics.
- All USDA competitive grant programs should be combined into a new, separate Extramural Competitive Research Service to give greater visibility to the NRI program.
- The Chief Scientist should be a full-time position and the person filling this role should be appointed for a five-year term.
- Funding for the NRI should be increased to the authorized level of \$500 million per year.
- The cap on indirect costs (currently 19%) should be eliminated.

# USDA Science and Education Impact Sheets

USDA-CSREES recently distributed copies of the 2000 Science and Education Impact sheets. These impact sheets were written by a team of agricultural communicators from Land Grant Universities under the leadership of Terry Meisenbach at CSREES. Vicki Miller represented IANR in this endeavor. A total of 26 impact sheets were developed on topics ranging from youth at risk to new uses for corn. Within each of these program areas, accomplishments and impacts at specific universities are described. Each impact sheet will normally include programs at 15 to 20 universities.

The impact sheets are used to convince members of Congress and the Executive Branch that investments in agriculturally-related research have high payoff for citizens of the United States. These sheets are periodically sent to members of the Nebraska Congressional Delegation along with a letter describing specific IANR programs under way within this area. The sheets are also used by CARET delegates and Land Grant University legislative liaisons in their meetings with Congressional members and staff, federal agency leaders and representatives of the Executive Branch. Discussions with staff serving the Nebraska Congressional Delegation

indicate that they appreciate being informed about Land Grant University accomplishments and impacts on a periodic basis.

### USDA - ARS Research Leader Dr. Philip J. Scholl

The USDA - ARS is pleased to announce the selection of Dr. Philip J. Scholl as Research Leader of the Midwest Livestock Insects Research Unit in Lincoln, Nebraska. His appointment begins Monday, August 28, 2000.

Dr. Scholl is currently the Senior Product Development Manager of the Animal Health Research Development - Fort Dodge Animal Health Division of American Home Products Corporation in Princeton, New Jersey. He received his B.S. in Sociology and his M.S. and Ph.D. in Veterinary Entomology and Parasitology from the University of Wisconsin at Madison.

He has been the product development manager in the Animal Health Research Development Division with responsibility for registration of new animal health products since 1993. He has served as Team Leader for the moxidectin 2% equine gel development program and a member of the QUEST Launch Team and the moxidectin nonaqueous injectable formulation development program.

From 1982 to 1992, Dr. Scholl was a Research Entomologist at the USDA/ARS laboratory in Kerrville, Texas. In this position he was recognized for his research on biology, ecology and control of oestrid flies, including cattle grubs, sheep nose bots, horse stomach bots, and tropical grubs as part of the U.S. - Canada joint Cattle Grub Project. From 1979 to 1982, he worked as a Research Entomologist with USDA/ARS at Lincoln on the biology and control of stable flies.

Dr. Scholl is author of more than 50 scientific publications. He is a member of the Entomological Society of America, American Association of Veterinary Parasitologists, and New Jersey Society for Parasitology.

Please join us in welcoming Dr. Scholl to this leadership position.

### Congratulations to Faculty — Successful USDA Grant Proposals

During the past year, an increased number of proposals were submitted by faculty to the USDA National Research Initiative Grant Program. The following faculty submitted successful grant proposals.

Sam Cordes	\$ 10,000
Sam Cordes, Gary Lynne and John C. Allen	\$ 49,000
Andrew K. Benson	\$215,000
David R. Smith, Laura L. Hungerford,	
Rodney A. Moxley and Terry Klopfenstein	\$950,000

Milford A. Hanna	\$100,000
David A. Mortensen	\$160,000
Gerald Duhamel and Jeffrey D. Cirillo	\$239,998
Lori A. Allison	\$210,000
P. Stephen Baenziger	\$150,000
Clinton Jones and Alan Doster	\$292,000
Lois E. Scheyer	\$101,000
Subramaniam Srikumaran and	
Clayton Kelling	\$200,000

Faculty who apply, whether or not they are successful in obtaining the grant funding, spend a tremendous amount of time and effort in this endeavor and are to be commended. There are also faculty who work with other institutions on the NRI grants in which the other institutions serve as lead. When we know of projects funded in this manner, they will be listed in the newsletter. At this time, a special thank you to the support staff who are a tremendous asset to the faculty.

### **New or Revised Projects**

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

## NEB-12-241 (Agronomy/Horticulture) Ecological Studies of Nebraska Rangeland Vegetation

Investigator: J. Stubbendieck

Status: New Hatch project effective May 1, 2000

#### NEB-15-092 (Biochemistry) Plant Proteomics

Investigator(s): J. Markwell, R. Cerny, S. Madhavan, G.

Sarath and S. Schwartzbach

Status: New State project effective January 1, 2000

#### NEB-16-084 (Food Science and Technology) Extrusion Processing as a Means of Reducing *Fusarium* Mycotoxin in Cereal Foods

Investigator(s): L.B. Bullerman, M.A. Hanna and M.M. Castelo

Status: New Competitive grant effective November 15, 1999

### NEB-19-006 (Food Science and Technology) Alliance for Food Protection

Investigator: S. Hefle

Status: New Special Grant effective July 1, 1999

#### NEB-40-009 (School of Natural Resource Sciences) Developing Drought Mitigation and Preparedness Technologies for the U.S.

Investigator: D.A. Wilhite

Status: Special Grant effective July 1, 2000

## NEB-42-025 (Northeast Research and Extension Center) Integrated Weed Management (IWM) for Eastern Nebraska

Investigator: S.Z. Knezevic

Status: New Hatch project effective February 1, 2000

## Proposals Submitted for Federal Grants

The following is a listing of proposals that faculty submitted after June 2000 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.

Blair D. Siegfried, Lance J. Meinke, Michael Caprio, Robert J. Wright and Laurence D. Chandler — Integrated Research, Education and Extension Competitive Grants Program — Pest Management — USDA — Developing Resistance Management Programs for Western Corn Rootworms — \$296,189

Tom Franti, Scott Josiah, Dean Eisenhauer, Roy Spalding and David Shelton — Integrated Research, Education and Extension Competitive Grants Program — Water Quality — USDA — Adoption of Riparian Buffers to Enhance Water Quality and On-Farm Income — \$591,883

Shelly McKee and Mindy Brashears — Integrated Research, Education and Extension Competitive Grants Program — Pest Management — USDA — Impact of Farm Practices and Processing on Antibiotic Resistant Campylobacter in Poultry — \$588,333

Mindy Brashears, Dennis Burson and Shelly McKee
— Integrated Research, Education and Extension
Competitive Grants Program — National Food Safety
Initiative — USDA — Validation of Visible Contamination as a CCP During Slaughter Processes — \$584,377

Alexander Pavlista and Joseph F. Guenthner — Integrated Research, Education and Extension Competitive Grants Program — Pest Management — Assessment of the Economic Impact of Genetically-Modified Potato in the USA — \$89,565

Tom Franti — Integrated Research, Education and Extension Competitive Grants Program — Kansas State lead institution — Adoption of Best Management Practices in the Blue River Basin — \$220,917

Qi "Steve" Hu — NSF — A Mechanism of the Interannual Variation of Summer Rainfall in the Central United States — \$299,164

Shirley Niemeyer and Mary Ellen Rider — USEPA — Housing and Environmental Policies Impacts on Children's Health Risk — \$66,971

Ruma Banerjee — NIH — Mechanisms and Molecular Genetics of Hyperhomocysteinemia — \$216,000

Bahman Eghball — USDA/ARS — Beef Cattle Manure for Site Specific Applications — \$60,000

Johannes M. Knops and David Wedlin — NSF — Mechanisms of Species Impacts on Ecosystem Carbon and Nitrogen Cycling — \$469,995

**David Jones** — USDOE — Graduate Education for the Biobased Products Industry — \$299,675

**Blair D. Siegfried** and **Kenneth W. Nickerson** — The Consortium for Plant Biotechnology Research, Inc. — Identification of Receptors of *Bacillus thuringiensis* (BT) Toxins in Midguts of the European Corn Borer — \$95,095

Donald Weeks and Stephen Ragsdale—The Consortium for Plant Biotechnology Research, Inc. — Development of Herbicide-tolerant Energy and Biomass Crops — \$158,976

**David Wedin** — NSF — Biocomplexity — Incubation Activity — \$100,000

James L. Van Etten — National Institutes of Health — DNA Replication and Gene Expression of Chlorella Viruses — \$934,350

Jeffrey D. Cirillo and S. Srikumaran — NIH — Cell Biology of Legionella Invasion — \$1,631,250

Thomas Clemente, James Steadman, Paul Staswick and Gautam Sarath — USDA through Illinois-Missouri Biotechnology Alliance — An Integrated Approach to Evaluate Soybean Lines Developed by *Agrobacterium*-mediated Transformation — \$374,850

**Jeff Cirillo** — NIH/NIAID — Entry Mechanisms of *Mycobacterium marinum* — \$1,450,000

Michael M. Meagher and Jicai Huang — Consortium for Plant Biotechnology Research, Inc — Novel Process for Production of ABE through Continuous Fermentation and Pervaporation — \$47,966

Darrell G. Watts — USDA/ARS — Integrated Nitrogen, Water, and Pesticide Management Systems to Protect Ground Water Quality — \$100,000

James R. Steadman — USDA/ARS — Collection of Wild Bean (*Phaseolus vulgaris var. aborigineus*) and Associated Pathogens in Honduras, C.A. — \$15,534

Lori Allison, Tom E. Clemente, Heriberto D. Cervutti and Donald P. Weeks — USEPA — Plastid Transformation: Targeting Improvements in an Environmentally Friendly Technology — \$441,004

Martin B. Dickman — BARD/USDA — Phosphorylative Transduction of Developmental and Pathogenicity-Related Cues in *Sclerotinia sclerotiorum* — \$145,000

Martin B. Dickman — NSF — Identification and Characterization of Cell Survival Genes from Plants — \$379,383

Clinton Jones, Fernando Osorio and Alan Doster — NIH — Inhibition of Programmed Cell Death by HSV-1 LAT Gene — \$1,631,250

David W. Stanley, S.R. Skoda and D.R. Berkebile — NSF — Eicosanoids Mediate Screwworm Host-Parasite Relationships — \$157,535

Robert M. Caldwell — USDA/ARS — Manure and Nutrient Management Practices to Protect Human Health and the Environment — \$110,000

**Donald P. Weeks** — NSF — Molecular and Genetic Analyses of the Carbon Concentrating Mechanism of Chlamydomonas reinhardtii — \$932,606

**Stephen W. Ragsdale** — USDOE — Enzymology of Methanogenesis From Acetate — \$935,440

Dennis J. Diestler — NSF — Computational Studies of Phase Equilibria of Water Confined in Nanopores — \$30,000

Gary Y. Yuen — USDA through Rutgers University — Bacterial Pathogenesis of Fungal Plant Pathogens — \$51,000



# Grants and Contracts Received July and July 2000

Agronomy and Horticulture	
Miscellaneous grants under \$15,000 each	44,925
Miscellaneous grants under \$15,000 each	8,858
Animal Science	
Miscellaneous grants under \$15,000 each	37,160
Biochemistry	- ,
Spreitzer, Robert — USDOE	95,000
•	55,000
Biological Systems Engineering	47,164
Billesbach, David — University of California	1,300
Miscellaneous grants under \$15,000 each	. 1,300
Entomology	50.000
Meinke, Lance — USDA/ARS	58,860
Miscellaneous grants under \$15,000 each	84,400
Food Science and Technology	
Taylor, Steve — Smith Bucklin and Associates	119,250
Miscellaneous grants under \$15,000 each	332,025
Northeast Research and Extension Center	
Miscellaneous grants under \$15,000 each	51,437
Panhandle Research and Extension Center	
Miscellaneous grants under \$15,000 each	173,339
Plant Pathology	
Steadman, James, Giesler, Loren and	
Graef, George — University of Wisconsin	16,360
Miscellaneous grants under \$15,000 each	36,500
School of Natural Resource Sciences	
Wilhite, Donald — USDA/CSREES	187,100
Miscellaneous grants under \$15,000 each	14,980
South Central Research and Extension Center	
Miscellaneous grants under \$15,000 each	52,660
	02,000
Textiles, Clothing and Design Miscellaneous grants under \$15,000 each	1,700
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Veterinary and Biomedical Sciences	22.040
Smith, David and Gray, Jeff — Nebraska Beef Council	. 22,940 105,345
Cirillo, Jeff — NIH Miscellaneous grants under \$15,000 each	9,656
•	2,000
West Central Research and Extension Center	14.075
Miscellaneous grants under \$15,000 each	14,075
Grand Total	1,168,029

#### Diane says

An ounce of illustration is worth a ton of talk.