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## ARD News December 1994

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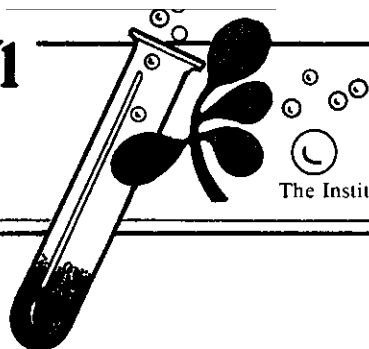


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December 1994

Volume 29, Number 3

## SEASON'S GREETINGS

The Agricultural Research Division extends to all faculty and staff our best wishes for a joyful holiday season and a productive new year.

This past year has been one of great success in terms of grant and contract funding received, outputs from our research programs, graduate students educated, and national recognition of our faculty and administrators. These achievements are the result of creative and dedicated efforts of faculty and staff. We recognize and appreciate your accomplishments and wish to commend you on behalf of the people of Nebraska.

Thanks for helping make our administrative activities less demanding. We appreciate your professional approach to dealing with issues such as the review of your colleagues' research project outlines and manuscripts, preparation of grant proposals, completion of annual research reports, and service on committees. Your willingness to approach these activities with diligence and good humor makes our jobs more enjoyable. We also appreciate the positive manner in which you interact with our office. Keep up the good work in 1995.

*Darrell*  
*Steve*  
*Neilie*  
*David*  
*Joe*  
*Bob*  
*Mary*  
*Wine*  
*Tom*

## INDIRECT COST RECOVERY BY ARD UNITS DURING FY 1994

Given below is a listing of the indirect cost recovery distributed to units that resulted from grants and contracts awarded to ARD faculty during FY 1994. About 41.5 percent of the total indirect costs generated by our units was returned to ARD for further allocation. Two-thirds of the indirect costs returned to ARD were allocated to the unit whose faculty received the grants that generated the indirect cost recovery. These funds may be used to enhance research programs within the unit at the discretion of the unit administrator.

The remaining one-third of indirect cost recovery provided to ARD is used to fund renovation of research facilities on an IANR-wide basis. Units not listed below did not generate indirect cost recovery during FY 1994.

Unit	Amount Returned to Unit, \$
Agricultural Economics	3,151
Agricultural Meteorology	37,551
Agronomy	46,177
Animal Science	10,952
Biochemistry	73,056
Biological Systems Engineering	3,073
Biological Systems Engineering (Tractor Test)	3,151
Biometry	682
Entomology	9,601
Food Science and Technology	9,539
Forestry, Fisheries and Wildlife	23,561
Great Plains Region Center Global Environmental Change	7,703
Horticulture	8,322
Industrial Ag Products Center	2,289
Northeast Research and Extension Center	1,401
Nutritional Science and Dietetics	1,144
Plant Pathology	28,564
Veterinary and Biomedical Sciences	16,167
Water Center	8,358

The total indirect cost recovery generated by ARD units increased by 38 percent from FY 1993 and 78 percent from FY 1992. This increase resulted primarily from improved grant activity by faculty members, rather than from an increase in the percent of indirect cost recovered on grants. Grants awarded to ARD faculty generated \$1,038,311 in indirect costs and ARD received \$430,523 to improve research programs.

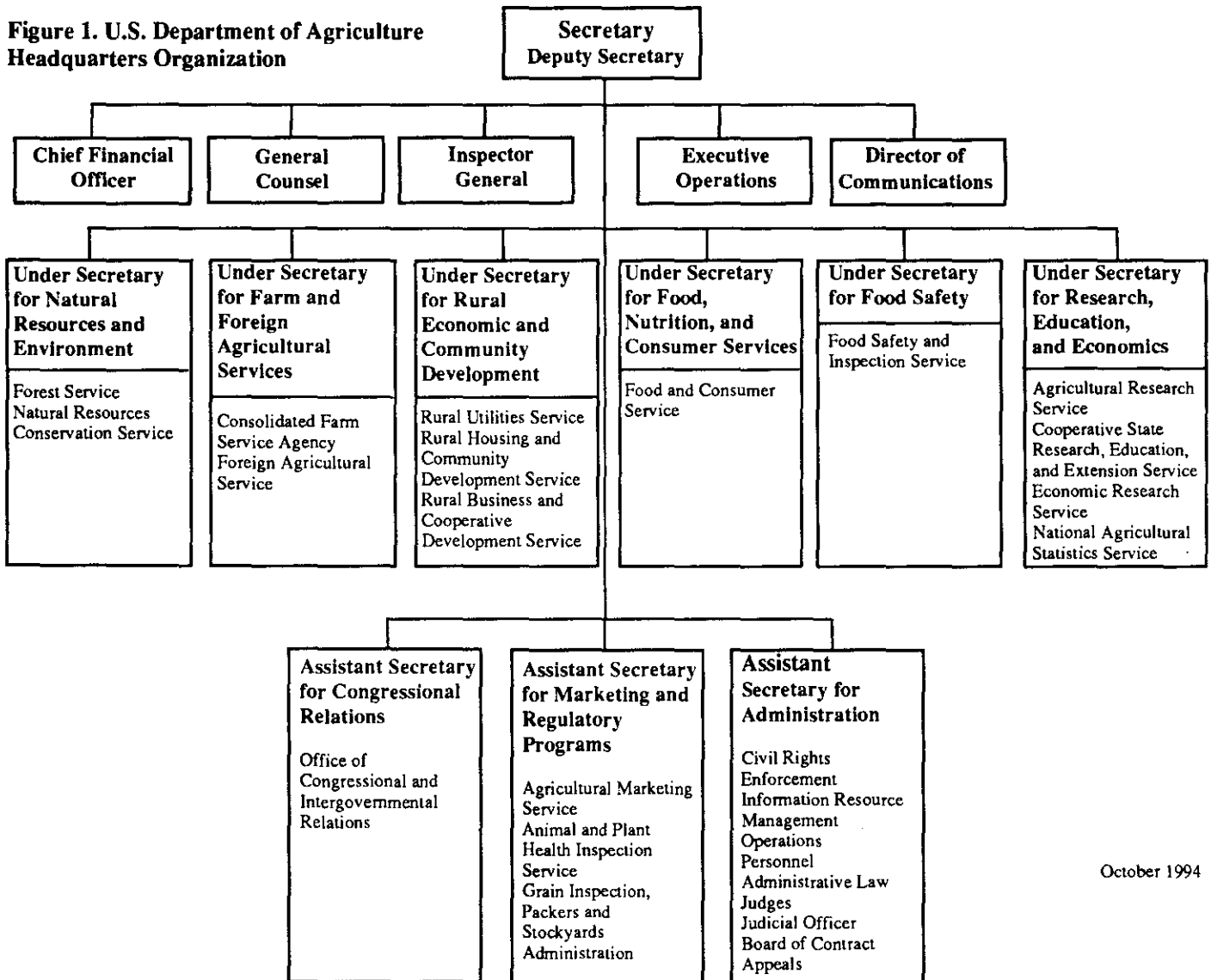


## USDA REORGANIZATION

The reorganization of the U.S. Department of Agriculture is complete. *Figure 1* gives the major divisions of the new USDA. University-based research, extension, and education programs will be administered by the Cooperative State Research, Education and Extension Service (CSREES). This new organization represents a merger of the old Cooperative States Research Service and the Extension Service.

The CSREES Administrator reports to the Under Secretary for Research, Education and Economics, as do the Administrators of the Agricultural Research Service, Economic Research Service, and National Agricultural Statistics Service. Dr. William Carlson is the Acting Administrator of CSREES and Dr. Dean Plowman is the Acting Under Secretary for Research, Education and Economics.

**Figure 1. U.S. Department of Agriculture Headquarters Organization**

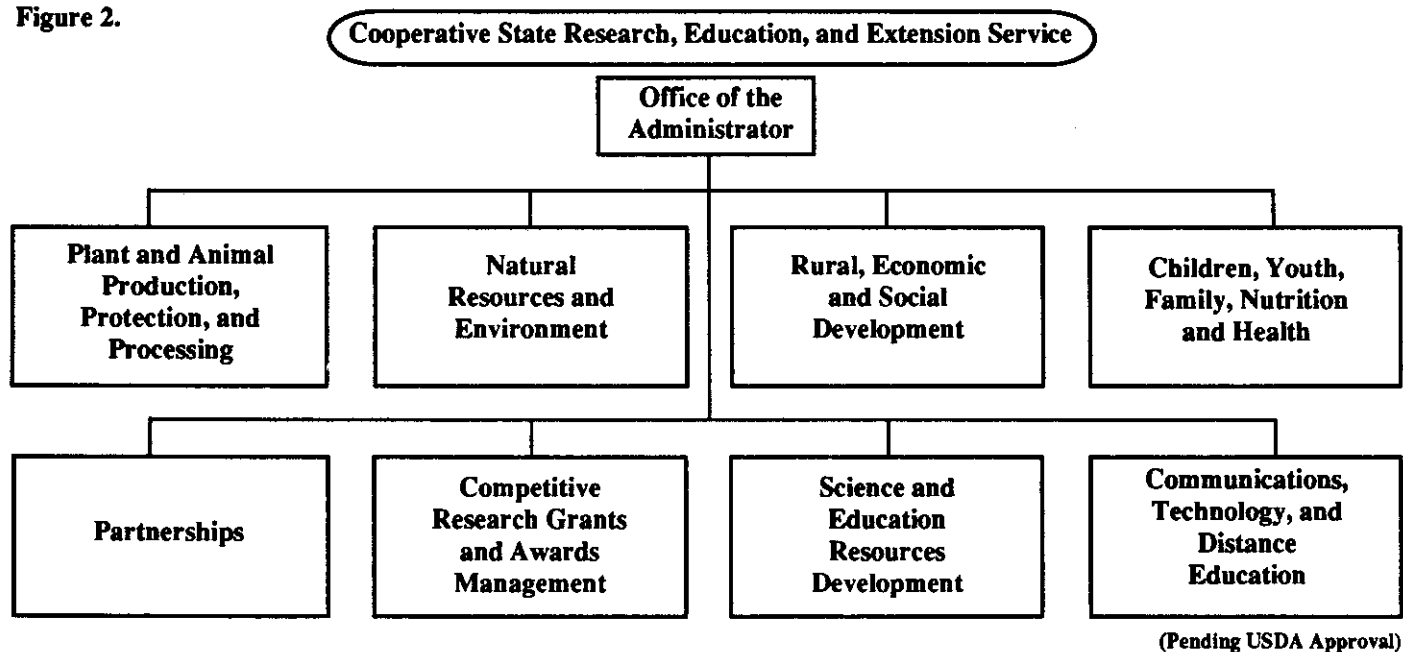


October 1994

The organizational structure for CSREES is given in *Figure 2* on the next page. Most activities such as research project outline approvals, departmental program reviews, and administration of special grants will be carried out by staff in the four subject matter divisions. Regional research programs will be managed by the "Partnerships" division. National Research Initiative activities will be carried out by staff in the "Competitive Research Grants and Awards Management" division.

The CSREES mission is "to work with partners and customers to advance research, extension, and higher education in the food and agricultural sciences and related environmental and human sciences to benefit people, communities and the Nation."

Figure 2.



### NEW ARD PUBLICATIONS

During the past year, the Agricultural Research Division has been developing and updating publications used in our public information efforts. We have recently published a new issue of *Endeavors*. This eight-page publication provides brief accomplishment reports from many of our research programs. We use *Endeavors* with decision-makers, support groups, and clientele to demonstrate that investments in agricultural, natural resources, and family sciences research have high payoffs.

"Pioneering the Future" is the theme for a new brochure being developed that describes the five Research and Extension Centers and the Agricultural Research and Development Center. This is the first time that a single brochure has been prepared that describes the organization, facilities, and programs at our major off-campus research locations. We have also used the "Pioneering in Future" theme for the new version of the ARD Fact Sheet. The new Fact Sheet is more attractive and reader friendly than the previous version and will find widespread use with clientele, candidates for positions, and support groups.

Copies of these publications may be obtained from your unit administrator or the ARD office. We would be pleased to receive your comments regarding these new publications.

### DEVELOPMENT OF GRADUATE EDUCATION PROGRAMS

Given below is data on the growth of graduate education programs in CASNR units during the past five years. There has been a steady increase in the number of graduate students studying for M.S. and Ph.D. degrees. The total number of women in graduate programs has increased from 109 in 1990-91 to 158 in 1994-95. International students increased from 38 percent of graduate students in 1990-91 to 45.5 percent in 1994-95.

Department	1990-91	1991-92	1992-93	1993-94	1994-95
Ag Economics	30	30	29	36	36
Ag Leadership, Education and Communication	15	14	9	18	14
Ag Meteorology <sup>1</sup>	(14)	(12)	(12)	(16)	(16)
Agronomy	158	164	163	172	169
Animal Science	78	80	76	78	71
Biochemistry	18	21	22	28	28
Biological Systems Engineering	26	38	42	51	65
Biometry	0	5	7	20	16
Entomology	24	26	22	28	33
Food Science and Technology	35	43	42	39	48
Forestry, Fisheries and Wildlife	13	17	27	35	42
Horticulture	21	24	21	22	21
Plant Pathology	17	18	12	12	16
Veterinary and Biomedical Sciences	26	36	41	34	39
<b>Total:</b>	<b>461</b>	<b>516</b>	<b>512</b>	<b>572</b>	<b>596</b>

<sup>1</sup>Graduate degree programs are not offered so degrees are obtained from other departments. Numbers are not included in the total.

## ARD ADMINISTERED GRANT AND AWARDS PROGRAMS

The Agricultural Research Division administers several grant and recognition programs using ARD funds, NU Foundation funds and funds from other sources. Some of these are awarded annually on a regular schedule and some on an ad hoc basis as funds permit. The following summary explains some of these programs and how they are currently being administered.

### NU Foundation Endowments

#### *Anna H. Elliott Fund Grants*

Awarded every two years as endowment income permits. Income is about \$60,000 annually and program is oriented to plant science research directed to western Nebraska. RFP issued about Dec. 15.

#### *Sampson Range and Pasture Management Endowment*

Awarded every two years as endowment income permits. Three research, extension or teaching projects are funded every two years. The program is directed at pasture and rangeland management and the study of native grasses. RFP issued about Jan. 15.

#### *Mussehl Poultry Research Endowment*

Awarded every two years as endowment income permits. Income is about \$25,000 per year. Research in poultry management, health, nutrition, physiology, waste management and utilization, and poultry product research is supported by the endowment. RFP is issued about June 1.

#### *Widaman Trust Graduate Fellowship*

Awarded annually. \$2,000 added to stipend of outstanding graduate students. Nominations are due about May 10.

#### *Hardin Distinguished Graduate Fellowship in Plant Stress Physiology*

Awarded annually. \$2,000 added to stipend of a selected student plus \$1,000 to the department to assist student's research. One fellowship awarded annually. Nominations are due about May 10.

#### *Mary and Charles C. Cooper/Emma I. Sharpless Fellowships*

Jointly awarded on an annual basis by ARD and CASNR. \$1,000 or \$2,000 added to stipend of selected graduate students for assistance in recruitment. Applications are accepted throughout the year.

#### *Junior Faculty Excellence in Research Recognition (Ruth E. Branham Endowment)*

Up to two junior faculty recognized per year. Recognition consists of certificate, plaque, and \$3,000 for use in research or professional development. Call for nominations is issued on June 1.

#### *Burlington Northern Water-Science Endowment*

Awarded on an annual basis for water science research. Approximately \$30,000 is available annually. RFP is issued about Jan. 15.

## ARD/International Programs Indirect Cost Funds

### *ARD Foreign Travel Awards*

One or more grants of up to \$1,000 each awarded. \$3,000 to \$5,000 available annually for research-related foreign travel for professional development opportunities (not for professional society meetings.) RFP issued when funds are made available.

### *ARD Research Facility Renovation Funds*

Funding is provided to units for renovation of research facilities. Amount of funding available depends on indirect cost recovery within IANR units. Requests are received from unit administration throughout the year.

## ARD Discretionary Funds

### *Interdisciplinary Research Grants*

Awarded annually depending on availability of funds. Two or three grants awarded for up to two years duration and for up to \$20,000 annually. RFP issued about Feb. 1.

### *Innovative and High Risk Research Program*

Awarded annually depending on availability of funds. The purpose is to provide initial funding for innovative research that will lead to extramural grant proposals. \$15,000 will be provided for these one-year projects. Applications accepted anytime during the year although call for proposals will be issued about June 1. Evaluations of proposals will occur about Oct. 15, Jan. 15, April 15, and July 15 each year.

### *Graduate Student Recruitment Funds*

Awarded as requested by departments. Up to two per department per calendar year. Award pays up to 50 percent of expenses or \$200 per student. Purpose is to reimburse recruitment visits to UNL for students offered assistantships.

### *SAES Leadership Development Course*

One or two faculty members are selected for participation each year. Award consists of tuition and travel expenses associated with SAES Leadership Development Course. Participants spend about 10 percent of their time serving as administrative interns in ARD. Request for applications is issued about Feb. 1.

## ARD/State Budget Funds

### *ARD Research Equipment Awards*

Awarded annually, as provided in state appropriations. Approximately \$225,000 awarded annually to all ARD units, according to prioritized requests. RFP issued about Sept. 1.

## Other Programs Coordinated by ARD

### *Layman Awards (NU Foundation Funds)*

Awarded annually for research support. Size of awards vary from \$1,000 to \$5,000. RFP issued about Oct. 1.

### **NU Foundation Grants (NU Foundation Funds)**

Awarded annually for equipment purchase and support of special programs. Size of awards vary from \$10,000 to \$50,000. RFP issued about March 1.

### **Nebraska Bankers Association Grants**

Awarded annually for research/education programs relating to economic development. Size of awards vary from \$5,000 to \$20,000. RFP issued about Sept. 1.

### **Nebraska Commodity Check-off Board Grants**

Annual research grants usually in the \$5,000 to \$20,000 range. RFP issued about Oct. 1.

The Agricultural Research Division also helps process research grant proposals directed to federal and state agencies, foundations, corporations, and private organizations. The Dean for Agricultural Research has final sign-off authority for all proposals directed to USDA agencies. Proposals to other agencies and organizations are sent by ARD to the Office of Sponsored Programs for final processing.

Anyone with questions about these programs is encouraged to contact the Agricultural Research Division office.

## **SPECIAL RESEARCH GRANT PROGRAM AWARDS**

### **Layman Awards**

IANR faculty submitted 13 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. Eight 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.

Three proposals submitted by ARD faculty were funded:

**David Holshouser**, Northeast Research and Extension Center and Agronomy Department, *Cropping Systems for Returning Conservation Reserve Program Acres to Production* \$5,000.

**Blair Siegfried**, Entomology Department, *Biochemical Monitoring of Aquatic Contamination Using the Cytochrome P450 System of the Black Fly, Simulium Vitatum*, \$5,000.

**Raul Barletta**, Veterinary and Biomedical Sciences Department, *Cell Wall Targets for Drugs Against Pathogenic Mycobacteria*, \$5,000.

### **Innovative/High Risk Research Program**

Three proposals were submitted for consideration by the Innovative and High Risk Research Program during the past quarter. This program is designed to fund very innovative research projects with the objective of developing data

that can be used to support requests for grants from federal agencies. These proposals can be submitted at any time during the year. The proposals are evaluated quarterly or on an as-needed basis by a subcommittee of the ARD Advisory Council.

The following proposals were funded by the Innovative/High Risk Research program:

**Shawn Kaeppler**, Agronomy Department, *Cloning Differences Between Plant Genomes*, \$15,000 (second year).

**Phyllis Higley and Anne Vidaver**, Plant Pathology Department, *A PCR Approach for the Detection of Xanthomonas campestris Pathovars in Seed*, \$15,000.

**H. Edward Grotjan**, Animal Science Department, *Recombinant Bovine Gonadotropins*, \$15,000.

## **INDIRECT COSTS: MYTHS, FACTS AND FACILITIES**

An article in the Nov. 2, 1994 issue of the Chronicle of Higher Education (Talesnik, G., *Dispelling the Myths about Indirect Costs*) presented some excellent discussion on current myths and facts about indirect costs on research grants and contracts. The recovery of indirect cost by universities is a continually controversial subject, but the author points out that both research institutions and the federal government clearly recognize that indirect costs are legitimate research costs to help cover the expenses of administrative support and facilities. The following excerpt from that article outlines the myth and fact related to the expenses of administrative support and facilities.

- *Myth: Indirect costs pay mainly for administrative bureaucracies that provide little benefit to research programs.*
- *Fact: Indirect costs include expenses related to facilities as well as to administration, and both sets of costs are important to the success of research programs.*

Costs related to the use of facilities and expenses for administrative support now each represent about half of the total indirect costs of university research. Facilities expenses include depreciation and financing costs for buildings and equipment, utilities, maintenance and repairs, and janitorial services. Those costs have nothing to do with administrative bureaucracy and are clearly necessary to provide the buildings and equipment used to conduct research.

Administrative costs include an equally wide range of services: accounting, purchasing, personnel management and legal services, many others. They also include staff support to help institutions comply with federal laws, regulations, and the specific conditions of research grants and contracts, including safeguards for the protection of human subjects and the care and use of laboratory animals.

While one might call these functions "administrative bureaucracy," they are hardly frivolous or unnecessary to the functioning of research.

The maintenance and renovation of facilities is one of the specific uses for recovered indirect cost funds at the University of Nebraska-Lincoln. Facilities enhancement funds from indirect costs are divided between the Office of Vice Chancellor for Research and the Vice Chancellor, IANR. Allocations from these funds are made annually to UNL units for facility maintenance and enhancement. There have been numerous IANR renovation projects funded from this source in recent years including the following:

- Poultry Research Building renovation
- Plant Industry Building renovation
- Entomology Lab renovation
- Publications Storage and Distribution, Warehouse #2 renovation
- Agricultural Communications Building renovation
- Limnology/Aquaculture Research — Service Building renovation
- Biological systems Engineering — fuel room renovation
- Ag Meteorology GRA space renovation
- Biometry renovation
- Mussehl Hall renovation
- East Campus Greenhouse renovation
- Veterinary and Biomedical Sciences lab renovation

These projects are evidence that indirect cost funds are being used to directly benefit IANR programs. It is a significant challenge to maintain our aging research facilities. Indirect funds are a critical source of resources for this purpose.



### GRANTS AND CONTRACTS RECEIVED OCTOBER AND NOVEMBER, 1994

<b>Agricultural Meteorology</b>	
Easterling, W. — DOE — NIGEC	1,605,301
Hubbard, K. — USDA	30,000
Miscellaneous grants under \$5,000 each	1,500
<b>Agronomy</b>	
Diestler, D. — U.S. Department of Energy	6,000
Miscellaneous grants under \$5,000 each	16,600
<b>Animal Science</b>	
Calkins, C. — DeKalb Swine Breeders, Inc.	7,680
Calkins, C. — USDA/ARS	8,000
Calkins, C. — Nebraska Beef Council	19,320
Grant, R. and Klopfenstein, T. — Lignotech	30,175
Kinder, J. — USDA/CSRS	146,000
Mandigo, R. — North American Rhea Association	17,538
Mandigo, R. — Nebraska Beef Council	19,375
Morrison, M. — USDA/CSRS	213,000
Scheideler, S. — UN Foundation — Mussehl Poultry Research	8,100
Stock, R. — Cargill	17,775
Miscellaneous grants under \$5,000 each	23,864

<b>Biological Systems Engineering</b>	
Clements, L. D. — USDA	88,000
<b>Biometry</b>	
Miscellaneous grants under \$5,000 each	8,560
<b>Center for Rural Community Revitalization and Development</b>	
Cordes, S. — USDA	20,000
Van der Sluis, E. — USDA	18,359
<b>Center for Sustainable Agriculture</b>	
Francis, C. — USDA	225,000
<b>Director's Office</b>	
Waller, S. — USDA/CSRS	1,737,823
<b>Entomology</b>	
Miscellaneous grants under \$5,000 each	14,400
<b>Environmental Programs/Water Center</b>	
Spalding, R. — Upper Big Blue NRD	60,000
Spalding, R. and B. Volk — Lower Platte NRD	16,858
Volk, B. and J. Schepers — USDA/ARS	210,000
Miscellaneous grants under \$5,000 each	9,000
<b>Food Processing Center</b>	
Miscellaneous grants under \$5,000 each	1,235
<b>Food Science and Technology</b>	
Bullerman, L. — Ohio State	15,000
Jackson, D., R. Wehling and B. Johnson — Ohio State	15,000
Miscellaneous grants under \$5,000 each	632
<b>Forestry, Fisheries and Wildlife</b>	
Hoagland, K. — EPA	24,976
Hoagland, K. — Nebr. Dept. of Environmental Quality	155,792
Jelinski, D. — EPA	50,000
Kayes, T. — USDA North Regional Aquaculture Center via MSU	60,312
Miscellaneous grants under \$5,000 each	1,100
<b>Horticulture</b>	
Miscellaneous grants under \$5,000 each	9,875
<b>Industrial Ag Products Center</b>	
Ghorpade, W. M. and C. L. Weller — USDA	172,000
Hanna, M. — Kellogg Foundation	9,756
<b>Northeast Research and Extension Center</b>	
Miscellaneous grants under \$5,000 each	5,450
<b>Nutritional Science and Dietetics</b>	
Miscellaneous grants under \$5,000 each	8,791
<b>Panhandle Research and Extension Center</b>	
Miscellaneous grants under \$5,000 each	25,629
<b>Plant Pathology</b>	
Dickman, M. — USDA	50,000
Higley, P., A. Vidaver and M. Dickman — Rogers Seed Company	15,000
Miscellaneous grants under \$5,000 each	4,460
<b>South Central Research and Extension Center</b>	
Miscellaneous grants under \$5,000 each	9,450
<b>Veterinary and Biomedical Sciences</b>	
Donis, R. — USDA/CSRS	100,000
Jones, C. — USDA/CSRS	219,627
Osorio, F., A. K. Cheung and C. Jones — USDA/CSRS	168,000
Perino, L. — American Cyanamid Company	149,520
Miscellaneous grants under \$5,000 each	15,885
<b>West Central Research and Extension Center</b>	
Lyon, D. and G. Wicks — Washington State University	30,200
Miscellaneous grants under \$5,000 each	2,000
<b>Grand Total</b>	<b>5,897,918</b>

## NEW OR REVISED PROJECTS

The following station projects were approved recently by the USDA Cooperative State Research Service:

**NEB-11-099 (Biological Systems Engineering) Improving Field Productivity and Predicting Energy Requirements of Soil-Engaging Equipment**

*Investigator(s):* R. D. Grisso, M. F. Kocher and L. L. Bashford

*Status:* New Hatch project effective Aug. 1, 1994

**NEB-11-100 (Biological Systems Engineering) Process Scale-Up: Catalytic Partial Oxidation of Erucic Acid to Brassilyc Acid**

*Investigator:* L. D. Clements

*Status:* New competitive grant effective Jan. 1, 1994

**NEB-11-101 (Biological Systems Engineering) Program Management and Planning for Advanced Materials from Renewable Resources**

*Investigator:* L. D. Clements

*Status:* New competitive grant effective Sept. 1, 1993

**NEB-12-002 (Agronomy) Improvement and Evaluation of Oat and Barley**

*Investigator:* P. S. Baenziger

*Status:* Revised Hatch project effective Oct. 1, 1994

**NEB-12-174 (Agronomy) Market Quality of Hard Wheat for Domestic and International Foods**

*Investigator:* D. R. Shelton

*Status:* Revised Hatch project effective Oct. 1, 1993

**NEB-13-124 (Animal Science) Molecular Biology of Protein Degradation and Utilization by *Prevotella ruminicola***

*Investigator:* M. Morrison

*Status:* New competitive grant effective Sept. 1, 1994

**NEB-14-081 (Veterinary and Biomedical Sciences) Analysis of the Bovine Herpes Virus 1 Latency Related Gene**

*Investigator:* C. Jones

*Status:* New competitive grant effective Sept. 1, 1994

**NEB-14-082 (Veterinary and Biomedical Sciences) Cellular Molecules Mediating Bovine Viral Diarrhea Virus Infection**

*Investigator:* R. O. Donis

*Status:* New competitive grant effective Sept. 15, 1994

**NEB-44-050 (Panhandle Research and Extension Center) Improvement of Proso Millet and Other Crops for Western Nebraska**

*Investigator:* D. Baltensperger

*Status:* New Hatch project effective Oct. 1, 1994

## PROPOSALS SUBMITTED FOR FEDERAL GRANTS

The following is a listing of proposals that were submitted after Oct. 1, 1994 by faculty for federal grant programs. While not all grants will be funded, we applaud the faculty member's effort in submitting proposals to the various agencies.

**Kenneth G. Hubbard** — USDA — Project Earthlink: Global Environmental Change Education National Initiative — \$30,000

**Stephen D. Danielson and Blair D. Siegfried** — USDA/OCID/RSED — Glandular Trichome Exudate As An Insect Resistance Factor for Alfalfa — \$60,000

**Steven S. Waller** — USDA — Sustainable Agriculture Research and Education (SARE) Program for the North Central Region — \$1,445,140

**Steven S. Waller** — USDA — Agriculture in Concert with the Environment (ACE) Program for the North Central Region — \$292,683

**John P. Markwell** — NSF — Laboratory Exercises in Plant Biochemistry — \$49,708

**John P. Markwell and Gautam Sarath** — NSF — Chloroplast Thylakoid Protein Phosphatase — \$329,567

**Nancy M. Betts and Kaye Stanek** — National Research Initiative Competitive Grants Program — The Effect of Adult Literacy on Child Nutritional Status — \$84,303

**Shawn Kaeppler, K. Arumuganathan and Heidi Kaeppler** — National Research Initiative Competitive Grants Program — Chromosome Specific Libraries for Maize Genome Research — \$269,862

**Judy Driskell and Rodney Moxley** — National Research Initiative Competitive Grants Program — Effects of Beta-Carotene and Alpha-Tocopherol on Atherosclerosis in Rabbits — \$147,411

### *Diane Says*

Never deprive someone of hope; it might be all they have.