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## ARD News August 1993

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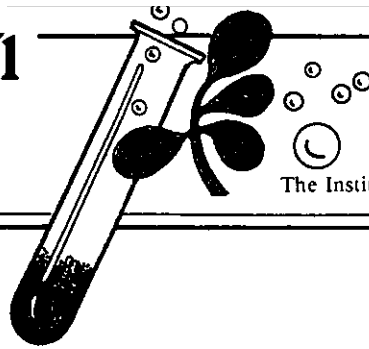


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August 1993

Volume 28, Number 1

## FY1994 CSRS BUDGET OUTLOOK

The Agriculture Subcommittees of the House and Senate Appropriations Committees have "marked up" the USDA budget for FY1994. Listed below are FY1993 appropriations and House and Senate proposed FY1994 funding levels for CSRS research programs. Any differences between the House and Senate versions will be rationalized in the conference committee process. We are pleased that Congress will provide modest increases in research funding for FY1994.

Program	FY93 Actual	FY94 House	FY94 Senate
----- thousands of dollars -----			
<b>Base Funds:</b>			
Hatch Act	168,785	171,304	171,304
McIntire-Stennis	18,533	18,809	18,809
Animal Health	5,551	5,551	5,551
<b>National Research Init.</b>	<b>97,500</b>	<b>114,000</b>	<b>102,500</b>
<b>Special Grants (National):</b>			
Aquaculture (general)	316	316	0
Energy (biomass)	0	500	0
Global change	2,000	*	2,500
IPM	4,457	5,728	5,728
Minor use animal drugs	464	562	650
NBIA program	300	300	0
Pesticide clearance	3,500	6,750	6,750
PLA program	2,968	2,968	2,968
Rural development ctr	500	500	500
Water quality	8,950	*	9,000
<b>Other Programs:</b>			
Critical Ag Mat.	400	400	600
Rangeland Research	475	475	474
Aquaculture Centers	4,000	4,000	4,000
Sustainable Ag	6,725	6,825	6,825
Alternative Crops	1,168	2,168	650
Ag Weather Inform.	400	0	0

\* Incorporated into NRI.

**Diane Says**

We can never see the sun rise by looking into the west.

## 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. Blanche 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 established for the Widaman Trust Distinguished Graduate Assistant Award specifies that only 5 percent 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 1993-1994:

<b>Name:</b>	<b>Samarendu Mohanty</b>
<b>Thesis area:</b>	<b>International Ag Trade</b>
<b>Department:</b>	<b>Agricultural Economics</b>
<b>Advisor:</b>	<b>Wesley F. Peterson</b>
<b>Name:</b>	<b>Meng Xu</b>
<b>Thesis area:</b>	<b>Ag Climatology</b>
<b>Department:</b>	<b>Agricultural Meteorology</b>
<b>Advisor:</b>	<b>Ken Hubbard</b>
<b>Name:</b>	<b>Daniel D. Anderson</b>
<b>Thesis area:</b>	<b>Weed Science</b>
<b>Department:</b>	<b>Agronomy</b>
<b>Advisor:</b>	<b>Alex Martin and Fred Roeth</b>
<b>Name:</b>	<b>Sharon K. Widmer</b>
<b>Thesis area:</b>	<b>Soil and Water Sciences</b>
<b>Department:</b>	<b>Agronomy</b>
<b>Advisor:</b>	<b>Roy F. Spalding</b>
<b>Name:</b>	<b>Brett H. Kirch</b>
<b>Thesis area:</b>	<b>Range and Forage Science</b>
<b>Department:</b>	<b>Agronomy</b>
<b>Advisor:</b>	<b>Lowell Moser and Steve Waller</b>
<b>Name:</b>	<b>William D. Sorensen</b>
<b>Thesis area:</b>	<b>Soil Science</b>
<b>Department:</b>	<b>Agronomy</b>
<b>Advisor:</b>	<b>Joseph Skopp</b>



*Name:* **Abdoulaye Traore**  
*Thesis area:* Crop Physiology  
*Department:* Agronomy  
*Advisor:* Jerry Maranville

*Name:* **Kristin Lee Barkhouse**  
*Thesis area:* Breeding and Genetics  
*Department:* Animal Science  
*Advisor:* L. Dale Van Vleck

*Name:* **Wesley N. Osburn**  
*Thesis area:* Meat Science  
*Department:* Animal Science  
*Advisor:* Roger Mandigo

*Name:* **Naoto Kojima**  
*Thesis area:* Reproductive Physiology  
*Department:* Animal Science  
*Advisor:* James E. Kinder

*Name:* **Seokjoo Hong**  
*Thesis area:* Biochemistry  
*Department:* Biochemistry  
*Advisor:* Robert J. Spreitzer

*Name:* **Daneal Federsilassie**  
*Thesis area:* Irrigation Engineering  
*Department:* Biological Systems Engineering  
*Advisor:* Dean E. Eisenhauer

*Name:* **Aristippos Gennadios**  
*Thesis area:* Food Engineering  
*Department:* Biological Systems Engineering  
*Advisor:* Milford Hanna and Curtis Weller

*Name:* **Ramnath Subramanian**  
*Thesis area:* Entomology  
*Department:* Entomology  
*Advisor:* John E. Foster and Jeff Pedersen

*Name:* **Clifford A. Hall III**  
*Thesis area:* Food Science and Technology  
*Department:* Food Science and Technology  
*Advisor:* Susan Cuppett

*Name:* **Roger Shane Gold**  
*Thesis area:* Molecular Biology  
*Department:* Food Science and Technology  
*Advisor:* M. Meagher, R. Hutkins, T. Conway

*Name:* **Joseph A. Gubanyi**  
*Thesis area:* Wildlife Ecology  
*Department:* Forestry, Fisheries and Wildlife  
*Advisor:* Julie Savidge

*Name:* **Nancy J. Miller**  
*Thesis area:* Merchandising  
*Department:* Textiles, Clothing and Design  
*Advisor:* Rita Kean

*Name:* **Jagannatha V. Mysore**  
*Thesis area:* MSIA  
*Department:* Veterinary Science  
*Advisor:* Gerald Duhamel

*Name:* **Daniel R. Perez**  
*Thesis area:* Molecular Virology  
*Department:* Veterinary and Biomedical Sciences  
*Advisor:* Ruben Doris

## ANNUAL REPORT FOR RESEARCH PROJECTS

The time of year faculty are asked to complete their annual report for active research projects (Form AD-421) is being changed from January to October. This change will be made for several reasons: (i) Federal fiscal years end Sept. 30; (ii) many projects are initiated on Oct. 1 so reports will be rendered near the project's anniversary date; (iii) faculty can use the report as input for their Annual Report of Faculty Activities; (iv) October reporting avoids conflicts with the holiday season and the start of the new academic semester.

## FORMAT FOR QUALITY ASSURANCE PROJECT PLANS

Many environmental research proposals now require that a Quality Assurance Project Plan be attached. The Agronomy Department Water Quality Learning Community has developed a model format for Quality Assurance Project Plans that includes both quality control and quality assessment components. Faculty members desiring a copy of the format for Quality Assurance Project Plans should contact Bill Powers in the Agronomy Department or the ARD Office.

## UNIVERSITY OF NEBRASKA FOUNDATION AWARDS

Each year the University of Nebraska Foundation provides about \$400,000 to the University of Nebraska System for support of "cutting edge" programs of special interest to Nebraskans. Traditionally most of the funding has been used to purchase research equipment. This year the great majority of funding was provided for innovative teaching programs. The only grant provided to IANR was awarded to Dr. David Stanley-Samuels on of the Department of Entomology in support of a proposal entitled "Biochemistry of Prostaglandins and Related Eicosanoids in Insects."

Congratulations to Dr. Stanley-Samuels on for submitting an excellent proposal. ARD also thanks all faculty who submitted proposals to the UN Foundation grant program.

## ARD ADVISORY COUNCIL ELECTION RESULTS

As a result of recent elections, the following individuals were selected to serve on the Agricultural Research Division Advisory Council for a three-year period:

*District 1:* **Susan Cuppett (Food Science and Technology)** — Representing faculty in the Departments of Agricultural Economics and Food Science and Technology.

*District 6:* **Ruben O. Donis (Veterinary and Biomedical Sciences)** — Representing faculty in the Departments of Biometry, Forestry, Fisheries and Wildlife; and Veterinary and Biomedical Sciences.

*District 7:* **Raymond Chollet (Biochemistry)** — Representing the faculty in the Departments of Biochemistry and Plant Pathology.

Returning ARD Advisory Council Members are:

*District 2:* **Dean Eisenhauer (Biological Systems Engineering)** — Representing faculty in the Department of Biological Systems Engineering and the Northeast and South Central Research and Extension Centers.

*District 3:* **David Mortensen (Agronomy)** — Representing faculty in the Department of Agronomy.

*District 4:* **Ken Hubbard (Agricultural Meteorology)** — Representing faculty in the Departments of Agricultural Meteorology, Environmental Programs, Entomology, and Horticulture.

*District 5:* **Chris Calkins (Animal Science)** — Representing faculty in the Department of Animal Science.

*District 8:* **Julie Albrecht (Nutritional Science and Hospitality Management)** — Representing faculty in the Departments of Agricultural Leadership, Education and Communications; Consumer Science and Education; Human Development and the Family; Nutritional Science and Hospitality Management; and Textiles, Clothing and Design.

*District 9:* **David Baltensperger (Panhandle Research and Extension Center)** — Representing the faculty in the Panhandle and West Central Research and Extension Centers.

The Agricultural Research Division appreciates the dedicated service and contributions to the Council by the outgoing members — **Jim Partridge, John Rupnow and Edward Peters.**

#### **HARDIN DISTINGUISHED GRADUATE FELLOWSHIP FOR 1993-1994**

The recipient of the Hardin Distinguished Graduate Fellowship for 1993-1994 is **Robert K. D. Peterson** from the Entomology Department. This is the second year that Robert Peterson has received the award. 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.

Robert Peterson is completing his Ph.D. in plant stress physiology associated with biotic stressors. His research project focuses specifically on physiological responses of plants to leaf injury by arthropods, with particular emphasis on photosynthetic responses. Dr. Leon Higley in the Department of Entomology is his advisor.

#### **NEW OR REVISED PROJECTS**

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

**NEB-10-121 (Ag Economics) Sustainable Communities: Community Response to Institutional Change**

*Investigator:* J. C. Allen

*Status:* New Hatch project effective March 15, 1993

**NEB-12-230 (Agronomy) Transport, Reactions, and Fate of Organic Contaminants in Soil**

*Investigator:* S. D. Comfort

*Status:* New Hatch project effective March 11, 1993

**NEB-13-036 (Animal Science) Dairy Herd Management Strategies for Improved Decision Making and Profitability**

*Investigator(s):* R. J. Grant and H. D. Jose

*Status:* Revised Hatch project that contributes to regional project NC-119

**NEB-13-115 (Animal Science) Evaluation of Cow/Calf Weaning Management Systems to Lower Feed Inputs and to Improve Economic Efficiency**

*Investigator(s):* R. Rasby, D. R. Brink and R. A. Stock

*Status:* New Hatch project effective Jan. 1, 1993

**NEB-14-073 (Veterinary and Biomedical Sciences) Molecular Genetics Analysis of *Mycobacterium* Paratuberculosis and Related Mycobacterial Pathogens**

*Investigator:* R. G. Barletta

*Status:* New Hatch project effective January 1, 1993

**NEB-15-067 (Biochemistry) Regulation of Photosynthetic Processes**

*Investigator:* R. J. Spreitzer and M. H. O'Leary

*Status:* New Hatch project that contributes to regional project NC-142

**NEB-43-056 (West Central Research and Extension Center) Interaction of Trace Minerals as Related to Prenatal Supplementation of the Pregnant Beef Cow**

*Investigator:* J. L. Johnson

*Status:* New Hatch project effective May 1, 1993

**NEB-48-020 (South Central Research and Extension Center) Nitrogen Management Factors Influencing Utilization Efficiency and Loss Processes to the Environment**

*Investigator:* R. B. Ferguson

*Status:* New Hatch project effective May 1, 1993

**NEB-94-020 (Textiles, Clothing and Design) Situational and Personal Factors in Residential Waste Management: Impacts of Markets, Resources and Attitudes**

*Investigator:* S. M. Niemeyer

*Status:* New Hatch project effective Oct. 5, 1992

## SUCCESS OF IANR FUNDING

Quite often when we receive a grant application and a project proposal, the researcher will ask the question, "What are the odds of receiving this grant?" or "How have my colleagues fared in this grant area?"

We have summarized the funding information that has been forwarded to ARD for the period July 1, 1991 to June 30, 1992. We chose last year's data to be certain that we had ample opportunity to receive information on all grant applications. The statistics were gathered for competitive USDA, NIH and NSF grants, other grants such as grants from other federal agencies or non-industry areas, industry grants, and commodity boards. Results of IANR funding success for all departments (Centers were not included) are given below:

Grant Type	Number of Proposals	Number Granted	%
Competitive USDA, NIH, NSF	144	35	24.3
Other Competitive Grants	111	70	63.0
Industry	344	344	100
Commodity Boards	123	43	34.9

These results should offer encouragement for IANR scientists. Almost 25 percent of all the proposals submitted by IANR faculty to federal competitive grant programs were successful. This is considerably higher than the national average, which is near 15 percent. We have a higher success rate for other grants, but this is to be expected. The other granting categories are usually pre-arranged between the researcher and the funding agency.

Industry grants are those that are pre-arranged and usually are those that a particular company wants to fund. These are highly successful since in most cases they are negotiated beforehand.

Our success rate for Commodity Board proposals is near the 35 percent level. Grant applications to the Grain Sorghum, Corn, Dry Bean, Soybean, Wheat and the National Livestock and Meat Boards are very competitive. These grants address the direct concerns of the various commodity boards and producers that support these research programs. This support by producers forms an integral portion of our research efforts.

The Institute has, with its grant successes, positioned itself to conduct research in the most basic research areas as well as in the applied areas by working closely with industry and producers groups.

The role and mission of the Land Grant University is to serve all groups. Our efforts in the basic research area will be even stronger with the completion of the Beadle Center. The funding granted to the Institute from industry and commodity boards is essential for our overall research programs. These funds in many cases address immediate concerns of producers and industry.

## PROPOSALS SUBMITTED FOR FEDER

The following is a listing of proposals that were submitted after July 1, 1993 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.

**Kyle D. Hoagland** — U.S. Forest Service (USDA) — Multistrata Multipurpose Riparian Buffer Strips for NPS Abatement in Agroecosystems — \$11,000

**Kyle D. Hoagland and Stephen G. Ernst** — NIGEC — The Detection of Climate Change Using Living and Extinct Diatom Floras — \$68,069

**Edward J. Peters and Richard S. Holland** — U.S. Fish and Wildlife Service — Determination of Critical Thermal Maxima for Selected Fishes in the Platte River, Nebraska — \$33,550

**Tom Seibert and Richard S. Holland** — U.S. Fish and Wildlife Service — Computer System Upgrade for Use in Research Projects Funded by the Platte River Wetlands Initiative — \$6,930

**Stephen G. Ernst, Scott J. Nissen and Sandra L. S. Smith** — U.S. Department of Energy — An Experimental System for Studying Changes in Orientation of Cell Division and Polarity of Cell Elongation: Characterization of Cell Types and Investigation of Causal Mechanisms — \$380,171

**Kyle D. Hoagland** — U.S. Fish and Wildlife Service — Effects of Insecticides on Benthic Macroinvertebrates in Nebraska Wetlands — \$24,451

**Kyle D. Hoagland and Benjamin Gawne** — U. S. Fish and Wildlife Service — The Efficacy of Organic Matter Addition to the Missouri River to Increase Secondary Production — \$70,589

**Dennis E. Jelinski** — NASA — Ecological Controls on Surface Energy and Waterbalances in Boreal Forest Landscapes — \$207,800

**James R. Brandle** — NIGEC — Assessment of Climate Change on a Mixed Agricultural Landscape on the North American Great Plains — \$90,000

**Julie A. Savidge** — U.S. Fish and Wildlife Service — Migratory and Resident Bird Use of the Lower Platte and Missouri Rivers — \$10,780

**James R. Brandle, Ronald M. Case, Richard S. Holland and Edward J. Peters** — U.S. Fish and Wildlife Service — Influences of Riparian Vegetation on Wildlife and Fisheries Populations in the Central Platte River — \$112,200

**Roger Selley and Ray Supalla** — USDA/ERS — National Water Quality Assessment — Central Nebraska Basins — \$12,000

**Mohamed F. Dahab, Yong Woon Lee and Istvan Bogardi** — USDA/CSRS — Development of a Methodology for Evaluating the Safety of Genetically Modified Plants Under Uncertainty — \$122,704

**Paul Staswick** — National Science Foundation — Jasmonate Signaling in Plants — \$258,559

**Dennis J. Diestler** — Office of Naval Research — Theoretical and Computational Studies in Molecular Tribochemistry — \$192,912

**David A. Mortensen** — USDA/ARS — Development of a Sensor-Drive Sprayer for Herbicide Application — \$30,000

**H. Edward Grotjan** — National Science Foundation — Role of Oligosaccharides in Ovine LH Bioactivity — \$412,680

**Marion H. O'Leary** — National Institutes of Health — Heavy Atom Isotope Effects on Enzymatic Reactions — \$873,053

**John Markwell and John C. Osterman** — National Science Foundation — Overexpression of Chlorophyll — \$200,610

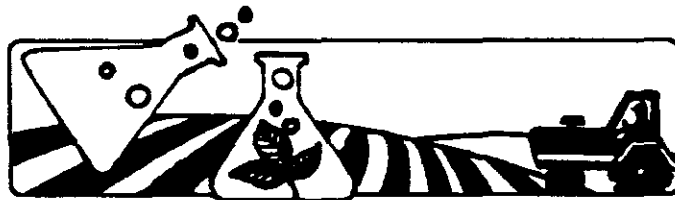
**Blair D. Siegfried, Kyle D. Hoagland and Scott Nissen** — EPA Office of Research and Development — Mechanisms of Selective Atrazine Toxicity in Freshwater Algae — \$142,900

**Debora L. Hamernik** — National Science Foundation — Hormonal Regulation of the Ovine GnRH Gene — \$392,562

**Clinton Jones** — National Institutes of Health — Mechanistic Approaches to HSV-2 Mediated Transformation — \$618,985

**Robert G. Volk** — USDA/ARS — Integrated Nitrogen, Water and Pesticide Management Systems to Protect Ground Water Quality — \$240,000

<b>Food Processing Center</b>	
Miscellaneous grants under \$5,000 each	5,266
<b>Food Science and Technology</b>	
Miscellaneous grants under \$5,000 each	7,083
<b>Forestry, Fisheries and Wildlife</b>	
Hoagland, K. D. — Nebraska Game and Parks Commission	15,375
Hoagland, K. D. — U.S. Forest Service-USDA	11,000
Miscellaneous grants under \$5,000 each	50
<b>Horticulture</b>	
Riordan, T. P. — Crenshaw and Doguet Turfgrass	25,200
Miscellaneous grants under \$5,000 each	23,000
<b>Industrial Ag Products Center</b>	
Hanna, M. A. — National Corn Growers Association	28,486
<b>Northeast Research and Extension Center</b>	
Brumm, M. C. — Fats and Proteins Research Foundation	12,000
Miscellaneous grants under \$5,000 each	24,400
<b>Panhandle Research and Extension Center</b>	
Miscellaneous grants under \$5,000 each	92,655
<b>Plant Pathology</b>	
Dickman, M. B. — USDA/CSRS	50,000
Powers, T. O. and Pruess, K. P. — U.S. Department of Health and Human Services	96,837
Miscellaneous grants under \$5,000 each	3,280
<b>South Central Research and Extension Center</b>	
Selley, R. A. and Supalla, R. J. — USDA/ERS	12,000
Miscellaneous grants under \$5,000 each	24,560
<b>Veterinary and Biomedical Sciences</b>	
Chen, S. S. A. — Nebraska Department of Health	30,000
Jones, C. — Nebraska Department of Health	30,000
Miscellaneous grants under \$5,000 each	7,520
<b>West Central Research and Extension Center</b>	
Miscellaneous grants under \$5,000 each	10,080
<b>Grand Total</b>	<b>\$ 1,574,540</b>



**GRANTS AND CONTRACTS RECEIVED  
JUNE AND JULY, 1993**

<b>Agricultural Meteorology</b>	
Easterling, W. and Blad, B. — U.S. Department of Energy/NIGEC	\$ 41,672
Verma, S. B., Ullman, F. G. and Arkebauer, T. J. — NSF	175,000
Wilhite, D. A. — World Meteorological Organization	15,000
Miscellaneous grants under \$5,000 each	9,401
<b>Agronomy</b>	
McCallister, D. L. — USDA/ARS	36,000
Mortensen, D. A. — USDA/ARS	30,000
Shearman, R. C. — Pioneer Hi-Bred International, Inc.	25,000
Miscellaneous grants under \$5,000 each	60,578
<b>Animal Science</b>	
Calkins, C. R. — USDA/OICD	20,000
Calkins, C. R. — National Live Stock and Meat Board	50,000
Mandigo, R. W. — National Live Stock and Meat Board	30,200
Miscellaneous grants under \$5,000 each	19,488
<b>Biochemistry</b>	
O'Leary, M. H. — DHHS-NIGMS	139,307
Ragsdale, S. W. — National Institutes of Health	150,092
Spreitzer, R. J. — NSF	8,000
<b>Biological Systems Engineering</b>	
Jones, D. D. and Eastin, J. D. — Nebraska Energy Office	170,000
Miscellaneous grants under \$5,000 each	1,000
<b>Entomology</b>	
Foster, J. E. — USDA/ARS	20,000
Kramer, W. L. — Nebraska Department of Health	27,060
Miscellaneous grants under \$5,000 each	37,950

**GROWTH IN TOTAL FEDERAL ACADEMIC SUPPORT**

Federal obligations for total academic support [science and engineering (S&E) plus non-S&E activities] totaled \$17.4 billion in FY1991, 14.6 percent more than the FY1990 level and 10.6 percent more in inflation-adjusted dollars. Of those agencies that funded the largest amount of academic obligations in FY1991, the Department of Defense and the Department of Energy reported the biggest one-year increases, 28.9 and 18.9 percent, respectively. From FY1986 to FY1991, academic obligations from Federal agencies rose at only an 8.4 percent average annual rate.

The table below presents information on the average annual percentage increases in academic obligations by Federal agencies during two time periods:

Agency	FY '90 to '91	FY '86 to '91
----- Average annual % increase -----		
DOD	29	8
DOE	19	9
NASA	16	17
ED	14	6
USDA	14	7
NSF	13	9
HHS	12	10
<b>Total</b>	<b>15</b>	<b>8</b>

## PROJECTS FUNDED BY BOARDS

The following projects were approved by the Nebraska Corn Development, Utilization and Marketing Board for July 1, 1993 to June 30, 1994 funding:

Michael Meagher Milford Hanna David Jackson	<i>Liquefaction of Starch by Extrusion for Direct Utilization of High Starch Concentrations in Fermentors</i>	\$ 36,750
Robert Hutkins Michael Meagher Tyrrell Conway	<i>Genetic Construction of Ethanol-Producing Lactobacilli</i>	22,298
Robert Hutkins Michael Meagher	<i>Use of Corn as a Value-Added Fermentation Substrate</i>	21,248
David Jackson	<i>Economic Improvement of Corn Wet Milling by Optimizing Steep Conditions</i>	13,898
Ben Douplik, Jr. Robert Wright	<i>Investigations on the Epidemiology and Control of Maize Chlorotic Mottle Virus</i>	10,000
Milford Hanna Randy Wehling	<i>Continuous Production of Glucosides from Corn Starch</i>	20,490
Milford Hanna	<i>Starch-Vinyl Polymer Grafts for Chemical Intermediates and Biodegradables</i>	49,860
Milford Hanna	<i>Preparation and Characterization of Starch-Xanthan Block Copolymer</i>	19,760
Rick Stock Terry Klopfenstein	<i>Method of Storing Wet Corn Gluten Feed on Subsequent Beef Finishing Performance</i>	9,056
Rick Stock Terry Klopfenstein	<i>Utilization of Wet Distillers Grains and Condensed Solubles</i>	9,481
E. Wesley F. Peterson	<i>The Economic Effects of the North American Free Trade Agreement on the Nebraska Corn Industry</i>	5,866

The following projects were approved by the Nebraska Wheat Board for July 1, 1993 to June 30, 1994 funding:

David Shelton Stephen Baenziger C. James Peterson Robert Graybosch	<i>Selecting Nebraska Wheats for Processing Needs of Domestic and Foreign Markets</i>	26,392
Milford Hanna	<i>Gluten Graft Copolymer Plastic Resins: Production and Characterization</i>	18,760
David Shelton Stephen Baenziger	<i>Utilization of High-Quality Nebraska Wheats in the United Kingdom</i>	2,500
Stephen Baenziger David Shelton David Baltensperger	<i>Improving Wheat Varieties for Nebraska</i>	37,500
Drew Lyon David Baltensperger	<i>Control of Winter Annual Grasses in a Reduced Tillage Wheat System</i>	11,840
John Watkins Stephen Baenziger	<i>Virulence Pattern and Distribution of the Natural Wheat Leaf Rust Populations in Nebraska</i>	17,500
Lenis Nelson	<i>Variety Testing of Public Winter Wheat Varieties Developed Outside of Nebraska</i>	12,000
Gary Hein David Baltensperger Stephen Baenziger	<i>Use and Development of Russian Wheat Aphid Resistant Varieties in Winter Wheat Management Systems in Western Nebraska</i>	9,962
Amit Mitra Les Lane Stephen Baenziger	<i>Genetic Engineering of Wheat Plants for Wheat Streak Mosaic Virus Resistance</i>	15,000
Yang Yen Stephen Baenziger	<i>Studying the Role of RNA-Degrading in Cold Tolerance and Stem Rust Resistance of Hard Red Winter Wheat</i>	5,000
Robert Shearman C. James Peterson Stephen Baenziger David Shelton Robert Graybosch David Baltensperger	<i>Hard White Wheat Development for Nebraska</i>	65,000

The following projects were approved by the Soybean Development, Utilization and Marketing Board for July 1, 1993 to June 30, 1994 funding:

Gail Wicks Alex Martin	<i>Control of Triazine Resistant Kochia in Soybeans</i>	1,430
Milford Hanna	<i>Soy Graft Copolymer Plastic Resins: Production and Characterization</i>	
George Graef Jim Specht	<i>Development of Improved Soybean Varieties for Nebraska</i>	106,1
Roger Elmore Fred Roeth	<i>Soybean Variety Competition with Weeds</i>	14,830
David Shelton	<i>Crop Residue Management Educational Activities Development of a Home Study Course</i>	10,830
Donald Lee George Graef	<i>Amino Acid Composition Among Elite Soybean Lines</i>	5,600
Mark Harrell William Lovett Milford Hanna	<i>Oil Carriers for Tree Trunk Injectable Pesticides</i>	3,260
Milford Hanna	<i>Soybean Oil as Drip Oil for Irrigation Pumps</i>	13,531
Milford Hanna Lloyd Bullerman	<i>Microbial Stability of Methyl-Soyate and Diesel Fuel Blends</i>	17,915
Ed Penas Doug Jose	<i>The Nebraska Soybean Profitability Project</i>	9,220
George Pfeiffer James G. Kendrick	<i>Soybean Marketing Strategies for Nebraska Producers in the 1990s</i>	13,340

The following projects were approved by the Nebraska Grain Sorghum Development, Utilization and Marketing Board for July 1, 1993 to June 30, 1994 funding:

Robert Klein Paul Nordquist Fred Roeth Charles Francis	<i>Nebraska Hybrid Grain Sorghum Seed Growout</i>	7,500
Robert Britton Rick Stock	<i>Enhancing Sorghum Starch Digestion by Genetic Selection</i>	18,792
Paul Nordquist David Andrews	<i>Breeding and Evaluation of Improved Sorghum Germplasm</i>	9,840
Jerry Eastin	<i>Development of Stress-Resistant Water-Responsive Sorghum Germplasm</i>	22,700
Jeffrey F. Pedersen Heidi Kaeppler Robert C. Shearman	<i>Genetic Transformation System for Grain Sorghum</i>	25,000
Curtis Weller Milford Hanna	<i>Enhancement of Sorghum Refining</i>	22,000
James Partridge	<i>Development of Molecular Tools for Heat Stress Selection</i>	22,328
Donald Sander Kenneth Frank Edwin Penas	<i>Evaluation of Residual Soil Nitrates for Predicting Sorghum Yield Response to Applied N</i>	3,921
David Andrews Paul Nordquist	<i>Testing New Grain Sorghum Parental Lines for East and Central Nebraska for Good Combining Ability, Stable Performance and Lodging Resistance</i>	4,660
Richard Grant	<i>Optimum Grain Sorghum: Forage Blends for Nebraska Dairy Producers</i>	6,425
Lynn Lutgen	<i>Sorghum Marketing Program</i>	5,000