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October 2004

# Agricultural Research Division News - October 2004

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## Agricultural Research Division News



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

October 2004

Volume 37, Number 5

### Comments from the Dean



Colleagues:

Recently, I informed Vice Chancellor Owens of my intention to retire effective June 30, 2005. At that time, my tenure at the University of Nebraska-Lincoln will exceed 21 years, and I will have served as ARD Dean and Director for nearly 17 years. It is time for another person to provide leadership for the Agricultural Research Division. By announcing my retirement at this time, Vice Chancellor Owens will have time to initiate a search for my successor.

I wish to express my appreciation to all present and former ARD faculty and staff for their quest for excellence, strong work ethic, dedication to the people of Nebraska and support of ARD goals. Your accomplishments during the past 20 years have been truly outstanding. I have no doubt that your tradition of excellence will continue far into the future. In particular, I want to thank those faculty who have served on the ARD Advisory Council for their wise counsel and support during both great and less-than-good times. Your service was above that expected of a faculty member and resulted in many positive changes that benefit all ARD faculty and staff.

A special note of appreciation is extended to my colleagues who served as department heads and chairs, school directors, district directors, and directors/leaders of interdisciplinary centers and programs. The individuals serving in these roles have been tremendous and have provided extraordinary leadership in difficult times. Your support, assistance and encouragement have been very important to me and the ARD staff. There is no way that I can adequately thank you for the positive relationships between ARD and IANR units.

My thanks would not be complete without a thank you to the three Vice Chancellors (Roy Arnold, Irv Omtvedt and John Owens) to whom I have reported. These terrific leaders have worked very hard to strengthen IANR's research programs while ensuring that our collective efforts address the needs of Nebraska. They have provided strong support for me and the ARD office. I also wish to thank my colleague IANR Deans who have been great partners in strengthening IANR. During my tenure as Dean and Director, I have had the pleasure of working with three CASNR Deans (Ted Hartung, Don Edwards and Steve Waller), three CED Deans and Directors (Leo Lucas, Ken Bolen and Elbert Dickey) and two CHRFS/CEHS Deans (Karen Craig and Marjorie Kostelnik). All of these administrators have been highly collaborative in strengthening ARD programs. I particularly appreciate the counsel and fellowship exhibited by my colleague Deans. This has made my position enjoyable and, I hope, productive.

Everyone reaches a time in their life when a decision about retirement is required. I have reached that point in time and have decided that family and non-academic activities will have priority after June 30, 2005. I wish you all the very best in both your personal and academic endeavors. IANR has a very bright future and you should be proud to be a part of this great organization.

*Darrell W. Nelson  
Dean and Director  
Agricultural Research Division*



It is the policy of the University of Nebraska-Lincoln not to discriminate on the basis of gender, age, disability, race, color, religion, marital status, veteran's status, national or ethnic origin or sexual orientation.



# Nebraska Research Initiative Funding for 2004-2005

The ARD Office recently received notice of Nebraska Research Initiative (NRI) funding for 2004-2005 from the Office of the Executive Vice President and Provost. Listed below are the NRI awards for the current fiscal year:

Principle Investigator	Title	Amount
<b>Kyle Hoagland</b>	Water Center Laboratory	\$276,450
<b>Kyle Hoagland</b>	Water Resources Research Initiative	\$ 50,000
<b>Pat Shea</b>	Building Surface Analysis into Environmental Science	\$181,320
<b>Milford Hanna</b>	Encapsulation of Chemicals and Biochemicals	\$150,000
<b>Tom Clemente</b>	Production of Value Enhanced Soybean Oil Through Biotechnology	\$198,027
<b>Gary Yuen</b>	Functional and Chemical Characterization of a Novel Broad Spectrum Antimycotic from <i>Lysobacter enzymogenes</i>	\$ 89,770

Congratulations to these faculty members who have successfully competed with many faculty in the University of Nebraska System for NRI funds.

## FY2005 Appropriation for USDA/CSREES

The House of Representatives has passed the Appropriations Committee recommendations for the FY 2005 budget for CSREES. The Senate Appropriations Committee has submitted their recommendations but the budget has not yet been passed by the full Senate. Both the House and Senate provide small increases in formula programs. The House version restores most of the 10 percent cuts made in programs for the FY 2004 appropriation whereas the Senate version keeps many of the lines at the FY 2004 level. The Senate version provides a \$19 million increase in the National Research Initiative whereas the House version has a \$16 million increase. Within the Integrated Activities account, the House restores cuts made in FY 2004 and provides a \$10 million increase in the Homeland Security Program. The Senate version maintains FY 2004 levels in most lines but increases the Homeland Security Program by \$7 million. We anticipate that the USDA appropriation will become part of an omnibus appropriations bill to be considered by Congress in mid-November after the elections.

Program	FY2004 Enacted	FY2005 House	FY 2005 Senate
-----\$, thousands-----			
<b>Research:</b>			
Hatch Act	179,085	180,648	180,148
McIntire-Stennis Forestry	21,755	22,384	23,000
Evans-Allen Program	35,788	37,000	36,000
Animal Health and Disease	5,098	5,098	5,098
National Research Initiative	164,027	180,000	183,000
Special Research Grants	110,655	88,194	108,993
Improved Pest Control	13,594	15,756	14,595
Canola — Alternative Crop	752	846	840
Critical Ag Materials Act	1,111	1,111	1,111
Hesperaloe — Alternative Crop	311	350	0
1994 Institutions	1,087	1,087	1,087
Joe Skeen Rangeland	895	1,000	1,000
Sustainable Agriculture	12,222	12,722	12,222
Aquaculture Centers	4,000	4,000	4,000
Federal Administration	37,482	42,610	26,769
<b>Total</b>	<b>588,097</b>	<b>593,306</b>	<b>597,863</b>
<b>Higher Education:</b>			
Institution Challenge Grants	4,859	5,500	4,859
Graduate Fellowships	2,883	4,500	2,883
Multiculture Scholars	986	998	998
1890 Capacity Building	11,411	12,411	11,411
Hispanic Educational Partnership	4,645	5,645	4,645
1994 Institutions	1,679	2,250	1,689
Alaska/Hawaii Institutions	3,131	2,997	3,500
Secondary Ag Education	880	1,000	890
<b>Total</b>	<b>29,683</b>	<b>35,301</b>	<b>30,875</b>
<b>Integrated Activities:</b>			
Critical Issues — Disease	444	2,500	444
Rural Development Centers	1,353	1,513	1,345
Water Quality	11,530	12,971	11,530
Food Safety	13,305	14,967	13,305
Pest Impact Assessment	4,028	4,531	4,028
International Science Education	895	1,000	895
Crops at Risk — FQPA	1,330	1,497	1,330
FQPA Risk Mitigation	4,345	4,889	4,345
Methyl Bromide Trans.	3,131	2,498	3,131
Organic Transition	1,889	1,889	1,889
Homeland Security	7,953	18,000	15,000
<b>Total</b>	<b>50,195</b>	<b>66,255</b>	<b>57,242</b>

## Recognition of Junior Faculty for Excellence in Research

In 1991, the ARD Advisory Council established a program to recognize the research accomplishments made by junior faculty members. No more than two junior faculty are recognized each year. The recognition consists of a certificate, engraved plaque and \$3,000 for use in professional development or research-related activities.

Criteria used to evaluate nominees include scientific publication record, especially those publications resulting from research at UNL, external grant funding and recognition by peers. A sub-committee of the ARD Advisory Council evaluates the nominations and recommends recipients to the Dean for Agricultural Research.

The following faculty members were selected for recognition during the 2004-2005 academic year:

**Dr. Andrea Cupp**, Assistant Professor, Animal Science Department

**Dr. Donald Becker**, Assistant Professor, Biochemistry Department

Congratulations to Drs. Cupp and Becker! A call for nominations is issued each year on about June 1. We encourage faculty and administrators to nominate deserving junior faculty in their units.

## **ARD-Administered Grants 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 currently are 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 the program is oriented to plant science research directed to western Nebraska. RFP issued about **Dec. 15**, awarded in **odd-numbered** years.

#### ***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**, awarded in **odd-numbered** years.

#### ***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**, awarded in **odd-numbered** years.

#### ***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 the student's research. One fellowship awarded annually. Nominations are due about **May 10**.

#### ***John and Louise Skala Fellowship***

Awarded annually. Fellowships may be awarded to graduate students who have been accepted into either M.S. or Ph.D. programs, and have been offered graduate assistantships. These funds are to be used to supplement existing assistantships (GRA/GTA) with offers of \$3,000 for M.S. and \$5,000 for Ph.D. students. Fellowships constitute an award based on academic and scholastic achievement or promise, cannot be associated with any service requirement, and will be awarded only to students doing research in the area of industrial uses of agricultural commodities. Cannot be candidate for Widaman, Milton Mohr or Farmer's National if a candidate for Skala Award. Industrial Ag Products Center assists in the selection of recipients. Nominations are due about **May 10**.

#### ***William G. Whitmore Graduate Student Travel Grants***

Awarded annually. In accordance with the donor instructions, this program will support attendance to professional society meetings in the field of animal science, agricultural education and leadership, and veterinary and biomedical sciences. Grants under this program are limited to a maximum of \$500 per individual per fiscal year. This includes transportation (which is not to exceed coach class airfare), registration, lodging, meals, etc. Deadlines for submissions are **May 15** and **Nov. 15**.

#### ***Larrick Graduate Student Travel Grants***

Awarded twice yearly. In accordance with the donor instructions, this program supports graduate student travel to professional meetings. In that the Whitmore Graduate Student Travel Grant supports students in animal science, agricultural education and leadership, and veterinary and biomedical sciences, the Larrick Graduate Student Travel Grant program supports graduate student travel in fields other than those listed for the Whitmore program. Grants under this program are limited to a maximum of \$500 per individual per fiscal year. This amount includes transportation (not to exceed coach class airfare), registration, lodging and meals. Deadlines for submissions are **May 15** and **Nov. 15**.

#### ***Williams Endowment***

Awarded every two years. Project proposals should relate to the "management of surface water run-off and erosion from agricultural land to achieve total maximum daily loading (TMDL) compliance." The specific focus of the research may be changed in future solicitations as emerging priorities change. Deadline for submission is **May 15 in even-numbered** years.

*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)*

Awarded annually. 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 **June 1**.

*Burlington Northern Water-Science Endowment*

Awarded on a biannual basis for water science research. Approximately \$60,000 is available every two years. RFP issued about **Jan. 15**, awarded in **even-numbered** years.

*Helen Porter Van Spronsen Charitable Trust*

The annual income from the Trust is to partially support (\$10,000) one GRA in the range and livestock research program. This will be a named assistantship assigned to an approved ARD project in range and livestock research at the Gudmundsen Sandhills Laboratory. Awarded every two years. RFP issued about **Feb. 1**, awarded in **odd-numbered** years.

*Ralph H. Bainbridge Memorial Fund*

The annual income of approximately \$5,000 will be used to partially support research in beef production and grassland management. Grants will be awarded on a competitive basis to interdisciplinary teams. Matching funds will be required. Awarded every two years. RFP issued about **Feb. 1**, awarded in **odd-numbered** years.

*Agricultural and Water Research Fund*

Interest income will be used in conjunction with the current Burlington-Northern Water Science Endowment to enhance water science and irrigation management research. This is awarded every two years in concurrence with the Burlington Northern Water-Science Endowment. RFP issued about **Jan. 15** in **even-numbered** years.

*Jorgensen Fund*

The interest income will be used to partially support a GRA for a graduate student conducting research at the Gudmundsen Sandhills Laboratory on beef-range systems. Awarded every two years. RFP issued about **Feb. 1**, awarded in **odd-numbered** years.

*Channing B. and Katherine W. Baker Fund*

Interest from the endowment is used to support one GRA in the areas of (i) soil conservation and management or (ii) breeding and genetics of food and feed grains. Preference in awarding the GRA will be given to Ph.D. students. Awarded every

two years. RFP issued about **Feb. 1**, awarded in **even-numbered** years.

**ARD Discretionary Funds**

*Multistate Research Funds*

Awarded once each year. Approximately 25 percent of the Hatch Act funds provided to the Nebraska Agricultural Experiment Station (NAES) is set aside to support multistate research activities. This account is used to provide travel expenses for attendance of official NEAS representatives at annual meetings of multistate research projects (NE, NC, S or W), coordinating committees/information exchange groups (NCR, SIEG, etc.), administrative committees (NCA, etc.) or proposal development committees (NCT, etc.). Funding for operations, graduate student and technical support is also provided to official participants in multistate research projects to allow them to accomplish the project objectives.

*Special Hatch Funds*

Awarded once every two years. An increase in the Hatch Act funds provided to the Nebraska Agricultural Experiment Station was set aside in a competitive grants program that addresses specific federal priorities. Requests for proposals are normally issued in **April of odd-numbered years** and awards are made effective July 1 of that year. The request for proposal specifies the federal priority areas for which applications are sought.

*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**.

*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.

*ESCOPI/ACOP Leadership Development Course*

One faculty member is selected for participation each year. Award consists of tuition and travel expenses associated with ESCOP/ACOP Leadership Development Course. Participants spend about 10 percent of their time serving as administrative interns in ARD. Request for applications is issued in late **November and application deadline is late January**.

*ARD Research Equipment Awards*

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



### *Undergraduate Honors Student Research Program*

Awarded annually. Approximately \$52,000 awarded each spring to honor students conducting research with faculty members holding an ARD appointment. Students receive a maximum of \$2,500 for supplies and expenses and/or as a stipend. RFPs are issued about **April 1 and Sept. 1.**

### **UNL-Wide Competitions**

#### *Layman Trust Fund Awards*

The Layman Awards are aimed at providing seed money for projects that will enhance the grantee's ability to obtain external funding or produce prominent scholarly work. Priority will be 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. Awards may be made for pilot projects, prototype development, faculty development, and preliminary educational and public service programs. Award recipients are expected to actively pursue external funding sources and, where appropriate, submit a proposal for external funding within 18 months of receiving the award. RFPs are issued in **December with deadline in January; awards issued about May 1.**

#### *University of Nebraska Foundation*

The University of Nebraska Foundation grant is for equipment and information technology. The four campuses of the UNL system are eligible to compete for these grants. This program's goal is to strengthen UNL's priority areas through the purchase of needed information technology and equipment, with an emphasis on interdisciplinary collaboration among departments, colleges and other campuses. RFPs are issued and a letter of intent is to be submitted **March 1** to the Vice Chancellor for Research and the proposals by the **middle of March** to the cognizant Deans.

#### *Willa Cather and Charles Bessey Professorships*

These professorships were established to recognize distinguished scholarship and creative activity. Any UNL full professor, regardless of discipline, who does not currently hold another named professorship or chair, is eligible to be nominated or apply. A faculty member may not hold a Cather or Bessey Professorship and another named professorship or chair simultaneously. The professors will receive a \$2,500 annual stipend. Nominations and applications should be submitted to the Office of Academic Affairs by the **middle of October.**

#### *Othmer Fellowships*

Othmer Fellowships are intended to assist in recruiting **exceptional** scholars who are seeking a terminal degree (Ph.D., MFA). Othmer Fellows will receive, in addition to the departmental assistantship, a \$7,500 fellowship per year. Othmer Fellowships are renewable for up to three years, given continued

excellent progress toward the degree. At the end of the three-year fellowship period, Othmer Fellows are entitled to compete for other fellowship funding. **After this year, the call for applications will be sent in September and notification will be made early in the fall semester.**

#### *Chancellor's Doctoral Fellowships*

Chancellor's Doctoral Fellowships are designed to assist departments with the recruitment of superior graduate students by adding fellowship funds to an assistantship. These fellowships are for \$3,000 and are automatically renewable for a second year, given excellent progress toward the degree. All newly admitted doctoral students are eligible. **After this year, the call for applications will be sent in September and notification will be made early in the fall semester.**

#### *Richard H. Larson Graduate Minority Fellowships*

Richard H. Larson Minority Fellowships are designed to assist departments with the recruitment of superior graduate students from racial/ethnic groups under-represented in higher education (i.e., African-American, Hispanic or American Indian students) by adding fellowship funds to an assistantship. These fellowships are for \$2,500 and are automatically renewable for a second year, given excellent progress toward the degree. Larson fellowships may be offered in combination with other recruiting fellowships (e.g., Othmer or Chancellor's) where applicable. All newly admitted graduate students are eligible. **After this year, the call for applications will be sent in September and notification will be made early in the fall semester.**

#### *Student Assistantships in Research and Scholarship (STARS)*

The Student Assistantship in Research and Scholarship (STARS) program is designed to assist departments with the recruitment of racially/ethnically under-represented students or women interested in pursuing graduate studies in disciplines where they are under-represented. The STARS program aids departmental recruitment of superior graduate students by adding summer assistantships to regularly funded departmental assistantships. In order for the students to be exempt from summer tuition, the departmental assistantships must be large enough during the academic year to provide summer tuition benefits. These assistantships are for \$3,000 and are to be used to support a student during the first summer after matriculation into a full-time program of graduate study (i.e., the summer after the first year of graduate study). **After this year, the call for applications will be sent in September and notification will be made early in the fall semester.**

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

## Proposals Submitted for Federal Grants — August-September 2004

.....  
**Steve Baenziger, Kent Eskridge and Ismail Dweikat** — USDA/NRI — The genetic basis of agronomic traits controlled by chromosome 3A in wheat — \$399,198

**Curt Weller, Tim Carr, Vicki Schlegel, Susan Cuppett, K. Hwang and L. Wang** — USDA/CSREES — Purification process influences on structural and nutritional function of grain sorghum — \$495,343

**J. Dixon Esseks** — USDA/NRI — Farm viability, farmland preservation and smart growth: Seeking convergence — \$319,539

**Susan Hefle** — USDA/CSREES — Alliance for Food Protection — \$124,438

**James Alfano** — USDA/CSREES — Functional genomics of the pathogenetic and ephiphytic lifestyles of the bacterial plant pathogen *Pseudomonas syringae* B728a — \$129,999

**Asit Pattnaik** — USDA/CSREES — Analyses of virulence and attenuation determinants of PRRSV using reverse genetic approach — \$496,403

**Raul Barletta** — USDA/NRI — Johne's Disease Integrated Program — \$86,728

**Rodger Johnson, John Weber and J. Lunney** — USDA/NRI — Identifying genes expressed differently in pigs with differential phenotypic responses to PRRSV — \$24,691

**Janos Zempleni** — USDA/NRI — Biotin affects cytokine metabolism — \$372,403

**Donald Wilhite** — USDA/CSREES — Drought monitoring, planning and mitigation — \$217,593

**Steven Harris** — NIH — Regulation of polarisome function in filamentous fungi — \$1,460,000

**Robert Kuzelka** — EPA — Working towards recovery: Building consensus on the Missouri River Ecosystem — \$27,992

**Kenneth Hubbard and Steve Goddard** — USDA — Risk Management tools for the agriculture landscape — \$844,404

**Andrew Tyre** — Health and Human Services — Habitat effects on mosquito-vertebrate host interactions — \$86,000

**Anatoly Gitelson** — USDA/ARS — Development and validation of remote sensing Algorithms to detect Cyanobacteria in catfish ponds — \$10,000

**Clinton Jones** — Health and Human Services — Functional analysis of the HSV-1 gene encoding LAT — \$1,825,000

**Brian Beecher** — USDA — Improving barley digestibility by modifying kernel texture — \$7,000

**Richard Sutton** — National Park Service — Develop management plan for historic osage orange hedgerow — \$8,918

**Tim Arkebauer** — Department of Energy — Controls on soil surface CO<sub>2</sub>, N<sub>2</sub>O and CH<sub>4</sub> fluxes, ecosystem respiration and global warming potentials — \$304,118

**John Yohe** — USAID — International Sorghum/Millet Collaborative Research Support Program — \$2,850,000

**Donald Weeks and Tom Clemente** — USDA/BARD — Enhancement of photosynthesis and crop productivity — \$160,000

**Vadim Gladyshev** — NIH — Functions of thioredoxin glutathione reductase — \$96,000

**Viacheslav Adamchuk** — USDA — Yield monitor (non-contact microwave solids flow meter) for mapping — \$3,103

**Derrel Martin** — Department of Interior — Cooperative agreement for modeling and field experimentation to determine the effects of land terracing and non-federal reservoirs on water supplies — \$379,664

**Robert Wright** — Environmental Protection — Biological control of Japanese beetles by metarhizium anisopliae applied with autodissemination traps — \$38,646

**Stephen Taylor** — USDA/CSREES — Midwest Advance Food Manufacturing Alliance — \$398,383

**Milford Hanna, Loren Isom and Robert Weber** — USDA Rural Business-Cooperative Service — Strategically locating soybean and biodiesel processing facilities in Nebraska — \$101,250

**Milford Hanna** — CSREES-NRCS — Post Award Management of Biomass R and D Initiative projects — \$50,000

**Janos Zempleni** — NIH — Roles for biotin in epigenetic events — \$401,500

**Terry Mader, Steve Hu and Robert Rasby** — NIGEC — Evaluation of ecosystem models for beef cattle production — \$216,341

**Anne Vidaver** — USDA/ARS — Molecular characterization of clavibacter species — \$318,742

**Julie Stone** — NSF — Understanding the regulation of plant colonization by bacterial endophytes — \$644,733

**Etsuk Moriyama, Jitender Deogun, Steve Kachman, Guoqing Lu and Luwen Zhang** — NIH and NSF — Bioinformatics of virus-host specificity/pathogenesis — \$1,362,179

**Sally Mackenzie** — Department of Energy — Nuclear-organellar interactions involving atmsh1 in *Arabidopsis* — \$360,000

**Jeffrey Cirillo** — NIH/NIAID — Molecular genetics of francisella virulence — \$572,500

**Steve Baenziger, Amit Mitra, Marty Dickman and Tom Clemente** — U.S. Wheat and Barley — Enhance scab resistance in winter wheat germplasm by plant transformation — \$98,900

**Alex Martin** — USDA/ARS — Effect of transgenes from sorghum on the fitness of shattercane X sorghum hybrids — \$15,000

**Rhae Drijber** — USDA/ARS — Manure and nutrient management practices to protect human health and the environment — \$662,200

**Susan Fritz, Jim King and John Markwell** — NSF — Improving agriculture, food and natural resources programs — high school to college and beyond — \$828,778

**Darrell Nelson** — USDA/ARS — Research to improve production efficiency/meat quality, reduce food safety pathogens — \$300,000

**Dan Duncan** — US EPA — Wetland program development grant — \$30,791

**Susan Cuppett and Vicki Schlegel** — NIH — A food based oxidative stress model in Caco-2 cells — \$157,284

**David Baltensperger and Drew Lyon** — DOE-SBIR — Improvement of cool season oil seeds to support economically competitive biodiesel production on the western High Plains — \$3,000

**James Van Etten** — Health and Human Services — Improvement of methodology for genetic analysis (cloning and engineering of nicking enzymes) — \$100,000

**Martin Dickman and Donald Becker** — NSF — The role of proline metabolism during apoptosis and adaptive stress responses in fungi — \$659,685

**Dave Dunigan and Jim Van Etten** — NSF — Virus — mediated transcriptional shut off — \$870,399

**Julie Stone** — Department of Energy — Role of transcriptional regulator in programmed cell death and plant development — \$468,873

**Steve Hu, Roger Bruning, L. Pytik-Zilling, Ken Hubbard and Gary Lynne** — NOAA — Transition of weather and climate forecasts into effective decision-making tools — \$293,732

**Chen Xun-Hong** — NSF — Multi-scale water balance connections in an irrigated ecosystem — \$782,838

**Scott Hygnstrom** — USDA/APHIS — Toward the development of spatially explicit models of wildlife disease — \$105,930

**Kenneth Hubbard** — NSF — Collaborative Research: Spatio-temporal variations in soil moisture and land memory processes in the Great Plains — \$103,799

**Andrew Tyre** — NIH — Habitat effects on mosquito-vertebrate host interactions — \$86,019

## **New or Revised Projects August/September 2004**

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

**NEB-10-154, (NC-1016) Economic assessment of changes in trade arrangements, bio-terrorism threats and renewable fuels requirements on U.S. grain and oilseed sector**

*Investigator:* Dennis Conley (Agricultural Economics)  
*Status:* Multistate project effective Oct. 1, 2004

**NEB-10-155, Vertical integration, contract coordination, and market power in agricultural raw product markets**

*Investigator:* Jeff Royer (Agricultural Economics)  
*Status:* Revised Hatch project effective Sept. 1, 2004

**NEB-11-115, Improved anaerobic lagoon design and management for odor control**

*Investigator:* Dennis Schulte (Biological Systems Engineering)  
*Status:* Revised Hatch project effective June 1, 2004

**NEB-12-181, Development of profitable reduced herbicide weed management systems through integration of management practices**

*Investigator:* Alex Martin  
*Status:* Revised Hatch project effective July 1, 2004

**NEB-14-134, Influence of enterotoxins on virulence and colonization of the porcine intestine by *escherichia coli***

*Investigator:* Rodney Moxley (Veterinary and Biomedical Sciences)  
*Status:* NRI Grant effective Sept. 1, 2004

**NEB-19-016, Midwest Advanced Food Manufacturing Alliance**

*Investigator:* Steve Taylor (Food Science and Technology)  
*Status:* Special Grant effective Sept. 1, 2004

**NEB-19-017, Alliance for Food Protection**

*Investigator:* Susan Hefle (Food Science and Technology)  
*Status:* Special Grant effective Sept. 15, 2004

**NEB-21-101, Genomics of the necrotrophic fungal pathogen *sclerotinia sclerotorum***

*Investigator:* Martin Dickman (Plant Pathology)  
*Status:* NRI Grant effective Sept. 1, 2004



**NEB-40-033, Drought monitoring, planning and mitigation**

*Investigator:* Don Wilhite (School of Natural Resources)

*Status:* Special Grant effective Sept. 15, 2004

**NEB-42-007, Assessment and management of cattle exposed to environmental stressors**

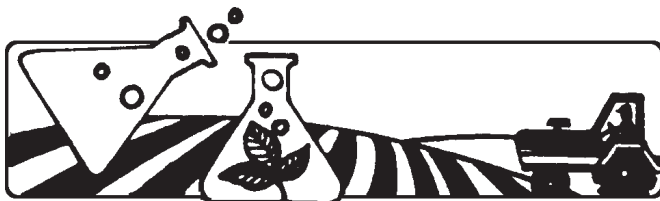
*Investigator:* Terry Mader (Northeast Research and Extension Center)

*Status:* Revised Hatch project effective Oct. 1, 2004.

**NEB-44-066, Interactions among life-forms in secondary succession on restored wetlands**

*Investigator:* P.E. Reece (Panhandle Research and Extension Center)

*Status:* State Interdisciplinary project effective July 1, 2004



**Grants and Contracts Received  
August-September 2004**



<b>Agricultural Economics</b>	
Miscellaneous grants under \$10,000 each	\$6,500
<b>Agronomy and Horticulture</b>	
Alex Martin — USDA/ARS	75,000
Ismail Dweikat — Nebraska Grain Sorghum Board	13,393
James Specht — USDA/ARS	68,185
Roy Spalding — Nebraska Department of Agriculture	10,000
Brian Beecher, Steve Baenziger and Robert Gray — Nebraska Wheat Board	50,000
Lenis Nelson — Nebraska Wheat Board	12,000
Steve Baenziger, Brian Beecher and David Baltensperger — Nebraska Wheat Board	70,000
Steve Baenziger, Kent Eskridge and Ismail Dweikat — USDA/NRI	390,000
Roy Spalding — Central Platte Natural Resources	40,000
Miscellaneous grants under \$10,000 each	72,918
<b>Animal Science</b>	
Galen Erickson and Terry Klopfenstein — Nebraska Corn Board	27,773
Donald Beermann — Brinegar Faculty Development	13,058
Terry Klopfenstein — Wagner Fund (Grad stipends)	60,253
Terry Klopfenstein, Don Adams and Rick Funston — Nebraska Corn Board	19,811
Chris Calkins — Nebraska Beef Council	42,569
Miscellaneous grants under \$10,000 each	15,000
<b>Biochemistry</b>	
Ruma Banerjee — NIH	1,973,970
Han Asard — NSF	386,084
Vadim Gladyshev — NIH	40,320
Vadim Gladyshev — NIH	55,775
Ruma Banerjee — NIH	288,000
Donald Becker — NIH	216,875
<b>Biological Systems Engineering</b>	
Curt Weller — USDA/ARS	40,000
<b>Center for Grassland Studies</b>	
Martin Massengale — Sampson Fellowship	16,400

<b>Entomology</b>	
Leon Higley — Nebraska Game and Parks	20,989
Lance Meinke — Monsanto	15,725
Lance Meinke — Pioneer HiBred International	17,607
Miscellaneous grants under \$10,000 each	7,000
<b>Food Science and Technology</b>	
Lloyd Bullerman — Kraft Foods Global, Inc.	25,000
Susan Hefle — USDA/CSREES	24,887
Steve Taylor — USDA/CSREES	398,383
Miscellaneous grants under \$10,000 each	11,092
<b>Industrial Ag Products Center</b>	
Milford Hanna — USDA/CSREES-NRCS	25,000
<b>Northeast Research and Extension Center</b>	
Thomas Hunt and Leon Higley — North Central Soybean Research	19,030
Miscellaneous grants under \$10,000 each	16,000
<b>Panhandle Research and Extension Center</b>	
Robert Wilson — Monsanto	10,800
Charles Hibberd — Nebraska Dry Bean Commission	24,000
David Baltensperger — Anna Elliott	15,000
Gary Hein — USDA/ARS	85,436
Drew Lyon — Anna Elliott	15,000
Miscellaneous grants under \$10,000 each	120,095
<b>Plant Pathology</b>	
James Steadman — Nebraska Dry Bean Commission	13,900
Anne Vidaver — USDA/ARS	77,254
James Van Etten — NIH	288,000
Loren Giesler with Ohio State — North Central Soybean Research	20,000
Loren Giesler and Tom Hunt — North Central Soybean Research	29,175
John Watkins — Nebraska Wheat Board	11,000
Loren Giesler — Nebraska Department of Agriculture	58,300
Martin Dickman — BARD	145,000
James Steadman — USDA/ARS	41,800
Miscellaneous grants under \$10,000 each	5,300
<b>Sustainable Agricultural Research and Education</b>	
William Wilcke — USDA/CSREES	2,721,126
<b>School of Natural Resources</b>	
Bill Zanner — Nebraska Department of Natural Resources	143,051
John Holz and Kyle Hoagland — Nebraska Department of Environment Quality	111,000
James Merchant — American View, Inc.	89,500
Scott Hygnstrom — Nebraska Game and Parks	50,000
Anatoly Gitelson — USDA/ARS	10,000
Craig Allen — Nebraska Game and Parks	50,000
Michael Hayes, Don Wilhite and Ken Hubbard — U.S. Geological Survey	83,804
Steve Comfort — Pacific Northwest National Labor	59,000
Michael Hayes, Robert Hitchcock and William Waltman — National Oceanic and Atmospheric	107,909
Sunil Narumalani — Nebraska Military Dept.	37,581
Miscellaneous grants under \$10,000 each	14,875
<b>Veterinary and Biomedical Sciences</b>	
Clinton Jones — Pfizer	60,268
Miscellaneous grants under \$10,000 each	200
<b>West Central Research and Extension Center</b>	
David Tarkalson — Anna Elliott	10,600
<b>Water Center</b>	
Kyle Hoagland — National Park Service	12,000
<b>Total</b>	<b>9,105,571</b>