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ARD News August 2008

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Agricultural Research Division News

August 2008

Comments from the Dean

As we begin a new academic year and each of you looks forward to the annual fall ritual of reporting accomplishments during the past year and laying out your expectations for accomplishments during the coming year in your e-ARFA, I am sure you will be delighted to learn that you will begin reporting in the framework of a new IANR strategic plan. Like previous strategic plans, it will not only provide the framework for reporting accomplishments, but also the direction for decision making and guidance for resource allocation and hiring. Input for the plan has been developed over the past three years and many of you have contributed to its development through surveys and forums.

One of the most striking features of this 2008-2016 IANR strategic plan is its length. Easily fitting on less than two 8 ½ x 11 inch pages it presents a vision, mission, priority goals and desired outcomes that encompass all that we do in IANR to meet the needs of the people of Nebraska. I think that after reading the plan you will instantly see how your research, extension programs and classroom and laboratory teaching will lead to the outcomes of the plan. I am sure it will also provide our students and clientele with an equally vivid picture of why what we do is important to them. These qualities are often lost in more complex strategic plans that try to address every activity rather than focus on priority goals and real world outcomes that are important to people.

Thanks to all who have contributed to this new strategic plan. I think it is something of which we can all be proud and a valuable tool for both planning, acting and reporting on our accomplishments.

At Work for Nebraska:

**A Strategic Plan for the University of Nebraska
Institute of Agriculture and Natural Resources
2008-2016**

Vision and Mission

The Institute of Agriculture and Natural Resources serves Nebraska by providing internationally-recognized science and education to assure the state's competitiveness in a changing world.

To fulfill this vision with its firm focus on Nebraska, we must achieve world-class excellence in: the life sciences, ranging

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from molecular to global systems; sustainable food, fiber and natural resource systems that support a bio-based economy; economics and environments for a sustainable future; and human capital development of children, youth and families.

We do that by: advancing knowledge along the continuum from fundamental research to application and education necessary to meet the current and emerging needs of the state; preparing professionals for the future; creating and implementing solutions to critical problems; expanding partnerships across UNL, the NU system and beyond; cultivating public-private partnerships. In short, we fulfill our mission by being *at work for Nebraska*.

Priority 1: The life sciences, ranging from molecular to global systems.

OUTCOMES

Innovative solutions to human problems. Integrated, critical thinking at every level—from individual molecules to entire organisms—along with an interdisciplinary approach to research, will lead to exciting discoveries that make a powerful difference in people's lives.

Strategic alliances for greater synergy. IANR scientific resources will be linked with private sector innovators to generate relevant and groundbreaking products and services based on advancements in life science.

More educated scientists to secure Nebraska's future.

Through undergraduate and graduate programs, Nebraska will prepare professionals with the capacity to lead and contribute to new discoveries and advances in the quality of life.

Priority 2: Sustainable food, fiber and natural resource systems that support a bio-based economy.

OUTCOMES

An even stronger agriculture sector. Through innovative production and marketing techniques, Nebraska crop and food animal producers will improve profitability while managing their operations in ways that further minimize environmental impact, sustain natural resources and ensure food safety and nutritional value.

A growing bio-based economy for Nebraska. Capitalizing on the state's natural strengths and resources, Nebraska will become a national leader in bio-energy and bio-products—with a special emphasis on improving energy self-sufficiency, addressing climate change and stimulating economic development by transforming traditional agricultural products into new solutions.

Agriculture as an economic development strategy. Communities, entrepreneurs and agriculture producers will discover ways to incorporate environmentally responsible value-added agriculture into an overall economic development strategy to improve prospects and sustainability for their hometowns.

Priority 3: Economics and environments for a sustainable future.

OUTCOMES

Better information for better decisionmaking. Nebraskans will have the tools necessary to gather and analyze important management information—and make sound decisions in a world of ever-changing regulatory, economic and environmental conditions.

Crops that meet growing challenges. Growers will have access to varieties that perform well with limited water and other stress conditions—and will know how to best manage their crops to conserve water, limit nutrient loss and sequester carbon.

Natural landscapes that provide a quality environment. Nebraskans will have the tools and strategies they need to intelligently manage their natural resources—and maintain the diverse ecosystems necessary for a full, healthful life and sustainable future.

More choices for greater economic opportunity. New thinking, coupled with applicable research and education, will create viable alternatives for entrepreneurs, businesses and communities to compete, grow and prosper—building Nebraska's economic base from border to border.

Vital and vibrant communities. Nebraska communities of all sizes and in all locations will understand how to assess their strengths, protect what they have and build on it in order to provide their citizens with career and cultural opportunities—and a high quality of life.

Priority 4: Human capital development of children, youth and families.

OUTCOMES

Good nutritional behaviors. Nebraskans who incorporate good nutritional habits into their lives will improve their physical well-being.

Healthy and successful children. Every child will be able to learn and develop in safe and healthy surroundings—with

access to high-quality, affordable early education, avenues for learning beyond school and programs that help them become productive citizens.

Positive living and learning environments for all Nebraskans. Every individual and every family in Nebraska will feel welcome in their communities and will have the opportunity to learn, grow and achieve their potential—regardless of age, ethnicity, or income level.

Retention of Nebraska's youth. We will fuel the energy, drive and potential of the state's youth by developing their talent, leadership and entrepreneurial skills—so they will be encouraged and inspired to remain in Nebraska and contribute to the state's success.

Gary Cunningham
Dean and Director

Recognition of Junior Faculty for Excellence in Research

In 1991, the ARD Advisory Council established a program to recognize the research accomplishments of junior faculty members. Typically, two junior faculty are recognized each year. The recognition consists of a certificate, engraved plaque, and \$3,000 for 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 subcommittee of the ARD Advisory Council evaluates the nominations and recommends recipients to the Dean for Agricultural Research.

The following faculty were selected for recognition during the 2008-2009 academic year:

Dr. Paul Kononoff, Assistant Professor, Animal Science

Dr. Jeyamkondam Subbiah, Assistant Professor, Food Science and Technology

Congratulations to Drs. Kononoff and Subbiah! A call for nominations is issued each year on or about July 1. We encourage faculty and administrators to nominate deserving junior faculty in their units.

AL MOSEMAN INTERNATIONAL STUDIES FUND 2008-2009

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

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

Name: Angel Ramirez-Suarez
Thesis area: Morphological and Molecular Identification
Department: Agronomy and Horticulture
Adviser: Tom Powers

HARDIN DISTINGUISHED GRADUATE FELLOWSHIP 2008-2009

The recipients of the Hardin Distinguished Graduate Fellowship for 2008-2009 are **Tejinder Kumar Mall** from the Agronomy and Horticulture Department and **Joseph Msanne** and **Saadia Bihmidine** from the School of Natural Resources. This 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. They will receive a \$2,000 supplement to their graduate assistantship and the Agronomy and Horticulture Department and School of Natural Resources will receive \$1,000 of operational support for their research programs.

Tejinder Kumar Mall, from the Agronomy and Horticulture Department and recipient of the Hardin in 2007-2008, is continuing his Ph.D. dissertation involving various evaluating strategies to improve low temperature stress tolerance in sorghum so that it can be grown very early in spring when the temperature is still very low. For this purpose he is exploring both conventional breeding and its complement genetic engineering. The long-term goal is to pyramid endogenous alleles that impart cold tolerance to sorghum with the targeted transgenes to monitor for potential additive effects. His adviser is Ismail Dweikat.

Joseph Msanne, from the School of Natural Resources, is completing his Ph.D. dissertation by investigating the physiological functions of the abiotic stress-responsive *Arabidopsis thaliana* RD29A & RD29B genes. These genes and their upstream promoter sequences were exploited for conferring

distinct abiotic stress resistance in some plants. Moreover, no close homologues have been identified in important crop species, such as maize, rice, sorghum and soybean. Results from these experiments will be used to study the possibility of developing drought-resistance crops. His advisors are Julie Stone and Tala Awada.

Saadia Bihmidine, from the School of Natural Resources, is completing her Ph.D. dissertation by investigating the physiological and molecular effects of abiotic stresses—responsible transgenes in economically important crops such as soybean and tobacco. More specifically, they are generating a transgenic soybean variety expressing the GUS reporter gene driven by the Responsive to Desiccation promoters RD29A and RD29B. By completing various objectives, this will allow her to determine the utility of these difference genes for genetically engineering crops, and consequently provide fundamental information to effectively generate transgenic crop varieties for improved field performance. Her advisor is Tala Awada.

SHEAR-MILES FELLOWSHIP 2008 - 2009

The Shear-Miles Agricultural Scholarship and Fellowship was established at the NU Foundation with a \$173,000 gift from the estate of Dorothy S. Miles. James Dennis, executor of the Miles estate, said Dorothy Miles planned that the gift memorialize her father and father-in-law, Corneilus Lott Shear and George Miles. Shear and Miles both graduated from the College of Agriculture at the University of Nebraska. 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. Four students will be recipients of this \$2,000 award given by ARD:

Name: Neway Mengistut
Thesis area: Plant Breeding/Genetics
Department: Agronomy and Horticulture
Adviser: Stephen Baenziger

Name: Difabachew Belay Kondidie
Thesis area: Genetics of Fall Armyworms
Department: Entomology
Adviser: John Foster

Name: Giane Yanai
Thesis area: Analysis of Virus Gene Expression
Department: Plant Pathology
Adviser: James Van Etten

Name: Cheng Cheng
Thesis area: Natural Resources
Department: School of Natural Resources
Adviser: Xun-Hong Chen

JOHN AND LOUISE SKALA FELLOWSHIP 2008 - 2009

The John and Louise Skala Fellowship was established at the NU Foundation. Fifty percent (50%) of the net income of this Fund shall be used annually or otherwise for one or more fellowships awarded to full-time graduate students in the Institute of Agriculture and Natural Resources (IANR), University of Nebraska–Lincoln. The recipient of this Fellowship shall be engaged in research in areas relating to the new industrial uses of agricultural products. This fellowship provides a \$3,000 stipend to master's students and a \$5,000 stipend to doctoral students.

Seven students are the recipients of this award through the Agricultural Research Division and the College of Agricultural Sciences and Natural Resources:

Name: Mohmoud Masa'deh
Thesis area: Poultry Nutrition
Department: Animal Science
Adviser: Sheila Scheideler

Name: Brittni Swedberg
Thesis area: Meat Science
Department: Animal Science
Adviser: Steven Jones

Name: Heartwin Pushpadass
Thesis area: Biological Systems Engineering
Department: Biological Systems Engineering
Adviser: Milford Hanna

Name: Ajay Kumar
Thesis area: Engineering
Department: Biological Systems Engineering
Adviser: Milford Hanna

Name: Govindarajan Suresh Babu
Thesis area: Agriculture
Department: Biological Systems Engineering
Adviser: Milford Hanna

Name: Weijie Xu
Thesis area: Textiles Science
Department: Textiles, Clothing and Design
Adviser: Yiqi Yang

Name: Yi Zou
Thesis area: Textiles Science
Department: Textiles, Clothing and Design
Adviser: Yiqi Yang

WIDAMAN TRUST DISTINGUISHED GRADUATE ASSISTANT AWARD 2008-2009

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

The criteria established for the Widaman Trust Distinguished Graduate Assistant Award specifies that only 5 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.

Name: Nickolas Crowley
Thesis area: Plant Breeding/Genetics
Department: Agronomy and Horticulture
Adviser: Steve Baenziger, Ismail Dweikat and Kent Eskridge

Name: Kenton Peterson
Thesis area: Horticulture
Department: Agronomy and Horticulture
Adviser: Robert Shearman

Name: Alia Aljama
Thesis area: Poultry Nutrition
Department: Animal Science
Adviser: Sheila Scheideler

Name: William Griffin
Thesis area: Ruminant Nutrition
Department: Animal Science
Adviser: Galen Erickson and Rick Funston

Name: Pradeep Krishnan
Thesis area: Non-ruminant Nutrition
Department: Animal Science
Adviser: Sheila Scheideler

Name: Ra,esj Somgj
Thesis area: Biological Systems Engineering
Department: Biological Systems Engineering
Adviser: Ayse Irmak

Name: Neil Spomer
Thesis area: Entomology
Department: Entomology
Adviser: Shripat Kamble

Name: Phaik Lyn Oh
Thesis area: Food Science
Department: Food Science and Technology
Adviser: Jens Walter

Name: Andreia Bianchini
Thesis area: Food Science
Department: Food Science and Technology
Adviser: Lloyd Bullerman and Jens Walter

Name: Martha Valerde
Thesis area: Interdepartment Nutrition
Department: Nutrition and Health Sciences
Adviser: Nancy Lewis

Name: Wan-ju Yen
Thesis area: Nutrition
Department: Nutrition and Health Sciences
Adviser: Nancy Lewis

Name: Jessie Fernandez
Thesis area: Plant Pathology
Department: Plant Pathology
Adviser: Gary Yuen

Name: Xiaojuan Mi
Thesis area: Statistics
Department: Statistics
Adviser: Kent Eskridge

Name: April Kerby
Thesis area: Statistics
Department: Statistics
Adviser: David Marx

Name: Lilit Kumar Beura
Thesis area: Integrated Biomedical Sciences
Department: Veterinary and Biomedical Sciences
Adviser: Clinton Jones

New or Revised Projects May and June 2008

NEB 21-142 Measuring and modeling evapotranspiration, consumptive use and hydrologic processes in watersheds impacted by irrigation agriculture

Investigator: Derrel Martin, Biological Systems Engineering
Status: Hatch project effective May 1, 2008, through Apr. 30, 2013

NEB 22-329 Plant Breeding Workshop

Investigator: Steve Baenziger, Agronomy and Horticulture
Status: Grant project effective May 1, 2008, through Apr. 30, 2009

NEB 22-330 Quality evaluation of genetics and breeding winter small grains crops for Nebraska

Investigator: Steve Baenziger, Agronomy and Horticulture

Status: Hatch project effective Apr. 1, 2008, through Mar. 31, 2013

NEB 22-332 Optimizing grain yield and quality, and resource use efficiency of modern maize and sorghum hybrids

Investigator: Steve Mason, Agronomy and Horticulture

Status: Hatch project effective June 1, 2008, through May 31, 2013

NEB 24-162 Irrigation water consumption: Implications for water management policies

Investigator: Karina Schoengold, Agricultural Economics

Status: Hatch project effective Mar. 1, 2008, through Feb. 28, 2013

NEB 25-001 Development of software programs for making in silico predictions for nutrient metabolism and requirements in humans

Investigator: Dong Want, Statistics

Status: Interdisciplinary project effective July 1, 2008, through June 30, 2010

NEB 26-188 Improving profitability and sustainability of beef feedlot production by optimizing corn milling byproducts use and improving nutrient management

Investigator: Galen Erickson, Animal Science

Status: Hatch project effective Apr. 1, 2008, through Mar. 31, 2013

NEB 28-095 Management of subterranean termites in urban/rural environments

Investigator: Shripat Kamble, Entomology

Status: Hatch project effective May 1, 2008, through Apr. 30, 2013

NEB 28-096 Genomic approaches to identify midgut specific target sites in the western corn rootworm

Investigator: Blair Siegfried, Entomology

Status: Hatch project effective July 1, 2008, through June 30, 2013

NEB 28-097 Molecular characterization of chinch bug-resistant buffalograsses

Investigator: Tiffany Heng-Moss, Entomology

Status: Hatch project effective June 1, 2008, through May 31, 2013

NEB 38-062 Landscape-level mechanisms influencing productivity and population dynamics of grassland birds

Investigator: Larkin Powell, School of Natural Resources

Status: Hatch project effective Apr. 1, 2008, through Mar. 31, 2013

NEB 42-105 Water conservation strategies in crop production systems to reduce consumptive use of water

Investigator: Simon van Donk, West Central Research and Extension Center

Status: Hatch project effective May 1, 2008, through Apr. 30, 2013

Proposals Submitted for Federal Grants May and June 2008

The following is a listing of proposals that were submitted during May and June 2008 by faculty for federal grant programs. While not all grants will be funded, we are appreciative of the faculty members' outstanding efforts in submitting proposals to the various agencies.

Kaye Stanek Krogstrand – University of Nevada Reno-USDA-NRI – Family Resiliency in Obesogenic Environments – \$14,000

James Alfano, Thomas Clemente, Steven Harris, Thomas Morris, Paul Staswick, Julie Stone and Donald Weeks – USDA – Food and Agricultural Sciences National Needs Graduate and Postdoctoral Fellowship Grants – \$258,000

Robert Hutkins, Andrew Benson, Stephen Taylor, Jens Walter, Harshavardhan Thippareddi, Richard Goodman and Vicki Schlegel – USDA-CSREES – Ph.D. National Needs Fellowships in Food Microbiology, Safety, and Health – \$234,000

Richard Ferguson and Peter Baenziger – South Dakota State University – Regional Biomass Feedstock Partnership-Biomass Residue Removal – \$57,000

Melanie Simpson – U.S. Army-DOD – Role of UDP-glucose dehydrogenase in androgen control of prostate tumorigenesis – \$541,600

Derrel Martin – Bureau of Reclamation (CESU) – Modeling and field experimentation to determine effects of land terracing-Republican River basin (CESU) – \$477,266

Mark Svoboda – NOAA – NIDIS Portal Content Development and Help Desk Support – \$164,891

Jens Walter, Stephen Taylor, Phillip Miller and Thomas Burkey – NIH – A metagenomic exploration of the gut microbiome to identify bacterial systems for the removal of toxic gluten epitopes – \$538,125

Kaye Stanek Krogstrand – NIH – Reducint risk in cardiac rehabilitation: Partners Together in Health (PaTH) Intervention – \$6,555

Clinton Jones – NIH – Analysis of products encoded by the HSV-1 latency associated transcript (LAT) – \$1,814,300

Peter Baenziger and Stephen Wegulo – USDA-ARS – Developing winter wheat with improved fusarium head blight tolerance by conventional and transgenic approaches – \$47,456

Roch Gaussoin – Department of Energy – Regional Biomass Feedstock Partnership - Herbaceous Bioenergy Crop Field Trials – \$18,000

Donald Weeks – Consortium for Plant Biotechnology Research – Development of dicamba resistant energy and biomass crops and trees – \$843,948

Yiqi Yang and Narendra Reddy – Consortium for Plant Biotechnology Research – Biofibers and composites from soy meal and corn DDGS – \$149,326

Yiqi Yang and Narendra Reddy – Consortium for Plant Biotechnology Research – Whole feather composites and regenerated protein fibers from poultry feathers – \$149,326

Meghan Sittler – NOAA – Climate literacy collections: Next steps for the climate literacy framework – \$49,503

Anatoly Gitelson – NASA – Hyperspectral active-passive assessment of cyanobacteria and cryptophytes in coastal and estuarine waters – \$91,135

Charles Shapiro – NCR-SARE – Cover crop management systems for a semi-arid region in an organic winter wheat annual crop rotation – \$164,680

Robert Wright – SARE – Increasing floral resources for pollinators and crop insect natural enemies on the great plains – \$61,502

Simon Van Donk – NCR-SARE – How does corn residue removal impact sustainability and profitability of crop and livestock producers? – \$174,033

James Brandle – NCR-SARE – Monitoring long-term patterns of farmland bird communities in Nebraska – \$39,238

Blair Siegfried – USDA-NRI – Identification and validation of midgut specific target sites for control of the western corn rootworm – \$399,659

Jens Walter, Michael Zece and Sheila Scheideler – USDA-NRI – A metagenomic analysis of the gastrointestinal microbiota of chicken – \$329,350

Cheryl Burkhart-Kriesel, Elaine Cranford and James Stubbendieck – USDA-NRI – Identifying strategies to achieve profitability and longevity for beginning and established small-to-medium farms in the north great plains – \$494,336

Steve Baenziger – USDA-ARS – National Plant Breeding Workshop – \$3,902

Robert Harveson – USDA-CSREES – Legume IPM PIPE – \$24,310

Anne Vidaver – NC IPM Center – Developing a national recovery plan for gumming disease of grasses and ryegrass toxicity, caused by rathayibacter toxicus – \$19,700

Raul Barletta and Hendrik Viljoen – NIAID – Rapid, cost-effective diagnosis of tuberculosis – \$2,904,500

Grants and Contracts Received for May and June 2008

Agricultural Economics:

Dennis Conley – USDA-ERS \$39,485.00

Agricultural Research and Development Center:

Mark Schroeder and Paul Kononoff – Pioneer Hi-Bred International, Inc. \$98,735.00

Agronomy and Horticulture:

Peter Baenziger and Stephen Wegulo – USDA-ARS \$47,456.00

Rhae Drijber – Department of Agriculture-ARS \$50,000.00

Richard Ferguson – Central Platte Natural Resource District \$26,950.00

Richard Ferguson and Peter Baenziger – South Dakota State University (DOE) \$47,000.00

Paul Read – Nebraska Department of Agriculture \$14,000.00

Miscellaneous Grants under \$10,000 \$130,152.00

Animal Science:

Chris Calkins and Galen Erickson – National Cattlemen's Beef Association \$72,995.00

Galen Erickson – Cargill \$49,933.00

Rodger Johnson – Kansas State University (National Pork Board) \$40,500.00

Terry Klopfenstein, Galen Erickson and David Smith – Nebraska Corn Board \$10,000.00

Phillip Miller and Thomas Burkey – Pioneer Hi-Bred International, Inc. \$34,684.00

Miscellaneous Grants under \$10,000 \$10,100.00

Biochemistry:

Vadim Gladyshev – DHHS-National Institute on Aging (NIH) \$241,900.00

Jaekwon Lee – NIH \$210,867.00

Biological Systems Engineering:

Suat Irmak, Dean Eisenhauer, Simon van Donk, Ron Yoder, Ayse Irmak, Don Rundquist, Gary Zoubek and Jennifer Rees – Nebraska Environmental Trust \$679,160.00

Angela Pannier – EPSCOR \$20,000.00

Miscellaneous Grants under \$10,000 \$8,600.00

Entomology:

Lance Meinke – Pioneer \$46,078.00

Lance Meinke – Syngenta \$37,800.00

Lance Meinke – Monsanto \$25,000.00

Lance Meinke – Dow Agrosociences \$12,000.00

Robert Wright and Wyatt Hoback – USDA-APHIS-PPQ \$10,419.00

Robert Wright, Gary Hein, Thomas Hunt and Tamra Jackson – USDA-CSREES \$92,967.00

Robert Wright and Wyatt Hoback – USDA-APHIS-PPQ \$21,419.00

Miscellaneous Grants under \$10,000 \$34,800.00

Food Science and Technology:

Robert Hutkins and Rodney Moxley – Dairy Management Inc. (USDA) \$45,450.00

Harshavardhan Thippareddi – Hill's Pet Nutrition \$20,000.00

Industrial Agricultural Products Center:

Milford Hanna – Nebraska Corn Board \$10,000.00

Northeast Research and Extension Center:

Keith Jarvi – Syngenta \$18,900.00

Stevan Knezevic – Propane Education and Research Council \$104,324.00

Stevan Knezevic – High Plains Weed Management Association \$60,000.00

Miscellaneous Grants under \$10,000 \$72,300.00

Panhandle Research and Extension Center:

Gary Hein – Dow Agrosociences \$14,490.00

Miscellaneous Grants under \$10,000 \$125,475.00

Plant Pathology:

Loren Giesler – North Central Soybean Research Program \$205,000.00

Stephen Wegulo – USDA-ARS \$40,725.00

Gary Yuen – USDA-ARS \$21,202.00

Miscellaneous Grants under \$10,000 \$55,650.00

School of Natural Resources:

Craig Allen – Nebraska Environmental Trust \$109,379.00

Craig Allen – NGPC \$20,800.00

Mary Brown – Nebraska Environmental Trust \$130,000.00

Mary Brown – Nebraska Game and Parks Commission \$14,510.00

Anatoly Gitelson, Shashi Verma and Andrew Suyker – NASA-ROSES \$99,401.00

Anatoly Gitelson – NASA \$67,494.00

Anatoly Gitelson – NASA \$199,442.00

Paul Hanson, Robert Joeckel and Mark Kuzila – USGS \$49,721.00

Michael Hayes – NOAA \$135,120.00

Ken Hubbard – NOAA \$56,832.00

Ayse Irmak – Layman Fund \$10,000.00

Sunil Narumalani – USDA-APHIS \$39,274.00

Kevin Pope – Nebraska Game and Park Commission \$77,528.00

Larkin Powell and Craig Allen – USGS, National Park Service \$95,600.00

Larkin Powell – Nebraska Emergency Management Agency \$26,967.00

Jinsheng You – Layman Fund \$10,000.00

Miscellaneous Grants under \$10,000 \$26,005.00

Statistics:

Walter Stroup – Product Quality Research Institute \$60,539.00

Miscellaneous Grants under \$10,000 \$7,809.00

Veterinary and Biomedical Sciences:

Clinton Jones – NIH \$180,872.00

Marjorie Lou – NIH \$505,934.00

David McVey – Nebraska Department of Agriculture \$24,000.00

David Steffen – Department of Agriculture-APHIS \$25,920.00

West Central Research and Extension Center:

Miscellaneous Grants under \$10,000 \$15,000.00

TOTAL: \$4,894,663.00