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ARD News April 2004

University of Nebraska Lincoln

ARD

Agricultural Research Division News

IANR

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Comments from the Dean

Dear Colleagues:

Accountability increasingly is expected from any entity receiving tax funds, including the ARD. Formal accountability for ARD federal formula and state-appropriated funds occurs in annual cycles. A part of the accountability resides in the requirement that any scientist receiving federal formula funds must maintain a formal research project. At the University of Nebraska, federal Hatch Act funds are combined with state appropriations to form the ARD budget from which faculty and staff salaries, GRA stipends and operating funds are derived. Additional accountability is inherent in the fact that each project leader is required to submit to USDA an annual Progress Report (AD 421) and ARD is required to submit a Research Funds and Staff Support Summary (AD 419) for each research project. In addition, USDA requires submission of an Annual Report on the ARD Plan of Work that covers the use of all formula funds. We also participate in the joint NASULGC-CSREES Impact Reporting project that summarizes impacts on a national basis.

At the state level, ARD is required by the legislation establishing the Nebraska Agricultural Experiment Station to prepare an Annual Report, which is sent to the Governor and Legislature. In addition, ARD attempts to be accountable by publishing ***Research Nebraska*** and ***Endeavors*** and maintaining a Web page documenting faculty accomplishments. In addition, CIT is very active in issuing news releases and radio tapes that highlight faculty research achievements. We also participate in advisory committee meetings, commodity organization meetings and listening sessions throughout the state to explain our research programs and obtain input on research priorities.

Individual faculty members can aid in our accountability efforts in several ways. Faculty should be responsive to requests for information or assistance from clientele or decision makers. Faculty also should be willing to engage stakeholders through tours of their research facilities, field day activities, extension education programs and speaking at meetings of community groups. Even interaction with neighbors regarding university research can be helpful in creating a positive image of our programs.

During FY 2003, ARD obtained more than $35.85 million from state appropriations, federal formula funds and the Nebraska Research Initiative. This represents about 53 percent of all ARD expenditures during this fiscal year. Thus, it is imperative that all ARD faculty be accountable for the "hard dollar" funds they are provided and to be willing to demonstrate that these investments of public funds have a high payoff.

Darrell W. Nelson
Dean and Director

Unit Performance Characteristics

Since 1988, ARD has been tracking unit budget allocations and performance characteristics. The primary reason for accumulating this data was to ascertain if our research program was making progress on year-to-year basis. More recently, the University of Nebraska Board of Regents has required that each campus develop "Quality Indicators." The ARD data base will be very helpful in providing the "Quality Indicator" data requested at the UNL level.

For FY 2004, on average ARD is providing units with almost $209,000 per faculty research FTE. Of this amount, more than $166,000 is expended for faculty and staff salaries and fringe benefits. On average, ARD is providing $16,900 per faculty research FTE for GRA stipends and student wages and $22,400 per faculty research FTE for operating funds. ARD provides on average 1.37 managerial/professional and office/service staff FTE per faculty research FTE.

The average performance characteristics of ARD units for FY 2002 and 2003 are:

Characteristic	*FY 2002*	*FY 2003*
Total appropriated funds, $/research FTE	199,890	204,950
Refereed publications, number/research FTE	4.09	3.47
Theses/dissertations, number/research FTE	1.00	0.96
Competitive grant funds, $/research FTE	80,575	105,390
Total grant funds, $/research FTE	140,142	170,607
Total grant funds/total appropriated funds	0.73	0.88
Competitive grant proposals, number/research FTE	1.47	1.63
Total grant proposals, number/research FTE	10.51	5.60
Total resources, $/research FTE	340,032	375,002

Although there is considerable variation from unit to unit, the number of refereed articles, books and book chapters published per research FTE in FY 2003 decreased from the level attained in FY 2002. On the other hand, the acquisition of competitive grant funding and total grant funding increased significantly in FY 2003, compared with FY 2002, as did the ratio of total grant funds to appropriated funds. The number of competitive grant proposals submitted per research FTE increased in FY 2003, compared with FY 2002, but the reverse was true for total grant proposals. The latter finding suggests that faculty reduced the number of grant proposals submitted for internal programs that provide small seed grants.

Facility GIS System Development

The ARD has contracted with CALMIT to design and make available information on all IANR research sites in a GIS format. The site is located at http://calmaps.unl.edu/ard/. The Web site is interactive, enabling the user to pull up individual locations, zoom in or out on fields or buildings, set visible and active layers of information, query location points and many other features.

The site has both regional and site-specific information. The regional information can be accessed through the "Facility Navigator" link. When clicking on this link, the user will be taken to a map of Nebraska with each major research site located on the map. In this area general information on each location can be accessed. The legend on the right side of the screen allows the user to determine what information should be displayed. The toolbar at the top of the map allows the user to navigate around the map that is displayed.

The "Facility Navigator" link contains a great deal of information about the state in general. For example, a user who wants to quickly know the population of Madison County would make the "county boundaries" the active layer and make other desired layers visible by clicking in the appropriate box in the right-hand legend. Once these items are selected, the user would go to the toolbar at the top of the map and click "refresh." Once the map refreshes, the user would click on the "info" button, locate Madison County and click anywhere within the county boundary. At the top of the screen, census data, which contains the population figure for Madison County, will appear.

The other area of the site is delineated as "Site Maps." In this area, the user can choose a facility from the list and go directly to information regarding that site. When the map refreshes, a legend will appear on the right-hand side of the screen with the different information available for that site. The user needs to simply select one active layer and then however many visible layers preferred. Once this is done, the user can scroll down the legend and click the refresh button to display the choices. The user can then navigate the map using the toolbar on the left-hand side of the map. For example, if the user wants to obtain the legal description of a certain area at the site, they would make the "sections layer" active and visible. The next step, after refreshing the map, would be to click the "identify" button on the left-hand toolbar. Then simply clicking on the area will display the legal description.

In the near future, the goal is to have all base information on each site in the system. As site-specific data is collected at each location, it will be incorporated into the system.

Guidelines for ARD Projects — New Projects

Thanks to all of you who provided input into the guidelines for ARD projects and review processes. The newly revised guidelines are now available online at: http://ard.unl.edu/proposal.html

CSREES defines a new project as: "documented planning for a five-year research activity generated from a single experiment station. The research focuses on a clearly definable problem, a manageable phase of a larger problem, or a few closely related elements of a broad-based research program. Each project outline includes information on: a) WHAT is being done, b) WHO is doing it, c) WHERE it is being conducted, d) WHEN it is performed, e) IMPACT expected (including publications produced) and, f) BUDGETARY needs (including potential for external funding)".

The research project outline should be the *foundation* for planning and conducting ARD research. As such, the outline should be a dynamic, working document that is frequently evaluated and altered as new findings develop.

Initial study described in the outline should be more detailed but still allow for opportunities to be visionary. The outline should allow flexibility to alter the direction of research as new findings are developed. ARD outlines usually *do not* include the researcher's total research activity and they are *not* expected to be completely achievable within the proposed duration. Conceptually, an outline should chal-

lenge the scientist to expand his/her research beyond its current level.

New projects must, by federal law, undergo scientific peer review. The reviewers are asked to look for the following and provide overall comments:

- Does the project address an identified priority area?
- Have the results of the CRIS search been clearly described?
- Are the objectives clear and are the procedures clear and matched to the objectives?
- Is the proposed project feasible?
- Are there potential environmental, economic and/or social impacts?
- Is there potential for development of intellectual property development?
- Are the resources realistic? Is there potential external funding?
- Are the expected impacts and outcomes for ARD's stakeholders described?

Related sections of the project outline are:

- STATEMENT OF THE ISSUES AND JUSTIFICATION — one-page maximum identification of the problem area to be studied and why it is a priority.
- RELATED CURRENT AND PREVIOUS WORK — two-page maximum review of how other AES researchers are approaching the area of study as described in CRIS. The researcher's current and previous work, especially preliminary work leading to the project outline, should be included.
- OBJECTIVES — two-page maximum, clear, concise listing of the project's objectives. The initial objectives should be more specific than later objectives because the later objectives will be shaped by the initial findings.
- PROCEDURES — should match the objectives and be more specific and detailed for the project's earlier stages. Reviewers should be able to evaluate the feasibility of the approach and the chances for success.
- MEASUREMENT OF PROGRESS AND RESULTS — one-page maximum discussion of potential outcomes, impacts and methods to recognize potential outcomes and impacts. ***A chart of the expected timeline for meeting objectives is required.***
- FINANCIAL SUPPORT — ***a table*** showing the resources needed to complete the objectives, resources available and predicted resources available, and resources needed from other sources ***is required.*** This section should focus on feasibility of conducting the project and sources for external funding.

Layman Awards

IANR faculty submitted 17 proposals for funding by the Layman Trust. A subcommittee of the ARD Advisory Council carefully evaluated each proposal and ranked the submissions in relation to quality of science and the potential impact of the proposed research. There were eight proposals forwarded to the Vice Chancellor for Research.

The primary aim of the Layman Awards is to provide seed money to enhance the possibility of obtaining external support for the research project. Only untenured faculty or tenured faculty who have not yet received an external grant are eligible for the program.

Seven of the eight proposals submitted to the Vice Chancellor for Research were funded:

Harshavardhan Thippreddi, Food Science and Technology
"Development and Validation of Pressurized (Dense Phase) Carbon Dioxide Technology for Control of Listeria Monocytogenes on Ready-To-Eat Meat Products and Salmonella spp. On Sprouts"
Total Amount Received $10,000
Funding Period: May 1, 2004 — April 30, 2005

Andrew Tyre, School of Natural Resources
"Are Mosquito Vectors of West Nile Virus Affected by Wetland Size and Landscape Context?"
Total Amount Received $9,952
Funding Period: May 1, 2004 — April 30, 2005

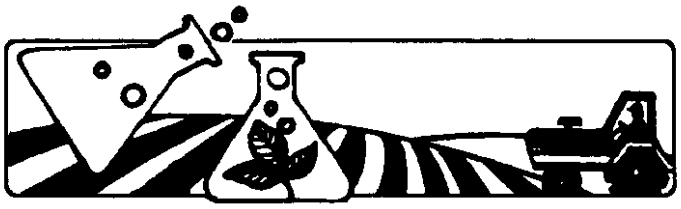
Greg Bashford, Biological Systems Engineering
"Pilot Study for Ultrasonic Detection of Cracked Teeth"
Total Amount Received $10,000
Funding Period: May 1, 2004 — April 30, 2005

Ming Kang, Plant Pathology
"Identifying the Phosphorylation Modification of Potassium Ion Channel Protein Encoded by Chlorella Viruses"
Total Amount Received $10,000
Funding Period: May 1, 2004 — April 30, 2005

Jaekwon Lee, Biochemistry
"Mammalian Copper Metabolism and Defects in Copper Homeostasis"
Total Amount Received $10,000
Funding Period: May 1, 2004 — April 30, 2005

Dojin Ryu, Food Science and Technology
"Reduction of Neural Tube Defect Risk from Corn by Extrusion Processing"
Total Amount Received $10,000
Funding Period: May 1, 2004 — April 30, 2005

Brigitte Tenhumberg, School of Natural Resources
"Role of Native Insect Herbivores in Providing Ecosystem Resistance to Invasion"
Total Amount Received $10,000
Funding Period: May 1, 2004 — April 30, 2005



Grants and Contracts Received February and March, 2004

Agricultural Economics
- **Perrin, Richard** — USDA/ARS — $ 45,000
- Miscellaneous Grants Under $10,000 each — 12,988

Agronomy/Horticulture
- **Beecher, Brian** — USDA through Montana State University — 20,000
- **Clemente, Tom** — United Soybean Board — 23,750
- **Dobermann, Achim** — United Soybean Board — 17,000
- **Graef, George** — United Soybean Board — 68,664
- **Shearman, Robert** — Native Turf Group — 20,000
- **Spalding, Roy** — Central Platte NRD — 90,000
- Miscellaneous Grants Under $10,000 each — 26,500

Animal Science
- **Calkins, Chris** — National Cattlemen's Beef Association — 16,810
- **Scheideler, Sheila** — USDA Midwest Poultry throug Iowa State University — 19,600
- **Weber, John** — Baylor College of Medicine — 77,043
- **White, Brett** — USDA/CSREES — 287,193
- Miscellaneous Grants Under $10,000 each — 5,000

Biochemistry
- **Banerjee, Ruma** — NIH — 288,940
- **Becker, Donald** — NIH — 51,375
- **Chollet, Ray** — NSF — 145,600
- **Gladyshev, Vadim** — NIH through University of Nebraska Medical Center — 14,461
- **Gladyshev, Vadim** — NIH — 253,750
- **Markwell, John** — USDOE — 100,000
- **Simpson, Melanie** — U.S. Army Medical Research — 326,250
- **Simpson, Melanie** — NIH through University of Nebraska Medical Center — 237,950
- **Weeks, Donald** — United Agri Products, Inc/Conagra — 120,637
- Miscellaneous Grants Under $10,000 each — 6,000

Biological Systems Engineering
- **Adamchuk, Viacheslav and Achim Doberman** — Veris Technologies — 60,654
- Miscellaneous Grants Under $10,000 each — 5,545

Center for Applied Rural Innovation
- **Allen, John** — USDA through University of Missouri-Columbia — 82,172

Communications and Information Technology
- **Cotton, Dan** — American Distance Education Consortium (ADEC) — 69,000

Conservation and Survey
- **Eversoll, Duane** — Platte River and Basin Cooperative Hydrology Study — 15,000
- **Narumalani, Sunil** — Nebraska Military Department — 58,410

Entomology
- **Higley, Leon** — Nebraska Game and Parks Commission — 29,000
- **Siegfried, Blair** — Pioneer Hi-Bred International Inc — 33,344
- **Siegfried, Blair** — USDA/ARS — 25,000
- Miscellaneous Grants Under $10,000 each — 33,500

Food Science and Technology
- **Hefle, Susan** — USDA through University of Arkansas Medical Sciences — 17,193
- **Jackson, David** — Nebraska Dry Bean Commission — 15,668
- **Taylor, Stephen** — USDA/FSMIP — 87,216
- Miscellaneous Grants Under $10,000 each — 15,980

Northeast Research and Extension Center
- Miscellaneous Grants Under $10,000 each — 2,000

Nutrition and Health Sciences
- Miscellaneous Grants Under $10,000 each — 145,000

Panhandle Research and Extension Center
- Miscellaneous Grants Under $10,000 each — 104,773

Plant Pathology
- **Alfano, James** — NSF through Cornell University — 30,000
- **Steadman, James** — Michigan State University — 83,412
- **VanEtten, James** — NIH — 288,000

Plant Science Initiative
- **Clemente, Tom** — NSF through Cornell University — 77,401

School of Natural Resources
- **Comfort, Steve** — BWXT Pantex LLC — 44,739
- **Eisenhauer, Dean** — USDA/FS — 20,462
- **Hubbard, Ken** — U.S. Department of Interior — Bureau of Reclamation — 155,000
- **Hygnstrom, Scott** — USDA/APHIS — 24,620
- **Hygnstrom, Scott** — Mississippi State University — 10,605
- **Lackey, Susan** — Upper Elkhorn NRD — 40,000
- **Mason, Joseph** and **Paul Hanson** — NSF — 11,978
- **Merchant, James** and **Jeff Arnold** — Nebraska Emergency Management Agency — 19,766
- **Merchant, James** — NOAA — 46,144
- **Merchant, James** — USDOI/USGS — 55,000
- **Peters, Ed** — USDA/FS — 23,866
- **Peters, Ed** — Nebraska Game and Parks Commission — 29,300
- **Rundquist, Don** — Florida Agricultural and Mechanical University — 50,000
- **Rundquist, Don** — NASA through University of Nebraska-Omaha — 142,622
- **Verma, Shashi** — USDOE — 300,000
- **Verma, Shashi** — USDOE through University of California-Davis — 1,122,258
- Miscellaneous Grants Under $10,000 each — 7,500

Statistics
- Miscellaneous Grants Under $10,000 each — 4,306

Sustainable Agriculture Research and Education (SARE) Program
- **Wilcke, Bill** — USDA/CSREES — 503,564

Textiles, Clothing and Design
- **Yang, Yiqi** — Proctor and Gamble — 300,618

Veterinary and Biomedical Sciences
- **Barletta, Raul** — NIH — 72,500
- **Cirillo, Jeff** — NIH — 290,000
- **Lou, Marjorie** — NIH through University of Nebraska Medical Center — 30,861
- **Lou, Marjorie** — National Eye Institute — 427,327
- **Schmitz, John A.** — NIH — 20,000
- Miscellaneous Grants Under $10,000 each — 6,000

West Central Research and Extension Center
- **Payero, Jose** — U.S. Department of Interior — Bureau of Reclamation — 35,000
- **Wicks, Gail** — USDA through Washington State University — 11,000
- **Wilson, Roger, Richard Clark** and **Doug Jose** — Nebraska Soybean Board — 11,172
- Miscellaneous Grants Under $10,000 each — 50,600

Grand Total — **7,419,587**

Proposals Submitted for Federal Grants

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

Julie M. Stone — USDA/NRI — Transcriptional Regulation of Plant Development — $406,199

Donald F. Becker and **Martin B. Dickman** — USDA/NRI — The Role of Proline Metabolism and Redox Changes During Adaptive Stress Response in Plants — $493,404

Robert J. Spreitzer — USDA/NRI — Rubisco Phylogenetic Engineering — $497,419

Madhavan Soundararajan, Timothy J. Arkebauer, John P. Markwell and **Daniel T. Walters** — USDA/NRI — Nonstructure Carbohydrate Accumulation and Mobilization in Field-Grown Maize — $410,479

Jaekwon Lee — USDA/NRI — Mammalian Copper Transport, Homeostasis, and its Defects — $1,816,007

Blair D. Siegfried — USDA/ARS — Contributions to a Framework for Managing Insect Resistance to Transgenic Crops — $25,000

James R. Alfano — NSF through Cornell University — VCA Functional Genomics of *Pseudomonas syringae*-Tomato Interactions — $1,750,000

Melanie A. Simpson — NIH — Structure-Function of the HA Receptor for Endocytosis — $132,734

Vadim Gladyshev — NIH — Identity and Functions of Selenoprotein Genes — $1,812,500

Viacheslav I. Adamchuk — USDA/NRI through University of Illinois — Development of an Integrated, Data Fused, Soil Quality Assessment System — $97,074

Michael Fromm and **Sally Mackenzie** — NSF-ISGA: Bioassay-Guided Discovery of Physiologically Active Phytochemicals — $1,499,996

Julie M. Stone — NSF — Regulation of Transcription Factor Activity in *A. thaliana* — $472,520

Donald P. Weeks — NSF — Molecular and Genetic Analyses of the Carbon Concentrating Mechanism of *Chlamydomonas reinhardtii* — $886,485

Loren J. Giesler — USDA/CSREES Critical Needs Research Program through University of Illinois — Evaluation of Fungicide Application Methods and Fungicide Efficacy for Control of Soybean Rust on *Glycine max* in Post Flowering Soybean — $12,500

Jeffrey D. Cirillo — NIH/NIAID — Acanthamoeba-Pathogen Interactions Mutant Analysis — $1,642,500

David Wedin and **Tim Arkebauer** — NSF — through University of Minnesota — Acclimation of Soil Respiration to Experimental Warming in Grasslands — $254,284

Larkin Powell, Brigitte Tenhumberg and **Andrew J. Tyre** — NSF — Does the Predator Landscape Drive Avian Dispersal? — $570,760

Rodger K. Johnson and **John S. Weber** — USDA/NRI through University of Minnesota — Identifying Genes Expressed Differently in Pigs with Differential Phenotypic Responses to PRRSv — $146,913

Osvaldo J. Lopez — USDA/NRI through University of Minnesota — Characterization of PRRSv Minor Glycoproteins for Use in a Second-Generation Vaccine — $30,259

Fernando Osorio — USDA/NRI through University of Minnesota — Role of Neutralizing Antibodies in Protective Immunity Against PPRSv Infection — $144,591

Rhae Drijber — USDA/ARS — Manure and Nutrient Management Practices to Protect Human Health and the Environment — $85,000

Gary Y. Yuen, Steven D. Harris and **Liangchen Du** — USDA/NRI — Functional and Chemical Characterization of a Novel Broad Spectrum Antimycotic From the Biocontrol Agent *Lysobacter enzymongenes* C3 — $424,600

Susan Hefle — USDA/Special — Alliance for Food Protection — $24,887

Andrew K. Benson — NIH — Novel Wall Biogenesis in *Listeria* and *B. Anthracis* — $1,267,980

Gary Hein, Drew Lyon and **Paul Burgener** — USDA/ARS — Biologically Intensive Areawide IPM of the Russian Wheat Aphid and Greenbug — $42,240

Donald A. Wilhite — USDA/Special — Developing Drought Mitigation and Preparedness Technologies for the U.S. — $187,584

Bahman Eghball and **David Baltensperger** — USDA through Florida State University — Effects of Nutrient Management on Carbon Storage and Turnover in Soil — $153,502

David Tarkalson and **Achim Dobermann** — USDA through Cornell University — Assessing Effects of CrylAb and Cry3Bb Bt Corn on Detritivore Arthropods and Microflora, and Fate of Residue Carbon and Bt Toxins in Field Soil — $29,629

Dojin Ryu, Lloyd B. Bullerman and **Milford A. Hanna** — USDA/NRI — Chemical and Toxicological Evaluation of Fumonisin B_1 in Extruded Corn Grits — $353,818

Wayne E. Woldt, Byravamurthy Ramamurthy, Mohamed F. Dahab, Derrel L. Martin and **Xun-Hong Chen** — NSF — An Engineering Analysis Network for Adaptive Infrastructure Management Across the Community and Watershed Interface — $99,452

Melanie A. Simpson and **Vadim Gladyshev** — NIH — Nebraska Center for Cellular Signaling — $1,212,787

Milford A. Hanna — USDA/NRI through Mississippi State University — Development of Oxidatively and Thermally Stable, Polymerization Resistant Industrial Lubricants from Chemically Modified Soybean Oil and Vegetable Oil Methyl Esters — $115,466

George E. Meyer, David D. Jones and **John L. Lindquist** — USDA/Integrated Pest Management — Machine Vision Weed Species Classification and Modeling for Improved Integrated Pest Management — $282,504

Blair D. Siegfried, Lance J. Meinke and **Robert J. Wright** — USDA/Integrated Pest Management — Integrating Resistance Management into Novel IPM Strategies for the Western Corn Rootworm — $1,996,822

Dean Eisenhauer, Michael G. Dosskey, C. William Zanner and **Scott E. Hygnstrom** — USDA/NRI — Beaver in the Agricultural Landscape: Restoration of Ecosystem Functions — $798,173

Stephen L. Taylor and **Susan L. Hefle** — USDA/Integrated Research, Education and Extension Competitive Grants Program — Protecting Food-Allergic Consumers in Retail Foodservice Settings — $599,650

James Brandle — USDA/NRI through Iowa State University — A Shelterbelt Planning Tool for the Midwestern United States — $259,705

James Merchant and **Patti Dappen** — U.S. Department of the Interior Bureau of Reclamation — GIS Database Development for Kansas and Nebraska Reservoirs — $87,883

Han Asard — NSF — Physiological Functions and Biochemical Properties of Plant Cytochromes b561 — $386,084

News or Revised Projects

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

NEB-10-151 (Agricultural Economics) Economic Impacts of Changes in Trade Arrangements, Bio-Terrorism Threats and Renewable Fuels Requirements on U.S. Grain and Oilseed Sector
Investigator: D.M. Conley
Status: New Hatch project effective Feb. 1, 2004

NEB-11-126 (Biological Systems Engineering) Integrated Research and Extension Education Program Addressing Livestock Air Quality Issues
Investigator: Rick Koelsch
Status: New Hatch project effective Dec. 1, 2003

NEB-12-301 (Agronomy and Horticulture) Pollution and Economic Decision Support Tool for Impaired Watershed Management Plans in Eastern Nebraska
Investigator(s): D. Ginting, G.E. Helmers, M. Mamo, C. Wortmann and B. Eghball
Status: New Competitive Grant effective Sept. 15, 2003

NEB-12-303 (Agronomy and Horticulture) Investigating the Relationship between Leaf Re-greening and Leaf Senescence in a Novel Model System
Investigator: Ellen Paparozzi
Status: New Hatch project effective Jan. 1, 2004

NEB-14-103 (Veterinary and Biomedical Sciences) Pathogenic Mechanisms of Bacterial Respiratory Pathogens
Investigator: J.D. Cirillo
Status: Revised Hatch project effective Nov. 1, 2003

NEB-14-127 (Veterinary and Biomedical Sciences) Intervention Strategies to Reduce *Escherichia coli* 0157:H7 in Beef Feedyards
Investigator(s): D. Smith, G. Erickson, R. Moxley, T. Klopfenstein and S. Hinkley
Status: New Competitive grant effective Sept. 15, 2003

NEB-14-130 (Veterinary and Biomedical Sciences) Regulation of the Latency-Reactivation Cycle by the Bovine Herpesvirus 1 (BHV-1) Latency Related (LR) Gene
Investigator: Clinton Jones
Status: New Animal Health project effective Oct. 1, 2003

NEB-15-102 (Biochemistry) Transcriptional Regulation of Programmed Cell Death (PCD) in Plant Development and Response to Pathogens
Investigator: J.M. Stone
Status: New Hatch project effective Feb. 1, 2004

NEB-15-106 (Biochemistry) Role of Hyaluronan Matrix in Prostrate Cancer Progression
Investigator: Melanie Simpson
Status: New State project effective April 1, 2004

NEB-17-080 (Entomology) Mechanisms and Management of Arthropod Injury to Plants
Investigator: L.G. Higley
Status: New Hatch project effective Oct. 1, 2002

NEB-17-085 (Entomology) Differential Gene Expression of Barley in Response to Aphid Injury
Investigator: T.M. Heng-Moss
Status: New Hatch project effective March 1, 2004

NEB-21-070 (Plant Pathology) Mitigation of Diseases of Dry Edible Bean and Stem Rot of Soybean by Managed Plant Resistance
Investigator: J.R. Steadman
Status: Revised Hatch project effective Nov. 1, 2002

NEB-21-086 (Plant Pathology) Chaperones of the Type III Protein Secretion System of Pseudomonas Syringae Tomato DC3000
Investigator: James R. Alfano
Status: New Competitive Grant effective Sept. 1, 2003

NEB-21-087 (Plant Pathology) Soybean Rust: A New Pest of Soybean Production
Investigator: Loren Giesler
Status: New Hatch project that contributes to regional project NC-504 effective Jan. 1, 2003

NEB-24-034 (AGLEC) Predictors of Leader and Follower Behaviors and the Impact of Leadership Development Interventions and Programs
Investigator(s): J.E. Barbuto and Susan M. Fritz
Status: Revised State project effective June 1, 2004

NEB-43-073 (West Central Research and Extension Center) Enhancing Reproductive Efficiency in Beef Cattle
Investigator: R.N. Funston
Status: New Hatch project effective Feb. 1, 2004

NEB-92-039 (Family and Consumer Sciences) Risk and Resiliency for Substance Abuse and Behavioral Health Among Immigrant Adolescents in Nebraska
Investigator: Y. Xia
Status: New Hatch project effective Dec. 1, 2003

NEB-92-040 (Family and Consumer Sciences) Redefining Working-Poor: Factors Associated with the Concurrence of Work and Unmet Basic Needs
Investigator: C.A. Huddleston-Casas
Status: New Hatch project effective November 1, 2003

NEB-92-041 (Family and Consumer Sciences) Rural Low-Income Families: Tracking Their Well-Being and Functioning in an Era of Welfare Reform
Investigator(s): M.K. Prochaska-Cue and S. Churchill
Status: New Hatch project that contributes to regional project NC-1022 effective October 1, 2003

Diane says

If you cannot have everything,
make the best of everything you have.