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2008

## University of Nebraska-Lincoln Agricultural Research Division 122nd Annual Report July 1, 2007 to June 30, 2008

Institute of Agriculture and Natural Resources

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University of Nebraska–Lincoln

# Agricultural RESEARCH Division

**122nd Annual Report  
July 1, 2007 to June 30, 2008  
Institute of Agriculture and Natural Resources**

Agricultural Research Division scientists improve the quality of life for Nebraskans across the state. They make important contributions to the state's agriculture, food industries, environment, the well-being of families and community development. Research occurs in fields, feedlots, the natural environment, homes, yards, gardens, and cities and towns. ARD scientists provide new knowledge and seek answers to Nebraskans' problems and concerns.

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.

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## **Our Mission**

*The mission of the Agricultural Research Division in the Institute of Agriculture and Natural Resources at the University of Nebraska–Lincoln is to conduct problem-solving and fundamental research that addresses priority issues facing Nebraska’s agricultural and food industries; provides the knowledge base essential for managing our natural resources; promotes family well-being and community development; and educates future scientists through hands-on experiences.*





Gary L. Cunningham

Welcome to the 122<sup>nd</sup> annual report of the University of Nebraska–Lincoln Agricultural Research Division. Here, you’ll find a summary of the work our faculty do on Nebraskans’ behalf with financial support through the University of Nebraska, federal and state agencies, and industry grants and gifts.

FY 2008 ARD faculty accomplishments that provide knowledge to support agriculture, agribusiness, natural resources, and human well-being in Nebraska are highlighted. The report documents ARD’s successes in developing new knowledge and technologies to improve profitability, better manage natural resources, enhance environmental quality, and improve the quality of all our lives.

In addition to research accomplishments and impacts, this year’s report includes listings of faculty, research projects, faculty and student awards and honors, research outputs and the ARD financial report for the period July 1, 2007, to June 30, 2008. This report reflects the breadth of ARD’s research work from the adaptational and applied research required to meet current needs to the basic and fundamental research that will help serve Nebraska’s future.

This report was compiled in accordance with the intent of the law of the State of Nebraska that established the Nebraska Agricultural Experiment Station on March 31, 1887.

# Faculty Awards and Recognitions

The impact and quality of ARD research can be assessed in many ways. One measure of excellence is the recognition researchers' work receives from peers and from those who benefit from the research. A number of ARD faculty members are widely recognized as leaders in their disciplines, and a number received international, national, regional and/or state honors.

Many ARD faculty also serve as officers or directors in their professional societies and state, regional, national and international organizations. Some are editors and associate editors of professional journals. We applaud their efforts in furthering the knowledge and professionalism of their disciplines.

## Agricultural Economics

**Konstantinos Giannakas** received the Visiting Professor at MAICH, Mediterranean Agronomic Institute of Chania, Greece and the Visiting Professorship at Wageningen University, The Netherlands.

**H. Douglas Jose** received the Bronze Award for Service to Agriculture for Market Journal from the Nebraska Broadcasters Association and the Award for Distinguished Extension Specialist, University of Nebraska–Lincoln.

**Gary Lynne** received the GSO Faculty Award from the UNL Graduate Student Organization.

## Agronomy and Horticulture

**Richard Ferguson** received a Certificate of Excellence in the American Society of Agronomy Extension Educational Materials Contest.

**Donald Lee** received a Certificate of Recognition for Contribution to Students from the UNL Teaching Council and Parents Association.

**Stephen C. Mason** received the Outstanding Contribution to Graduate Education Award from University of Nebraska–Lincoln Office of Graduate Studies.

**Jeffrey Pedersen** received the USDA, ARS, NPA Senior Scientist of the Year Award.

**Walter Schacht** was named Fellow by the Society for Range Management.

**Sheila Scheideler** received the Helene Cecil Leadership Award from the Poultry Science Association.

**James Specht** received the Soybean Promoter Award, Nebraska Soybean Association, in recognition of his research and development efforts that promote improvements in soybean production and use.

**James Stubbendieck** received a Certificate of Recognition for Contributions to Students from the UNL Teaching Council and Parents Association.

**Charles S. Wortmann** received the American Society of Agronomy A4 Certificate of Excellence in the Extension Educational Materials Contest for "Agricultural Nitrogen Management for Water Protection in the Midwest."

## Animal Science

**Mary Beck** received the Fellow Award from the Poultry Science Association.

**Don Beermann** received the Industry Service Award from the Nebraska Cattlemen and served as president-elect of the Nebraska Chapter of Sigma Xi.

**Dennis Brink** served as president-elect of the Nebraska Chapter of Gamma Sigma Delta.

**Chris Calkins** was named the K.C. Wong Invited Lecturer at Nanjing Agricultural University, China, was named a Fellow by the American Meat Science Association, and was listed on the North American Meat Processors College of Experts.

**Andrea Cupp** served on the Board of Directors of the American Society of Animal Science.

**Galen Erickson** received the Wendell Burgher Beef Industry Award from the Institute of Agriculture and Natural Resources.

**Calvin Ferrell** received the Fellow award from the American Society of Animal Science.

**Kathy Hanford** received the Dinsdale Award from the Institute of Agriculture and Natural Resources.

**Terry Klopfenstein** received the Livestock Industry Award from the Nebraska Corn Board and received an Ethanol Co-products Research Recognition Award from the Nebraska Cattlemen.

**Rick Koelsch** was a co-PI of The Heartland Regional Water Quality project, which received the Leadership Award from the EPA Region 7 Regional Administrator.

**Don Levis** was named a Master of the Pork Industry by *The National Hog Farmer* magazine.

**Merlyn Nielsen** served as president of the Midwest Section of the American Society of Animal Science.

**Sheila Scheideler** received the Helene Cecil Leadership Award from the Poultry Science Association.

**Dale Van Vleck** received the Pioneer Award from the National Dairy Shrine.

## Biochemistry

**Joseph Barycki** received the Hot Article award from the American Chemical Society.

**Donald Becker** received a Certificate of Recognition for Contributions to Students from the UNL Teaching Council and Parents Association.

**Madhavan Soundararajan** received the Senior Faculty Teaching Award from the College of Agricultural Sciences and Natural Resources.

## Biological Systems Engineering

**Viacheslav Adamchuk** received the Pierre C. Robert Precision Agriculture Young Scientist Award at the Ninth International Conference.

**Greg Bashford** received the People Who Inspire Award from the UNL Mortar Board and the Holling Family Distinguished Teaching/Advising/Mentoring Award from the College of Engineering.

**Suat Irmak** received the Distinguished Extension New Employee Award from the UNL Extension Division and the Gamma Sigma Delta (Honor Society of Agriculture) from Gamma Sigma Delta Society.

**David Jones** received the Holling Family Master Teacher Award from the College of Engineering and the Presidential Citation from the Institute of Biological Engineering.

**Michael Kocher** received the Outstanding Faculty Member award from the Nebraska Chapter of Triangle Fraternity.

**Richard Koelsch** received the NASULGC Excellence in Extension Regional Award and the NCEA Outstanding Extension Specialist Award.

**George Meyer** received the ASEE Biological and Agricultural Engineering Division Outstanding Paper Award from the American Society of Engineering Education.

## Entomology

**Frederick Baxendale** received the Excellence in Extension Award from the North Central Regional/NASULGC.

**David Carter** received a Certificate of Recognition for Contributions to Students from the UNL Teaching Council and Parents Association.

**Stephen Danielson** received a Certificate of Recognition for Contributions to Students from the UNL Teaching Council and Parents Association.

**John Foster** received the International Plant Protection Award of Distinction from the International Association for the Plant Protection Sciences, and the Darrell W. Nelson Excellence in Graduate Student Advising Award from the College of Agricultural Sciences and Natural Resources.

**Tiffany Heng-Moss** received the Who's Who Among American Researchers Maquis from Who's Who, and the PEARL Certificate of Achievement from the University of Nebraska-Lincoln.

**Leon Higley** received the Founder's Memorial Award from the Entomological Society of America.

**Robert Wright** received the Entomology Sustainable Agricultural Research and Education Award from the Nebraska Sustainable Agriculture Society.



Mark Pegg (right) receives the ARD Junior Faculty Excellence in Research Award from Don Wilhite, School of Natural Resources director.

## Food Science and Technology

**Susan Cuppett** received the UNL Parents Association Award for Instructors Who Contribute to Students.

**Rolando Flores** received the C&E Spring Meeting Programme Committee Recognition from the C&E International and the Technical Program Planning Chair Recognition Award from the American Association of Cereal Chemists International.

**John Rupnow** was elected Fellow of the Institute of Food Technologists and received the UNL Parents Association Award for Instructors Who Contribute to Students.

**Jeyamkondan Subbiah** received the UNL Parents Association Award for Instructors Who Contribute to Students.

**Randy Wehling** received a Certificate of Recognition for Outstanding Contribution to Undergraduate Research.

## Plant Pathology

**James Partridge** received the Distinguished Teaching Award from the College of Agricultural Sciences and Natural Resources and a Certificate of Recognition for Contributions to Students from the UNL Teaching Council and Parents Association.



**Anne Vidaver** received the ASM Founders Distinguished Service Award from the American Society for Microbiology and the Pioneering Women in Plant Pathology Award from the American Phytopathological Society.

## School of Natural Resources

**James Brandle** received the Holling Family Senior Faculty Teaching Excellence Award for Teaching Excellence in Agriculture and Natural Resources from the Institute of Agriculture and Natural Resources and the Darrell W. Nelson Excellence in Graduate Student Advising Award from the College of Agricultural Sciences and Natural Resources.

**Steve Comfort** received the annual Student Award, Annual International Conference on Soils, Sediments and Water from The Adventures Group, University of Massachusetts Amherst, and the Honorable Professorship Hanshan Normal Award from the University of Chaozhou, China.

**F. Edwin Harvey** received the Distinguished Service Award from the Geological Society of American - Hydrogeology Division.

**Cody Knutson** received the Fellow of the Center for Great Plains Studies from the Center for Great Plains Studies.



Dave Hardin, Veterinary and Biomedical Sciences department head (left), presents the ARD Junior Faculty Excellence in Research Award to Greg Somerville.

**Mark Pegg** received the Junior Faculty Excellence in Research Award from the Agricultural Research Division.

**Larkin Powell** received the UNL Outstanding Student Organization Advisor of the Year, the Superior Academic Advising Award from the College of Agricultural Sciences and Natural Resources, the Biometrics Working Group Board Member from The Wildlife Society, and the Builder's Award for Outstanding Academic Advising from the UNL Student Foundation.

**Karl Reinhard** received the Fulbright Senior Specialist award from the Fulbright Commission and the Professor Visitante Estrangeiro, Visiting Foreign Professor Coordenacao de Aperfeicoamento de Pessoal de Nivel Superior.

**Donald Rundquist** received the Outstanding Contributions Award, Remote Sensing Speciality Group, from the Association of American Geographers.

**Pat Shea** received the Excellence in Review Award for the Environmental Science and Technology Journal from the American Chemical Society.

**Donald Wilhite** received recognition for Preparation of National Drought Strategy Framework in Jordan from the Ministry of Agriculture in Jordan.

## Statistics

**Christopher Bilder** received the CAUSEweb Resource of the Year Award Consortium from the Advancement of Undergraduate Statistics Education.

## Veterinary and Biomedical Sciences

**Michael Carlson** received a Teaching Award of Merit from the National American Colleges and Teachers of Agriculture.

**Alan Doster** received the NVMA Distinguished Service Award from the Nebraska Veterinary Medical Association.

**Marjorie Lou** received the Kwan-Biao Zhao Distinguished Professorship from Zhenjiang University at Hangzhou, China.

**David McVey** received the Distinguished Alumni Award from the College of Veterinary Medicine, University of Tennessee.

**Rod Moxley** received the Editorial Board, Infection and Immunity Award from the American Society for Microbiology.

## Education and Human Sciences Departments

## Child, Youth and Family Studies

**Sheran Cramer** received the UNL Nominee for Excellence in Graduate Education, Office of Graduate Studies.

**Rochelle Dalla** received the Distinguished Publication Award from the Association for Women in Psychology and the Swanson Award for Teaching Excellence from the College of Education and Human Sciences.

**John DeFrain** received the Honorary Appointment/Conjoint Professor of Family Studies from the University of Newcastle, New South Wales, Australia.

## Textiles, Clothing and Design

**Michael James** received the Textiles, Clothing and Design Honorary Membership, Mortar Board National Senior Honor Society - Black Masque Chapter of Mortar Board National Senior Honor Society and the Silver Star Award Quilts, Inc., from the International Quilt Festival.

**Nancy Miller** received the Best Paper Award from the Journal of Small Business Management and the Office Depot.

**Yiqi Yang** received the Faculty/Student Mentoring Award from the College of Education and Human Sciences, the Charles Bessey Professorship, and the Big 12 Rising Star Award from the Center for Economic Development, Innovation and Commercialization.

## Nutrition and Health Sciences

**Nancy Lewis** received the Distinguished Alumni Award from the College of Agriculture and Home Economics, New Mexico State University.

## Off-Campus Research Centers

## Northeast Research and Extension Center

**Don Levis** was named a Master of the Pork Industry by *The National Hog Farmer* magazine.

**Terry Mader** was a member of the United Nations Intergovernmental Panel on Climate Change (IPCC) Assessment Team, which was awarded a share of the 2007 Nobel Peace Prize, and named Honorary Professor by the University of Queensland.

**Charles Shapiro** received the Extension Publication Award from the American Society of Agronomy.

## Panhandle Research and Extension Center

**Drew Lyon** was named Fenster Professor of Dryland Agriculture through the University of Nebraska Foundation.

# Graduate Student Awards and Recognitions

One of the primary missions of the ARD research program is to develop the scientists of tomorrow. We are committed to providing exceptional graduate students with the opportunity to work with and learn from our research faculty.

ARD is among the national leaders in research in food production and processing, natural resources management and family sciences. Approximately 912 graduate students are pursuing advanced degrees with ARD faculty. The quality of our graduate students is reflected in the recognition they receive.

## Agricultural Economics

**Alejandro Plastina** received the Outstanding Ph.D. Award from the Department of Agricultural Economics.

**Juan Pablo Sesmero** received the Widaman Trust Distinguished Graduate Assistant Award from the Agricultural Research Division, the Outstanding Graduate Research Assistant and Honorable Mention from the UNL Office of Graduate Studies, and the James B. Hassler Award for Outstanding Research by a Graduate Student from the Department of Agricultural Economics.

**Lu Zhang** received the Outstanding M.S. Student Award from the Department of Agricultural Economics.

## Agronomy and Horticulture

**Zakaria Al Ajlouni** received the Moseman Fellowship from the Agricultural Research Division.

**Jose Aponte-Rivera** received the Widaman Trust Distinguished Graduate Assistant Award from the Agricultural Research Division.

**Ahmed Mohammed Al-Wadaey** received the David H. and Annie E. Larrick Student Travel Award from the Agricultural Research Division.

**Karl Brauer** received the William J. Curtis Fellowship from the College of Agricultural Sciences and Natural Resources.

**Neal Bryan** received the Arthur William Sampson Fellowship from the Center for Grasslands Studies.

**Nicholas Crowley** received the Milton E. Mohr Fellowship from the Center for Biotechnology.

**Matthew Giovanni** received the Irvin A. and Agnes E. Nelson Memorial Fellowship from the College of Agricultural Sciences and Natural Resources.

**Tejinder Kumar Mall** received the Hardin Distinguished Graduate Fellowship from the Agricultural Research Division.

**Zhanbei Liang** received the David H. and Annie E. Larrick Student Travel Award from the Agricultural Research Division.

**Neway Mengistu** received the Widaman Trust Distinguished Graduate Assistant Award from the Agricultural Research Division.

**Darrin Roberts** received the David H. and Annie E. Larrick Student Travel Award from the Agricultural Research Division and the William J. Curtis Fellowship from the College of Agricultural Sciences and Natural Resources.

**Fernando Salvagiotti** received the Gerald O. Mott Meritorious Graduate Student Award in Crop Science.

**Charles Schmid** received the Widaman Trust Distinguished Graduate Assistant Award from the Agricultural Research Division.

**Desalegn Serba** received the Hardin Distinguished Graduate Fellowship from the Agricultural Research Division.

**Vikas Shedge** received the Widaman Trust Distinguished Graduate Assistant Award from the Agricultural Research Division.

**Samuel Wortmann** received the William J. Curtis Fellowship from the College of Agricultural Sciences and Natural Resources.

## Animal Science

**Alia Aljamal** received a Milton E. Mohr Fellowship from the College of Agricultural Sciences and Natural Resources and a Frank Mussehl Graduate Scholarship from the Institute of Agriculture and Natural Resources.

**Jared Bates** received a Widaman Trust Distinguished Graduate Assistant Award from the Agricultural Research Division and the National Pork Board Innovation in Research Award from the Midwest Section of the American Society of Animal Science.

**Crystal Buckner** received a Folsom Distinguished Master's Honorable Mention from the Office of Graduate Studies.

**Ching-Yi Chen** received a V.H. Arthaud Travel Award from the Animal Science Department and a Travel Award from the Nebraska Chapter of Sigma Xi.

**Mark Corrigan** received a Nebraska Corn Board Fellowship from the College of Agricultural Sciences and Natural Resources and won the Second Place Abstract Presentation Award from the Plains Nutrition Council.

**Makram Geha** received the Ned S. and Esther B. Raun International Fellowship from the Animal Science Department and a Widaman Trust Distinguished Graduate Assistant Award from the Agricultural Research Division.

**Will Griffin** received the John Hallman Memorial Award from the Animal Science Department, the V.H. Arthaud Travel Award from the Animal Science Department, and a Milton E. Mohr Fellowship from the Center for Biotechnology.

**Jolene Kelzer** received a John and Louise Skala Fellowship from the Agricultural Research Division and a William G. Whitmore Travel Award from the Agricultural Research Division.

**Pradeep Krishnan** received the Victor W. Henningsen, Sr. Graduate Student Fellowship from the Food Science and Technology Department and the Ruth Keller Memorial Scholarship from the Nebraska Poultry Industries.

**Daniel Larson** received a Milton E. Mohr Fellowship from the College of Agricultural Sciences and Natural Resources.

**Jeremy Martin** received a Folsom Distinguished Doctoral Honorable Mention from the Office of Graduate Studies.

**Mahmoud Masa'deh** received a Widaman Trust Distinguished Graduate Assistant Award from the Agricultural Research Division and a Frank Mussehl Graduate Scholarship from the Agricultural Research Division.

**Jennifer McDonald** received a Warren F. and Edith R. Day Student Aid Travel Award from the Office of Graduate Studies.

**Jacqueline Smith** received a William G. Whitmore Memorial Travel Grant from the Agricultural Research Division and a Larry Ewing Memorial Trainee Travel Award from the Society for the Study of Reproduction.

**Jocelyn Wiarda** received a Larry Ewing Memorial Trainee Travel Award from the Society for the Study of Reproduction.

## Biochemistry

**Alamelu Bharadwaj** received a Harris Award for Research in Cancer from the University of Nebraska Medical Center and a Milton E. Mohr Fellowship from the College of Agricultural Sciences and Natural Resources.

**Vyacheslav Labunskyy** received a Milton E. Mohr Fellowship from the Biotechnology Department.

**Joel M. Lechner** received the Holling Family Teaching Award from the College of Agricultural Sciences and Natural Resources

**Amy R. Miller** received a Milton E. Mohr Fellowship from the Biotechnology Department and a Farmer National Company Fellowship for 2007-2008.

**Anton Turanov** received a Maude Hammond Fling Fellowship from the Office of Graduate Studies.

## Biological Systems Engineering

**Gregory Arthur** received a Mary and Charles C. Cooper/Emma I. Sharpless Fellowship from the College of Agricultural Sciences and Natural Resources.

**Govindarajan Suresh Babu** received a John and Louise Skala Fellowship from the Agricultural Research Division.

**Shah Huda** received a John and Louise Skala Fellowship from the Agricultural Research Division.

**Ajay Kumar** received a John and Louise Skala Fellowship from the Agricultural Research Division and the first Energy Fellowship from Aquila.

**Denis Mutibwa** received a Milton E. Mohr Fellowship from the College of Agricultural Sciences and Natural Resources.

**Eric Newgard** received a John and Louise Skala Fellowship from the Agricultural Research Division.

**Heartwin Pushpadass** received a John and Louise Skala Fellowship from the Agricultural Research Division and the Bill A. and Rita L. Stout Outstanding International Graduate Student Award from the Biological Systems Engineering Department.

**Parikshit Ranade** received a Milton E. Mohr Fellowship from the College of Agricultural Sciences and Natural Resources.

## Entomology

**Nicholas Aliano** received a Maude Hammond Fling Fellowship from the Office of Graduate Studies and a Myron H. Swenk Memorial Fund Travel Award from the Bruner Club Executive Committee.

**Analiza Alves** received a Milton E. Mohr Scholarship from the UNL Center for Biotechnology and College of Engineering, a Shear-Miles Fellowship and a David H. and Annie E. Larrick Student Travel Award from the Agricultural Research Division.

**Tierney Brosius** received a National Science Foundation/Project Fulcrum Assistantship and was a recipient of a Teaching Assistant Award from the Holling Family Award Program for Teaching Excellence.

**Mathew Brust** received the Sigma Xi Outstanding Graduate Student Award, a Myron H. Swenk Memorial Fund Travel Award from the Bruner Club Executive Committee, and was a Gamma Sigma Delta inductee.

**Laura Campbell** received a Henry F. and Jean D. Holtzclaw Fellowship from the Office of Graduate Studies.

**Julia Colby** received an Ernst Mayr Travel Grant in Animal Systematics from Harvard University, a David H. and Annie E. Larrick Student Travel Award from the Agricultural Research Division, and a Myron H. Swenk Memorial Fund Travel Award from the Bruner Club Executive Committee.



**Andre Crespo** received a Widaman Trust Distinguished Graduate Assistant Award and a David H. and Annie E. Larrick Student Travel Award from the Agricultural Research Division.

**Michael Fisher** received the 2007 ESA Student Certification Award, a David H. and Annie E. Larrick Student Travel Award from the Agricultural Research Division, and a Myron H. Swenk Memorial Fund Travel Award from the Bruner Club Executive Committee.

**Andrea Gutsche** received a Farmers National Company Fellowship from the Agricultural Research Division and a Myron H. Swenk Memorial Fund Travel Award from the Bruner Club Executive Committee.

**Timothy Huntington** received the Young Alumnus of the Year Award from Concordia University in Seward, NE.

**Timothy Husen** received a Ward A. and Helen W. Combs Scholarship, and a Myron H. Swenk Memorial Fund Travel Award from the Bruner Club Executive Committee.

**Leonardo Magalhaes** received a Honorable Mention by the Review Committee in the Folsom Distinguished Master's Thesis Award 2008 competition.

**Lanae Pierson** received a Farmers National Company Fellowship from the Agricultural Research Division and a Myron H. Swenk Memorial Fund Travel Award from the Bruner Club Executive Committee.

**Sandra Schaeffer** received a Farmers National Company Fellowship from the Agricultural Research Division.

**Abby Stilwell** received a David H. and Annie E. Larrick Student Travel Award from the Agricultural Research Division and a Myron H. Swenk Memorial Fund Travel Award from the Bruner Club Executive Committee.

**Neil Spomer** received a Ward A. and Helen W. Combs Scholarship and a Myron H. Swenk Memorial Fund Travel Award from the Bruner Club Executive Committee.

**Sek Yee Tan** received a Mary and Charles C. Cooper/Emma I. Sharpless Fellowship from the College of Agricultural Sciences and Natural Resources.

**Luciana Toda** received a Farmers National Company Fellowship from the Agricultural Research Division and a Myron H. Swenk Memorial Fund Travel Award from the Bruner Club Executive Committee.

**Jeremy Wagnitz** received a Myron H. Swenk Memorial Fund Travel Award from the Bruner Club Executive Committee.

**Stephen Young** received a Myron H. Swenk Memorial Fund Travel Award from the Bruner Club Executive Committee.

## Food Science and Technology

**Joe Baumert** received the Claybaugh Graduate Student Fellowship from the Food Science and Technology Department and the Widaman Trust Distinguished Graduate Assistant Award from the Agricultural Research Division.

**Viviana Bermudez** received the Claybaugh Graduate Student Fellowship from the Food Science and Technology Department and the Widaman Trust Distinguished Graduate Assistant Award from the Agricultural Research Division.

**Andreia Bianchini** received the IFT Graduate Scholarship Award from the Institute of Food Technology.

**Bhima Geera** received the Claybaugh Graduate Student Fellowship from the Food Science and Technology Department.

**Jennifer Heubner** received the Folsom Distinguished Master's Thesis Award from the Office of Graduate Studies.

**Chiew Hui Kaw** received the Graduate Student Poster Competition Award at the UNL Research Fair.

**Manjusha Kasinadhuni** received the Outstanding Poster Award in the Biological and Agricultural Sciences Division at the UNL Research Fair.

**Pradeep Krishnan** received the Henningsen Graduate Student Fellowship from the Food Science and Technology Department.

**David Monsalve** received the Larrick Student Travel Award from the Agricultural Research Division.

## Plant Pathology

**Nancy Gonzalez** received the Milton E. Mohr Fellowship from the Center for Biotechnology and the R.W. Goss Fellowship from the Department of Plant Pathology.

**William R. Rittenour** received the Milton E. Mohr Fellowship from the Institute of Agriculture and Natural Resources.

**Camile P. Semighini** received the Outstanding Graduate Research Assistant Award from the Office of Graduate Studies.

**Haoyu Si** received the Milton E. Mohr Fellowship from the Center for Biotechnology.

**Fang Tian** received the R.W. Goss Fellowship from the Department of Plant Pathology.

**Jorge Venegas** received the third place award in the Graduate Student Poster Competition of the Department of Agronomy and Horticulture and the R.W. Goss Scholarship from the Department of Plant Pathology.

**Giane M. Yanai** received the Widaman Trust Distinguished Graduate Assistant Award from the Agricultural Research Division and the R.W. Goss Fellowship from the Department of Plant Pathology.

## School of Natural Resources

**Ingrid Barcelo** received the Student Membership Award from the American Ornithologists' Union.

**Zach Cunningham** received the Joe Gabig Memorial Scholarship from the NGPC, Central Flyway Council.



**Matt Giovanni** received the following awards: Davis H. and Annie E. Larrick Memorial Student Travel Grant from the Agricultural Research Division; the Arthur William Sampson Fellowship in Nebraska Range Management from the Center for Grassland Studies; Student Travel Award, American Ornithologists' Union (International Award); Irvin A. and Agnes E. Nelson Memorial Fellowship from the College of Agricultural Sciences and Natural Resources; Wildwood Trust Travel Grant from the School of Natural Resources; and W.R. Chapline Fellowship from the Department of Agronomy and Horticulture.

**Ty Matthews** received the Widaman Trust Graduate Research Fellowship from the Agricultural Research Division.

**Benjamin C. Neely** received the 2008 American Fisheries Society Skinner Scholarship.

**Brenda M. Pracheil** received the 2008 Meritorious Graduate Student Award from the School of Natural Resources and the 2008-2009 UNL Fling Fellowship.

**Courtney Quinn** received the Meritorious Graduate Student Award from the School of Natural Resources.

**Sarah Rehme** received the Weaver Research Award (TNC) and Center for Great Plains Studies Research Award.

## Veterinary and Biomedical Sciences

**Gulzar Ahmad** received a Best Seminar Award from the Department of Veterinary and Biomedical Sciences.

**Lalit Beura** received a Best Poster Award, American Associate of Veterinary Immunologists at the Conference of Research Workers in Animal Diseases.

**Gustavo Bretschneider** received the Susan Ann Smith Mills Award from the University of Nebraska Foundation Endowment through the Department of Veterinary and Biomedical Sciences.

**Harshdeep Dogra** received a Best Seminar Award from the Department of Veterinary and Biomedical Sciences.

**Joseph Erume** received Best Poster Award at the Conference of Research Workers in Animal Diseases in the Gastroenteric Diseases section.

**Florencia Meyer** received the Milton E. Mohr Fellowship from the UNL Center for Biotechnology, and received the Widaman Trust Distinguished Graduate Assistant Award from the Agricultural Research Division.

**Kazima Saira** received the Widaman Trust Distinguished Graduate Assistant Award from the Agricultural Research Division.

## Education and Human Sciences Departments

### Child, Youth and Family Studies

**Megan Borer** received the David H. and Annie E. Larrick Student Travel Award from the Agricultural Research Division.

**Belinda Fanning** received the Centennial Fellowship from the Office of Graduate Studies.

**Belle Howell** received the David H. and Annie E. Larrick Student Travel Award from the Agricultural Research Division.

**Heidi Vering** received the Richard H. Larson Fellowship from the Office of Graduate Studies.

**Haiping Wang** received the Chancellor's Doctoral Fellowship from the Office of Graduate Studies.

## Nutrition and Health Sciences

**Yousef Hassan** received the Shear-Miles Fellowship from the Agricultural Research Division.

**Elliot Jesch** received the Widaman Trust Distinguished Graduate Assistant Award from the Agricultural Research Division.

**Karina Lora** received the Widaman Trust Distinguished Graduate Assistant Award from the Agricultural Research Division.

## Textiles, Clothing and Design

**Narendra Reddy** received Honorable Mention in Doctoral Dissertation from the Office of Graduate Studies.

**Weijie Xu** was awarded the John and Louise Skala Fellowship from the Agricultural Research Division.

**Yi Zou** received an American Association of Textile Chemists Colorists Foundation Student Research Support Grant for M.S. project.

## Off-Campus Research Centers

### West Central Research and Extension Center

**Will Griffin** received the John Hallman Memorial Award from the Animal Science Department and a V.H. Arthaud Travel Award from the Animal Science Department.

**Daniel Larson** received a Milton E. Mohr Fellowship from the Institute of Agriculture and Natural Resources.

**Jeremy Martin** received a Folsom Distinguished Doctoral Honorable Mention from the Office of Graduate Studies.

# Undergraduate Honors Student Research Program

The purpose of this program is to allow outstanding University Honors Program students to conduct research under the direction of a faculty mentor. The program is open to junior and senior Honors Program participants proposing to work with a faculty member who has an ARD appointment. A subcommittee of the ARD Advisory Council selects awardees based on the quality of the proposal. Proposals are authored by the students with guidance from the proposed project mentors.

## Agricultural Economics

**Ayako Ebata** received an Undergraduate Honors Student Research Award for “Ecologically and Technologically Sustainable Agricultural Productivity Growth” from the Agricultural Research Division. (L. Fulginiti, Advisor)

**Emily Veburg** received an Undergraduate Honors Student Research Award for “A Statistical Analysis of the Location and Economic Effects of Ethanol Plants” from the Agricultural Research Division. (R. Perrin, Advisor)

## Animal Science

**Lindsey Hofman** received an Undergraduate Honors Student Research Award for “Insulin Regulation of Mitotic Kinases and Connexins in Mouse Granulosa Cells” from the Agricultural Research Division. (J.R. Wood, Advisor)

## Biochemistry

**Scott Kindle** received an Undergraduate Honors Student Research Award for “A Unicellular Model for Insights into Human Disease: Understanding DJ-1 Function” from the Agricultural Research Division. (J. Krush, Advisor)

**Lauren Volentine** received an Undergraduate Honors Student Research Award for “Characterization of the Function and Regulation of the CCC2 Copper Transporter” from the Agricultural Research Division. (J. Lee, Advisor)

## Biological Systems Engineering

**Megan Elizabeth Krause** received an Undergraduate Honors Student Research Award for “Safe Patient Handling: A Biomechanical Analysis of Sit to Stand Devices Versus Normal Human Movement” from the Agricultural Research Division. (G. Bashford, Advisor)

**Robert Com** received an Undergraduate Honors Student Research Award for “Optimization of Signal Processing Parameters for Analyzing Transcranial Blood Flow in Pediatric Patients” from the Agricultural Research Division. (G. Bashford, Advisor)

**Isaac Mortensen** received an Undergraduate Honors Student Research Award for “Near Infrared Reflectance Spectroscopy to Detect Moisture Content in Unshelled Peanuts” from the Agricultural Research Division. (J. Subbiah, Advisor)

## Entomology

**Ashley Effken** received a UCARE grant for her research, “Pyemotes Itch Mite Investigation.” (T. Heng-Moss, Advisor)

**Jeffrey Hays** received a UCARE grant for his research, “Seasonal Occurrence of Japanese Beetles in Nebraska.” (F. Baxendale, Advisor)

**Matthew Moore** received a UCARE grant for his research, “Isolation and Characterization of Cellulose Digesting Enzymes from the Midgut of Western Corn Rootworms.” (B. Siegfried, Advisor)

# Variety and Germplasm Releases

**A**RD faculty involved in plant breeding and genetics research make important contributions to the improvement and development of agricultural and horticultural crops.

Public breeding programs such as ARD's are essential to the continued enhancement of plant germplasm. These programs provide the resources and flexibility to pursue long-term breeding programs in crops that may not have a current commercial interest. They also can address genetic, cultural and management interactions characteristic of today's agriculture, as well as the future's.

Germplasm releases provide improved genetic material that is integrated into private and public plant breeding programs. Other releases occur as new cultivars (varieties), which are increased through the Foundation Seed Division and then provided to seed companies for production of certified seed. The following releases were made in 2007-2008.

## Agronomy and Horticulture

**Crop:** Hard Red Winter Wheat (*Triticum aestivum* L.)

**Variety Name:** NE01643

**Scientists:** P.S. Baenziger, R.A. Graybosch, A. Ibrahim, D.D. Baltensperger, L.A. Nelson, Y. Jin, Stephen Wegulo, J.E. Watkins, Ming-Shun Chen, B. Beecher, J.H. Hatchett

**Released By:** Nebraska Agricultural Experiment Station, University of Nebraska, the United States Department of Agriculture, Agricultural Research Service, and the South Dakota Agricultural Experiment Station, South Dakota State University

**Characteristics:** NE01643 was selected from the cross Millennium sib//Seward/Archer that was made in 1995. The F1 generation was grown in the greenhouse in 1996 and the F2 to F3 generations were advanced using the bulk breeding method in the field at Mead, NE in 1997 to 1998. In 1999, single F3-derived F4 rows were planted for the selection. There was no further selection thereafter. NE01643 was evaluated in Nebraska-replicated yield nurseries starting in 2002, in the Northern Regional Performance Nursery in 2004 and 2005, and in Nebraska cultivar performance trials in 2004 to 2006. In the Nebraska cultivar performance trials, it is widely adapted and performs well throughout the state with the exception of irrigated wheat production systems, where it performs near the average of the tested lines. The broad adaptation of NE01643 to the Northern Great Plains was evident in its performance in the Northern Regional Performance Nursery, where it was the highest yielding line in 2004 and 2005. Other measurements of performance from comparison trials show that NE01643 is moderately late in maturity. NE01643 is a semi-dwarf wheat cultivar. The mature plant height is 1 cm shorter than Millennium and 8 cm taller than Wesley. NE01643 has good straw strength, and the winter hardiness is good to very good. NE01643 is moderately susceptible to stem rust, moderately resistant to leaf rust, stripe rust, and Hessian fly. It is more tolerant to Fusarium head blight than many widely grown lines. It is susceptible to wheat soilborne mosaic virus, barley yellow dwarf virus, and wheat streak mosaic virus. The overall end-use quality characteristics for NE01643 are adequate, and should be acceptable to the milling and baking industries. NE01643 was released primarily for its superior adaptation to rainfed wheat production systems in Nebraska, South Dakota, and adjacent areas of the northern Great Plains. NE01643 will be marketed under the name Husker Genetics Brand Overland in honor of the pioneers who crossed and stayed in the northern prairies.

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## West Central Research and Extension Center

*Crop:* Penstemon (*Penstemon x hybrid*)

*Variety Name or Germplasm*

*Nomenclature:* 'Sweet Joanne'

*Scientists:* D.T. Lindgren, K. Todd

*Released By:* University of NebraskaBLincoln Agricultural Research Division and Blooms of Bressingham

*Characteristics:* 'Sweet Joanne' is a selection of *Penstemon* that is the result of a complex cross of several species and cultivars. It has dark pink flowers with streaks of purple on the lower petals. The plant flowers from late May until September. It reaches a height of about 18", averages 32 flowers per stalk and averages 61 stalks per plant. Individual flowers are about 2.5 cm wide and 2.4 cm high. It is long-lived and very tolerant of insects and diseases.

**P**atent protection is an important parameter in research. It is especially important for discoveries and innovations that have a potential commercial application. Therefore, from time to time, the ARD (and the University) may determine that the public good is best served with regard to technology transfer by entering into an agreement with a public or private institution that provides the institution with proprietary interests in specific research. The research of ARD scientists often can lead to a patent. Most of the patents that have been awarded to ARD scientists have been for equipment developments and specialized processes. These patents often are licensed by private industry, with royalties being reinvested in future ARD research. The following patents were awarded in 2007-2008.

## Animal Science

*Patent Title:* Ruminant Feed and Method of Making  
*Patent Number:* Denmark Patent DK/EP 0840554, IP-339  
*Scientist:* Klopfenstein, T.

*Patent Title:* Rumen Inert Oil  
*Patent Number:* Europe Patent 96921364.4, IP-340  
*Scientist:* Klopfenstein, T.

*Patent Title:* Ruminant Feed and Method of Making  
*Patent Number:* Ireland Patent 93921364.4, IP-343  
*Scientist:* Klopfenstein, T.

## Biochemistry

*Patent Title:* Methods and Materials for Making and Using Transgenic Dicamba-Degrading Organisms  
*Patent Number:* Norway Patent 20033811, IP-336  
*Scientist:* Weeks, D.

## Food Science and Technology

*Patent Title:* Lactic Acid Bacteria Cultures that Inhibit Food-Borne Pathogens  
*Patent Number:* U.S. Patent 7,323,166, IP-469  
*Scientists:* Brashears, M., and D. Jaroni

## Veterinary and Biomedical Sciences

*Patent Title:* Recombinant Myobacteria Overexpressing D-alanine Ligase Gene and Uses Therefore  
*Patent Number:* U.S. Patent 7,371,571, IP-474  
*Scientists:* Barletta, R., and O. Barletta-Chacon

## Textiles, Clothing and Design

*Patent Title:* Sulfur Dye Protection Systems and Compositions and Methods Employing Same  
*Patent Number:* India Patent 210789, IP-535  
*Scientist:* Yang, Y.



**A**RD is a division within the Institute of Agriculture and Natural Resources (IANR) at the University of Nebraska. IANR was established by the Nebraska legislature in 1973 and has its headquarters on the University of Nebraska–Lincoln East Campus. The University of Nebraska system has four campuses: University of Nebraska–Lincoln, University of Nebraska Medical Center, University of Nebraska at Omaha and the University of Nebraska at Kearney. The University of Nebraska system is governed by an elected Board of Regents and administered by a system and campus administration.

## ADMINISTRATIVE PERSONNEL (June 2008)

### University of Nebraska Board of Regents

Randolph Ferlic, Omaha	Jim McClurg, Lincoln
Chuck Hassebrook, Lyons	Bob Whitehouse, Papillion
Howard Hawks, Omaha	Kent Schroeder, Kearney
Charles S. Wilson, Lincoln	Bob Phares, North Platte

### Student Regents

UNMC	-	Jonathan Henning
UNO	-	Alex Williams
UNL	-	David Solheim
UNK	-	Amber Lewis

### Administrative Officers

James B. Milliken, President, University of Nebraska

Harvey S. Perlman, Chancellor, University of Nebraska–Lincoln

John C. Owens, Vice Chancellor, Institute of Agriculture and Natural Resources, and Vice President, University of Nebraska

### Agricultural Research Division

Gary L. Cunningham, Dean and Director  
Z B Mayo, Interim Associate Dean and Associate Director  
Daniel J. Duncan, Assistant Director  
Marjorie J. Kostelnik, Assistant Director, Education and Human Sciences  
Dora Dill, Secretary Specialist  
Nelvie Lienemann, Administrative Technician  
Karen Jackson, Programming Assistant  
Nancy Shoemaker, Clerical III<sup>1</sup>  
Deb Carlson, Clerical Associate<sup>2</sup>

<sup>1</sup>Ended appointment 2007-2008

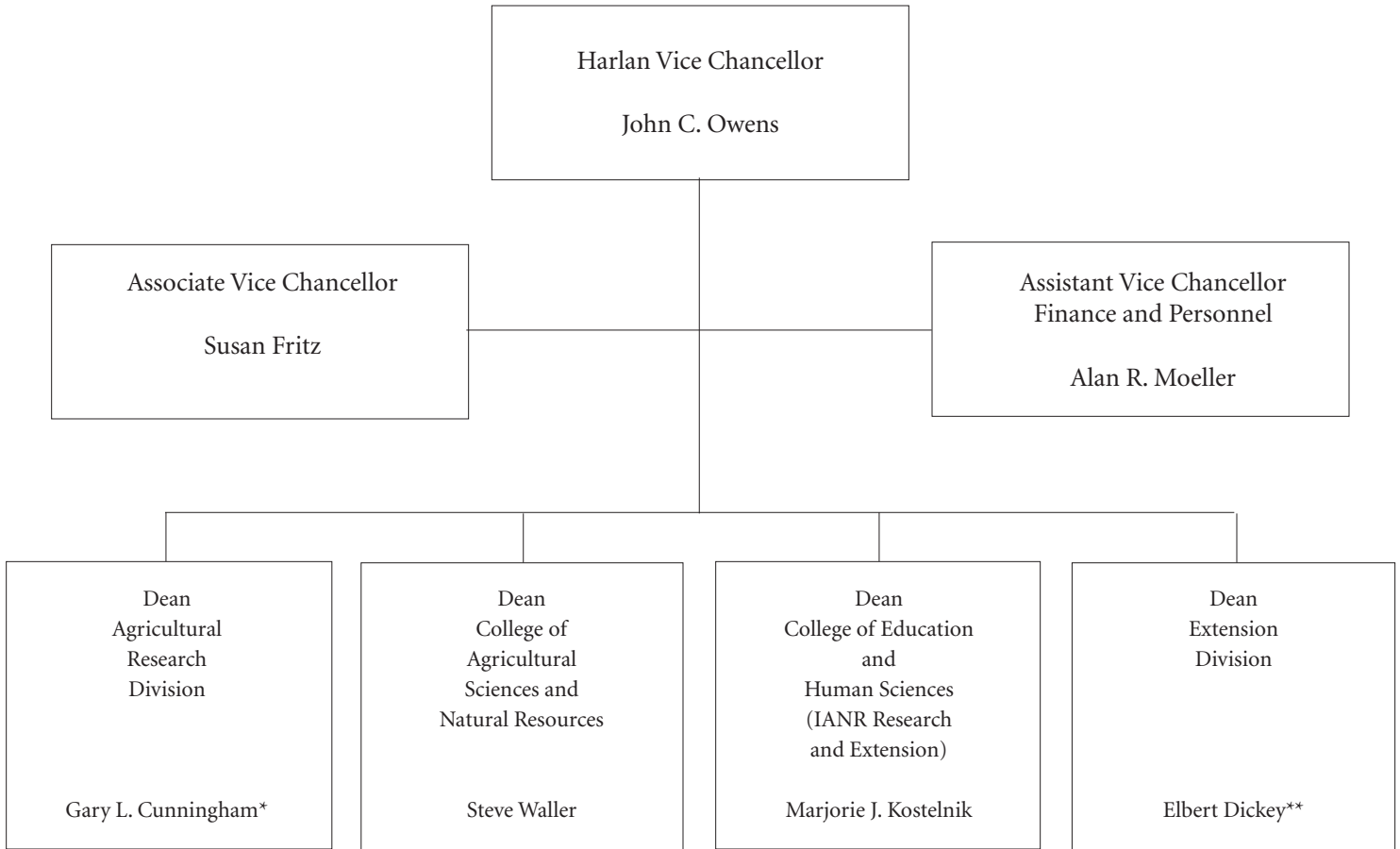
<sup>2</sup>Began appointment 2007-2008

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# Organizational Chart

Institute of Agriculture and Natural Resources  
University of Nebraska–Lincoln  
June 2008



\*Director, Nebraska Agricultural Experiment Station

\*\*Director, University of Nebraska Extension

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**Administrative Units Reporting to Agricultural Research Division  
Institute of Agriculture and Natural Resources  
The University of Nebraska–Lincoln  
June 2008**

**Agricultural/  
Natural  
Resources Units**

*Agricultural Economics*  
Alan Baquet, Head

*Agricultural Leadership,  
Education and Communication*  
Daniel Wheeler, Head

*Agronomy and Horticulture*  
Mark Lagrimini, Head

*Animal Science*  
Donald Beermann, Head<sup>1</sup>  
Sheila Scheideler, Interim  
Head<sup>2</sup>

*Biochemistry*  
Donald Weeks, Head<sup>1</sup>  
Robert Spreitzer, Interim Head<sup>2</sup>

*Biological Systems Engineering*  
Ron Yoder, Head

*Entomology*  
Fred Baxendale, Interim Head<sup>1</sup>  
Gary Brewer, Head<sup>2</sup>

*Food Science and Technology*  
Rolando Flores, Head

*Plant Pathology*  
Anne Vidaver, Head<sup>1</sup>  
James Steadman, Head<sup>2</sup>

*School of Natural Resources*  
Mark Kuzila, Director<sup>1</sup>  
Donald Wilhite, Director<sup>2</sup>

*Statistics*  
Walter Stroup, Chair

*Veterinary and  
Biomedical Sciences*  
David Hardin, Head

**Education and  
Human Sciences  
Departments**

*Child, Youth and Family Studies*  
Julie Johnson, Chair

*Nutrition and Health Sciences*  
Marilynn Schnepf, Chair

*Textiles, Clothing and Design*  
Michael James, Chair

**Off-Campus  
Research Centers**

*Agricultural Research  
Development Center*  
Ithaca—Daniel Duncan,  
Director<sup>1</sup>  
Mark Schroeder, Interim  
Director<sup>2</sup>

*Northeast Research  
and Extension Center*  
Concord—John Witkowski,  
Director<sup>1</sup>  
Dennis Bauer, Interim  
Director<sup>2</sup>

*Panhandle Research  
and Extension Center*  
Scottsbluff—Charles Hibberd,  
Director<sup>1</sup>  
Linda Boeckner, Interim  
Director<sup>2</sup>

*Southeast Research  
and Extension Center*  
Lincoln—Susan Williams,  
Director

*West Central Research  
and Extension Center*  
North Platte—Don Adams,  
Director

**Interdisciplinary  
Centers**

*Biotechnology Center*  
Michael Fromm, Director

*Food Processing Center*  
Rolando Flores, Director

*Center for Grassland Studies*  
Martin Massengale, Director

*Great Plains Regional Center  
for Global Environmental  
Change*  
Shashi Verma, Director

*Industrial Agricultural  
Products Center*  
Milford Hanna, Director

*Center for Applied  
Rural Innovation*  
Alan Baquet, Director

*Water Center*  
Kyle Hoagland, Director  
Mike Jess, Acting Director

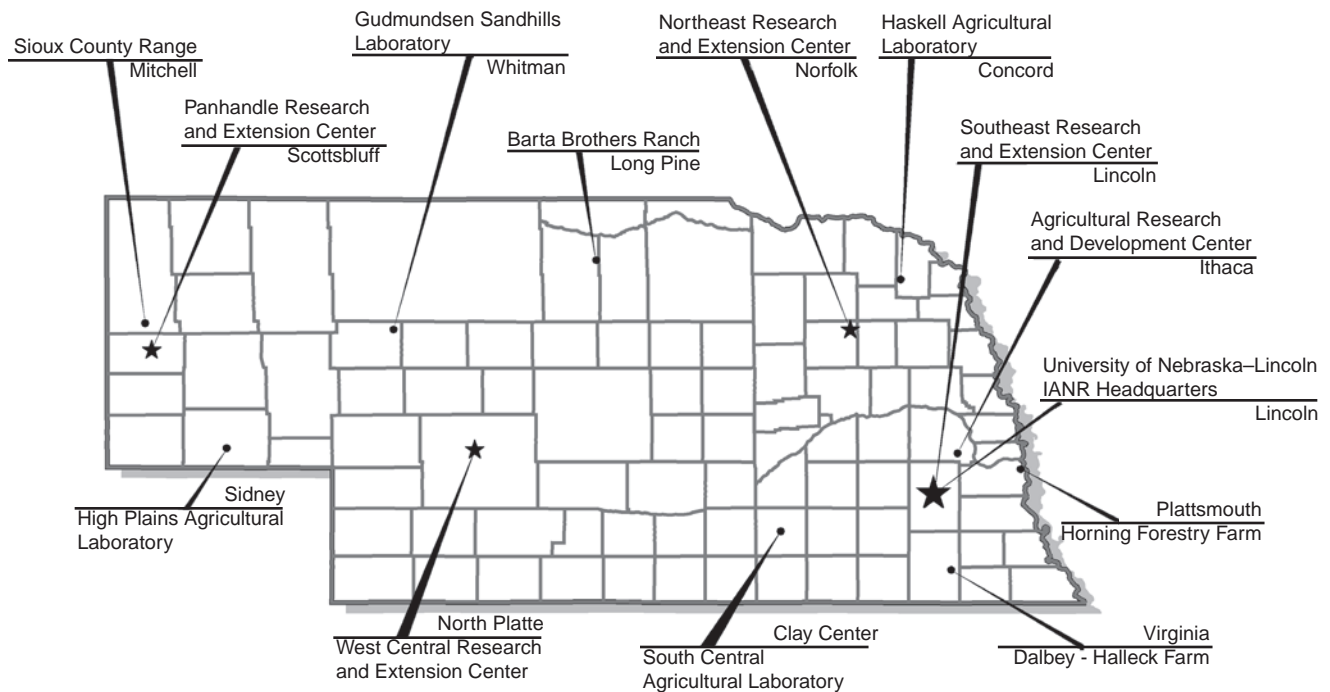
*IANR Communications  
and Information Technology*  
Roger Terry, Interim Director

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<sup>1</sup>Ended appointment 2007-2008

<sup>2</sup>Began appointment 2007-2008

# IANR Research Facilities



Research by Agricultural Research Division researchers is conducted across the state. Sites include:

- Agricultural Research and Development Center — Ithaca
- Barta Brothers Ranch — Long Pine
- Dalbey-Halleck Farm — Virginia
- Gudmundsen Sandhills Laboratory — Whitman
- Haskell Agricultural Laboratory — Concord
- High Plains Agricultural Laboratory — Sidney
- Horning Forestry Farm — Plattsmouth
- Northeast Research and Extension Center — Norfolk
- Panhandle Research and Extension Center — Scottsbluff
- Sioux County Range — Mitchell
- South Central Agricultural Laboratory, Great Plains Veterinary Educational Center, and the U.S. Meat Animal Research Center (USDA) — Clay Center
- Southeast Research and Extension Center — Lincoln
- West Central Research and Extension Center — North Platte

**A**pproximately 278 faculty members have research appointments in ARD. Most have joint appointments, with teaching or extension responsibilities as well. Some faculty have responsibilities other than ARD research (rsch), extension (ext) or teaching (tch). Administrative appointments, as well as appointments with centers and other UNL units or with the USDA Agricultural Research Service (other), also are noted here.

ARD programs depend on many linkages and cooperative arrangements in order to make the most effective use of limited resources and to address problems of mutual interest. The USDA Agricultural Research Service (ARS) has about 41 scientists located on the UNL campus. Historically there has been a very close working relationship between these scientists, all holding adjunct faculty status, and UNL faculty. Four departments contain ARS scientists: the Departments of Agronomy and Horticulture, Entomology, Plant Pathology and Biological Systems Engineering. ARS scientists are noted as USDA in the *other* category.

UNL scientists also cooperate closely with many ARS faculty at the Roman L. Hruska Meat Animal Research Center (MARC) at Clay Center, Nebraska. There are about 40 scientists at the MARC facility, many of whom also hold UNL adjunct faculty status in the Department of Animal Science. MARC scientists are noted as USDA in the *other* category.

Another federal facility located on campus is the U.S. Forest Service National Agroforestry Center. USFS scientists also work closely with UNL faculty and hold adjunct faculty status. The Department of Entomology and School of Natural Resources have adjunct faculty noted as USDA in the *other* category.

The USDA Natural Resources Conservation Service has personnel located in UNL facilities at the West Central Research and Extension Center, North Platte. The NRCS professional personnel there as well as those at the federal center, Lincoln, work closely with ARD faculty on a number of natural resources-related activities.

The Departments of Animal Science, Biological Systems Engineering and Entomology have unique relationships with their industry supporters. Several industry representatives also hold adjunct appointments in these departments and are noted as industry in the *other* category.

The percentages listed represent the proportion of a faculty member's time assigned to each function. The primary research responsibility is identified for each. All ARD off-campus personnel who are located at Centers are associated with an on-campus department as well [Department/(Area of Responsibility)]. Faculty rank and assignment percentages are based on the fiscal year 2007-2008 departmental budgets.



## Agricultural/Natural Resources Units

	Rank	Rsch	Ext	Tch	Other	Area of Responsibility
<b>Agricultural Economics</b>						
Alan E. Baquet	Professor	0.07	0.72	0.21	0.00	Head
J. David Aiken	Professor	0.45	0.25	0.30	0.00	Agricultural and Natural Resources Law
Azzeddine Azzam	Professor	0.75	0.00	0.25	0.00	Research and Quantitative Methods, Industrial Organization of Food Processing
Dennis Conley	Professor	0.45	0.00	0.55	0.00	Agribusiness
Lilyan Fulginiti	Professor	0.75	0.00	0.25	0.00	Agricultural Policies/Production
Konstantinos Giannakas	Professor	0.75	0.00	0.25	0.00	Food and Agribusiness Marketing
Bruce B. Johnson	Professor	0.45	0.00	0.55	0.00	Resource and Community Economics
H. Douglas Jose	Professor	0.20	0.80	0.00	0.00	Farm and Ranch Management, Agricultural Finance Policy
Bradley Lubben	Assistant Professor	0.25	0.75	0.00	0.00	Public Policy
Gary Lynne	Professor	0.75	0.00	0.25	0.00	Natural Resource Economics
Richard Perrin	Professor	0.75	0.00	0.25	0.00	Production Economics
David J. Peters	Assistant Professor	0.50	0.50	0.00	0.00	Rural Poverty, Industry Clusters, Entrepreneurship, and Effective Rural Development
E. Wesley Peterson	Professor	0.65	0.00	0.35	0.00	International Trade, Development and Policy
Jeffrey S. Royer	Professor	0.75	0.00	0.25	0.00	Agricultural Marketing Systems, Agribusiness Management, Organization and Performance of Agriculture and Food industries
Raymond J. Supalla	Professor	0.75	0.00	0.25	0.00	Natural Resource Economics
Amalia Yiannaka	Assistant Professor	0.50	0.00	0.50	0.00	Intellectual Property Rights, Industrial Organization, Agricultural Marketing, Environmental and Resource Economics

## Agricultural Leadership, Education and Communication

Daniel W. Wheeler	Professor	0.25	0.25	0.50	0.00	Head, Leadership Development
John E. Barbuto Jr.	Associate Professor	0.50	0.00	0.50	0.00	Leadership Development
James W. King	Associate Professor	0.25	0.00	0.75	0.00	Distance Education
Gina S. Matkin <sup>2</sup>	Assistant Professor	0.25	0.00	0.75	0.00	Leadership and Diversity

<sup>1</sup>Ended research appointment during 2007-2008

<sup>2</sup>Began research appointment during 2007-2008

	Rank	Rsch	Ext	Tch	Other	Area of Responsibility
<b>Agronomy and Horticulture</b>						
Mark Lagrimini	Professor	0.55	0.25	0.2	0.00	Head
Bruce E. Anderson	Professor	0.25	0.75	0.00	0.00	Forage Specialist
Timothy J. Arkebauer	Professor	0.85	0.00	0.15	0.00	Crop Environmental Physiologist
P. Stephen Baenziger	Professor	0.75	0.00	0.25	0.00	Small Grains Breeding and Genetics
Gilles A. Basset	Assistant Professor	0.78	0.00	0.20	0.02	Biochemical Geneticist
Mark L. Bernards	Assistant Professor	0.50	0.50	0.00	0.00	Irrigated Weed Scientist
Kenneth G. Cassman	Professor	0.40	0.10	0.00	0.50	Systems Agronomist
Thomas E. Clemente	Associate Professor	0.00	0.00	0.00	1.00	Manager, Plant Transformation Core Research Facility
Dennis Diestler	Research Professor	1.00	0.00	0.00	0.00	Soil Physical Chemistry
Achim R. Dobermann <sup>1</sup>	Professor	0.70	0.30	0.00	0.00	Soil Fertility/Integrated Nutrient Management
Rhae A. Drijber	Professor	0.75	0.00	0.25	0.00	Soil Microbial Ecologist
Ismail M. Dweikat	Associate Professor	0.80	0.00	0.20	0.00	Sorghum Genetics
Thomas E. Elthon	Associate Professor	0.00	0.00	0.00	1.00	Protein Researcher
Richard B. Ferguson	Professor	0.75	0.25	0.00	0.00	Soil Fertility Specialist
Charles A. Francis	Professor	0.43	0.20	0.37	0.00	Farming and Landscape Design
Roch E. Gaussoin	Professor	0.25	0.75	0.00	0.00	Turfgrass Management and Physiology
George L. Graef	Professor	0.85	0.00	0.15	0.00	Soybean Breeding and Genetics
Robert A. Graybosch	Professor	0.00	0.00	0.00	USDA	Wheat Genetics
Laurie Hodges	Associate Professor	0.35	0.65	0.00	0.00	Commercial Horticulture Production Specialty
Garald L. Horst	Professor	0.40	0.00	0.60	0.00	Turfgrass Physiology and Management
Donald J. Lee	Professor	0.25	0.15	0.60	0.00	Plant Geneticist
John L. Lindquist	Associate Professor	0.80	0.00	0.20	0.00	Crop/Weed Ecologist
Sally A. Mackenzie	Professor	0.00	0.00	0.00	1.00	Program Leader, Plant Science Initiative
Martha Mamo	Associate Professor	0.25	0.00	0.75	0.00	Soil Chemist/Biochemistry
John Markwell	Professor	0.25	0.00	0.00	0.75	Plant Biochemistry
Stephen C. Mason	Professor	0.50	0.00	0.50	0.00	Cropping Systems
Martin A. Massengale	Professor	0.36	0.27	0.12	0.25	Grassland/Forages, Director of Center Grassland Studies
Dennis L. McCallister	Professor	0.25	0.00	0.75	0.00	Soil Chemistry
Daniel Miller	Associate Professor	0.00	0.00	0.00	USDA	Environmental Microbiologist
Robert Mitchell	Professor	0.00	0.00	0.00	USDA	Range and Forage
Lenis A. Nelson	Professor	0.25	0.25	0.00	0.00	Crop Variety Evaluation/New Crops
Ellen T. Pappozzi	Professor	0.50	0.00	0.50	0.00	Urban Horticulture, Floriculture and Ornamental
Jeffrey F. Pedersen	Professor	0.00	0.00	0.00	USDA	Sorghum Genetics and Breeding
Paul E. Read	Professor	0.50	0.25	0.25	0.00	Plant Tissue Culture and Viticulture
Terrance P. Riordan	Professor	0.65	0.15	0.20	0.00	Turfgrass Plant Breeding
W. Ken Russell <sup>1</sup>	Associate Professor	0.80	0.00	0.20	0.00	Plant Quantitative Genetics
Gautam Sarath	Professor	0.00	0.00	0.00	USDA	Molecular Biologist
Walter H. Schacht	Professor	0.60	0.00	0.40	0.00	Range Science
James S. Schepers <sup>1</sup>	Professor	0.00	0.00	0.00	USDA	Soil Chemistry
John F. Shanahan	Professor	0.00	0.00	0.00	USDA	Crop Physiology
Robert C. Shearman	Professor	0.65	0.15	0.20	0.00	Integrated Turfgrass Management
Roy F. Spalding	Professor	0.90	0.00	0.10	0.00	Hydrochemist, Director, Water Science Laboratory
James E. Specht	Professor	0.85	0.00	0.15	0.00	Soybean Physiologist-Geneticist
Paul E. Staswick	Professor	0.85	0.00	0.15	0.00	Plant Molecular Biologist

	Rank	Rsch	Ext	Tch	Other	Area of Responsibility
<b>Agronomy and Horticulture (continued)</b>						
James L. Stubbendieck	Professor	0.25	0.00	0.25	0.50	Range Ecology/Director, Center/Great Plains Studies
Jeanette A. Thurston	Assistant Professor	0.00	0.00	0.00	USDA	Environmental Microbiologist
Gary E. Varvel	Associate Professor	0.00	0.00	0.00	USDA	Soil Management
Kenneth P. Vogel	Professor	0.00	0.00	0.00	USDA	Grass Breeding
Daniel T. Walters	Professor	0.65	0.00	0.35	0.00	Soil Management
Brian J. Weinhold	Assistant Professor	0.00	0.00	0.00	USDA	Soil Fertility
Wallace W. Wilhelm	Professor	0.00	0.00	0.00	USDA	Crop Physiology
Charles S. Wortmann	Associate Professor	0.30	0.70	0.00	0.00	Nutrient Management Specialist
Haishun Yang	Research Assistant Professor	1.00	0.00	0.00	0.00	Simulation Modeling

## Animal Science

Donald H. Beermann <sup>1</sup>	Professor	0.35	0.34	0.31	0.00	Head
Sheila E. Scheideler <sup>3</sup>	Professor	0.45	0.50	0.05	0.00	Poultry Management
Mark F. Allan	Professor	0.00	0.00	0.00	USDA	Genetics
Gary L. Bennett	Professor	0.00	0.00	0.00	USDA	Systems
Dennis R. Brink	Professor	0.30	0.00	0.70	0.00	Ruminant Nutrition
Thomas E. Burkey	Assistant Professor	0.60	0.00	0.40	0.00	Nonruminant Nutrition
Chris R. Calkins	Professor	0.70	0.00	0.30	0.00	Meats
Lane K. Christenson	Professor	0.00	0.00	0.00	Academia	Physiology
Ronald K. Christenson <sup>1</sup>	Professor	0.00	0.00	0.00	USDA	Physiology
Larry V. Cundiff	Professor	0.00	0.00	0.00	USDA	Beef Genetics
Andrea S. Cupp	Assistant Professor	0.70	0.00	0.30	0.00	Beef Physiology
Robert A. Cushman	Professor	0.00	0.00	0.00	USDA	Physiology
Samar A. Elnagar	Professor	0.00	0.00	0.00	Academia	Physiology
Galen E. Erickson	Assistant Professor	0.50	0.40	0.10	0.00	Feedlot Nutrition
Calvin L. Ferrell	Professor	0.00	0.00	0.00	USDA	Nutrition
J. Joe Ford	Professor	0.00	0.00	0.00	USDA	Physiology
Kathryn J. Hanford	Research Assistant Professor	0.80	0.00	0.20	0.00	Statistical Genetics
Thomas G. Jenkins	Professor	0.00	0.00	0.00	USDA	Genetics
Rodger K. Johnson	Professor	0.60	0.00	0.40	0.00	Swine Genetics
Steven J. Jones	Professor	0.35	0.00	0.65	0.00	Meats
Jeffrey F. Keown	Professor	0.30	0.70	0.00	0.00	Dairy Management
Terry J. Klopfenstein	Professor	0.70	0.00	0.30	0.00	Ruminant Nutrition
Richard K. Koelsch <sup>1</sup>	Associate Professor	0.30	0.70	0.00	0.00	Livestock Waste Management
Paul J. Kononoff	Assistant Professor	0.70	0.30	0.00	0.00	Dairy Nutrition
Mohammad Koohmaraie	Professor	0.00	0.00	0.00	USDA	Meats
Kreg A. Leymaster	Professor	0.00	0.00	0.00	USDA	Genetics
Roger W. Mandigo	Professor	0.60	0.00	0.40	0.00	Meats
Phillip S. Miller	Professor	0.60	0.00	0.40	0.00	Swine Nutrition
Jess L. Miner	Associate Professor	0.70	0.00	0.30	0.00	Nutritional Biochemistry
Merlyn K. Nielsen	Professor	0.60	0.00	0.40	0.00	Genetics
Rick J. Rasby	Professor	0.25	0.75	0.00	0.00	Beef Management
Thomas A. Rathje	Professor	0.00	0.00	0.00	Industry	Swine Genetics
Gary A. Rohrer	Professor	0.00	0.00	0.00	USDA	Genetics

<sup>1</sup>Ended research appointment during 2007-2008

<sup>2</sup>Began research appointment during 2007-2008

<sup>3</sup>Began interim head during 2007-2008

	Rank	Rsch	Ext	Tch	Other	Area of Responsibility
<b>Animal Science (continued)</b>						
Rick A. Stock	Professor	0.00	0.00	0.00	Industry	Ruminant Nutrition
Mike T. Van Koevering	Professor	0.00	0.00	0.00	Industry	Ruminant Nutrition
L. Dale Van Vleck <sup>1</sup>	Professor	0.05	0.00	0.15	USDA	Genetics
Vincent H. Varel	Professor	0.00	0.00	0.00	USDA	Bacterial Physiology
Tommy L. Wheeler	Professor	0.00	0.00	0.00	USDA	Meats
Brett R. White	Assistant Professor	0.50	0.00	0.50	0.00	Swine Physiology
Jennifer R. Wood	Assistant Professor	0.60	0.00	0.40	0.00	Physiological Genomics

## Biochemistry

Robert Spreitzer <sup>3</sup>	Professor	0.90	0.00	0.10	0.00	Plant Molecular Genetics
Joseph J. Barycki <sup>1</sup>	Assistant Professor	0.80	0.00	0.20	0.00	Protein Crystallography
Cheryl Bailey	Assistant Professor	0.20	0.00	0.80	0.00	Plant Regulation Systems
Gilles Basset <sup>2</sup>	Assistant Professor	0.80	0.00	0.20	0.00	Plant Biochemical Genetics
Donald F. Becker	Associate Professor	0.80	0.00	0.20	0.00	Protein Electrochemistry
Dmitri Fomenko	Research Assistant Professor	1.00	0.00	0.00	0.00	Molecular Biology
Vadim N. Gladyshev	Professor	0.80	0.00	0.20	0.00	Protein Biochemistry, Selenium
Jaekwon Lee	Assistant Professor	0.80	0.00	0.20	0.00	Metal Metabolism
John P. Markwell	Professor	0.50	0.00	0.00	0.50	Plant Biochemistry
Nedim Mutlu <sup>2</sup>	Research Assistant Professor	0.00	0.00	0.00	1.00	Soybean Transformation
Stephen W. Ragsdale <sup>1</sup>	Professor	0.85	0.00	0.15	0.00	Enzymes
Ashraf Raza <sup>1</sup>	Assistant Research Professor	1.00	0.00	0.00	0.00	Proteomics/Metabolomics
Gautam Sarath	Adjunct Faculty	0.00	0.00	0.00	1.00	Protein Biochemistry
Melanie Simpson	Assistant Professor	0.80	0.00	0.20	0.00	Cellular Biochemistry
Madhavan Soundararajan	Senior Lecturer	0.30	0.00	0.70	0.00	Carbon Acquisition Measurement
Julie M. Stone	Assistant Professor	0.80	0.00	0.20	0.00	Plant Molecular Biology
Donald P. Weeks	Professor	0.80	0.00	0.20	0.00	Head, Plant Molecular Biology
Mark A. Wilson	Assistant Professor	0.80	0.00	0.20	0.00	Structural Biology
Charles Wood	Professor	0.25	0.00	0.00	0.75	Virology
Mamoru Yamanishi <sup>1</sup>	Assistant Research Professor	1.00	0.00	0.00	0.00	Enzymology

<sup>1</sup>Ended appointment during 2007-2008

<sup>2</sup>Began appointment during 2007-2008

<sup>3</sup>Began interim chair appointment during 2007-2008

	Rank	Rsch	Ext	Tch	Other	Area of Responsibility
<b>Biological Systems Engineering</b>						
Ronald E. Yoder	Professor	0.35	0.50	0.15	0.00	Head, Irrigation and Water Resources Engineering
Viacheslav I. Adamchuk	Associate Professor	0.50	0.30	0.20	0.00	Precision Agriculture
Alejandro Amezcuita	Adjunct Assistant Professor	0.00	0.00	0.00	Industry	Food Safety Engineering
Gregory R. Bashford	Assistant Professor	0.50	0.00	0.50	0.00	Biomedical Engineering
David Billesbach	Assistant Professor	0.00	0.00	0.00	1.00	Gaseous Emissions
Tami Brown-Brandl	Adjunct Associate Professor	0.00	0.00	0.00	USDA	Animal, Environmental and Waste Management
Judith M. Burnfield <sup>2</sup>	Adjunct Assistant Professor	0.00	0.00	0.00	Industry	Rehabilitation Science and Engineering
Roger A. Eigenberg	Adjunct Associate Professor	0.00	0.00	0.00	USDA	Animal, Environmental and Waste Management
Dean E. Eisenhauer	Professor	0.50	0.00	0.50	0.00	Hydrology and Irrigation
Qi Fang	Adjunct Assistant Professor	0.00	0.00	0.00	Industry	Industrial Agriculture Products
Sandun Fernando	Adjunct Assistant Professor	0.00	0.00	0.00	Industry	Bioenergy, Biomaterials, Biolubricants
Thomas G. Franti	Associate Professor	0.25	0.75	0.00	0.00	Surface Water Management
Girish Ganjyal	Adjunct Assistant Professor	0.00	0.00	0.00	Industry	Food and Bioprocess Engineering
Aris Gennadios	Adjunct Associate Professor	0.00	0.00	0.00	Industry	Pharmaceutical Manufacturing
Viswas Ghorpade	Adjunct Assistant Professor	0.00	0.00	0.00	Industry	Hill's Pet Nutrition, Inc.
John E. Gilley	Adjunct Professor	0.00	0.00	0.00	USDA	Soil Erosion and Waste Management
Junjie Guan	Adjunct Assistant Professor	0.00	0.00	0.00	Industry	Food and Bioprocess Engineering
Milford A. Hanna	Professor	0.55	0.00	0.00	0.45	Food and Bioprocess Engineering
Terry A. Howell	Professor	0.00	0.00	0.00	USDA	Irrigation Management
Roger M. Hoy	Professor	0.35	0.00	0.15	0.50	Machine Design and Testing
Keum Taek Hwang	Assistant Professor	0.00	0.00	0.00	Industry	Food Processing
Ayse Irmak	Research Assistant Professor	0.00	0.00	0.00	1.00	Crop Modeling
Suat Irmak	Associate Professor	0.40	0.60	0.00	0.00	Irrigation Management and Soil and Water Engineering
Erkan Istanbuluoglu	Assistant Professor	0.30	0.00	0.00	0.70	Surface Hydrology
David D. Jones	Associate Professor	0.35	0.00	0.65	0.00	Engineering and Modeling of Biological Systems
Michael F. Kocher	Associate Professor	0.40	0.00	0.60	0.00	Sensors and Controls Engineering
Richard K. Koelsch <sup>1</sup>	Associate Professor	0.21	0.70	0.00	0.09	Livestock Bioenvironmental Engineering
Derrel L. Martin	Professor	0.50	0.35	0.15	0.00	Irrigation and Water Resources Engineering
George E. Meyer	Professor	0.60	0.00	0.40	0.00	Sensors and Machine Vision
Daniel N. Miller <sup>2</sup>	Adjunct Associate Professor	0.00	0.00	0.00	USDA	Microbiology and Agroecosystem
John A. Nienaber	Adjunct Professor	0.00	0.00	0.00	USDA	Livestock Environment
Angela K. Pannier <sup>2</sup>	Assistant Professor	0.60	0.00	0.40	0.00	Biomedical Engineering
Dennis D. Schulte	Professor	0.50	0.00	0.50	0.00	Pollution Control and Energy Systems
Jeyamkondan Subbiah	Assistant Professor	0.35	0.00	0.20	0.45	Food and Bioprocess Engineering
Lijun Wang	Adjunct Assistant Professor	0.00	0.00	0.00	1.00	Food and Bioprocess Engineering
Curtis L. Weller	Professor	0.60	0.00	0.20	0.20	Food and Bioprocess Engineering
Wayne Woldt	Associate Professor	0.25	0.35	0.15	0.25	Bioenvironmental Engineering
Woodbury, Bryan	Adjunct Associate Professor	0.00	0.00	0.00	USDA	Animal, Environment and Waste Management
Yiqi Yang	Professor	0.15	0.00	0.00	0.85	Textile Chemistry and Polymer and Fiber Sciences

<sup>1</sup>Ended appointment during 2007-2008

<sup>2</sup>Began appointment during 2007-2008



## Entomology

	Rank	Rsch	Ext	Tch	Other	Area of Responsibility
Gary Brewer	Professor and Head					Head
Lisa M. Baird	Professor	0.00	0.00	0.00	U San Diego	Insect/Plant Interactions
Frederick P. Baxendale	Professor	0.25	0.75	0.00	0.00	Turf Insects
Dennis R. Berkebile	Assistant Professor	0.00	0.00	0.00	USDA	Livestock Entomology
John D. Burd	Professor	0.00	0.00	0.00	USDA	Insect/Plant Interactions
David O. Carter	Assistant Professor	0.30	0.00	0.70	0.00	Forensic Science
Michael D. Culy	Associate Professor	0.00	0.00	0.00	Industry	Global Regulatory Molecule
Stephen D. Danielson	Associate Professor	0.40	0.00	0.60	0.00	Field Crop Insect Ecology
Odair Fernandes	Associate Professor	0.00	0.00	0.00	FCAV/UNESP	Insect Ecology
John E. Foster	Professor	0.50	0.50	0.00	0.00	Insect Genetics
Neal H. Haskell	Professor	0.00	0.00	0.00	St. Joseph's	Forensic Entomology
E.A. Henrichs	Professor	0.00	0.00	0.00	1.00	Insect/Plant Interactions/IPM Rice Insects
Tiffany M. Heng-Moss	Associate Professor	0.20	0.20	0.60	0.00	Plant Resistance to Insects, Insect/Plant Interaction
Leon G. Higley	Professor	0.40	0.60	0.00	0.00	Insect Ecology
W. Wyatt Hoback	Associate Professor	0.00	0.12	0.13	0.75	Insect Ecology and Physiology
Scott H. Hutchins	Professor	0.00	0.00	0.00	Industry	Integrated Pest Management
David J. Isenhour	Professor	0.00	0.00	0.00	Industry	Lead for International Trade Integration
Shripat T. Kamble	Professor	0.36	0.54	0.00	0.10	Urban Pest Management
Lance J. Meinke	Professor	0.80	0.00	0.20	0.00	Insect Ecology and Behavior
Daniel J. Moellenbeck	Assistant Professor	0.00	0.00	0.00	Industry	Plant Resistance to Insects
Jaime Molina-Ochoa	Professor	0.00	0.00	0.00	Univ. de Colima	Biological Control
Frank B. Peairs	Professor	0.00	0.00	0.00	CSU	Insect/Plant Interactions
Robert K. D. Peterson <sup>1</sup>	Associate Professor	0.00	0.00	0.00	MSU	Integrated Pest Management
Brett C. Ratcliffe	Professor & Curator	0.80	0.00	0.20	0.00	Systematics of Scarabaeidae
Gautam Sarath	Professor	0.00	0.00	0.00	USDA	Biochemistry & Molecular Biology
Blair D. Siegfried	Professor	0.80	0.00	0.20	0.00	Insect Toxicology
Steven R. Skoda	Associate Professor	0.00	0.00	0.00	USDA	Livestock Entomology
David B. Taylor	Associate Professor	0.00	0.00	0.00	USDA	Livestock Entomology
Robert J. Wright	Professor	0.50	0.50	0.00	0.00	Field Crops Entomology, Integrated Pest Management, Biological Control
Junwei J. Zhu <sup>2</sup>	Associate Professor	0.00	0.00	0.00	USDA	Chemical Ecology, Sensory Physiology, Livestock Animal Protection

<sup>1</sup>Ended appointment during 2007-2008

<sup>2</sup>Began appointment during 2007-2008

	Rank	Rsch	Ext	Tch	Other	Area of Responsibility
<b>Food Science and Technology</b>						
Rolando A. Flores	Professor	0.40	0.34	0.26	0.00	Department Head/Center Director
Andrew K. Benson	Associate Professor	0.60	0.00	0.40	0.00	Food Microbiology
Lloyd B. Bullerman	Professor	0.75	0.10	0.15	0.00	Food MI/Microbiology
Susan B. Cuppett	Professor	0.40	0.00	0.60	0.00	Food Lipids
Richard Goodman	Research Professor	0.00	0.00	0.00	1.00	Food Allergy Research
Milford A. Hanna	Professor	0.20	0.00	0.00	0.80	Food and Bioprocess Engineering
Robert W. Hutkins	Professor	0.65	0.00	0.35	0.00	Food Biotechnology
David S. Jackson	Professor	0.60	0.30	0.10	0.00	Cereals/Oilseeds Processing
Vicki Schlegel	Assistant Professor	0.90	0.00	0.10	0.00	Quality Assurance
Durward A. Smith	Associate Professor	0.25	0.60	0.15	0.00	Horticultural Food Crops Processing
Jeyamkondan Subbiah	Assistant Professor	0.45	0.00	0.00	0.55	Food and Bioprocess Engineering
Steve L. Taylor	Professor	0.41	0.34	0.25	0.00	Food Toxicology, Food Allergens
Harsharvardhan Thippareddi	Assistant Professor	0.30	0.70	0.00	0.00	Food Safety/Food Microbiology
Jens Walter <sup>2</sup>	Assistant Professor	0.80	0.00	0.20	0.00	Food/GI Microbiology
Randy L. Wehling	Professor	0.50	0.00	0.50	0.00	Food Analysis
Curtis L. Weller	Professor	0.60	0.00	0.40	0.00	Food and Bioprocess Engineering
Michael G. Zeece	Professor	0.75	0.00	0.25	0.00	Food Protein Chemistry
Chaomei Zhang	Sr. Research Associate	0.00	0.00	0.00	1.00	Food Microbiology

## Plant Pathology

James R. Steadman	Professor and Head	0.81	0.09	0.10	0.00	Head, Epidemiology of Vegetable Diseases
Irina Agarkova <sup>2</sup>	Research Assistant Professor	0.00	0.00	0.00	1.00	Virology
James Alfano	Professor	0.00	0.00	0.00	1.00	PSI Genetics of Plant-Bacterial Interactions
David Dunigan	Research Assistant Professor	0.00	0.00	0.00	1.00	Algal Viruses
Roy C. French	Associate Professor	0.00	0.00	0.00	USDA	Viruses and Nucleic Acids
Deanna L. Funnell	Assistant Professor	0.00	0.00	0.00	USDA	Sorghum Pathology
Loren Giesler	Associate Professor	0.25	0.75	0.00	0.00	Soybean, Alfalfa and Landscape Ornament
Ming Guo <sup>2</sup>	Research Assistant Professor	0	0.00	0.00	1.00	Molecular Biology
Steve Harris	Associate Professor	0.00	0.00	0.00	1.00	PSI Genetics of Fungal Morphogenesis
Tamra A. Jackson	Assistant Professor	0.25	0.75	0.00	0.00	Corn and Sorghum
Byeong-ryool Jeong	Research Assistant Professor	0.00	0.00	0.00	1.00	Molecular Biology
Ming Kang	Research Assistant Professor	0.00	0.00	0.00	1.00	Algal Viruses
Amit Mitra	Associate Professor	0.90	0.00	0.10	0.00	Plant Vector/Plant Transformation
James E. Partridge	Professor	0.25	0.00	0.75	0.00	Host/Parasite Interactions/Stress
Thomas O. Powers	Professor	0.90	0.00	0.10	0.00	Nematology
Drake C. Stenger	Associate Professor	0.00	0.00	0.00	USDA	Wheat Virology
Satyanarayana Tatinerni <sup>2</sup>	Associate Professor	0.00	0.00	0.00	USDA	Wheat Virology
James L. Van Etten	Professor	0.90	0.00	0.00	0.10	Molecular Virology
Anne K. Vidaver	Professor and Head	0.75	0.15	0.10	0.00	Bacteria
Stephen Wegulo	Assistant Professor	0.25	0.75	0.00	0.00	Small Grains, Forages, and Ornamental Plants
Gary Y. Yuen	Professor	0.85	0.00	0.15	0.00	Soilborne Diseases

<sup>1</sup>Ended appointment during 2007-2008

<sup>2</sup>Began appointment during 2007-2008

	Rank	Rsch	Ext	Tch	Other	Area of Responsibility
<b>School of Natural Resources</b>						
Mark S. Kuzila <sup>3</sup>	Professor & Director	0.58	0.26	0.16	0.00	Soil Science/Survey
Donald A. Wilhite <sup>4</sup>	Professor	0.87	0.00	0.10	0.03	Agricultural Climatology
Craig R. Allen	Adjunct Associate Professor	0.00	0.00	0.00	1.00	Unit Leader, Nebraska Cooperative Fish and Wildlife Research Unit
Tala Awada	Assistant Professor	0.75	0.00	0.25	0.00	Plant Ecophysiology
Jerry F. Ayers <sup>1</sup>	Associate Professor	0.75	0.00	0.25	0.00	Environmental Geophysics, Hydrogeology
Tadd Barrow	Assistant Educator	0.50	0.50	0.00	0.00	Lake Water Quality Education
Francis Belohlavy <sup>1</sup>	Assistant Geoscientist	0.00	0.00	0.00	1.00	Soil Science/Survey
James R. Brandle	Professor	0.70	0.00	0.30	0.00	Forestry/Windbreaks
Mark Burbach	Assistant Geoscientist	0.75	0.25	0.00	0.00	Environmental Monitoring, Human Dimensions
Marvin Carlson	Professor	1.00	0.00	0.00	0.00	Geology/Stratigraphy, Tectonics
Xun-Hong Chen	Professor	1.00	0.00	0.10	0.00	Hydrogeology
Steven D. Comfort	Professor	0.75	0.15	0.10	0.00	Soil Environmental Chemist
Kenneth Dewey	Professor	0.06	0.19	0.00	0.75	Meteorology/Climatology; Climate Variations, Severe Weather
Allen Dutcher	Associate Geoscientist	0.25	0.75	0.00	0.00	Nebraska Climate Survey
Duane Eversoll <sup>1</sup>	Professor	0.00	0.00	0.00	1.00	Engineering and Environmental Geology
Song Feng <sup>2</sup>	Research Assistant Professor	0.00	0.00	0.00	1.00	Climatology
Patricia Freeman	Professor	0.75	0.00	0.25	0.00	Mammalian Biology; Vertebrate Zoology
Anatoly A. Gitelson	Professor	1.00	0.00	0.00	0.00	Remote Sensing
James Goeke	Professor	0.25	0.75	0.00	0.00	Groundwater Geology
David C. Gosselin	Professor	0.60	0.10	0.30	0.00	Earth Science
Paul Hanson	Assistant Professor	1.00	0.00	0.00	0.00	Cenozoic Stratigraphy
Steve Hartung <sup>2</sup>	Assistant Geoscientist	0.00	0.00	0.00	1.00	Soil Research
F. Edwin Harvey	Associate Professor	0.80	0.00	0.20	0.00	Hydrogeology
Michael J. Hayes	Associate Professor	0.00	0.00	0.00	1.00	Agricultural Climatology
Kyle D. Hoagland	Professor	0.35	0.00	0.15	0.50	Limnology and Director, Water Center
Aris Holz	Research Assistant Professor	0.00	0.00	0.00	1.00	Water Resources
John Holz	Research Assistant Professor	0.12	0.13	0.15	0.60	Limnology/Lake Management
Qi Hu	Associate Professor	0.55	0.15	0.00	0.30	Agricultural Climatology
Kenneth G. Hubbard	Professor	0.67	0.20	0.10	0.03	Agricultural Climatology
Julie Huddle <sup>2</sup>	Research Assistant Professor	0.00	0.00	0.00	1.00	Plant Ecophysiology
Scott E. Hygnstrom	Professor	0.25	0.35	0.25	0.15	Integrated Pest Management/Wildlife Damage Management
Ayse Irmak <sup>2</sup>	Assistant Professor	0.45	0.00	0.15	0.40	Hydrologic Information Systems
J. Michael Jess	Senior Lecturer	0.15	0.65	0.20	0.00	Geology
Robert M. Joeckel	Associate Professor	0.45	0.25	0.00	0.30	Geology/Regional Sedimentology and Stratigraphy
Ron J. Johnson <sup>1</sup>	Professor	0.31	0.69	0.00	0.00	Wildlife Science
Johannes Knops <sup>2</sup>	Associate Professor	0.00	0.00	0.00	1.00	Ecology, Biological Sciences
Cody L. Knutson	Research Assistant Geoscientist	0.00	0.00	0.00	1.00	Water Resources
Susan Lackey	Geoscientist	0.75	0.25	0.00	0.00	Groundwater Geology
Cynthia Lanson-Miller <sup>2</sup>	Lecturer	0.00	0.00	0.00	1.00	Grant Program Coordinator
John Lenters	Associate Professor	0.55	0.00	0.15	0.30	Climate Modeling
Xiaomao Lin	Research Assistant Professor	0.00	0.00	0.00	1.00	Atmospheric Scientist
James W. Merchant	Professor	0.60	0.00	0.40	0.00	Geographic Information Systems

<sup>1</sup>Ended appointment during 2007-2008

<sup>2</sup>Began appointment during 2007-2008

	Rank	Rsch	Ext	Tch	Other	Area of Responsibility
<b>School of Natural Resources (continued)</b>						
Deepak Mishra <sup>1</sup>	Research Assistant Professor	0.00	0.00	0.00	1.00	Remote Sensing/Geographic Information Systems (GIS)
Sunil Narumalani	Associate Professor	0.40	0.00	0.00	0.60	Remote Sensing/GIS
Robert Oglesby	Professor	0.30	0.00	0.00	0.70	Climate Modeling
Mark Pegg	Assistant Professor	0.50	0.00	0.50	0.00	Fisheries Ecology
Rick Perk	Assistant Geoscientist	0.00	0.00	0.00	1.00	Remote Sensing/GIS/Earth Science Education
Kevin Pope	Adj Associate Professor	0.00	0.00	0.00	1.00	Fish and Wildlife Research
Larkin A. Powell	Associate Professor	0.40	0.00	0.60	0.00	Conservation Biology/Animal Ecology
Karl Reinhard	Professor	0.00	0.00	0.00	1.00	Human Dimensions, Environmental Archaeology
Donald C. Rundquist	Professor	0.65	0.00	0.35	0.00	Remote Sensing
Michele M. Schoeneberger	Adjunct Assistant Professor	0.00	0.00	0.00	USDA	Forestry
Karina Schoengold	Assistant Professor	0.75	0.00	0.25	0.00	Environmental Economist
Patrick J. Shea	Professor	0.55	0.10	0.10	0.25	Environmental Chemistry of Xenobiotics
Steven Sibray	Geoscientist	0.75	0.25	0.00	0.00	Groundwater Geology
Rachel A. Simpson <sup>1</sup>	Research Assistant Professor	0.33	0.00	0.00	0.67	Natural Resources Data Specialist
Joseph M. Skopp	Associate Professor	0.50	0.00	0.50	0.00	Soil Physics
Daniel D. Snow	Research Assistant Professor	0.10	0.00	0.00	0.90	Hydrogeochemistry
Mary E. Spalding	Professor	1.00	0.00	0.00	0.00	Water Quality
Venkataramana Sridhar <sup>1</sup>	Research Assistant Professor	0.00	0.00	0.00	1.00	Hydrology/Mesoscale Modeling
Scott Summerside <sup>1</sup>	Associate Geoscientist	0.75	0.25	0.00	0.00	Groundwater Geology
Andrew Suyker	Research Assistant Professor	0.00	0.00	0.00	1.00	Micrometeorology
Mark Svoboda	Associate Geoscientist	0.00	0.00	0.00	1.00	Climatology
James Swinehart	Professor	0.85	0.00	0.00	0.15	Geology/Stratigraphy, Sedimentology
Jozsef Szilagy	Associate Professor	0.33	0.00	0.00	0.00	Water Science/Watershed Hydrology
Tsegaye Tadesse	Assistant Geoscientist	0.00	0.00	0.00	1.00	Climatology
Brigitte Tenhumberg <sup>1</sup>	Research Assistant Professor	0.00	0.00	0.00	1.00	Theoretical Ecology
Steven Thomas	Assistant Professor	0.80	0.00	0.20	0.00	River/Stream Ecology
Richard Andrew J. Tyre	Assistant Professor	0.60	0.00	0.40	0.00	Wildlife Population Ecology
Shashi B. Verma	Professor	0.85	0.00	0.15	0.00	Micrometeorology/Carbon Dioxide and Water Vapor Exchange
Elizabeth A. Walter-Shea	Professor	0.65	0.00	0.35	0.00	Agricultural Meteorology/Solar Radiation Interactions
Brian Wardlow	Research Assistant Professor	0.00	0.00	0.00	1.00	Remote Sensing Science
David A. Wedin	Associate Professor	0.60	0.00	0.40	0.00	Ecology
Albert Weiss	Professor	0.85	0.00	0.15	0.00	Agricultural Meteorology
Jinsheng You	Research Assistant Professor	0.00	0.00	0.00	1.00	Climatology
Xinhua Zhou	Research Assistant Professor	0.00	0.00	0.00	1.00	Ecophysiology/Modeler

<sup>1</sup>Ended research appointment during 2006-2007

<sup>2</sup>Began research appointment during 2006-2007

	Rank	Rsch	Ext	Tch	Other	Area of Responsibility
<b>Statistics</b>						
Walter W. Stroup	Professor	0.25	0.00	0.25	0.50	Chair, Statistical Consultant
Chris Bilder	Associate Professor	0.25	0.00	0.20	0.00	Statistical Consultant
Erin Blankenship	Associate Professor	0.55	0.00	0.45	0.00	Statistical Consultant
Kent Eskridge	Professor	0.65	0.00	0.35	0.00	Statistical Consultant
Stephen D. Kachman	Professor	0.50	0.00	0.50	0.00	Statistical Consultant
David B. Marx	Professor	0.55	0.00	0.45	0.00	Statistical Consultant
Anne Parkhurst	Professor	0.55	0.00	0.45	0.00	Statistical Consultant

## Veterinary and Biomedical Sciences

David Hardin	Professor and Head	0.39	0.09	0.52	0.00	Department Head
Raul G. Barletta	Professor	0.90	0.00	0.10	0.00	Molecular Biology
Bruce W. Brodersen <sup>2</sup>	Assistant Professor	0.00	0.00	0.00	1.00	Diagnostic Pathology
Michael P. Carlson <sup>2</sup>	Assistant Professor of Practice	0.00	0.00	0.00	1.00	Analytical Toxicology
Subash Das <sup>1</sup>	Research Assistant Professor	0.00	0.00	0.00	1.00	Veterinary Molecular Virology
Alan R. Doster	Professor	0.00	0.00	0.00	1.00	Diagnostic Pathology
Gerald E. Duhamel	Professor	0.80	0.00	0.10	0.10	Diagnostic/Research Pathology
M. Rohan Fernando <sup>1</sup>	Research Assistant Professor	0.00	0.00	0.00	1.00	Molecular Biology/Biochemistry
Dicky D. Griffin	Professor	0.20	0.30	0.50	0.00	Beef Cattle Medicine
Clinton J. Jones	Professor	0.90	0.00	0.10	0.00	Molecular Virology
James E. Keen <sup>2</sup>	Associate Professor	0.60	0.00	0.40	0.00	Epidemiology
Clayton L. Kelling	Professor	0.65	0.00	0.35	0.00	Research Virology
Marjorie F. Lou	Professor	0.50	0.00	0.00	0.50	Research Biochemistry
D. Scott McVey <sup>2</sup>	Professor	0.00	0.00	0.25	0.75	Microbiology
Rodney A. Moxley	Professor	0.90	0.00	0.10	0.00	Diagnostic/Research Pathology
Jeff D. Ondrak	Lecturer	0.50	0.00	0.50	0.00	Ruminant Nutrition
Fernando A. Osorio	Professor	0.85	0.00	0.15	0.00	Diagnostic/Research Virology
Asit K. Pattnaik	Professor	0.80	0.00	0.20	0.00	Virology
Douglas G. Rogers	Professor	0.00	0.00	0.00	1.00	Diagnostic/Research Pathology
Gary P. Rupp	Professor	0.50	0.50	0.00	0.00	Director, GPVEC, Beef Cattle Medicine
John A. Schmitz <sup>1</sup>	Professor	0.55	0.00	0.45	0.00	Veterinary Pathology
David J. Steffen	Professor	0.00	0.00	0.00	1.00	Diagnostic Research Pathology
David R. Smith	Professor	0.25	0.75	0.00	0.00	Dairy and Beef Cattle Health
Greg A. Somerville	Assistant Professor	0.90	0.00	0.20	0.00	Microbiology
Joe Y. Zhou	Research Associate Professor	0.00	0.00	0.00	1.00	Cell Biology/Bio-Imaging

<sup>1</sup>Ended research appointment during 2007-2008

<sup>2</sup>Began research appointment during 2007-2008

Rank		Rsch	Ext	Tch	Other	Area of Responsibility
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## Education and Human Sciences Departments

### Child, Youth and Family Studies

Julie M. Johnson	Professor and Chair	0.12	0.11	0.00	0.77	Chair
Douglas A. Abbott	Professor	0.25	0.00	0.00	0.75	Youth at Risk
Richard J. Bischoff	Associate Professor	0.25	0.00	0.00	0.75	Collaborative Health Care
Susan Churchill	Associate Professor	0.24	0.00	0.00	0.76	Families' Economic Well-Being
Rochelle Dalla	Associate Professor	0.25	0.00	0.00	0.75	Migration
Maria de Guzman	Assistant Professor	0.25	0.75	0.00	0.00	Adolescent Development
John D. DeFrain	Professor	0.25	0.75	0.00	0.00	Building Strong Families
Carolyn Edwards	Professor	0.25	0.00	0.00	0.75	Cultural Diversity/Early Childhood
Cody Hollist	Assistant Professor	0.25	0.00	0.00	0.75	At-Risk Adolescents; Latino Families
Cathy Huddleston-Casas	Assistant Professor	0.25	0.00	0.00	0.75	Families' Economic Well-Being
Helen Raikes	Professor	0.20	0.00	0.00	0.80	Early Childhood/Child Care Assessment
Kathy Prochaska-Cue	Associate Professor	0.12	0.75	0.00	0.13	Family Financial Management
Yan Xia	Associate Professor	0.11	0.00	0.00	0.89	Risk and Resiliency of Youth

### Nutrition and Health Sciences

Marilynn Schnepf	Professor	0.40	0.10	0.00	0.50	Chair
Julie A. Albrecht	Professor	0.25	0.75	0.00	0.00	Food Safety
Timothy Carr	Professor	0.50	0.00	0.00	0.50	Nutritional Biochemistry
Judy Driskell	Professor	0.50	0.00	0.00	0.50	Nutrition
Nancy M. Lewis	Professor	0.44	0.00	0.00	0.56	Nutrition
Kaye Stanek-Krogstrand	Associate Professor	0.25	0.00	0.00	0.75	Nutrition
Janos Zempleni	Associate Professor	0.50	0.00	0.00	0.50	Nutritional Biochemistry

### Textiles, Clothing and Design

Michael James	Professor and Chair	0.00	0.10	0.10	0.80	Chair
Patricia Cox Crews	Professor	0.25	0.00	0.00	0.75	Textile Conservation and Science
Nancy Miller	Professor	0.00	0.00	0.00	1.00	Merchandising
Shirley M. Niemeyer	Professor	0.25	0.75	0.00	0.00	Housing and Environment
Yiqi Yang	Professor	0.35	0.00	0.00	0.65	Textile Science and Biomaterials



Rank		Rsch	Ext	Tch	Other	Area of Responsibility
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## Off-Campus Research Centers

### Northeast Research and Extension Center

John F. Witkowski <sup>1</sup>	Professor and Director	0.25	0.75	0.00	0.00	Director
Twig Marston <sup>2</sup>	Professor	0.25	0.75	0.00	0.00	Director
Thomas E. Hunt	Associate Professor	0.50	0.50	0.00	0.00	Entomology (IPM)
Stevan Knezevic	Associate Professor	0.50	0.50	0.00	0.00	Agronomy and Horticulture (Weed Science)
William L. Kranz	Associate Professor	0.25	0.75	0.00	0.00	Biological Systems Engineering (Water Quality)
Donald G. Levis	Professor	0.25	0.75	0.00	0.00	Animal Science (Swine Production)
Terry L. Mader	Professor	0.50	0.50	0.00	0.00	Animal Science (Beef Cattle)
Charles A. Shapiro	Professor	0.50	0.50	0.00	0.00	Agronomy and Horticulture (Soils and Crop Nutrition)
David P. Shelton	Professor	0.50	0.50	0.00	0.00	Biological Systems Engineering (Soil Conservation)

### Panhandle Research and Extension Center

Charles A. Hibberd <sup>1</sup>	Professor and Director	0.45	0.55	0.00	0.00	Director
Linda Boeckner <sup>3</sup>	Professor, Interim Director	0.25	0.75	0.00	0.00	Nutrition and Health Sciences (Nutrition and Dietetics)
Robert M. Harveson	Associate Professor	0.50	0.50	0.00	0.00	Plant Pathology (Specialty Crop Disease)
Gary L. Hein	Professor	0.50	0.50	0.00	0.00	Entomology (Entomology)
Gary W. Hergert	Professor	0.50	0.50	0.00	0.00	Agronomy/Horticulture (Soils)
Drew J. Lyon	Professor	0.50	0.50	0.00	0.00	Agronomy/Horticulture (Dryland Crops)
Alexander D. Pavlista	Professor	0.25	0.75	0.00	0.00	Agronomy/Horticulture (Potatoes)
Patrick E. Reece	Professor	0.50	0.50	0.00	0.00	Agronomy/Horticulture (Range Ecology)
Ivan G. Rush	Professor	0.25	0.75	0.00	0.00	Animal Science (Beef Cattle)
John A. Smith	Professor	0.50	0.50	0.00	0.00	Biological Systems Engineering (Machinery Systems)
Carlos A. Urrea	Assistant Professor	0.75	0.25	0.00	0.00	Agronomy/Horticulture (Dry Bean Breeding)
Judson Vasconcelos <sup>2</sup>	Assistant Professor	0.50	0.50	0.00	0.00	Animal Science (Feedlot Nutrition Management)
Robert G. Wilson	Professor	0.50	0.50	0.00	0.00	Agronomy/Horticulture (Weed Science)
C. Dean Yonts	Associate Professor	0.50	0.50	0.00	0.00	Biological Systems Engineering (Irrigation)

<sup>1</sup>Ended research appointment 2007-2008

<sup>2</sup>Began research appointment 2007-2008

<sup>3</sup>Began interim director position 2007-2008

	Rank	Rsch	Ext	Tch	Other	Area of Responsibility
<b>West Central Research and Extension Center</b>						
Don C. Adams	Professor and Director	0.37	0.38	0.00	0.25	Director, Animal Science (Range Cattle Nutrition)
Rick N. Funston	Associate Profesor	0.40	0.60	0.00	0.00	Animal Science (Reproductive Physiology)
Dale T. Lindgren	Professor	0.50	0.50	0.00	0.00	Agronomy/Horticulture (Ornamentals)
Leslie A. Stalker	Assistant Professor	0.50	0.50	0.00	0.00	Animal Science (Animal Nutrition)
Matthew C. Stockton	Assistant Professor	0.50	0.50	0.00	0.00	Agricultural Economics
Simon van Donk	Assistant Professor	0.50	0.05	0.00	0.00	Biological Systems Engineering (Water Management)
Jerry Volesky	Associate Profesor	0.50	0.50	0.00	0.00	Agronomy/Horticulture (Range Management)

## Interdisciplinary Activities

### Agricultural Research Division

Gary L. Cunningham	Professor	1.00	0.00	0.00	0.00	Dean and Director
Z B Mayo	Professor	1.00	0.00	0.00	0.00	Associate Dean and Director
Daniel Duncan		1.00	0.00	0.00	0.00	Assistant Dean and Director
Marjorie J. Kostelnik	Professor	0.12	0.13	0.00	0.75	Associate Dean and Director

### Biotechnology Center

Michael Fromm	Professor	0.48	0.00	0.00	0.52	Director
Thomas Clemente	Associate Professor	0.60	0.00	0.00	0.40	Plant Transformation

### Plant Science Initiative

Sally Mackenzie	Professor	0.60	0.00	0.00	0.40	Director, Plant Genomics
James R. Alfano	Associate Profesor	0.88	0.12	0.00	0.00	Microbial Genetics
Thomas Clement	Associate Profesor	0.60	0.00	0.00	0.40	Plant Transformation
Michael Fromm	Professor	0.52	0.00	0.00	0.48	Biochemical Genetics
Steven Harris	Assistant Professor	1.00	0.00	0.00	0.00	Fungal Genetics
Julie M. Stone	Assistant Professor	0.63	0.00	0.00	0.37	Plant Molecular Biology

### Center for Grassland Studies

Martin Massengale	Professor	0.25	0.00	0.00	0.75	Director
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### Water Center

Kyle D. Hoagland	Professor	0.25	0.00	0.25	0.50	Director
J. Michael Jess	Lecturer	0.00	0.00	0.00	1.00	Associate Director

# Visiting Scientists and Research Associates

**T**he Agricultural Research Division hosted 82 visiting scientists and 60 research associates to the campus in 2007-2008. ARD research is complemented and enhanced by these collaborating scientists — it is through the sharing of knowledge and expertise that the field of science is advanced.

## Agronomy and Horticulture

*Visiting Scientist:* Anderson Machado de Mello  
*State/Country:* Brazil  
*Expertise/Discipline:* Floriculture on penstemon

*Visiting Scientist:* Zorica Popovic  
*State/Country:* Yugoslavia  
*Expertise/Discipline:* Plant ecophysiology

## Biochemistry

*Visiting Scientist:* Cristina Aguado  
*State/Country:* Spain  
*Expertise/Discipline:* Clinical genetics

*Visiting Scientist:* Liliana Casique  
*State/Country:* Venezuela  
*Expertise/Discipline:* Clinical genetics

*Visiting Scientist:* Tsanko Gechev  
*State/Country:* Bulgaria  
*Expertise/Discipline:* Plant oxidative stress responses

*Visiting Scientist:* Moritz Meyer  
*State/Country:* United Kingdom  
*Expertise/Discipline:* Plant physiology

*Visiting Scientist:* Victor Vitvitsky  
*State/Country:* Russia  
*Expertise/Discipline:* Sulfa biochemistry

## Biological Systems Engineering

*Visiting Scientist:* Abbas Hemmat  
*State/Country:* Iran  
*Expertise/Discipline:* Agricultural engineering/tillage and planting systems

*Visiting Scientist:* Laura Nyström  
*State/Country:* Finland  
*Expertise/Discipline:* Sterol chemistry/food chemistry  
*Visiting Scientist:* Jihan Cepeda Jiménez  
*State/Country:* Colombia  
*Expertise/Discipline:* Heat transfer modeling/food engineering

*Visiting Scientist:* Bo Hyun Lee  
*State/Country:* South Korea  
*Expertise/Discipline:* Lipid chemistry/foods and nutrition

## Entomology

*Visiting Scientist:* Arnubio Valencia Jimenez  
*State/Country:* Colombia  
*Expertise/Discipline:* Insect biochemistry

## Food Science and Technology

*Visiting Scientist:* Nanis Gomah  
*State/Country:* Egypt  
*Expertise/Discipline:* Molds and mycotoxins

*Visiting Scientist:* Jihan Cepeda Jiménez  
*State/Country:* Colombia  
*Expertise/Discipline:* Computer modeling of biological systems

*Visiting Scientist:* Bo Hyun Lee  
*State/Country:* Korea  
*Expertise/Discipline:* Health benefits of nutraceuticals

*Visiting Scientist:* Yulie Meneses  
*State/Country:* Ecuador  
*Expertise/Discipline:* Dairy and grain processing

*Visiting Scientist:* Laura Nyström  
*State/Country:* Finland  
*Expertise/Discipline:* Sterol analysis

*Visiting Scientist:* Wafik Ragab  
*State/Country:* Egypt  
*Expertise/Discipline:* Molds and mycotoxins

*Visiting Scientist:* A.B. Singh  
*State/Country:* India  
*Expertise/Discipline:* Airway allergenicity

*Visiting Scientist:* Vasanthi Siruguri  
*State/Country:* India  
*Expertise/Discipline:* Toxicology and allergenicity assessment of GM crops

*Visiting Scientist:* Carol Martinez Valenzuela  
*State/Country:* Mexico  
*Expertise/Discipline:* Food science

*Visiting Scientist:* Luftiye Yilmaz  
*State/Country:* Turkey  
*Expertise/Discipline:* Food microbiology

## Plant Pathology

*Visiting Scientist:* Nattihya Buensanteai  
*State/Country:* Thailand  
*Expertise/Discipline:* Plant bacteriology

*Visiting Scientist:* Garry Duncan  
*State/Country:* Nebraska  
*Expertise/Discipline:* Genetics

*Visiting Scientist:* Cafer Eken  
*State/Country:* Turkey  
*Expertise/Discipline:* Mycology and plant pathology

*Visiting Scientist:* Graciela Godoy-Lutz  
*State/Country:* Dominican Republic  
*Expertise/Discipline:* Plant pathology

*Visiting Scientist:* Mike Henry  
*State/Country:* California  
*Expertise/Discipline:* Plant pathology

## School of Natural Resources

*Visiting Scientist:* Javier Alvarez  
*State/Country:* Spain  
*Expertise/Discipline:* Hydrology

*Visiting Scientist:* Martha Anderson  
*State/Country:* Washington, DC  
*Expertise/Discipline:* Remote sensing

*Visiting Scientist:* Sonny Ashford  
*State/Country:* Nebraska  
*Expertise/Discipline:* Software engineering

*Visiting Scientist:* Deborah Bathke  
*State/Country:* New Mexico  
*Expertise/Discipline:* Climatology/drought management/atmospheric sciences

*Visiting Scientist:* David Bergvinson  
*State/Country:* Washington  
*Expertise/Discipline:* Agricultural development

*Visiting Scientist:* Jared Blanton  
*State/Country:* Washington, DC  
*Expertise/Discipline:* Deputy legislative assistant

*Visiting Scientist:* Ahmed Boug  
*State/Country:* Saudi Arabia  
*Expertise/Discipline:* Wildlife specialist

*Visiting Scientist:* Morris Brill  
*State/Country:* California  
*Expertise/Discipline:* Environmental science

*Visiting Scientist:* Jesslyn Brown  
*State/Country:* South Dakota  
*Expertise/Discipline:* Remote sensing

*Visiting Scientist:* Sarah Bruce  
*State/Country:* Australia  
*Expertise/Discipline:* Climate impact sciences

*Visiting Scientist:* Jim Cooper  
*State/Country:* Maryland  
*Expertise/Discipline:* GIS/remote sensing

*Visiting Scientist:* Jonathan Coppess  
*State/Country:* Washington, DC  
*Expertise/Discipline:* Legislative assistant

*Visiting Scientist:* Martin Dubrovsky  
*State/Country:* Czech Republic  
*Expertise/Discipline:* Atmospheric physics

*Visiting Scientist:* David Easterling  
*State/Country:* North Carolina  
*Expertise/Discipline:* Climatology

*Visiting Scientist:* Andrey Elifavov  
*State/Country:* Russian Federation  
*Expertise/Discipline:* Biology

*Visiting Scientist:* Teodoro Estrela  
*State/Country:* Spain  
*Expertise/Discipline:* Hydrology

*Visiting Scientist:* Kyle Gilster  
*State/Country:* Washington, DC  
*Expertise/Discipline:* Law

*Visiting Scientist:* Richard Heim  
*State/Country:* North Carolina  
*Expertise/Discipline:* Meteorology

*Visiting Scientist:* Nan Hong  
*State/Country:* Missouri  
*Expertise/Discipline:* Agronomy

*Visiting Scientist:* Kate Howard  
*State/Country:* Washington, DC  
*Expertise/Discipline:* Legislative assistant

*Visiting Scientist:* Christine Krause  
*State/Country:* Kansas  
*Expertise/Discipline:* Meteorology

*Visiting Scientist:* Bo Liu  
*State/Country:* China  
*Expertise/Discipline:* Climate and land-use effects

*Visiting Scientist:* Ron Lowther  
*State/Country:* Nebraska  
*Expertise/Discipline:* Environmental science

*Visiting Scientist:* Rodrigo Maia  
*State/Country:* Portugal  
*Expertise/Discipline:* Civil engineering/water resources

*Visiting Scientist:* Joe Marshall  
*State/Country:* Nebraska  
*Expertise/Discipline:* Environmental science

*Visiting Scientist:* Valery Medvedev  
*State/Country:* Russian Federation  
*Expertise/Discipline:* Administration

*Visiting Scientist:* Kathleen Miller  
*State/Country:* Colorado  
*Expertise/Discipline:* Economics/climate change

*Visiting Scientist:* Scott Miner  
*State/Country:* Nebraska  
*Expertise/Discipline:* Software engineering

*Visiting Scientist:* Mike Palecki  
*State/Country:* Illinois  
*Expertise/Discipline:* Applied climatology/climate variation and climate change

*Visiting Scientist:* Sirguyey Pikunov  
*State/Country:* Russian Federation  
*Expertise/Discipline:* Administration

*Visiting Scientist:* Jiang Li Qin  
*State/Country:* China  
*Expertise/Discipline:* Meteorology/data-mining

*Visiting Scientist:* Victor Ryadinsky  
*State/Country:* Russian Federation  
*Expertise/Discipline:* Administration

*Visiting Scientist:* Tahir Sarwar  
*State/Country:* Pakistan  
*Expertise/Discipline:* Civil engineering/water resources

*Visiting Scientist:* Shri Kasthala V. Satyanarayana  
*State/Country:* India  
*Expertise/Discipline:* Administration

*Visiting Scientist:* Alexander Shalabodov  
*State/Country:* Russian Federation  
*Expertise/Discipline:* Administration

*Visiting Scientist:* Vinod Sharma  
*State/Country:* India  
*Expertise/Discipline:* Disaster management and environment

*Visiting Scientist:* Gregor Skok  
*State/Country:* Slovenia  
*Expertise/Discipline:* Meteorology

*Visiting Scientist:* Bob Smith  
*State/Country:* California  
*Expertise/Discipline:* Crop insurance

*Visiting Scientist:* Jinxi Song  
*State/Country:* China  
*Expertise/Discipline:* Hydrogeology/water resources

*Visiting Scientist:* Andrey Soromotin  
*State/Country:* Russian Federation  
*Expertise/Discipline:* Ecology

*Visiting Scientist:* Eugene Takle  
*State/Country:* Iowa  
*Expertise/Discipline:* Meteorology/atmospheric science

*Visiting Scientist:* Andrey Tolstikov  
*State/Country:* Russian Federation  
*Expertise/Discipline:* Biology

*Visiting Scientist:* Mirek Trnka  
*State/Country:* Czech Republic  
*Expertise/Discipline:* Agricultural meteorology

*Visiting Scientist:* Elisa Vargas  
*State/Country:* Spain  
*Expertise/Discipline:* Hydrology

*Visiting Scientist:* Kanaparthi P.R. Vittal  
*State/Country:* India  
*Expertise/Discipline:* Administration

*Visiting Scientist:* Tonghui Zhang  
*State/Country:* China  
*Expertise/Discipline:* Ecological and hydrological research

*Visiting Scientist:* Jun Zhu  
*State/Country:* People's Republic of China  
*Expertise/Discipline:* Bioinformatics

*Visiting Scientist:* Weijun Zhou  
*State/Country:* People's Republic of China  
*Expertise/Discipline:* International relations/crop science

## Textiles, Clothing and Design

*Visiting Scientists:* Ying Li  
*State/Country:* China  
*Expertise/Discipline:* Plant protein crosslinkings

*Visiting Scientists:* Taejung Kim  
*State/Country:* South Korea  
*Expertise/Discipline:* Textile modeling systems

## Veterinary and Biomedical Sciences

*Visiting Scientists:* Marcelo de Lima  
*State/Country:* Brazil  
*Expertise/Discipline:* Veterinary virology

*Visiting Scientists:* Francisco Javier Martinez Lobo  
*State/Country:* Spain  
*Expertise/Discipline:* Veterinary virology

## Northeast Research and Extension Center

*Visiting Scientists:* Peter J. Porpiglia, Osamu Watanabe, Masanari Nakashima, Kenji Takama, Hisashi Honda

*State/Country:* Japan  
*Expertise/Discipline:* Weed scientists

*Visiting Scientists:* Darin Robinson, Peter Sikkema  
*State/Country:* Canada  
*Expertise/Discipline:* Weed scientists

*Visiting Scientists:* Rex Liebl, Steve Bowe, John Harden, Adam Hixson, Tom Holt, Caren Judge, Troy Klingaman, Joe Zawierucha, Dan Westberg

*State/Country:* North Carolina  
*Expertise/Discipline:* Weed scientists

## West Central Research and Extension Center

*Visiting Scientists:* Mikel Stevens  
*State/Country:* Utah  
*Expertise/Discipline:* Changing ploidy levels in the genus *Penstemon*



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## Research Associates

### Aronomy and Horticulture

*Research Associate:* Minyoung Kim  
*State/Country:* South Korea  
*Expertise/Discipline:* Bioaerosol transport

*Research Associate:* Adam Liska  
*State/Country:* United States  
*Expertise/Discipline:* Ecological intensification project

*Research Associate:* Nancy Nicolai  
*State/Country:* United States  
*Expertise/Discipline:* Grassland ecologist

*Research Associate:* Tri Der Setiyono  
*State/Country:* Indonesia  
*Expertise/Discipline:* Decision support tools for exploiting crop yield

*Research Associate:* Hugo Perea-Estrada  
*State/Country:* United States  
*Expertise/Discipline:* Water resources engineering

### Biochemistry

*Research Associate:* Nitish Agrawal  
*State/Country:* India  
*Expertise/Discipline:* Enzymology

*Research Associate:* Mingxia Cao  
*State/Country:* China  
*Expertise/Discipline:* Plant molecular biology

*Research Associate:* Qi Cheng  
*State/Country:* China  
*Expertise/Discipline:* Molecular biology

*Research Associate:* Mishtu Dey  
*State/Country:* India  
*Expertise/Discipline:* Inorganic chemistry/metallobiochemistry

*Research Associate:* Razvan Dumitru  
*State/Country:* Romania  
*Expertise/Discipline:* Biochemistry

*Research Associate:* Dmitri Fomenko  
*State/Country:* Russia  
*Expertise/Discipline:* Redox biology

*Research Associate:* Sanjay Garg  
*State/Country:* India  
*Expertise/Discipline:* Immunology

*Research Associate:* Todor Genkov  
*State/Country:* Bulgaria  
*Expertise/Discipline:* Plant biochemistry/molecular biology

*Research Associate:* Wen Zhi Jiang  
*State/Country:* China  
*Expertise/Discipline:* Plant molecular biology

*Research Associate:* Heejeong Kim  
*State/Country:* Korea  
*Expertise/Discipline:* Electrophysiology

*Research Associate:* Dung Le  
*State/Country:* Vietnam  
*Expertise/Discipline:* Biochemistry

*Research Associate:* Kwanghong Lee  
*State/Country:* Korea  
*Expertise/Discipline:* Plant molecular biology

*Research Associate:* Jiusheng Lin  
*State/Country:* China  
*Expertise/Discipline:* Plant molecular biology

*Research Associate:* Alexei Lobanov  
*State/Country:* Russia  
*Expertise/Discipline:* Bioinformatics

*Research Associate:* Stefano Marino  
*State/Country:* Italy  
*Expertise/Discipline:* Biochemistry, computational biology

*Research Associate:* Satish Kumar Natarajan  
*State/Country:* India  
*Expertise/Discipline:* Biochemistry, animal models

*Research Associate:* Dominique Padovani  
*State/Country:* France  
*Expertise/Discipline:* Enzymology

*Research Associate:* Ashraf Raza  
*State/Country:* Pakistan  
*Expertise/Discipline:* Mass spectrometry

*Research Associate:* Valentina Shchedrina  
*State/Country:* Russia  
*Expertise/Discipline:* Selenoproteins

*Research Associate:* Chloe von Oostende  
*State/Country:* France  
*Expertise/Discipline:* Plant molecular biology and biochemistry

*Research Associate:* Qin Wei  
*State/Country:* China  
*Expertise/Discipline:* Biochemistry cell signaling

*Research Associate:* Wenzhong Wei  
*State/Country:* China  
*Expertise/Discipline:* Molecular biology and genetics

*Research Associate:* Xiaobin Wu  
*State/Country:* China  
*Expertise/Discipline:* Biochemistry

*Research Associate:* Mamoru Yamanishi  
*State/Country:* Japan  
*Expertise/Discipline:* Enzymology

*Research Associate:* Yan Zhang  
*State/Country:* China  
*Expertise/Discipline:* Bioinformatics

*Research Associate:* Weidong Zhu  
*State/Country:* China  
*Expertise/Discipline:* Enzymology

## Biological Systems Engineering

*Research Associate:* Sohan Birla  
*State/Country:* Madhya Pradesh, India  
*Expertise/Discipline:* Process modeling/food engineering unit operations

*Research Associate:* Tanya Gachovska  
*State/Country:* Rousse, Bulgaria  
*Expertise/Discipline:* Electrical engineering/pulsed electric field

*Research Associate:* Christopher Hay  
*State/Country:* Nebraska, United States  
*Expertise/Discipline:* Evapotranspiration/water resources engineering

*Research Associate:* Vikas Kumar  
*State/Country:* Bihar, India  
*Expertise/Discipline:* Computational fluid dynamics (CFD) modeling/heat transfer

*Research Associate:* Yixiang Xu  
*State/Country:* Xinjiang, China  
*Expertise/Discipline:* Biochemistry/food chemistry

## Entomology

*Research Associate:* Haichuan Wang  
*State/Country:* Canada  
*Expertise/Discipline:* Insect biochemistry/molecular biology

## Food Science and Technology

*Research Associate:* Sohan Birla  
*State/Country:* India  
*Expertise/Discipline:* Modeling of microwave cooking

*Research Associate:* Tanya Gachovska  
*State/Country:* Bulgaria  
*Expertise/Discipline:* High-voltage pulsed electric field processing

*Research Associate:* Vikas Kumar  
*State/Country:* India  
*Expertise/Discipline:* Heat transfer modeling

*Research Associate:* Wajira Ratnayake  
*State/Country:* Sri Lanka  
*Expertise/Discipline:* Cereal/starch chemistry

*Research Associate:* Pramod Siddanakoppalu  
*State/Country:* India  
*Expertise/Discipline:* Immunology and lectin biochemistry

*Research Associate:* Yixiang Xu  
*State/Country:* China  
*Expertise/Discipline:* Biochemistry/food chemistry

## Plant Pathology

*Research Associate:* Anna Block  
*State/Country:* England  
*Expertise/Discipline:* Plant hormones

*Research Associate:* Kwang Hong Lee  
*State/Country:* Korea  
*Expertise/Discipline:* Protein expression in algae

*Research Associate:* Guangyong Li  
*State/Country:* China  
*Expertise/Discipline:* Molecular plant-microbe interactions

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## School of Natural Resources

*Research Associate:* Ya Ding  
*State/Country:* Nebraska, United States  
*Expertise/Discipline:* Natural resources economics

*Research Associate:* Viviane Henaux  
*State/Country:* France  
*Expertise/Discipline:* Stable Isotope analysis and ecological modelling

*Research Associate:* Jae H. Ryu  
*State/Country:* Nebraska, United States  
*Expertise/Discipline:* Hydrology

*Research Associate:* Donna Woudenberg  
*State/Country:* Nebraska, United States  
*Expertise/Discipline:* Drought management

## Veterinary and Biomedical Sciences

*Research Associate:* Ofelia Chaçon-Barletta  
*State/Country:* Colombia  
*Expertise/Discipline:* Microbiology

*Research Associate:* Christina Topliff  
*State/Country:* Nebraska  
*Expertise/Discipline:* Virologist

*Research Associate:* Kuiyi Xing  
*State/Country:* Jiangsu Province, People's Republic of China  
*Expertise/Discipline:* Biochemistry

*Research Associate:* Marat R. Sadykov  
*State/Country:* Taldy-Kurgan, Kazakhstan  
*Expertise/Discipline:* Molecular biology

*Research Associate:* Sandra E. Perez De Bretschneider  
*State/Country:* Argentina (Buenos Aires)  
*Expertise/Discipline:* Molecular virology

## Nutrition and Health Sciences

*Research Associate:* Subhashinee Wijeratne  
*Country:* Sri Lanka  
*Expertise/Discipline:* Molecular nutrition

*Research Associate:* Baolong Bao  
*Country:* China  
*Expertise/Discipline:* Molecular nutrition

*Research Associate:* Jeong Min Seo  
*Country:* Korea  
*Expertise/Discipline:* Molecular biology

## Textiles, Clothing and Design

*Research Associate:* David Karst  
*State/Country:* United States  
*Expertise/Discipline:* Polymer modeling

## Panhandle Research and Extension Center

*Name:* Gustavo Sbatella  
*State/Country:* Argentina  
*Expertise/Discipline:* Weed resistance in roundup ready cropping systems

# Research Projects

**E**ach faculty member with an ARD appointment has a federally-approved research project. A number of faculty have multiple projects. There are 286 research projects that were active for the 2007-2008 fiscal year in agriculture, natural resources and family sciences. Projects are generally three to five years in duration. Faculty also are part of a national network of Agricultural Experiment Station scientists located at land-grant universities across the United States. ARD researchers currently are involved with about 52 multistate research projects in which

they conduct cooperative research with scientists at other universities, addressing problems of regional and national importance. They also participate in approximately 105 multistate research committees, which serve to exchange information and coordinate cooperative research activities among institutions.

Research projects are listed by departments. An asterisk (\*) indicates that the project was terminated in fiscal year 2007-2008. Following are different types of projects and their funding source.

Type	Funding Source	Type	Funding Source
Hatch	Federal and State Funds	Competitive Grant	Federal Funds/USDA
Hatch Multistate	Federal Funds	Animal Health	Federal Funds
State	State Funds	Cooperative Agreement	
McIntire-Stennis	Federal Funds	Other Grant	
Special Grant	Federal, State, Public and Private		

## Project Type Description:

**Hatch:** research on all aspects of agriculture, including soil and water conservation and use; plant and animal production, protection, and health; processing, distributing, marketing and utilization of food and agricultural products; forestry, including range products, multiple use of forest and rangelands, and urban forestry; aquaculture; family sciences, including human nutrition and family life; and rural and community development.

**Multistate:** research in agriculture, natural resources and family sciences with regional importance and Nebraska application. Research is a collaborative effort with scientists from other land-grant institutions and federal agencies.

**State:** research on all aspects of agriculture, natural resources, family sciences, and rural development that is supported entirely by state funds.

**McIntire-Stennis:** research relating to: 1) reforestation and management of land for the production of timber and other related products of the forest; 2) management of forest and related watershed lands to improve conditions of water flow and to protect resources against floods and erosion; 3) management of forest and related rangeland for production of forage for domestic livestock and game and improvement of food and habitat for wildlife; 4) management of forest lands for outdoor recreation; 5) protection of forest land and resources against fire, insects, diseases, or other destructive agents; 6) utilization of wood and other forest products; 7) development of sound policies for the management of forest lands and the harvesting and marketing of forest products; and 8) such other studies as may be necessary to obtain the fullest and most effective use of forest resources.

**Special Grants:** targeted research projects to address special needs for family sciences, agriculture, and the management of natural resources for Nebraska.

**Competitive Grants:** includes research in USDA national priority areas.

**Animal Health:** research to promote the general welfare through improved health and productivity of domestic livestock, poultry, aquatic animals, and other income-producing animals that are essential to the nation's food supply and the welfare of producers and consumers of animal products.

**Cooperative Agreement:** Funds from USDA agencies other than CSREES.

## Agricultural/ Natural Resources Units

### Agricultural Economics

**10-138 Hatch**  
Measurement of competitiveness of U.S. beef, soybean, wheat, and corn production (L.E. Fulginiti)

**10-145\* Hatch**  
Finding motivations and mechanisms for profitable conservation (G.D. Lynne)

**10-149 Hatch**  
Enhancing public understanding of the U.S. beef market through industrial organization research and education (A.M. Azzam)

**10-150\* Hatch**  
Economic analysis of Nebraska cropping systems (G.A. Helmers)

**10-152 Hatch**  
Strategic behavior and optimal regulation in industrialized agricultural markets: patents, biotechnology and organic agriculture (A.Yiannaka)

**10-153 Hatch**  
Analysis of agricultural real estate market dynamics in Nebraska (B.B. Johnson)

**10-154 Multistate**  
NC-1016, Economic assessment of changes in trade arrangements, bio-terrorism threats and renewable fuels requirements on U.S. Grain and Oilseed Sector (D.M. Conley)

**10-155 Hatch**  
Vertical integration, contract coordination and market power in agricultural raw product market (J. Royer)

**10-156 Hatch**  
Economic analysis of international agricultural trade issues before the World Trade Organization (E.W. Peterson)

**10-157 Multistate**  
W-1190, Interfacing technological, economic, and institutional principles for managing inter-sector mobilization of water. (R. Supalla, D. Martin)

**24-158 Multistate**  
NC-1034, Impact analyses and decision strategies for agricultural research (R.K. Perrin)

**24-159 Hatch**  
Understanding effective rural economic development (D.J. Peters)

**24-160 Grant**  
Multi-stage production and farm structure: The case of U.S. hog farms (A. Azzam)

**24-161 Hatch**  
Innovation activity in the Agri-Food System: Agricultural biotechnology, regulation, and the role of cooperative organizations (K. Giannakas)

**24-162 Hatch**  
Irrigation water consumption: Implications for water management policies (K. Schoengold)

## Agricultural Leadership, Education and Communication

**24-034 State**  
Predictors of leader and follower behavior and the impact of leadership development interventions and programs (J.E. Barbuto Jr., S.M. Fritz)

**24-035\* State**  
Surveying and characterizing distance education interventions in Nebraska rural communities (J.W. King)

**24-036\* State**  
Relationship of servant leadership to other leadership theories and role in explaining follower behavior and organizational effectiveness in Nebraska (D.W. Wheeler)

## Agronomy and Horticulture

**12-194 Hatch**  
Novel methods for soybean genetic improvement and genomic analysis (J.E. Specht)

**12-209\* Hatch**  
Procedures for assessing impacts of nonpoint agricultural chemicals on ground water (R.F. Spalding)

**12-260\* Hatch**  
Resource-efficient management of summer annual dryland cereal crops in Nebraska (S.C. Mason)

**12-267\* Hatch**  
Ecophysiology of corn - velvetleaf competition (J.L. Lindquist)

**12-268 Hatch**  
Sustainable farms, landscapes and rural communities in Nebraska: an agricultural systems team approach (C.A. Francis)

**12-274 Hatch**  
Physiological bases of environmental constraints on plant growth and productivity (T.J. Arkebauer)

**12-275 Multistate**  
NC-213, Marketing and delivery of quality cereals and oilseeds (S. Baenziger)

**12-288 Hatch**  
Identification and analysis of jasmonic acid signal transduction components in plants (P.E. Staswick)

**12-289\* Hatch**  
Precise nutrient management in corn-based systems (A.R. Dobermann)

**12-290\* Hatch**  
Relationship of organic phosphorus bioavailability and PH to plant growth, phosphorus uptake, and mycorrhizal establishment (M. Mamo)

**12-291\* Hatch**  
Improved soil productivity and environmental quality on non-irrigated land in southeastern Nebraska (C.S. Wortmann)

**12-294\* Hatch**  
Detection and assessment of genetic variation in economically important weed species (D.J. Lee)

**12-295\* State**  
Soil and water management for improving sorghum production in eastern Africa (C.S. Wortmann, M. Mamo)

**12-296\* Hatch**  
Cultural practices to minimize environmental stress on horticultural crop production (L. Hodges)

**12-297\* Hatch**  
Improving the end-use performance characteristics of wheat and other cereal grains (S. Baenziger)

**12-298 Hatch**  
Development of a transposon tagging system for soybean (*Glycine max* Merr) (T.E. Clemente)

**12-301 Competitive Grant**  
Pollution and economic decision support tool for impaired watershed management plans in Eastern Nebraska (D. Ginting, G.A. Helmers, M. Mamo, C. Wortmann, B. Eghball)

**12-302 Hatch**  
Proteomic dissection of the mitochondrial DNA metabolism apparatus in arabidopsis (S.A. Mackenzie)

**12-303 Hatch**  
Investigating the relationship between leaf re-greening and leaf senescence in a novel model system (E.T. Paparozzi)

**12-305 Competitive Grant**  
The genetic basis of agronomic traits controlled by chromosome 3A in wheat (S. Baenziger, K. Eskridge, I. Dweikat)

**12-307 Hatch**  
Seasonal dynamics of annual forage crops to enhance grazing livestock systems (B. Anderson)

**12-308 Hatch**  
Turfgrass landscape biosensing (G. Horst)

**12-309 Hatch**  
Improving efficiency of corn breeding and developing alternative breeding methods (K. Russell)

**12-310 Multistate**  
NC-1026, Characterize weed population dynamics for improved long-term weed management decision-making (J. Lindquist, S. Knezevic)

**12-311 Hatch**  
Improved understanding of crop yield potential and irrigation tactics for water-limited irrigated systems (K. Cassman)

**22-312 Hatch**  
Ecology of Nebraska grassland irrigation (J. Stubbendieck)

**22-313 Competitive Grant**  
Contribution of *Fusarium Lateritum* to weed suppressive soils and weed abundance (J. Lindquist)

**22-314 Hatch**  
Soybean breeding and genetic studies (G. Graef)

**22-315 Other Grant**  
Effectiveness of irrigated crop management practices in reducing groundwater nitrate concentrations (R.F. Spalding)

**22-316 Hatch**  
Increased drought resistance and yield potential in sorghum by enhancing its adaptability to cold (I. Dweikat)

**22-317 Hatch**  
Application of micropropagation and biotechnology to improvement and multiplication of horticultural crops (P.E. Read)

**22-318 Hatch**  
Site-specific nutrient management strategies for irrigated and non-irrigated maize (R.B. Ferguson)

**22-319 Hatch**  
Influence of root-zone organic matter on putting green quality and performance (R. Gaussoin)

**22-320 Multistate**  
NC1032, Characterizing active soil organic matter pools controlling soil N availability in maize-based cropping systems (D.T. Walters)

**22-321 Hatch**  
Environmentally-appropriate management of soils for high intensity human uses (D.L. McCallister)

**22-322 Other Grant**  
Developing small grains cultivars and systems optimally suited for organic production (P.S. Baenziger)

**22-323 Hatch**  
Plant-animal interactions in response to grazing system on Sandhills prairie (W.H. Schacht)

**22-324 Multistate**  
NC-506, Sustainable biorefining systems for corn in the North Central Region (K.G. Cassman)

**22-325 Hatch**  
Nutrient and water management for grain and biofuel production systems of Nebraska (C. Wortmann)

**22-326 Hatch**  
Evaluation of the effectiveness of farm management on groundwater nitrate and the environmental impact of catabolic ethanol releases (R.F. Spalding, D.B. Marx, M.E. Exner, P.J. Nowak, M.R. Hyman)

**22-327 Hatch**  
Community structure and functional diversity of arbuscular mycorrhizal fungi in high-yielding cropping systems (A. Drijber)

**22-328 Hatch**  
Genetics, breeding and evaluation of winter small grains crops for Nebraska (P.S. Baenziger)

**22-329 Grant**  
Plant Breeding Workshop (P.S. Baenziger)

**22-330 Hatch**  
Quality evaluation of genetics and breeding winter small grains crops for Nebraska (P.S. Baenziger, L. Xu)

**22-331 Hatch**  
Breeding and developing Buffalograss for turfgrass use (R.C. Shearman, T.P. Riordan)

**22-332 Hatch**  
Optimizing grain yield and quality, and resource use efficiency of modern maize and sorghum hybrids (S.C. Mason)

**22-333 Special Grant**  
Enhancing the economic potential of producing biofuels from sweet sorghum (I. Dweikat)

**22-334 Hatch**  
Water use of weeds between harvest and planting in a corn-soybean cropping system (M.L. Bernards)



## Animal Science

- 13-157\*** **Multistate**  
NC-1119, Management system to improve the economic and environmental sustainability of dairy enterprises (P. Kononoff, H.D. Jose, T. Klopfenstein)
- 13-158\*** **Multistate**  
S-1008, Genetic selection and cross-breeding to enhance reproduction and survival of dairy cattle (J.F. Keown)
- 13-159** **Hatch**  
Transcriptional regulation of the porcine gonadotropin releasing hormone (GnRH) receptor gene (B.R. White)
- 13-161\*** **Hatch**  
Genetic variation in feed energy utilization (M.K. Nielsen)
- 13-162\*** **Multistate**  
NC-1004, Genetic and functional genomic approaches to improve production and quality of pork (R.K. Johnson, D. Pomp, J.S. Weber)
- 13-164** **Hatch**  
Alternative growing-finishing beef systems (T.J. Klopfenstein)
- 13-166\*** **Competitive Grant**  
Transcriptional regulation of the porcine GnRH receptor gene (B.R. White)
- 13-167\*** **Hatch**  
A genetic approach to uncovering mammalian genes important in sepsis induced multiple organ failure (J.S. Weber)
- 13-168** **Other Grant**  
Validating and implementing *Listeria Monocytogenes* controls in ready to eat meat products produced by rural meat plants in the Great Plains (D. Burson, H. Thippareddi)
- 13-171** **Multistate**  
NE-1022, Poultry production systems: Optimization of production and welfare using physiological, behavioral and physical assessments (S. Scheideler)
- 13-172** **Animal Health**  
Metabolic bone disease in laying hens: Etiology and genomics (S. Scheideler)
- 13-173** **Hatch**  
Management systems to increase profit potential in the cow-calf enterprise using forages and grain co-products (R. Rasby)
- 13-174** **Hatch**  
Impact of animal welfare guidelines for laying hen cage space allowance on laying hen in a cage system (S. Scheideler)
- 13-176** **Hatch**  
Physiological responses of growing calves to stable fly bites (D. Brink)

- 13-177** **Hatch**  
Maximizing energy capture by feeding corn ethanol co-products to dairy cattle (P. Kononoff)
- 13-178** **Multistate**  
W-1171, Germ cell and embryo development and manipulation for the improvement of livestock (B. White)
- 26-179** **Multistate**  
Molecular mechanisms regulating skeletal muscle growth and differentiation (S. Jones)
- 26-180** **Multistate**  
W-1112, Reproductive performance in domestic ruminants (A.S. Cupp)
- 26-181** **Multistate**  
NE-1027, Ovarian influences on embryonic survival in ruminants (J.R. Wood)
- 26-182** **Multistate**  
NC-1042, Management systems to improve the economic and environmental sustainability of dairy enterprises (P.J. Kononoff)
- 26-183** **Animal Health**  
Predictors of response and genetic resistance/susceptibility in pigs to infection with Porcine Reproductive and Respiratory Syndrome virus (D.G. Levis, R.K. Johnson, F.A. Osorio, T.A. Rathje)
- 26-184** **Animal Health**  
Does dam parity affect progeny health status and growth performance? (T.E. Burkey)
- 26-185** **Animal Health**  
Role of VEGFA in follicle development and oocyte competence in the bovine (A.S. Cupp)
- 26-186** **Multistate**  
W-2177, Enhancing the competitiveness and value of U.S. beef (R. Calkins)
- 26-187** **Multistate**  
NC-1037, Genetic and functional genomic approaches to improve production and quality of pork (R.K. Johnson)
- 26-188** **Hatch**  
Improving profitability and sustainability of beef feedlot production by optimizing corn milling by-products use and improving nutrient management. (G.E. Erickson)
- 26-189** **Hatch**  
Dried distillers grains with solubles (DDGS) in growing-finishing swine diets (P.S. Miller, T.E. Burkey)

## Biochemistry

- 15-101\*** **Hatch**  
Variation C metabolism in plants: biochemical and physiological characterization of cytochromes b561 (H. Asard)
- 15-102** **Hatch**  
Transcriptional regulation of programmed cell death (PCD) in plant development and response to pathogens (J.M. Stone)
- 15-103** **Hatch**  
Biochemistry of anaerobic CO<sub>2</sub> fixation and chlorophenol metabolism (S.W. Ragsdale)
- 15-104** **Hatch**  
Regulation of the multi functional proline utilization A (Put A) flavoprotein and proline metabolism in bacteria (D.F. Becker)
- 15-105** **Hatch**  
Directed evolution of plant formate dehydrogenase (J.P. Markwell)
- 15-106** **State**  
Role of hyaluronan matrix in prostate cancer progression (M.A. Simpson)
- 15-107** **Hatch**  
Evolution of animal lentiviruses/HIV (C. Wood)
- 15-108** **Hatch**  
Regulatory mechanisms of glutathione metabolic enzymes (J. Barycki)
- 15-109** **Hatch**  
Mammalian copper transporters and systemic copper homeostasis (J. Lee)
- 30-110** **Hatch**  
Inorganic carbon transporters and photosynthetic efficiency (D. Weeks)
- 30-111** **Grant**  
Rubisco phylogenetic engineering (R. Spreitzer)
- 30-112** **Multistate**  
NC-1168, Regulation of photosynthetic processes (R.J. Spreitzer, D.P. Weeks)

## Biological Systems Engineering

- 11-115** **Hatch**  
Improved anaerobic lagoon design and management for odor control (D.D. Schulte)
- 11-117** **Hatch**  
Application of fuzzy systems analysis in biological systems engineering (D.D. Jones)
- 11-124\*** **Hatch**  
Storm runoff simulator to evaluate conservation buffers (T.G. Franti, D.P. Shelton, D.E. Eisenhauer, J.E. Gilley)
- 11-125\*** **Multistate**  
S-1007, The science and engineering for a biobased industry and economy (D. Jones, Y. Yang, M.A. Hanna, C.L. Weller)
- 11-126** **Hatch**  
Integrated research and extension education program addressing livestock air quality issues (R.M. Koelsch)
- 11-127** **Competitive Grant**  
Purification process influences on structural and nutritional function of grain sorghum lipids (C. Weller, T. Carr, V. Schlegel, S. Cuppett, K. Hwang, L. Wang)
- 11-128** **Hatch**  
Adaptive management of groundwater supply systems using soft computing approaches (W. Woldt)
- 11-129** **Multistate**  
NE 1017, Developing and integrating components for commercial greenhouse production system (G. Meyer)
- 11-130** **Hatch**  
Improved prediction and measurement of crop evapotranspiration (S. Irmak)
- 11-131** **Other Grant**  
A national learning center for animal agricultural water quality issues (R. Koelsch, J. Harrison, M. Risse, F. Hammerik)
- 11-132** **Hatch**  
Three-dimensional volume blood flow measurements by ultrasonic feature tracking (G. Bashford)
- 21-133** **Hatch**  
A machine vision system for plant species identification and mapping for precision crop management (G. Meyer)
- 21-134** **Hatch**  
Improving food quality, safety, and security using spectral imaging and modeling (J. Subbiah)
- 21-135** **Multistate**  
NC-1023, Improvement of thermal and alternative processes for foods (M. Hanna)
- 21-137** **Hatch**  
Integrated soil sensing for site-specific crop management (V.I. Adamchuk)
- 21-138** **Hatch**  
Analog prediction of expected water balance components and vegetation states based on data and a stochastic land surface model (E.I. Istanbuluoglu)

**21-139 Multistate**  
The science and engineering for a biobased industry and economy (M. Hanna, C. Weller, Y. Yang, D. Jones, L. Wang)

**21-140 State**  
Evaluation of performance of new tractors (R.M. Hoy)

**21-141 Multistate**  
S-1033, Control of food-borne pathogens in pre- and post-harvest environments (J. Subbiah, H. Thippareddi, C. Weller)

**21-142 Hatch**  
Measuring and modeling evapotranspiration, consumptive use and hydrologic processes in watersheds impacted by irrigated agriculture (D.L. Martin)

**21-143 Grant**  
Improving the safety of prepared, but not ready-to-eat microwaveable foods through heat transfer and pathogen destruction modeling (J. Subbiah, D. Jones, H. Thippareddi, B. Tameru, S. Trebelsi)

**21-144 Hatch**  
Improved prediction of infiltration and overland runoff in Nebraska's watersheds (D.E. Eisenhauer)

**21-146 Hatch**  
Engineering nonviral gene delivery through extracellular interactions and intracellular signaling (A.K. Pannier)

**21-147 Hatch**  
Evaluating performance of tractor CVT transmissions and row-crop planters (M.F. Kocher)

## Entomology

**17-062\* Hatch**  
Arthropods associated with buffalograss and other turfgrasses in Nebraska (F.P. Baxendale)

**17-071\* Hatch**  
Development of resistance management techniques for corn insect pests in Nebraska (B.D. Siegfried)

**17-078\* Hatch**  
Plant resistance to sap-feeding insects (T.M. Heng-Moss)

**17-079\* Multistate**  
S-1010, Dynamic soybean pest management for evolving agricultural technologies and cropping systems (L.G. Higley, T.E. Hunt)

**17-080\* Hatch**  
Mechanisms and management of arthropod injury to plants (L.G. Higley)

**17-081 Hatch**  
Conservation of insect predators of alfalfa insect pests using harvest management, vegetative landscape features, and artificial honeydew (S.D. Danielson)

**17-084\* Hatch**  
Host-plant resistance, insect-plant interactions, and insect genetics (J.E. Foster)

**28-087 Other Grant**  
Quantifying risk factor for evolution of European Corn Borer resistance to CryIF expressing corn hybrids (B. Siegfried)

**28-088 Hatch**  
The ecology of carcass decomposition in terrestrial ecosystems (D.O. Carter)

**28-089 Hatch**  
Ecology and management of diabrotica species (L.J. Meinke)

**28-090 State**  
Isolation and characterization of novel cellulose digesting enzymes (B.D. Siegfried, B. Plantz, V. Schlegel, D. Dunigan)

**28-091 Multistate**  
S-1030, Flies impacting livestock, poultry and food safety (G.J. Brewer)

**28-092 Hatch**  
Arthropods associated with Buffalograss and other grasses in Nebraska (F.P. Baxendale)

**28-093 Hatch**  
Biodiversity of new world scarabaeidae (B.C. Ratcliffe)

**28-094 Special Grant**  
Improved monitoring techniques and EILs for western bean cutworm on field corn (R.J. Wright, G.L. Hein, T.E. Hunt, T.J. Jackson)

**28-095 Hatch**  
Management of subterranean termites in urban/rural environments (S.T. Kamble)

**28-096 Hatch**  
Genomic approaches to identify midgut specific target sites in the western corn rootworm (B.D. Siegfried, T. Sappington, H. Robertson)

**28-097 Hatch**  
Molecular characterization of chinch bug-resistant Buffalograsses (T.M. Heng-Moss)

**28-098 Hatch**  
Management of emerging insect pests in Nebraska corn and soybeans (R.J. Wright)

**28-099 Multistate**  
S-1039, biology, impact, and management of soybean insect pests in soybean production systems (L.G. Higley, T.E. Hunt)

**28-100 Multistate**  
NC-205, Ecology and management of European corn borer and other lepidopteran pests of corn (B.D. Siegfried, T.E. Hunt)

## Food Science and Technology

**16-051 Hatch**  
Starch technology: Production, characterization, and utilization (D.S. Jackson)

**16-082 Multistate**  
NC 213, Management of grain quality and security in world markets (D.S. Jackson)

**16-083 Multistate**  
NC 213, Marketing and delivery of quality cereals and oilseeds (L.B. Bullerman)

**16-097 Hatch**  
Physical, chemical and biological control of molds and mycotoxins in foods and the environment (L.B. Bullerman)

**16-098 Hatch**  
Near infrared spectroscopic applications for food quality measurement and process control (R.L. Wehling)

**16-102 Hatch**  
Development of predictive models for the growth of foodborne pathogens in meat and poultry products (H. Thippareddi)

**16-103 Hatch**  
Development of metabolic profiling and metabolic fingerprinting as analytical tool for educating food safety and quality (V. Schlegel, L. Wang, V.K. Juneja, C.L. Weller, C.N. Cutter, D.E. Burson)

**16-104 Other Grant**  
HACCP assistance to small and very small processors with development and validation of safe meat chilling processes (H. Thippareddi, L. Wang, V.K. Juneja, C. Weller, C.N. Cutter, D. Burson)

**16-105 Hatch**  
Evaluation of natural compounds, nutraceuticals, bioavailability and antioxidant activity in the CACO-2 cell model system (S. Cuppett)

**16-106\* Competitive Grant**  
Functional consequences of genome evolution in *Listeria Monocytogenes* (A. Benson)

**16-107 Hatch**  
Development of protein microarray technology for agricultural applications: implementation of lectin chip (M. Zeece)

**19-003 State**  
Development and evaluation of food products, processes and markets (S. Taylor, D. Smith)

**19-019\* Special Grant**  
Midwest Advanced Food Manufacturing Alliance (S. Taylor)

**19-020 Special Grant**  
Midwest Advanced Food Manufacturing Alliance (S. Taylor)

**31-108 Multistate**  
NC1131, Molecular mechanisms regulating skeletal muscle growth and differentiation (M.G. Zeece)

**31-109 Special Grant**  
Alliance for Food Protection (S. Taylor)

**31-110 Other Grant**  
Improving safety of shell eggs and egg products by addressing critical research needs for Salmonella (H. Thippareddi)

**31-111 Hatch**  
Applications of high pressure processing in food and biofuels (J. Subbiah, H. Thippareddi, M. Zeece, M. Hanna, V. Schlegel)

**31-112 Hatch**  
Discovering the molecular foundations of *Lactobacillus reuteri* autochthony in gut ecosystems (J. Walter, A. Benson, G. Tannock, N.K. Heng)

**31-113 Special Grant**  
Alliance for Food Protection, NE (S.L. Taylor)

**31-114 Special Grant**  
Midwest Advanced Food Manufacturing Alliance (F.A. Flores)

**31-115 Other Grant**  
The Third Governors Conference on ensuring food safety: *E-coli* 0157:H7 progress and challenges (A. Benson, H. Thippareddi, R. Hutkins, R. Moxley)

**31-116 Competitive Grant**  
Pyrosequencing and community profiling for risk assessment in leafy greens (A. Benson, J. Walter, R. Hutkins)

**31-117 Competitive Grant**  
Assessing and enhancing stability of prebiotic oligosaccharides in foods (R. Hutkins, V. Schlegel, R. Wehling)

## Plant Pathology

**21-081\* Hatch**  
Characterization and use of bacterial endophytes from cereals (A.K. Vidaver)

**21-083\* Hatch**  
Biological control of grass and cereal diseases in Nebraska (G.Y. Yuen)

**21-085\*** **Hatch**  
The fungal response to genotoxic stress (S.D. Harris)

**21-088** **State**  
The type 111 protein secretion system of *Pseudomonas syringae* tomato DC 3000 (J.R. Alfano)

**21-090** **Multistate**  
W-1186, Genetic variability in the cyst and root-knot nematodes (T.O. Powers)

**21-091** **Hatch**  
Characterization of large algal viruses and their genes (J.L. VanEtten)

**21-102** **Hatch**  
Development of direct repeat induced gene (A. Mitra)

**21-103** **Multistate**  
W-1150, Exotic germplasm conversion and breeding common bean (*Phaseolus vulgaris* L.) for resistance to abiotic and biotic stresses and for enhanced nutritional value (J. Steadman)

**35-104** **Multistate**  
W-1147, Managing plant microbe interactions in soil to promote sustainable agriculture (G.Y. Yuen)

**35-105** **Hatch**  
Etiology, Epidemiology and management of wheat diseases in Nebraska (S.N. Wegulo)

**35-106** **Hatch**  
Ecology, management, and detection of important corn diseases and mycotoxins in Nebraska (T.A. Jackson)

**35-107** **Competitive Grant**  
Functional map of tomato genome using direct repeat induced gene silencing (A. Mitra)

**35-108** **Hatch**  
Development of plant disease management strategies in soybean (L.J. Giesler)

**35-109** **Hatch**  
Mitigation of diseases of dry edible bean and stem rot of soybean by managed plant resistance (J.R. Steadman, C.A. Urrea, G.L. Graef)

**35-110** **Hatch**  
Diversity, pathogenic determinants and management of *Clavibacter michiganensis* subsp. *Nebraskensis* and *Curtobacterium flaccumfaciens* pv. *Flaccumfaciens* (A. Vidaver)

**35-111** **State**  
Manipulation and delivery of bacterial endophytes for enhanced plant productivity (A.K. Vidaver, R.G. Barletta, A.K. Benson)

## School of Natural Resources

**27-012** **Multistate**  
NRSP-3, The national atmospheric deposition program (NADP) (S.B. Verma)

**38-046\*** **State**  
Environmental stewardship of cattle wastes: Do growth promoting steroids alter toxicity? (D. Snow, A. Kolok, G. Erickson)

**38-048** **Other Grant**  
Targeting watershed vulnerability and behaviors leading to adoption of conservation management practices (P. Shea)

**38-049** **Multistate**  
W-1082, Evaluating the physical and biological availability of pesticides and pharmaceuticals in agricultural context (P. Shea)

**38-050** **McIntire-Stennis**  
Shelterbelts: Structure and Function (J.R. Brandle)

**38-051** **Hatch**  
Population dynamics of Paddlefish in the Lower Missouri River Sub-Basin (M.A. Pegg)

**38-052** **State**  
Physiological effects of drought stress-responsive transgenes in soybean (T.A. Awada)

**38-054** **Hatch**  
Drought management: Mitigation planning and policy options (D. Wilhite)

**38-055** **Hatch**  
Alluvial architecture and late quaternary evolution of the Platte River Valley in East-central Nebraska (P.R. Hanson)

**38-056** **Hatch**  
Ecology of chronic wasting disease in Nebraska (S.E. Hygnstrom)

**38-057** **Hatch**  
Mapping, quantifying, and predicting current and future invasive plant species spread in the North Platte corridor (S. Narumalani)

**38-058** **Hatch**  
Exchange of carbon dioxide and other atmospheric trace gases in vegetated ecosystems (S.B. Verma)

**38-059** **Hatch**  
Groundwater resources of Nebraska: Water-level data and trend analysis (M.E. Burbach)

**38-060** **McIntire-Stennis**  
Trees in the Great Plains: Water and carbon uses, grasslands health and economic ramifications (T. Awada)

**38-061** **Hatch**  
Development of an optimal conjunctive use plan for a river valley of Nebraska (X.H. Chen)

**38-062** **Hatch**  
Landscape-level mechanisms influencing productivity and population dynamics of grassland birds (L.A. Powell)

**38-063** **Special Grant**  
Drought Mitigation, Nebraska project (M. Hayes, M. Svoboda, C. Knutson, B. Wardlow)

**38-064** **Hatch**  
Radiative transfer in vegetative canopies with emphasis on canopy structure (E.A. Walter-Shea)

**38-065** **Hatch**  
Remote sensing of the biophysical properties of crops and grasslands (A. Gitelson, D. Rundquist)

**38-066** **Hatch**  
Impacts of changes in climate and land use on water resources and terrestrial ecosystems in the Midwestern U.S. (J.D. Lenters)

**38-067** **Hatch**  
Assessment of the impact of water and nutrient management practices on ground-water nitrate concentrations (M. Exner-Spalding)

**38-068** **Hatch**  
Causes and predictability of drought in the Great Plains (R. Oglesby)

**38-069** **Hatch**  
Chemistry and toxicology of Xenobiotics in soil-water-biotic environments (P.J. Shea)

**40-002** **Hatch**  
Remediating organic contaminants in soil and water through natural and accelerated destruction (S.D. Comfort)

**40-018\*** **Hatch**  
Agrochemicals in Nebraska groundwater: occurrence, trends, and health associations (M. Exner-Spalding)

**40-019\*** **Hatch**  
Evaluation and remediation of chemically compromised soil environments (P.J. Shea)

**40-020\*** **Hatch**  
Development of an optimal conjunctive use plan during irrigation seasons for a Nebraska river valley (X. Chen)

**40-023\*** **Hatch**  
Determining time of recharge (AGE) of groundwater resources in Nebraska using water chemistry and environmental isotopes (F.E. Harvey)

**40-024** **State**  
State-wide groundwater resource assessment: focus on arsenic (D.C. Gosselin)

**40-025\*** **State**  
Remote sensing of the biophysical characteristics of agricultural vegetation (R.C. Rundquist, A. Gitelson)

**40-028** **Hatch**  
Improving the simulation of winter wheat (*Triticum aestivum* L.) responses to the environment (A. Weiss)

**40-034** **Hatch**  
Characterization of land cover for improved numerical weather prediction modeling (J. Merchant, G. Henebry)

**40-035** **Multistate**  
NC-1018, Impact of climate and soils on crop selection and management (K. Hubbard, S. Hu)

**40-036\*** **Other Grant**  
Drought monitoring planning and mitigation (D. Wilhite)

**40-037** **Hatch**  
Identification of the triggering mechanisms of increased flod risk in the lower Missouri River (J. Szilagyi)

**40-038** **Hatch**  
Decision-making for wildlife under severe uncertainty (A. Tyre)

**40-039** **Hatch**  
Integrating biological diversity into managed land-use systems (R. Johnson)

**40-040** **Hatch**  
Multidecadal alternation of sources affecting interannual summer rainfall variations in the central U.S. (S. Hu)

**40-041** **State**  
Evolution, biomechanics and function in the teeth, jaws and skulls of insectivorous mammals (P. Freeman)

**40-042** **State**  
Delineation of the physical framework and tectonic features controlling the occurrences of natural resources and natural hazards (M. Carlson)

**40-043\*** **State**  
Nebraska landslides (D. Eversoll)

**40-044** **McIntire-Stennis**  
Trees, shrubs, grasses and the Nebraska Sandhills: Experimental ecohydrology and below ground ecology (D. Wedin)



## Statistics

### 23-001 State

Applications of statistics to research in agriculture (D.B. Marx, W.W. Stroup, A.M. Parkhurst, K.M. Eskridge)

### 25-004 Multistate

W-1173, Stress factors of farm animals and their effect on performance (A.M. Parkhurst)

### 25-005 State

Development of software programs for making in silico predictions for nutrient metabolism and requirements in humans (D. Wang, V. Schlegel, J. Zempleni)

## Veterinary and Biomedical Sciences

### 14-039 State

VBMS research laboratories and animal care facility (D.K. Hardin)

### 14-059 State

Veterinary diagnostic lab system: diagnostic surveillance and disease investigation in Nebraska livestock and poultry (D.S. McVey, A.R. Doster)

### 14-115 Multistate

NC-229, Porcine reproductive and respiratory syndrome (PRRS) (F.A. Osorio, A. Pattnaik, R. Johnson, J. Weber)

### 14-118\* Animal Health

Pathobiology of porcine colonic spirochetosis caused by *Brachyspira pilosicoli* (G.E. Duhamel)

### 14-123\* Other Grant

Develop pre-harvest version of the USDA-FSIS fast antibiotic screening test and antibiotic residue avoidance education (D.D. Griffin)

### 14-125\* Multistate

NC-1007, Enteric diseases of swine and cattle: prevention, control and food safety (R.A. Moxley, G.E. Duhamel, D.R. Smith)

### 14-126 Animal Health

Pathogenesis of bovine viral diarrhea virus and bovine respiratory syncytial virus infections (C.L. Kelling)

### 14-127\* Competitive Grant

Intervention strategies to reduce *Escherichia coli* 0157:H7 in beef feedyards (D.R. Smith, G.E. Erickson, R.A. Moxley, T.J. Klopfenstein, S. Hinkley)

### 14-129\* Competitive Grant

Molecular analysis of a mycobacterium paratuberculosis colony-morphology attenuated mutant (R.G. Barletta)

### 14-130 Animal Health

Regulation of the latency reactivation cycle by the bovine herpesvirus 1 (BHV-1) latency related gene (C.J. Jones)

### 14-131 State

Veterinary field disease research program (D.R. Smith)

### 14-132 Hatch

Examination of attenuation and virulence determinants of porcine reproductive and respiratory syndrome virus (A. Pattnaik, F. Osorio)

### 14-133\* Competitive Grant

Analyses of virulence and attenuation determinants of porcine reproductive and respiratory syndrome virus using reverse genetics approach (A. Pattnaik, F. Osorio)

### 14-134\* Competitive Grant

Influence of exotoxins on virulence and colonization of the porcine intestine by *Escherichia coli* (R. Moxley)

### 14-136 Hatch

Tricarboxylic acid cycle mediated regulation of staphylococcus aureus virulence factors (G. Somerville)

### 14-138 Competitive Grant

Functional analysis of bICPO, the major transcriptional regulatory gene of bovine herpesvirus

### 14-139\* Competitive Grant

Use of an eGFP-expressing strain of FRRSU for the study of viral pathogenesis and tropins (F. Osorio, A. Pattnaik)

### 14-140\* Special Grant

Stimulating the development of veterinarians to service rural America (D. Griffin)

### 14-141 Animal Health

Molecular genetic analysis of *Mycobacterium avium* subsp. *paratuberculosis* (MAP) and related mycobacterial pathogens (R. Barletta)

### 39-142\* State

Development of broad-spectrum antibiotics against bacterial pathogens (R. Barletta)

### 39-143 Competitive Grant

Functional analysis of proteins encoded by the bovine herpesvirus/latency related gene (C.J. Jones)

### 39-144 Hatch

Management model for diagnosis, control, and monitoring for bovine viral diarrhea virus in beef cattle herds (G.P. Rupp)

### 39-145 Multistate

NC1027, An integrated approach to control of bovine respiratory diseases (C.J. Jones)

### 39-146 Hatch

Mannheimia haemolytica: Characterization of isolates associated with fatal bronchopneumonia of cattle (D.S. McVey)

### 39-147 Multistate

NC-1041, Enteric diseases of swine and cattle: Prevention, control and food safety (R.A. Moxley, D.R. Smith)

### 39-148 State

Tricarboxylic acid cycle mediated regulation of staphylococcal biofilm formation (G.A. Somerville, R. Powers)

### 39-149 Competitive Grant

Functional analysis of bICPO, a BHV-1 gene that stimulates productive infection (C.J. Jones)

### 39-150 Competitive Grant

Porcine Reproductive and Respiratory Virus: Role of viral genes in virulence/attenuation (F.A. Osorio, A.K. Pattnaik)

### 39-151 Grant

Continued integration of the Nebraska Veterinary Diagnostic Center into the National Animal Health Laboratory Network (D.S. McVey, D. Steffen, C. Kelling, D. Griffin)

## Education and Human Sciences Departments Child, Youth and Family Studies

### 92-038\* Hatch

Great marriages: a qualitative study (J.D. DeFrain)

### 92-039 Hatch

Risk and resiliency for substance abuse and behavioral health among immigrant adolescents in Nebraska (Y. Xia)

### 92-040 Hatch

Redefining working poor: factors associated with the concurrence of work and unmet basic needs (C.A. Huddleston)

### 92-041 Multistate

NC-1011, Rural low income families: tracking their well-being function in an era of welfare reform (K. Prochaska-Cue, S.L. Churchill)

### 92-042 Hatch

Individual, familial and community factors impacting the psycho-social well-being of rural immigrant Latinos and their non-Hispanic peers (R.L. Dalla)

### 92-043 Hatch

Parent engagement and child learning birth to five (C.P. Edwards)

### 92-058 State

Attitudinal and behavior factors related to adolescent sexual abstinence (D.A. Abbott)

### 27-059 Hatch

The social convoys of Latino adolescents in Nebraska: Understanding paths to positive outcomes (M.R. de Guzman)

### 27-060 Hatch

Strength and resiliency in rural and underserved families (R.J. Bischoff)

### 27-061 Hatch

Longitudinal evaluation of Latino family development (C.S. Hollist)

### 27-062 Hatch

Early childhood education settings and young children's development (H.H. Raikes, C.P. Edwards, J. Torquati)

### 27-063 Multistate

NC-1171, Interactions of individual family, community and policy contexts on the mental and physical health of diverse rural low-income families (S.L. Churchill, C. Huddleston-Casas)

## Nutrition and Health Sciences

### 91-056 Multistate

W-1002, Nutrient bioavailability - phytonutrients and beyond (J.A. Driskell)

### 91-058\* Multistate

NC-1167, -3 polyunsaturated fatty acids and human health and diseases (N.M. Lewis)

### 91-059 Hatch

Dietary quality and BMI and the influence of the parent-child relationship and ethnicity of young children on these variables (K.L. Stanek-Krogstrand)

### 91-061 Hatch

The use of inulin as a functional food ingredient (M. Schnepf)

### 36-062 Competitive Grant

Biotin affect cytokine metabolism (J. Zempleni)

**36-063 Hatch**  
Mechanisms of biotin homeostasis (J. Zempleni)

**36-064 Hatch**  
Folate bioavailability of legumes (J.A. Albrecht)

**36-065 Hatch**  
Identification and characterization of bioactive compounds with cholesterol-lowering and anti-inflammatory properties from a blue-green alga *Nostoc commune* (J.Y. Lee)

**36-066 Multistate**  
An integrated approach to prevention of obesity in high risk families (K.L. Stanek-Krogstrand)

**36-067 Multistate**  
NC-1039, -3 polyunsaturated fatty acids and human health and disease (N. Lewis)

**36-068 Competitive Grant**  
Regulation of cholesterol absorption by plant sterol and stanol esters (T.P. Carr)

**36-069 Hatch**  
Regulatory mechanisms of intestinal cholesterol absorption (T.P. Carr)

**36-070 Hatch**  
Vitamin content of value cuts from beef steers fed wet distillers grains with and without added vitamin E (J.A. Driskell)

**36-071 Hatch**  
The impact of human resources policies and practices on the motivation and employee turnover intent in the hospitality industry (R.B. DiPietro)

## Textiles, Clothing and Design

**94-031 Hatch**  
Housing issues in Nebraska communities: Older population needs (S. Niemeyer)

**37-032 Grant**  
Building research collaborations to enhance rural economic development (N. Miller)

**37-033 Multistate**  
S-1026, Textile materials and technologies addressing energy, health and other national security issues (Y. Yang)

**37-034 Hatch**  
American Quilts, 1770-1940 (P.C. Crews)

**37-035 Hatch**  
Process and property investigations of fibers from Nebraska's agricultural products and by-products (Y. Yang)

## Off-Campus Research Centers

## Northeast Research and Extension Center

**42-007 Hatch**  
Management considerations for feedlot cattle exposed to environmental stressors (T.L. Mader)

**42-024 Hatch**  
Environmentally sound utilization of animal manures and fertilizers in cropping systems for northeast Nebraska (C.A. Shapiro)

**42-025 Hatch**  
Integrated weed management (IWM) for eastern Nebraska (S.Z. Knezevic)

**42-029 Hatch**  
Conservation buffer designs, establishment, growth, and performance (D.P. Shelton)

**42-031 Grant**  
Improving organic farming systems across Nebraska agroecoregions (C.A. Shapiro)

**41-032 Multistate**  
NC-205, Ecology and management of European Corn Borer and other lipidot-eran pest of corn (T. Hunt)

**41-033 Hatch**  
Irrigation management for improved water and chemical utilization.

**41-034 Hatch**  
Ecology and management of insect pests of crops in the western range of U.S. corn and soybean production (T.E. Hunt)

## Panhandle Research and Extension Center

**43-101 Hatch**  
The ecology, etiology, and management of crop diseases important to western Nebraska (R.M. Harveson)

**43-102 Multistate**  
Promoting healthful eating to prevent excessive weight gain in young adults (L.S. Boeckner)

**43-103 Hatch**  
Genetic improvement of dry edible beans (C.A. Urrea)

**43-104 Hatch**  
Weed control systems for western Nebraska irrigated crops and rangeland (R.G. Wilson)

**43-105 Multistate**  
Conservation, management, enhancement and utilization of plant genetic resources (G.W. Hergert, C. Urrea)

**43-106 Hatch**  
Intensification of winter wheat-based dryland cropping systems for western Nebraska (D.J. Lyon)

**43-107 Hatch**  
Irrigation management with limited water supplies (C.D. Yonts)

**44-004 State**  
Fertilizer and manure application for production of continuous corn (G.W. Hergert)

**44-042 Hatch**  
Agricultural enhancement of potato production and utilization (A.D. Pavlista)

**44-058 Hatch**  
Integrated management systems for arthropod pests in wheat and other crops in western Nebraska (G.L. Hein)

**44-062 Hatch**  
Improvement of proso millet and other crops for adaptation to western Nebraska (G.W. Hergert)

**44-067 Hatch**  
Planting and harvesting systems for sugarbeets, dry edible beans and chicory (J. Smith, M. Kocher)

**44-068 Hatch**  
Improving fertilizer management and recommendations for precision agriculture (G. Hergert)

**44-069 Hatch**  
Ecology, restoration, and management of semi-arid prairies in the northern great plains (P. Reece)

**44-070 Grant**  
Predicting wheat curl mite movement and wheat streak mosaic virus spread (G.L. Hein)

## Roman L. Hruska U.S. Meat Animal Research Center

**46-001 State**  
Development and operation of the U.S. Meat Animal Research Center (M. Koohmaraie)

## West Central Research and Extension Center

**42-100\* Multistate**  
NC-1006, Methods to increase reproductive efficiency in cattle (R. Funston)

**42-101\* Multistate**  
SDC322, Flies impacting livestock, poultry and food safety (J.B. Campbell)

**42-102 Hatch**  
The economics of alternative beef cattle production systems using strategic specific simulation modeling (M.C. Stockton)

**42-103 Competitive Grant**  
Whole-farm economic biological stochastic simulation model of small to medium cow-calf farms with research, teaching and extension modules (M.C. Stockton)

**42-104 Multistate**  
Methods to increase reproductive efficiency in cattle (R.N. Funston)

**42-105 Hatch**  
Water conservation strategies in crop production systems to reduce consumptive use of water (S. van Donk)

**43-066 Hatch**  
Selection, development and propagation of native herbaceous landscape plants (D.T. Lindgren)

**43-072\* Hatch**  
Soil nutrient and manure management for crop production in west central Nebraska (D.D. Tarkalson)

**43-073 Hatch**  
Enhancing reproductive efficiency in beef cattle (R.N. Funston)

**43-074 Hatch**  
Nutritional management systems for grazing beef cattle (D.C. Adams)

**43-076 Hatch**  
Grazing management strategies and forage systems for western Nebraska (J.D. Volesky)



## Interdisciplinary Activities

## Agricultural Research and Development Center

**45-001 State**  
Field laboratory development (D.J. Duncan)

**12-201 State**  
Maintenance, increase and distribution of elite germ plasm (J. Noel)

## Center for Biotechnology

**34-001 Hatch**  
Mechanisms of plant cell signaling (M.E. Fromm)

## Center for Grassland Studies

**33-003 Multistate**  
NC-1020, Beef cattle grazing systems that improve production and profitability while minimizing risk and environment impacts (T. Klopfenstein)

**33-004 Multistate**  
NC-1021, Nitrogen cycling, loading and use efficiency in forage-based livestock (W. Schacht, T. Klopfenstein)

**61-005 State**  
Center for Grassland Studies (M.A. Massengale)

## Plant Science Initiative

**35-002 Competitive Grant**  
Training graduate students in plant breeding using crop drought tolerance improvement as a model (S. Mackenzie)

**62-003 Competitive Grant**  
Dissecting the function of HrpJ and HrpK1 - two type III secreted proteins that are required for the injection of effectors into plant cells (J.R. Alfano)

**62-004 Hatch**  
Phylloquinone biosynthesis and engineering in plants (G.J. Basset)

## Sustainable Agriculture Research and Education (SARE) Program

**32-011\* Special Grant**  
North Central Region Sustainable Agriculture Research and Education Program (W. Wilcke)

**32-012 Special Grant**  
North Central Region Sustainable Agriculture Research and Education Program (W. Wilcke)

**32-013 Cooperative Agreement**  
North Central Sustainable Ag Research and Education Program (W. Wilcke)

## Nebraska Rural Initiative

**03-101 Competitive Grant**  
Relocation to the Buffalo Commons using a marketing approach (R. Cantrell)

**W**hile serving the needs of Nebraska's agricultural producers, agribusinesses, industries, communities and citizens, the ARD places a high priority on being accountable for its resources and documenting impacts of its programs. As in all research institutions, ARD scientists are charged to actively disseminate results of research in scientific journals and technical publications. The division sets optimistic, but reachable, annual goals for scientific publication, theses and dissertations, and other measures of research output.

Publications in refereed (peer reviewed) scientific journals represent professional

acknowledgment of the value of a research finding to the discipline. ARD scientists have published in a number of different scientific journals during 2007-2008. Faculty also have written books, edited books or contributed chapters for books.

Another major contribution of the ARD research faculty is the education of graduate students pursuing a Master of Science (M.S.) or Doctor of Philosophy (Ph.D.) degree. One responsibility of a graduate degree is the completion of a thesis (M.S.) or a dissertation (Ph.D.).

Publications in refereed journals, books, book chapters, refereed proceedings, theses and dissertations are listed for calendar year 2007.

## Journals in which faculty have published during 2007

### Agricultural Economics

AgBioForum  
Agribusiness: An International Journal  
Agricultural Economics  
Canadian Journal of Agricultural Economics  
International Food and Agribusiness Management Review  
Journal of Cooperatives  
Journal of the Chinese Statistical Association  
Professional Animal Science  
Review of Undergraduate Research in Agricultural and Life Sciences  
Southern Economic Journal

### Agricultural Leadership, Education and Communication

Advancing Women in Leadership  
Psychological Reports  
Sex Roles

## Agronomy and Horticulture

Acta Hort  
Agriculture, Ecosystems and Environment  
Agronomia Mesoamericana  
Agronomy Journal  
America Park Science  
Biofuels, Bioproducts, and Biorefining  
Biomass and Bioenergy  
Bioresource Technology  
Cereal Research Communications  
Crop Science  
Ecological Restoration  
Ecology and Society  
Euphytica  
FEBS Letter  
Field Crop Research  
Genetics  
Global Change Biology  
Great Plains Research  
HortScience  
Journal of American Oil Chemical Society  
Journal of Applied Microbiology  
Journal of Biological Chemistry  
Journal of Crop Improvement  
Journal of Economic Entomology  
Journal of Insect Science  
Journal of Nutritional Biochemistry  
Journal of Plant Registrations  
Journal of Sustainable Agriculture  
La Calera

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National Academy of Sciences  
Nature  
Nutrient Cycling in Agroecosystems  
Pesticide Biochemistry and Physiology  
Plant Cell  
Plant Cell Reports  
Plant Disease  
Plant Physiology  
Plant Signaling and Behavior  
Planta  
Precision Agriculture  
Professional Animal Science  
Propagation of Ornamental Plants  
Rangeland Ecology and Management  
Renewable Agricultural Food System  
Research Agricultural Life Sciences  
Science  
Soil Biology and Biochemistry  
Soil Science  
Theoretical and Applied Genetics  
Weed Research  
Weed Science  
Weed Technology

## Animal Science

Applied Engineering in Agriculture  
Current Agriculture Food and Resource Issues  
Feed Science Technology  
Genetics and Molecular Research  
International Journal of Biometeorology  
Journal of Animal Science  
Journal of Applied Poultry Research  
Journal of Clinical Endocrinology and Metabolism  
Journal of Dairy Science  
Journal of Food Protection  
Journal of Muscle Foods  
Journal of Nutrition  
Meat Science  
New Zealand Society of Animal Production  
Physiological Genomics  
Poultry Science  
Professional Animal Science  
Rangeland Ecology and Management  
Veterinary Clinic of Food Animal  
Veterinary Immunology and Immunopathology  
Waterbirds

## Biochemistry

Analytical Biochemistry  
Annals of the New York Academy of Sciences  
Antimicrobial Agent Chemotherapy  
Biochemistry  
Biochemistry Journal  
Biochimica et Biophysica Acta  
Biological Trace Element Research  
Biomolecular NMR Assignments  
Curricula Opinion Plant Biology  
Federation of Biochemical Societies Letters  
Genome Biology  
Immunology  
International Union of Biochemistry and Molecular Biology  
Life  
Journal of Biological Chemistry  
Journal of Chemical Education  
Journal of Nutritional Biochemistry  
Methods in Molecular Biology  
National Academy of Sciences  
Nature  
Neuromuscular Disorders  
Nucleic Acids Research  
Plant Signaling and Behavior  
Planta  
PLoS Biology  
PLoS ONE  
Review of Undergraduate Research in Agricultural and Life  
Sciences  
Science  
The Plant Journal

## Biological Systems Engineering

Advances in Water Resources  
Agricultural Engineering International: The CIGR Ejournal  
Agronomy Journal  
American Association of Textile Chemists and Colorists Review  
American Society of Agricultural and Biological Engineers  
Applied Engineering in Agriculture  
Applied Soft Computing  
Biomacromolecules  
Bioresource Technology  
Biotechnology and Bioengineering  
Cereal Chemistry  
Dyes and Pigments  
Earth Interactions  
European Journal of Lipid Science Technology  
Food Microbiology

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Industrial and Engineering Chemistry Research  
Industrial Crops and Products  
International Polymer Processing  
Irrigation Science  
Journal of Agricultural and Food Chemistry  
Journal of Applied Engineering  
Journal of Applied Microbiology  
Journal of Colloid and Interface Science  
Journal of Food Engineering  
Journal of Food Science  
Journal of Hydrology  
Journal of Microencapsulation  
Journal of Polymers and the Environment  
Korean Journal of Food Preservation  
Macromolecular Chemistry and Physics  
Macromolecular Materials and Engineering  
Medicine and Science in Sports and Exercise  
Packaging Science and Technology  
Precision Agriculture  
Soil Tillage and Research  
Transactions of the American Society of Agricultural and  
Biological Engineers  
Transactions on Ultrasonics, Ferroelectrics, and Frequency  
Control  
Water Environment Research

## Entomology

Acta Zoologica Mexicana  
American Entomologist  
Archives of Virology  
Bulletin of Entomological Research  
Coleopterists Bulletin  
Crop Science  
Environmental Entomology  
Euphytica  
Fisheries Management and Ecology  
HortScience  
Insect Biochemical Molecular Biology  
Journal of Applied Entomology  
Journal of Economic Entomology  
Journal of Entomological Science  
Journal of Forensic Science  
Journal of Insect Science  
Journal of Kansas Entomological Society  
Journal of Medical Entomology  
Journal of Orthoptera Research  
Naturwissenschaften  
Neotropical Entomology  
Pedobiologia  
Pesticide Biochemistry Physiology  
Transactions of the American Fisheries Society

## Food Science and Technology

Applied Environmental Microbiology  
BioMed Central Genomics  
Bioresource Technology  
Biotechnology Progress  
Carbohydrate Polymers  
Cereal Chemistry  
Cereal Foods World  
Comprehensive Reviews in Food Science and Food Safety  
Crop Science  
European Journal of Lipid Science and Technology  
Food and Chemical Toxicology  
Food Control  
Food Microbiology  
HortScience  
Industrial Crops and Products  
International Dairy Journal  
International Journal of Food Microbiology  
International Polymer Processing  
Journal of Agricultural and Food Chemistry  
Journal of Allergy and Clinical Immunology  
Journal of Applied Engineering  
Journal of Food Engineering  
Journal of Food Protection  
Journal of Food Science  
Journal of Microencapsulation  
Journal of Nutrition  
Korean Journal of Food Preservation  
Molecular Nutrition and Food Research  
Packaging Science and Technology  
Regulatory Pharmacology and Toxicology  
Review of Undergraduate Research in Agriculture and Life  
Sciences  
Systematic and Applied Microbiology  
Transactions of the American Society of Agricultural  
Biotechnology Engineers

## Plant Pathology

Acta Horticulturae  
Antimicrobial Agents and Chemotherapy  
Applied Turfgrass Science  
Archives of Virology  
CAB Reviews: Perspectives in Agriculture, Veterinary Science,  
Nutrition and Natural Resources  
Crop Science  
Epigenetics  
F&N Tests  
Fungal Genetic Biology  
Genetics

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International Journal of Food Microbiology  
Journal of Plant Registrations  
Journal of Virology  
Molecular Microbiology  
Nature  
Phytopathology  
Plant Disease  
Plant Health Progress  
Plant Journal  
Science  
Structure  
Virology

## School of Natural Resources

Advances in Water Resources  
Agriculture for Meteorology  
Agroforestry Systems  
Agronomy Journal  
Applied Geochemistry  
Austral Ecology  
Bulletin of American Meteorology Society  
Condor  
Ecological Modelling  
Ecology and Society  
Ecosystems  
Environment Geochemical Health  
Environmental and Engineering Geosciences  
Eos Transactions, American Geophysical Union  
Field Crops Research  
Fisheries Management and Ecology  
Geology  
Geophysical Research Letters  
GIScience and Remote Sensing  
Global Change Biology  
Great Plains Research  
Ground Water  
Hydrobiologia  
Hydrogeology Journal  
Hydrological Processes  
International Journal of Climatology  
International Journal of Osteoarchaeology  
Journal of Applied Ichthyology  
Journal of Applied Meteorology and Climatology  
Journal of Archaeological Science  
Journal of Atmospheric and Oceanic Technology  
Journal of Biogeography  
Journal of Climate  
Journal of Geophysical Research  
Journal of Hydrology  
Journal of International Climatology

Journal of Meteorological Society of Japan  
Journal of Soil and Water Conservation  
Journal of the American Water Resources Association  
Journal of Water Resources Management  
Journal of Wildlife Management  
Journal of Zoology  
Natural Hazards Review  
Palaeogeography, Palaeoclimatology, Palaeoecology  
Quaternary International  
Quaternary Science Reviews  
Remote Sensing of Environment  
Science  
Science of the Total Environment  
Science Today  
Sedimentary Geology  
The Michigan Botanist  
Urban Studies  
Water Environment Research

## Statistics

Accident Analysis and Prevention  
American Journal of Orthodontics and Dentofacial  
Orthopedics  
American Journal of Veterinary Research  
American Society of Agricultural and Biological Engineers  
Biotechnology Progress  
BMC Bioinformatics  
Cereal Research Communications  
Communications in Statistics: Theory and Methods  
Crop Science  
Cytotechnology  
Ecological Engineering  
Genetics and Molecular Research  
Journal of Agricultural Science  
Journal of Animal Science  
Journal of Periodontal Research  
Journal of the American Water Resources Association  
Journal of Veterinary Medicine Education  
Nutrient Cycling in Agroecosystems  
Physiological Genomics  
Sex Roles  
Waterbirds  
Weed Science  
Weed Technology



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## Veterinary and Biomedical Sciences

American Journal of Veterinary Research  
Antimicrobial Agents and Chemotherapy  
Applied and Environmental Microbiology  
Clinical and Vaccine Immunology  
Immunity  
Infectious Immunology  
Journal of Biological Chemistry  
Journal of Food Protection  
Journal of General Virology  
Journal of NeuroVirology  
Journal of Veterinary Medicine  
Journal of Veterinary Medicine Education  
Journal of Virology  
Microbial Pathogenesis  
Physiological Genomics  
Vaccine  
Veterinary Immunology and Immunopathology  
Veterinary Microbiology  
Veterinary Pathology  
Veterinary Therapeutics  
Virology

## Water Center

Journal of Soil and Water Conservation  
Science of the Total Environment  
Water Environment Research

## Education and Human Sciences Departments

### Child, Youth and Family Studies

American Journal of Health Behavior  
China Youth Study  
Early Childhood Research and Practice  
Early Childhood Research Quarterly  
Food Protection Trends  
Infant Mental Health Journal  
Journal of At Risk Issues  
Journal of Comparative Family Studies  
Journal of Employee Assistance  
Journal of Family Economic Issues  
Journal of Leisure Research

Marriage and Family Review  
Shanghai Academy of Social Sciences Report  
Young Children

## Nutrition and Health Sciences

American Journal of Health Promotion  
Arteriosclerosis, Thrombosis and Vascular Biology  
Cereal Chemistry  
Digestive Diseases and Sciences  
European Journal of Lipid Science and Technology  
Food Protection Trends  
International Journal of Hospitality and Tourism Administration  
Journal of Food Composition and Analyses  
Journal of Foodservice Business Research  
Journal of Lipid Research  
Journal of Neuroscience Methods  
Journal of Nutrition  
Journal of Nutritional Biochemistry  
Journal of Strength and Conditioning Research  
Journal of the American Dietetic Association  
Nutrition Research  
Nutrition Research Practice  
Nutrition Today  
Review of Undergraduate Research in Agriculture and Life Sciences

## Textiles, Clothing and Design

American Association of Textile Chemists and Colorists Review  
Biomacromolecules  
Biotechnology and Bioengineering  
Dyes and Pigments  
Entrepreneurship and Regional Development  
Industrial and Engineering Chemistry Research  
International Small Business Journal  
Journal of Agricultural and Food Chemistry  
Journal of Biobased Materials and Bioenergy  
Journal of Colloid and Interface Science  
Journal of Fashion Marketing and Merchandising  
Journal of Polymers and the Environment  
Journal of the Community Development Society  
Macromolecular Chemistry and Physics  
Macromolecular Materials and Engineering

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## Off-Campus Research Centers

### Northeast Research and Extension Center

American Entomologist  
Applied Engineering in Agriculture  
International Journal of Biometeorology  
Journal of Applied Entomology  
Journal of Economic Entomology  
Nutrient Cycling in Agroecosystems  
Trakia Journal of Sciences  
Weed Science  
Weed Technology

### Panhandle Research and Extension Center

Agronomy Journal  
American Journal of Health Promotion  
Archives of Virology  
Euphytica  
Great Plains Research  
Journal of Plant Registrations  
Journal of the American Dietetic Association  
Journal of Veterinary Medical Education  
Nutrition Research  
Plant Disease  
Plant Health Progress  
Rangeland Ecology and Management  
Weed Science  
Weed Technology

## West Central Research and Extension Center

Agronomy Journal  
Genetics and Molecular Research  
Great Plains Research  
HortScience  
Journal of Animal Science  
Journal of Plant Registrations  
Professional Animal Science  
Rangeland Ecology and Management  
Weed Technology

# Research Publications (2007)

## Agricultural/Natural Resources Units

## Agricultural Economics

### Journal Articles

Azzam, A. and C. Skinner. 2007. Vertical economies and the structure of U.S. hog farms. *Canadian Journal of Agricultural Economics* 55:349-364.

Azzam, A. 2007. Review of the nature of the farm - Contracts, risk, and organization in agriculture. *Agribusiness: An International Journal* 23:293-294.

Conley, D. and M. Wade. 2007. Consumer responses to food safety information from print media, *International Food and Agribusiness Management Review*. Vol 10, Issue 4. [www.ifama.org](http://www.ifama.org)

Funston, R.N., D.C. Adams, and M.C. Stockton. 2007. Dried distillers grains as creep feed for yearling beef cattle grazing sandhill range. *Professional Animal Science* 23:170.

Gustafson, A. and A. Yiannaka. 2007. Effects of consumer perceptions on the marketing of second-generation GM products. *Review of Undergraduate Research in Agricultural and Life Sciences*. <http://digitalcommons.unl.edu/rurals/vol11/iss1/5/>

Njoroge, K., A. Yiannaka, K. Giannakas, and A. Azzam. 2007. Market and welfare effects of the U.S. livestock mandatory reporting act. *Southern Economic Journal* 74:290-311.

Plastina, A. and K. Giannakas. 2007. Market and welfare effects of GMO introduction in small open economies. *AgBioForum* 10, 2:104-123.

Royer, J.S. and D.B. Smith. 2007. Patronage refunds, producer expectations, and optimal pricing by agricultural cooperatives. *Journal of Cooperatives* 20, 1:1-16. <http://www.agecon.ksu.edu/accc/ncr194/JOCArticles.htm>

Stockton, M.C., D.C. Adams, R.K. Wilson, T.J. Klopfenstein, R.T. Clark, and G.L. Carriker. 2007. Production and economic comparisons of two calving dates for beef cows in the Nebraska Sandhills. *Professional Animal Science* 23:500-508.

Sun, L. and L.E. Fulginiti. 2007. Accounting for Taiwan's GDP growth: Parametric and non-parametric estimates. *Journal of the Chinese Statistical Association* 45:74-98.

Sun, L., L.E. Fulginiti, and E.W. Peterson. 2007. Explaining the decline of the agricultural sector in Taiwan. *Agricultural Economics* 36:181-190.

### Research Bulletin

Funston, R.N., D.C. Adams, M.C. Stockton, R.K. Wilson, R.L. Davis, and J.R. Teichert. 2007. Dried distillers grains as creep feed for yearling beef cattle grazing sandhill range. *Research Bulletin MP 90*. Nebraska Beef Report.

### Book Chapters

Bharati, P. and L.E. Fulginiti. 2007. Institutions and Agricultural Productivity in Mercosur, Chapter 5, p. 139-170. *In: E.C. Teixeira and M.J. Braga (eds.), Institutions and Economic Development*. Os Editores, Vicosia, MG, Brazil.

Royer, J.S. 2007. Cooperative Forward Integration in Oligopsonistic Markets, p. 169-194. *In: K. Karantininis and J. Nilsson (eds.), Vertical Markets and Cooperative Hierarchies: The Role of Cooperatives in the Agri-Food Industry*. Springer: Dordrecht, The Netherlands. <http://www.springer.com/west/home/economics/agricultural+economics>.

Zilberman, D. and K. Schoengold. 2007. The Economics of Water, Irrigation, and Development, p. 2933-2977. *In: R. Evenson and P. Pingali (eds.), Handbook of Agricultural Economics: Volume 3*. Elsevier Science Publishers, Amsterdam, The Netherlands.

### Refereed Proceedings

Conley, D. and A. George. 2007. The expansion of U.S. ethanol production and the changing distribution of corn in the U.S. and the world. *In: Academic Symposium of the International Food and Agribusiness Management Association (IFAMA), Parma, Italy*. URL: <http://www.ifama.org/conferences/2007>.

McMullen, B., C. Thompson, R. Supalla, and D. Martin. 2007. Managing limited water under alternative geographic and economic conditions. *In: Poster Paper, Water Research Forum, University of Nebraska Water Resources Center, Lincoln, NE*.

Peters, D. 2007. Persistent poverty revisited: A community-level typology using improved data and methods. Presented to the 70th Annual Meeting of the Rural Sociological Society, Santa Clara, CA.

Stockton, M.C. and R.K. Wilson. 2007. Simulated analysis of drought's impact on different cow-calf production systems. *In: Southern Agricultural Economics Association Meetings, Mobile, AL*.

Thompson, C.L., B. McMullen, R. Supalla, and D. Martin. 2007. Cap and trade as a groundwater management policy: Evidence from Frontier County, Nebraska. *In: Poster Paper, Water Research Forum, University of Nebraska Water Resources Center, Lincoln, NE*.

### M.S. Theses

Buell, T.V. 2007. Economic implications of alternative futures for Lake McConaughy. (R. Supalla, Advisor)

Martinez Picazo, E. 2007. Poverty in Nebraska. (L. Fulginiti, Advisor)

VanWart, J. 2007. Ethanol feedstock pricing in Nebraska: An application of spatial economic theory. (R. Perrin, Advisor)

### Ph.D. Dissertation

Plastina, A.S. 2007. Essays on innovations in the agriculture and food industry sectors. (L. Fulginiti and K. Giannakas, Advisors)

## Agricultural Leadership, Education and Communication

### Journal Articles

Barbuto, J.E. and G.T. Gifford. 2007. Sources of work motivation of business leaders in the USA and South Africa: A cross-cultural comparison using the Motivation Sources Inventory. *Psychological Reports* 101:636-640.

Barbuto, J.E., S.M. Fritz, G.S. Matkin, and D.B. Marx. 2007. Effects of gender, education and age upon leaders? Use of influence tactics and full range leadership behaviors. *Sex Roles* 56:71-83.

Reimers-Hild, C.I., S.M. Fritz, and J.W. King. 2007. Entrepreneurial career development: Using human capital, social capital and distance education to achieve success. *Advancing Women in Leadership Online Journal*. Volume 24. (<http://www.advancingwomen.com/awl/spring2007/reimers.htm>)

### M.S. Theses

Adams, C.D. 2007. Land stewards vs. pheasants in Southwest Nebraska. (D.E. Husmann, Advisor)

Cranwell, K.A. 2007. Leadership education, Option II, no thesis required. (D.E. Husmann, Advisor)

Elder, K.J. 2007. Leadership education, Option III, no thesis required. (D.W. Wheeler, Advisor)

Friesen, K.A. 2007. Leadership education, Option II, no thesis required. (L.C. Bell, Advisor)

Funke, B.J. 2007. Leadership education, Option II, no thesis required. (J.W. King, Advisor)

Hastings, L.J. 2007. Developing youth leadership through community engagement: A grounded theory approach. (L.A. Barrett, Advisor)

Lawver, R.G. 2007. Work and family life balance among secondary agricultural educators: A modified delphi study. (D.E. Husmann, Advisor)

Lindsay, K.J. 2007.  
Leadership education, Option III,  
no thesis required. (J.E. Barbuto Jr.,  
Advisor)

Moore, J.S. 2007.  
Leadership education, Minor, Edu-  
cational Administration, Option  
II, no thesis required. (J.W. King,  
Advisor)

Peterson, M.M. 2007.  
Impact of the animal science leader-  
ship academy on participant's career  
development. (L.A. Barrett, Advisor)

Potthoff, K.L. 2007.  
Identifying the tools necessary to  
reach underserved youth audiences:  
An action research study. (K.A. Lodl,  
Advisor)

Smith, J.M. 2007.  
Leadership education, Option III,  
no thesis required. (L.A. Barrett,  
Advisor)

Souza, S.R. 2007.  
Leadership education, Minor:  
Business (Marketing), Option II,  
no thesis required. (L.A. Barrett,  
Advisor)

Stevens, M.M. 2007.  
Leadership education, Option II,  
no thesis required. (J.E. Barbuto Jr.,  
Advisor)

Story, J.S.P. 2007.  
Leadership education, minor, edu-  
cational psychology, Option II, no  
thesis required. (J.E. Barbuto Jr.,  
Advisor)

Stuhr, T.W. 2007.  
A comparative analysis of servant  
leadership and personality tempera-  
ment. (L.A. Barrett, Advsior)

Warner, K.L. 2007.  
Strengthening Nebraska's youth  
workforce: A resource mapping of  
youth employment and training  
services in the tri-county workforce  
investment area. (K.A. Lodl, Advisor)

Zafft, C.R. 2007.  
Leadership education, Option II,  
no thesis required. (D.W. Wheeler,  
Advisor)

## Ph.D. Dissertations

Daubert, S.J. 2007.  
Exploring the relationship of moti-  
vation and ecological worldview to  
servant leadership. (G.S. Matkin,  
Advisor)

Hall, A.M. 2007.  
Attributes of successful rural women  
leaders and their contribution to the  
leadership journey. (L.A. Barrett,  
Advisor)

# Agronomy and Horticulture

## Journal Articles

Aasebo, K., A.M. Jervell, G. Lieblein,  
M. Svennerud, and C. Francis. 2007.  
Farmer and consumer attitudes at  
farmers markets in Norway. *Journal  
of Sustainable Agriculture* 30:67-93.

Adamchuk, V.I., E.D. Lund, T.M. Reed,  
and R.B. Ferguson. 2007.  
Evaluation of an on-the-go technol-  
ogy for soil pH mapping. *Precision  
Agriculture* 8:139-149.

Adviento-Borbe, M.A.A., M.L. Haddix,  
D.L. Binder, D.T. Walters, and  
A. Dobermann. 2007.  
Soil greenhouse gas fluxes and  
global warming potential in four  
high yielding maize systems. *Global  
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Amos, B., H. Shen, T.J. Arkebauer, and  
D.T. Walters. 2007.  
Effect of previous crop residue on  
soil surface CO<sub>2</sub> flux in maize. *Soil  
Science* 172:589-597.

Behrens, M.R., N. Mutlu, S. Chakraborty,  
R. Dumitru, W. Jiang, B.J. LaVallee,  
P.L. Herman, T.E. Clemente, and  
D.P. Weeks. 2007.  
Dicamba tolerance: Strengthening  
and preserving biotechnology-  
based weed management strategies.  
*Science* 316:1185-88.

Bigger, B.B. and P.E. Read. 2007.  
Multiplication and acclimatization  
of 'Norton' grapevine (*Vitis aestivalis*).  
*Acta Hort* 748:203-205.

Carstens, J., T. Heng-Moss, F. Baxendale,  
R. Gaussoin, K. Frank, and L. Young.  
2007.  
Influence of buffalograss manage-  
ment practices on the chinch bug,  
*Blissus occiduus* Barber, and its ben-  
eficial arthropods. *Journal of Econo-  
mics Entomology* 100:136-147.

Casler, M.D., C.A. Stendal, L. Kapich,  
and K.P. Vogel. 2007.  
Genetic diversity, plant adapta-  
tion regions and restoration gene  
pools for switchgrass. *Crop Science*  
47:2261-2273.

Casler, M.D., K.P. Vogel, C.M. Taliaferro,  
N.J. Ehlke, J.D. Berdahl, E.C. Brummer,  
R.I. Kallenbach, C.P. West, and R.B.  
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Latitudinal and longitudinal adap-  
tation of switchgrass populations.  
*Crop Science* 47:2249-2260.

Cassman, K.G. 2007.  
Can organic agriculture feed  
the world science to the rescue?  
*Renewable Agricultural Food Sys-  
tem* 22:83-83.

Cassman, K.G. and A.J. Liska. 2007.  
Food and fuel for all: Realistic or  
foolish? *Biofuels, Bioproducts, and  
Biorefining* 1:18-23.

Chew, Y.C., G. Sarath, and J. Zemleni.  
2007.  
An avidin-based debiotinylase  
activity in human cell nuclei.  
*Journal of Nutritional Biochemistry*  
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Choi, I.-Y., D.L. Hyten, L.K. Matukumalli,  
Q.J. Song, J.M. Chaky, C.V. Quigley,  
K. Chase, K.G. Lark, R.S. Reiter,  
M.-S. Yoon, E.-Y. Hwang, S.-In Yi,  
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P.B. Cregan. 2007.  
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analysis. *Genetics* 176:685-696.

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S. Martinelli, S.R. Skoda, D.J. Isenhour,  
D.J. Lee, J.T. Krumm, and J.E. Foster.  
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Dhungana, P., K.M. Eskridge,  
P.S. Baenziger, B.T. Campbell, K.S. Gill,  
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Analysis of genotype-by-envi-  
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a structural equation model. *Crop  
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C.J. Peterson, P.S. Baenziger, G.L. Hein,  
B.B. Beecher, and T.J. Martin. 2007.  
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winter wheat of a gene conditioning  
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Evaluation of seedling character-  
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analysis of differentially expressed  
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*Festuca rubra* var. *rubra*. *Genetics*  
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T.E. Elthon, R.L. Cerny, D. Staiger, and  
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Garg, R., M. Tolbert, J.L. Oakes, T.E.  
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- Gulsen, O., R.C. Shearman, T. Heng-Moss, N. Mutlu, D.J. Lee, and G. Sarath. 2007. Peroxidase gene polymorphism in buffalograsses and other grasses. *Crop Science* 47:767-774.
- Guranowski, A., O. Miersch, P.E. Staswick, W. Suza, and C. Wasternack. 2007. Substrate specificity and products of side-reactions catalyzed by jasmonate:amino acid synthetase (JAR1). *FEBS Letter* 581:815-820.
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- Hock S., S. Knezevic, B. Johnson, C. Srague, and A. Martin. 2007. WeedSOFT: Effects of corn row spacing for predicting herbicide efficacy on selected weed species. *Weed Technology* 21:219-224.
- Hooks, T., J.F. Pedersen, D.B. Marx, and R.E. Gaussoin. 2007. Changing the support of a spatial covariate: A simulation study. *Crop Science* 47:622-626.
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- Kaizzi, C.K., J. Byalebeka, C.S. Wortmann, and M. Mamo. 2007. Low input approaches for soil fertility management in semi-arid eastern Uganda. *Agronomy Journal* 99:847-853.
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- Londono, D.K., H. Wang, H.A.A. Siqueria, G. Sarath, M.J. Lydy, and B.D. Siegfried. 2007. Cloning and expression of an atrazine inducible cytochrome P450 from *Chironomas tentans*. (Diptera: Chironomidae). *Pesticide Biochemistry and Physiology* 89:104-110.
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# Nutrition and Health Sciences

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Wang, L., C.L. Weller, V.L. Schlegel, T.P. Carr, and S.L. Cuppett. 2007. Comparison of supercritical CO<sub>2</sub> and hexane extraction of lipids from sorghum distillers grains. *European Journal of Lipid Science and Technology* 109:567-574.

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Minor, S.A. 2007. Vitamin and mineral supplementation in the homebound elderly. (J.A. Driskell, Advisor)

Smith, E. 2007. Biological functions of biotin in stress-tolerance and malignant transformation. (J. Zempleni, Advisor)

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## Ph.D. Dissertations

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Reimers, K.J. 2007. Use of urine markers to assess hydration status in healthy children. (K.L. Stanek Krogstrand, Advisor)

## Textiles, Clothing and Design

### Journal Articles

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Besser, T.L., N.J. Miller, P.F. Korsching, and B.D. Welch. 2007. Creating business networks. *CD Practices. Journal of the Community Development Society* 14:1-12.

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## M.S. Thesis

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# Off-Campus Research Centers

## Northeast Research and Extension Center

### Journal Articles

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## Panhandle Research and Extension Center

### Journal Articles

Boeckner, L.S., C.H. Pullen, S.N. Walker, M.K. Oberdorfer, and P.A. Hageman. 2007.

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Harveson, R.M. and A.K. Vidaver. 2007.

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# West Central Research and Extension Center

## Journal Articles

Adams, D.C., C.Y. Chen, R.K. Johnson, S. Newman, and L.D. Van Vleck. 2007.

A general review of genetic competition effects with an emphasis on swine breeding. *Genetics and Molecular Research* 6:594-606.

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Martin, J.L., K.A. Vonnahme, D.C. Adams, G.P. Lardy, and R.N. Funston. 2007.

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Pastor-Corrales, M.A., J.D. Kelly, J.R. Steadman, D.T. Lindgren, J.R. Staveland, and D.P. Coyne. 2007.

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Reece, P.E., A.E. Koehler, W.D. Whisenhunt, J.D. Volesky, and W.H. Schacht. 2007.

A passive application watering system for rangeland plots. *Rangeland Ecology and Management* 60:203-207.

Reece, P.E., J.W. Morris, W.H. Schacht, A.E. Koehler, J.D. Volesky, and L.E. Moser. 2007.

Prairie sandreed response to preceding-year defoliation and precipitation regime. *Great Plains Research* 17:215-224.

Stalker, L.A., L.A. Ciminski, D.C. Adams, T.J. Klopfenstein, and R.T. Clark. 2007.

Effects of weaning date and prepartum protein supplementation on cow performance and calf growth. *Rangeland Ecology and Management* 60:578-587.

Stalker, L.A., D.C. Adams, and T.J. Klopfenstein. 2007.

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Stockton, M.C., D.C. Adams, R.K. Wilson, T.J. Klopfenstein, R.T. Clark, and G.L. Carriker. 2007.

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Volesky, J.D., W.H. Schacht, P.E. Reece, and T.J. Vaughn. 2007.

Diet composition of cattle grazing Sandhills range during spring. *Rangeland Ecology and Management* 60:65-70.

Volesky, J.D. and B.E. Anderson. 2007.

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Wicks, G.A., S.Z. Knezevic, M. Bernards, R.G. Wilson, R.N. Klein, and A.R. Martin. 2007.

Effect of planting depth and isoxaflutole rate on corn injury in Nebraska. *Weed Technology* 21:642-646.

## Research Bulletin

Funston, R.N., D.C. Adams, M.C. Stockton, R.K. Wilson, R.L. Davis, and R.J. Tiechert. 2007.

Dried distillers grains as creep feed for yearling beef cattle grazing Sandhill range. *Research Bulletin MP 90.* Nebraska Beef Report.

## Refereed Proceedings

Ferguson, R.B., T. Kyaw, V.I. Adamchuk, D.D. Tarkalson, and D.L. McCalister. 2007.

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## M.S. Thesis

Schroeder, P.R. 2007.

Grazing system effects on cattle diet composition in the Nebraska Sandhills. (J.D. Volesky and W.H. Schacht, Advisors)

**A**RD receives funding from federal formula funds, industry grants, federal grants and state appropriations. During fiscal year 2007-2008, ARD expended external grant, contract and research support funds that totaled \$47,675,777. The extramural funds coming to ARD faculty to address problems of importance to Nebraska have a significant direct impact on the state's economy.

## Report of Research Expenditures The University of Nebraska Agricultural Research Division For the Period July 1, 2007, through June 30, 2008

Dollar Amounts

<b>State Appropriated Funds:</b> .....	\$36,597,655
<b>Grants and Contracts:</b>	
<b>Federal Formula Funds:</b>	
Hatch Formula .....	\$ 3,923,226
Multistate Hatch Research .....	\$ 1,014,078
McIntire-Stennis .....	\$ 286,737
Animal Health .....	\$ 107,559
<b>Total Federal Formula Funds</b> .....	\$ 5,331,600
<b>Nebraska Research Initiative Funds</b> .....	\$ 3,030,746
<b>Other Federal Grants and Contracts:</b>	
USDA Cooperative Agreements .....	\$ 1,703,293
USDA Special and Competitive Grants .....	\$ 3,686,408
NSF, NIH, USEPA, DOD, NASA, and Other .....	\$ 8,229,659
<b>Total Other Federal Grants and Contracts:</b> .....	\$13,619,360
<b>Non-federal Grants, Contracts, and Gifts*</b> .....	\$10,526,263
<b>Total Grants and Contracts</b> .....	\$32,507,969
<b>Research Expenditures from Product Sales</b> .....	\$15,167,808
<b>Total Expenditures</b> .....	\$84,273,431

\*Includes State and Local agencies, other Institutions, Industry and Foundations.

## Agricultural Research Division Research Investments by Category and Funding Source FY 2008

<i>Expenditure Category</i>	<i>State Appropriated</i>	<i>Federal Grants</i>	<i>Industry Grants</i>	<i>Revolving Funds</i>	<i>Total</i>
<b>Salaries, Wages and Benefits</b>					
Administrative/Faculty	41.1%	9.6%	5.1%	2.8%	23.0%
Managerial/Professional	13.1%	5.2%	8.6%	8.0%	9.9%
Office/Service	8.9%	3.8%	7.6%	13.1%	8.5%
Hourly Wages	0.4%	0.9%	3.9%	2.7%	1.3%
GRA Stipends	5.5%	11.7%	16.1%	1.9%	7.5%
Benefits	15.7%	6.9%	9.6%	7.5%	11.6%
<b>Subtotal:</b>	84.6%	37.9%	50.9%	35.9%	61.9%
<b>Operating</b>					
Supplies and Expenses	10.4%	47.4%	36.8%	53.8%	29.3%
Travel	1.1%	2.8%	7.0%	2.9%	2.5%
Equipment	3.8%	11.9%	5.3%	7.4%	6.3%
<b>Subtotal:</b>	15.4%	62.1%	49.1%	64.1%	38.1%
<b>Total:</b>	100.0%	100.0%	100.0%	100.0%	100.0%

## Agricultural Research Division Selected Research Program Information

Category	FY 2006	FY 2007	FY 2008
<b>Project Information:</b>			
Projects at beginning of year	371	338	286
Projects terminating	54	91	35
Projects revised	4	3	11
New projects	21	30	43
Projects at the end of the year	338	296	104
<b>Faculty full-time equivalents (FTE)</b>	145.2	156.6	136.14
<b>Expenditures for budgeted research faculty:</b>			
Federal formula and state approp., \$/FTE	\$274,380	\$247,137	\$268,903
Grant and contracts, \$/FTE	\$187,238	\$175,488	\$238,854
Product sales, \$/FTE	\$ 89,059	\$ 83,874	\$111,446
<b>Outputs from research programs<sup>1</sup>:</b>			
Refereed journal articles	490	616	613
Research bulletins	2	7	2
Books and book chapters	62	69	55
M.S. and Ph.D. theses	125	100	126
Cultivars and germplasm released	8	4	5
Patents obtained	0	2	1

<sup>1</sup>A large number of abstracts, technical reports, and other non-refereed articles also are published by faculty each year.



