Agricultural Research Division 120th Annual Report 2006
University of Nebraska–Lincoln

Agricultural Research Division

120th Annual Report
July 1, 2005 to June 30, 2006

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.
# Table of Contents

Our Mission ................................................................................................................................. 4  
Foreword........................................................................................................................................ 5  
Research Highlights ......................................................................................................................... 6  
Faculty Awards and Recognitions .................................................................................................... 14  
Graduate Student Awards and Recognitions ................................................................................... 17  
Undergraduate Honors Student Research Program ........................................................................ 22  
Variety and Germplasm Releases ..................................................................................................... 23  
Administration............................................................................................................................... 27  
  Administrative Personnel .............................................................................................................. 27  
  Organizational Chart .................................................................................................................... 28  
  Administrative Units .................................................................................................................... 29  
  IANR Research Facilities ............................................................................................................ 30  
Faculty ............................................................................................................................................ 31  
  Agricultural/Natural Resources Units ........................................................................................... 32  
  Education and Human Sciences Departments ............................................................................. 41  
  Off-Campus Research Centers .................................................................................................... 42  
  Interdisciplinary Activities ......................................................................................................... 43  
Visiting Scientists/Research Associates ........................................................................................ 44  
Research Projects............................................................................................................................ 50  
  Agricultural/Natural Resources Units ........................................................................................... 50  
  Education and Human Sciences Departments ............................................................................. 55  
  Off-Campus Research Centers .................................................................................................... 56  
  Interdisciplinary Activities ......................................................................................................... 56  
Publications..................................................................................................................................... 58  
  Agricultural/Natural Resources Units ........................................................................................... 63  
  Education and Human Sciences Departments ............................................................................. 80  
  Off-Campus Research Centers.................................................................................................... 82  
Research Expenditures...................................................................................................................... 85

Cover design: Jeffrey Vaughn  
Typesetting and internal design: Anne Moore  
Research Highlights writers: Sandi Alswager Karstens and Dan Moser  
Editor: Linda Ulrich  

For more information about the Agricultural Research Division and its research, contact Gary L. Cunningham, ARD dean and director, University of Nebraska–Lincoln, 207 Ag Hall, P.O. Box 830704, Lincoln, NE 68583-0704; phone: (402) 472-2045; e-mail gcunningham2@unl.edu; or visit the ARD Web site at http://ard.unl.edu

This publication is printed on recycled paper using soy ink.

To simplify technical terminology, trade names of products or equipment sometimes are used. No endorsement of products is intended nor is criticism implied of products not mentioned.

Upon request, this publication can be made available in an alternative format for people with disabilities. For assistance call (402) 472-3031.
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.
The 120th Annual Report of the University of Nebraska–Lincoln Agricultural Research Division (ARD) is one of the publications and other communication vehicles ARD uses to inform the citizens of Nebraska about the work it does on their behalf and with their rapport through the University of Nebraska, federal and state agencies, and industry grants. ARD faculty FY 2006 accomplishments that provide knowledge to serve agriculture, agribusiness, natural resources, and human well-being in Nebraska are highlighted. The report documents ARD’s success in developing new knowledge and technologies to improve profitability, better manage natural resources, enhance environmental quality, and improve the quality of life.

In addition to research accomplishments and impacts, this report includes a listing of faculty, research projects, faculty and student awards and honors, research outputs and the ARD financial report for the period July 1, 2005, to June 30, 2006. 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.

The Research Highlights section outlines some of the significant accomplishments of our faculty. Some of the accomplishments include:

- Development of new formulas for mixing several dry forages with wet distillers grains makes it easier to store ethanol byproducts for feeding later to livestock.
- Enhancement of a computer program will help crop producers make better irrigation decisions in situations in which they face limited water supplies.
- A new program will set up the University’s first certified organic research plots, from which we will launch focused research and education on organic farming.
- Textiles research that already has resulted in development of fabrics made from cornhusks now is developing fabrics from more agricultural wastes, including chicken feathers and rice straw.
- UNL wheat breeders and geneticists are part of a national team working to improve U.S. wheat quality and disease resistance.
- Research now under way aims to reduce phosphorus levels in livestock manure, decreasing the potential of water pollution.
- UNL is on the leading edge of energy-related research with a partnership with Nebraska Public Power District to create the Nebraska Center for Energy Sciences Research, headed by an agronomy professor.

The above items are only a few of the many important research findings by ARD scientists. ARD research is serving both science and society, and making a difference in the economy of the state and the lives of Nebraskans.

Gary L. Cunningham  
Dean and Director  
Agricultural Research Division
The Agricultural Research Division is the only public entity in Nebraska charged with conducting agricultural research. It is part of a national network of state agricultural experiment stations located in land-grant universities across the United States. In 1973, the state legislature passed LB 149, which established the Institute of Agriculture and Natural Resources. The Agricultural Research Division was created as one of IANR’s six divisions. The state legislation also expanded the federal mandate for agricultural research conducted by the Nebraska Experiment Station to include research in natural resources, human resources and family sciences. The ARD research portfolio represents a scientific investment in Nebraska’s future. ARD research not only solves today’s problems, it also defines tomorrow’s opportunities.

Mixing drier feeds, wet ethanol byproducts improves storability

Wet byproducts from ethanol production are tricky to store for later use as cattle feed because of their high moisture content and threat of spoilage, but mixing them with drier, bulkier feeds improves storability, IANR research shows.

UNL animal scientists’ research resulted in formulas for mixing several widely available dry forages with wet distillers grains. Their findings could help feedlot managers and cow-calf producers purchase wet distillers grains during the summer when their plentiful supply can mean lower prices and safely store them for use later in the season or for winter feeding.

UNL animal scientists experimented with mixing grass hay, alfalfa hay and wheat straw with the wet distillers grains to determine how much dry material would be needed for successful storage.

When bagging silage, IANR researchers found the following minimal levels of dry material: 15 percent for grass hay; 22.5 percent, alfalfa hay; and 12.5 percent, wheat straw.

Researchers also experimented with mixing dry distillers grains and wet corn gluten feed, another ethanol byproduct, with the wet distillers grains. A 50-50 blend of dry and wet distillers grain bagged up well, while a 60–40 mixture of wet corn gluten and wet distillers grains seemed to work.

Compressing wet distillers grains alone into silage bags results in splitting, as shown here, but UNL researchers have found that mixing them with drier, bulkier feeds improves storability.

Agronomy prof heads new energy center partnership

University of Nebraska–Lincoln agronomy professor Ken Cassman heads up a new partnership for energy-related research.

Cassman heads the Nebraska Center for Energy Sciences Research, a partnership between UNL and the Nebraska Public Power District that will encourage collaboration on energy-related research among UNL faculty and with public and private energy-related organizations. The center will provide initial funding for promising research to develop renewable domestic energy resources, improve energy efficiency and create economic opportunities for Nebraska and beyond.

Cassman was head of UNL’s agronomy and horticulture department from 1996 until 2004 when he returned to the faculty to concentrate on his crop production ecology research and teaching. Before joining UNL, he worked with the International Rice Research Institute in the Philippines and was on the faculty at the University of California, Davis.

Cassman’s interest in the energy center is tied to his work as an agronomist, which has focused on ensuring local and global food security while improving soil and environmental quality. At UNL, his work has expanded to consider the energy efficiency and environmental impact of corn-ethanol production systems and crop yield potential to ensure adequate corn supplies.

Nebraska has several advantages in the renewable energy arena, such as wind power
and biofuels, which have the potential for long-term economic benefit for Nebraska. NPPD is providing $5 million over five years in startup funding. This money will be leveraged to attract additional research support from agencies and foundations. The goal is to use the NPPD funding as a foundation for elevating energy science research and its impact in Nebraska.

Helping to identify ethanol co-products’ potential in dairy cow, swine diets

With U.S. ethanol production expanding, the need to use the industry’s growing supply of co-products continues to rise. To help producers discover and identify corn distillers grains’ potential feed value, University of Nebraska–Lincoln animal scientists are studying the nutrient composition and availability of this co-product of the ethanol industry.

UNL animal scientists hope to help producers discover and identify the potential that distillers grains have for improving herd profitability and ultimately milk production on dairy farms and the feed value of dried distillers grain in swine diets.

With feed sources being the highest cost of production on a dairy farm, there is a huge potential for distillers grains – wet and dry – as well as wet corn gluten feed.

So far, scientists have found as much as 30 percent of the dairy cow’s diet dry matter can be replaced with distillers grains and still maintain milk production, fat production and milk protein production, and, in some cases, a higher milk yield.

Scientists also are studying how rations will be balanced so that forages, soybean meal and corn can be replaced with distillers grains.

Eventually, dairy nutritionists will formulate diets with high amounts of distillers grains not only in Nebraska but nationwide.

Future studies will look at nitrogen and phosphorus excretion. The Nebraska Corn Board helps fund this research.

IANR animal scientists also are studying the feeding value of swine diets that contain 0, 5, 10 and 15 percent corn distillers grains for growing/finishing pigs. Diets will contain corn, soybean meal and corn distillers grains at those concentrations.

While there is tremendous potential in feeding corn distillers grains to swine, there also are a lot of questions as corn distillers grains are not widely used in swine diets. To help answer those questions, scientists will look at growth rate, feed intake, feed efficiency and a number of post-harvest variables, such as back fat, dressing percentage, carcass lean and other carcass composition criteria. Results also will be evaluated through economic analysis.

The Nebraska Pork Producers help fund this research.

Water Optimizer to be enhanced, expanded

A UNL computer program that helps farmers facing limited water supplies to make irrigation decisions will be expanded and enhanced under a new grant from the U.S. Department of Agriculture.

The $885,000 grant will allow IANR researchers to refine and improve the Water Optimizer, a tool that enables producers with limited water to evaluate what crops to grow, how many acres to irrigate and how much water to apply. Improvements will make the Water Optimizer more versatile and more widely applicable.

The first version of Water Optimizer, released by UNL in 2005, is useful but limited in scope. It covers the principal crops in Nebraska but doesn’t address all of the critical risk-management issues surrounding limited water.

The project has several goals:
- improve the tool’s usefulness for crops grown in the semiarid High Plains, including canola, camelina, crambe, brown mustard, chickpeas, dry beans and sunflowers
- improve the tool’s geographic coverage area to additional counties in Nebraska and irrigated areas in Colorado and Kansas
- develop the capability to evaluate risk-management alternatives on a “whole-farm” basis, as well as field by field
- develop the capability to determine the best strategies for managing multi-year water allocations.

UNL’s Water Optimizer is undergoing further refinement to make it a more effective, versatile tool for farmers looking to more effectively use irrigation water.
A glimpse into Sandhills’ past

Nebraska’s Sandhills, a region of gently rolling sand dunes blanketed with prairie grasses and wetlands that cover a quarter of the state, provide ideal habitat for wildlife and livestock. During medieval times 800 to 1,000 years ago, however, the region was a swirling desert, far worse than the Dust Bowl of the 1930s.

UNL scientists outlined their discovery of weather conditions that existed the last time the dunes were on the move about 1,000 years ago in the journal Science. If those conditions return, the tranquil, verdant Sandhills could once more turn into an unlivable wasteland.

This research indicates a historically unprecedented, large-scale shift in wind direction that cut off moisture to the region during the growing season. Researchers believe dune development was part of a larger climate shift during the Medieval Warm Period that created a mega-drought in much of western North America.

The youngest dunes, about 1,000 years old, exist on the southeastern edge. Scientists analyzed these young dune formations and identified the circumstances that created them. Using a computer program that calculates sand drift under differing conditions, they discovered that the modern southerly wind flow would create asymmetrical dune crests oriented southwest to northeast, not the symmetrical dunes oriented northwest to southeast as is the case with these young dunes.

By working backward from the dunes’ pattern, they determined that the winds that created them must have come from the southwest out of what is now west Texas and New Mexico, a desert area that would not have brought moisture to Nebraska. As the area dried, fewer plants survived, wetlands dried up and the soil retained less moisture. These conditions heated the land surface, further strengthening the southerly wind flow in a kind of intensifying feedback loop. As the drought worsened, grasses died off completely, allowing sand to blow in the strong wind.

The research is part of UNL’s Sand Hills Biocomplexity Project.

New grant supports organic farming research

A $750,000 grant is helping UNL expand organic farming research and education, enhancing collaborations with growers and develop science-based information for organic food production.

The grant, from the U.S. Department of Agriculture’s Cooperative State Research, Education and Extension Service, will fund Improving Organic Farming Systems cross Nebraska Agroecoregions, which aims to lay the foundation for long-term organic farming efforts at UNL.

Goals include establishing the University’s first certified organic research plots, launching focused research, incorporating organic farming concepts into UNL Extension and classroom education, and developing an ecological index of different farming methods.

One certified plot already has been established near Sidney, with others to follow near Concord, Mead and Clay Center. Scientists will use these plots to examine priority concerns for organic producers, such as weed management, crop varieties and soil fertility. Each site will focus on different aspects of organic production while the network will enable collection of statewide information.

One certified plot already has been established near Sidney, with others to follow near Concord, Mead and Clay Center. Scientists will use these plots to examine priority concerns for organic producers, such as weed management, crop varieties and soil fertility. Each site will focus on different aspects of organic production while the network will enable collection of statewide information.

One certified plot already has been established near Sidney, with others to follow near Concord, Mead and Clay Center. Scientists will use these plots to examine priority concerns for organic producers, such as weed management, crop varieties and soil fertility. Each site will focus on different aspects of organic production while the network will enable collection of statewide information.

Rural Poll reflects some reservations about newcomers

It’s not easy for newcomers to settle into rural Nebraska communities, whether they’re moving from a few miles away or arriving from another country.

That was the finding of the 2006 Nebraska Rural Poll, which explored respondents’ views about newcomers to their communities and Latin American immigration to rural Nebraska.

Sixty-four percent of respondents said they’re aware of recent Latin American immigrants living in their communities. Only 14 percent of respondents said Latin American immigration had been good for rural Nebraska, with 56 percent disagreeing. Among Latino respondents, 70 percent felt immigration had been good for communities, and 14 percent disagreed.

Ninety-four percent of respondents agreed that immigrants should learn to speak English within a reasonable
Several years of drought have left Lake McConaughy at record low levels. UNL research has found that leaving more water in the reservoir for recreational purposes might pay off overall for the state.

A UNL agricultural economist set out to determine how declining lake levels have affected the region’s recreation industry and whether short-term water management strategies to reduce that impact could be “economically justifiable.” Those strategies would make less water available to irrigators or hydro power interests for one year by holding back more water in the reservoir. This one-year holdback could increase the lake’s water level for recreational use for several years to come, depending on how quickly the reservoir refills.

The research found that lakeside businesses reported steady declines since the drought began in 2001 and that recreational use of McConaughy in 2004 was 32 percent below the most recent 10-year average.

The research considered several scenarios for increasing the amount of water in McConaughy for recreation, finding that reducing irrigation or hydro power releases when the reservoir is low would under some circumstances increase recreation benefits enough to offset the costs quantified in the study.

The study envisions one year of reduced releases, with the impact of more water in the lake being felt over several years with increased recreational use.

Such a “reservoir augmentation program” could take a variety of forms, including periodic purchase of water by recreation-related interests, the purchase of storage rights or the purchase of a long-term insurance policy in which McConaughy water owners would agree to a modified set of release rules in return for a periodic premium payment.

Increasing storage in Lake McConaughy may be beneficial

The long-term economic benefits of leaving more water in Lake McConaughy for recreational purposes may in some circumstances offset the costs of compensating irrigation and power interests for one year of reduced supplies, IANR research shows.

Several years of drought have left Lake McConaughy, Nebraska’s largest reservoir, at historic lows.

The cooperative agreement’s official title is the Sorghum, Millet and Other Grains Collaborative Research Support Program. Because the long-standing program is internationally known as INTSORMIL, officials plan to continue using that name – its name since inception.

For nearly 30 years, INTSORMIL has provided life-sustaining aid to some of the poorest nations in the world. At the same time, it has improved sorghum and millet hybrids for U.S. farmers and has brought more than $80 million to the University.

Having access to sorghum and millet strains from Africa and other countries has helped U.S. plant breeders develop new sorghums and millets for this country. In addition, much of the U.S.’s sorghum research is funded through INTSORMIL.

INTSORMIL works in Africa, Central America, Eurasia and the U.S.

Scientists from six U.S. land-grant universities – UNL, Kansas State University, Mississippi State University, Purdue University, Texas A&M University, and West Texas A&M University – and the U.S. Department of Agriculture’s Agricultural Research Service have collaborated with scientists in the INTSORMIL host countries.

Because of INTSORMIL involvement, Mali, Africa, has one of the strongest sorghum research

Amount of time. Eighty-two percent of Latino respondents also held that view.

However, a significant split showed up on another language-related question: whether rural communities should communicate important information in Spanish as well as English. Only 20 percent of non-Latinos agreed with that statement, and 69 percent disagreed. Among Latino respondents, 76 percent felt important information should be communicated in both languages.

On the newcomer question, only 31 percent of respondents agreed newcomers to their communities improve the quality of life. One-fourth disagreed, and 44 percent had no opinion.

About 18 percent of respondents agreed new residents have been bad for their community. Forty-six percent of respondents disagreed, and 44 percent had no opinion. Results are based on 2,482 responses, from about 6,200 randomly selected households in Nebraska’s 84 rural counties.

A UNL agricultural economist set out to determine how declining lake levels have affected

The research found that lake levels have affected the region’s recreation industry and whether short-term water management strategies to reduce that impact could be “economically justifiable.” Those strategies would make less water available to irrigators or hydro power interests for one year by holding back more water in the reservoir. This one-year holdback could increase the lake’s water level for recreational use for several years to come, depending on how quickly the reservoir refills.

The research found that lakeside businesses reported steady declines since the drought began in 2001 and that recreational use of McConaughy in 2004 was 32 percent below the most recent 10-year average.

The research considered several scenarios for increasing the amount of water in McConaughy for recreation, finding that reducing irrigation or hydro power releases when the reservoir is low would under some circumstances increase recreation benefits enough to offset the costs quantified in the study.

The study envisions one year of reduced releases, with the impact of more water in the lake being felt over several years with increased recreational use.

Such a “reservoir augmentation program” could take a variety of forms, including periodic purchase of water by recreation-related interests, the purchase of storage rights or the purchase of a long-term insurance policy in which McConaughy water owners would agree to a modified set of release rules in return for a periodic premium payment.

Increasing storage in Lake McConaughy may be beneficial

The long-term economic benefits of leaving more water in Lake McConaughy for recreational purposes may in some circumstances offset the costs of compensating irrigation and power interests for one year of reduced supplies, IANR research shows.

Several years of drought have left Lake McConaughy, Nebraska’s largest reservoir, at historic lows.

A UNL agricultural economist set out to determine how declining lake levels have affected the region’s recreation industry and whether short-term water management strategies to reduce that impact could be “economically justifiable.” Those strategies would make less water available to irrigators or hydro power interests for one year by holding back more water in the reservoir. This one-year holdback could increase the lake’s water level for recreational use for several years to come, depending on how quickly the reservoir refills.

The research found that lakeside businesses reported steady declines since the drought began in 2001 and that recreational use of McConaughy in 2004 was 32 percent below the most recent 10-year average.

The research considered several scenarios for increasing the amount of water in McConaughy for recreation, finding that reducing irrigation or hydro power releases when the reservoir is low would under some circumstances increase recreation benefits enough to offset the costs quantified in the study.

The study envisions one year of reduced releases, with the impact of more water in the lake being felt over several years with increased recreational use.

Such a “reservoir augmentation program” could take a variety of forms, including periodic purchase of water by recreation-related interests, the purchase of storage rights or the purchase of a long-term insurance policy in which McConaughy water owners would agree to a modified set of release rules in return for a periodic premium payment.

Increasing storage in Lake McConaughy may be beneficial

The long-term economic benefits of leaving more water in Lake McConaughy for recreational purposes may in some circumstances offset the costs of compensating irrigation and power interests for one year of reduced supplies, IANR research shows.

Several years of drought have left Lake McConaughy, Nebraska’s largest reservoir, at historic lows.

A UNL agricultural economist set out to determine how declining lake levels have affected the region’s recreation industry and whether short-term water management strategies to reduce that impact could be “economically justifiable.” Those strategies would make less water available to irrigators or hydro power interests for one year by holding back more water in the reservoir. This one-year holdback could increase the lake’s water level for recreational use for several years to come, depending on how quickly the reservoir refills.

The research found that lakeside businesses reported steady declines since the drought began in 2001 and that recreational use of McConaughy in 2004 was 32 percent below the most recent 10-year average.

The research considered several scenarios for increasing the amount of water in McConaughy for recreation, finding that reducing irrigation or hydro power releases when the reservoir is low would under some circumstances increase recreation benefits enough to offset the costs quantified in the study.

The study envisions one year of reduced releases, with the impact of more water in the lake being felt over several years with increased recreational use.

Such a “reservoir augmentation program” could take a variety of forms, including periodic purchase of water by recreation-related interests, the purchase of storage rights or the purchase of a long-term insurance policy in which McConaughy water owners would agree to a modified set of release rules in return for a periodic premium payment.
programs in the world today.
The center of origin for sorghum and pearl millet is in Africa so breeders are able to bring back germplasm from native types and from improved types with desirable characteristics and enter them into their breeding programs back in the U.S.

Sorghum and pearl millet are important food staples, especially in semiarid regions, because of their drought-tolerant characteristics.

In the U.S., sorghum is used mainly as livestock feed. Nebraska ranks third in sorghum production.

UNL researchers turn agricultural wastes into fabrics

Suits and dresses made of chicken feathers or rice straw might just be the norm someday.

An IANR textiles research team has found a way to turn these agricultural waste products into conventional-looking fabrics. The feather-based fabric will resemble wool, while the rice straw fabric will look and feel more like linen or cotton.

While both fabrics are in early development and may not reach the market for several years, researchers hope their findings will spark interest in using agricultural byproducts as textile fibers.

This not only would add value to agricultural crops, but it would make the fiber industry more sustainable and reduce the use of petroleum-based synthetic fabrics.

With millions of tons of chicken feathers and rice straw available worldwide each year, these agricultural wastes represent an abundant, cheap and renewable alternative to petroleum-based synthetic fibers. The fibers also are biodegradable and the development could be a boon to the nation’s rice and chicken farmers.

Rice fabrics, composed mostly of cellulose, are the most developed of the two and are capable of being spun into fabrics using common textile machinery.

Chicken fibers, composed mostly of keratin, offer the potential for developing fabrics that are lightweight, and offer better shock absorption and superior insulation.

The fabrics will be able to withstand normal washing and ironing and could become environmentally friendly fabrics used in carpets, automobiles, building materials and a host of other everyday applications – potentially at less cost and sometimes superior properties than their synthetic counterparts.

This research builds on earlier work turning cornhusks into fabrics with properties similar to linen or cotton.

UNL among leading research institutions in GMO trials

The University of Nebraska–Lincoln was among the leading U.S. institutions in permits for genetically modified crop field trials in 2005, according to information published in a scientific journal.

The April 2006 issue of the journal Nature Biotechnology featured a chart titled “Field Trial Permits by Top U.S. Institutions.” The chart featured the top 10 private companies and public institutions that obtained U.S. field trial approvals for transgenic crops in 2004 and 2005 as well as the percentage of overall U.S. trials in 2005 for each.

UNL ranked fourth overall and first among U.S. universities and public agencies with 30 field trial permit approvals, or 3 percent of all 2005 U.S. field trial approvals for genetically modified crops. Monsanto, by far the U.S. leader, accounted for 509 field trial permits or 54 percent of all U.S. trials in 2005. Syngenta was second with 37 or 4 percent of U.S. trials; ArborGen was third with 36 or 4 percent overall.

Other institutions in the top 10 for 2005 and their number of field trial permits were: fifth, Bayer CropScience, 19; sixth, Pioneer, 17; seventh, University of Arizona, 15; eighth, University of Florida, 14; ninth, U.S. Department of Agriculture, 13; and 10th, Michigan State, 12, according to the chart.

In 2004, UNL was fifth overall with 14 field trial permits behind Monsanto, ArborGen, Syngenta and USDA.

Nature Biotechnology listed the source of data featured in the chart as Cropnosis, International Service for Acquisition of Agri-Biotech Applications. The Cropnosis Web page describes the private company as “a leading provider of market research and consultancy services in the crop protection and biotechnology sectors.”

Entomologists studying oxalic acid for control of varroa mites in bee colonies

The varroa mite is a major pest of honeybees worldwide, but its control often is difficult because the two organisms are so closely related.

While some strategies to control the mites do exist, they are labor intensive, and mites have become resistant to many available chemical treatments.

IANR entomologists are studying a natural product to reduce mite populations in bee colonies. Oxalic acid is a chemical found in plants, such as rhubarb, turnips and broccoli, which makes the vegetation nonpalatable to insects.

Using oxalic acid to treat varroa mites could help struggling beekeepers keep their hives healthy and stay economically profitable. In many states, insect-pollinated crops are a significant

\[\text{UNL textile scientists Yiqi Yang (right) is developing fabrics made from such agricultural waste products as chicken feathers and rice straw.} \]
part of agriculture. Because of the varroa mite, beekeepers have been unable to meet the bee colony demands on these farms.

Entomologists are testing oxalic acid’s chemical efficacy and ways to use it. Since the mites and the bees are both arthropods, what kills the mites can kill the bees. Toxicological studies are being fine-tuned to find the dose necessary to kill mites, but not bees.

Entomologists also are looking at ways to eliminate mites in mail shipments and ways to eliminate mites in colonies in the winter when there are no broods and the mites are attacking adult bees. Oxalic acid eventually will become a low-cost, effective and sustainable way to deal with the mite parasite. Entomologists also will teach beekeepers how to use the chemical.

These studies are funded by the EPA.

**UNL scientists working to boost wheat quality, disease resistance**

UNL wheat breeders and geneticists are part of a national scientific team working to harness genetic technologies to improve U.S. wheat quality and disease resistance. 

A $5 million U.S. Department of Agriculture grant is funding the collaborative research by University and government scientists in 17 states. UNL will receive $162,750 for its portion of the study.

Results of this effort will change how wheat breeding is done and ultimately help increase U.S. wheat global competitiveness and production efficiency. The four-year project aims to implement new molecular technologies called Marker Assisted Selection. Markers are genes or DNA segments that serve as molecular signposts, pinpointing a specific spot on wheat’s genetic map.

While there are many known molecular markers for wheat chromosomes, scientists often don’t know whether they are associated with a useful gene. This research will identify markers associated with specific desirable genetic traits and verify those associations. Once that’s done, wheat breeders can use the markers to more quickly and precisely select wheat lines that contain specific characteristics.

Researchers will focus on developing markers for complex genetic traits, such as those influencing yield, that wheat growers and industry have identified as top priorities.

The UNL team will focus on environmentally sensitive genetic traits, such as grain yield, test weight and kernel size, as well as how drought influences certain traits. Nebraska’s varied, often extreme growing conditions and its location at the northern end of the nation’s winter wheat growing region make it a good location for this research. Involvement in this research also will enhance Nebraska’s breeding program. Nebraska’s breeding lines will be analyzed for molecular markers at the USDA’s genotyping laboratories. That means future breeding efforts will be much more marker-based and precise.

**New technologies helping producers deal with drought**

New Web-based technologies being developed at UNL are giving farmers and ranchers better tools to contend with drought.

A partnership between the UNL-based National Drought Mitigation Center and UNL’s Department of Computer Science and Engineering is bringing together the expertise of climatologists and computer scientists to bring cutting-edge computer technologies to producers’ age-old decision-making processes.

UNL computer scientists have created the National Agricultural Decision Support System (http://nadss.unl.edu) to host a variety of tools that help producers assess drought and other crop-production risks. There, producers can tap into a variety of weather data to help them make decisions about their operations.

The drought mitigation center (http://drought.unl.edu) also has a variety of online decision-support tools in various development stages, including:

- Drought Impact Reporter, which allows users to enter information about drought’s specific impacts across the United States
- Vegetation Drought Response Index, which uses satellite and climate data for a square-mile-by-square-mile analysis of drought conditions
- Continued improvements in the U.S. Drought Monitor, a weekly national map that the drought center produces through a partnership with the U.S. Department of Agriculture and the National Oceanic and Atmospheric Administration. (Plans are to make the monitor a more interactive tool that producers and others can use to get more specific, local information.)

**Drought has plagued the region for several years, but new work by the National Drought Mitigation Center and UNL computer scientists is providing new tools to producers and others for dealing with the crisis.**
Working to reduce phosphorus levels, limit runoff

Manure phosphorus can help produce a healthy crop, but land application of excessive amounts can increase the potential for water pollution. UNL researchers are working to solve this problem.

A $500,000 grant from the U.S. Department of Agriculture's Risk Management Agency provided more than $7 million toward the UNL-based projects.

Agriculture's Cooperative State Research, Education and Extension Service to the Nebraska Corn Board is funding UNL research to reduce phosphorus in manure and in distillers grain and corn gluten feed and develop improved manure handling practices.

Phosphorus concentrations in ethanol byproducts are much higher than in corn. When the byproducts are fed to beef cattle, manure phosphorus excretion is increased. Researchers are looking at ways to remove phosphorus in distillers grain and corn gluten feed to allow animal diets with less phosphorus.

They are studying adding the enzyme phytase during ethanol production, which would remove phosphorus from the organic compounds, and may produce a value-added product such as inositol. Inositol and its phosphates are highly valued in the nutrient supplement market and pharmaceutical industry as a fat-solubilizing agent.

Researchers are looking at composting manure as a way to reduce manure mass or bulk to decrease transport costs and allow better nutrient distribution. They also will address nitrogen loss during the composting process.

Scientists also are looking at management practices to reduce phosphorus runoff, including setback distances and vegetative filter strips for manure application near water or conduits to water. Watershed models are being used to develop criteria for improved targeting of best management practices to parts of the watershed with greater potential for runoff phosphorus loss. They also hope to reduce phosphorus runoff by educating producers and consultants on these improved practices.

IANR entomologists provide insights into biocontrols

Severe soybean aphid infestations can easily reduce soybean yields by up to 20 percent in farmers' fields.

Since aphids can grow to economically damaging populations in a short period of time, IANR entomologists focused on the problem and have developed research-based soybean aphid management guidelines and biocontrol information specific for Nebraska.

For the aphid, science-backed economic thresholds average about 250 aphids per plant and populations on the increase.

The team of entomologists is now examining those thresholds in specific arenas, such as irrigated and early or late-planted fields. In addition, they also are looking at yield loss mechanisms, including photosynthesis changes, along with plant growth and other factors.

Tool can help reduce impact of livestock odor

University of Nebraska–Lincoln biological systems engineers are developing tools that will help producers and communities better plan for livestock odors' indiscriminate distribution.

Institute of Agriculture and Natural Resources engineers are using odor emission and dispersion research to develop...
resources that assess where livestock odors will cause the most problems, which can help create buffer zones of varying sizes and shapes around livestock operations.

Such tools as odor roses, directional setback distance curves and odor footprints are being produced for six regions in Nebraska.

These resources, the result of computer modeling and other IANR research, are known collectively as the Odor Footprint Tool. The tool’s resources will help livestock producers plan new or expanded livestock facilities to reduce odor impact and help county zoning officials evaluate proposed construction of livestock facilities.

The odor footprints reveal areas expected to be affected by livestock odors more often than the locally selected standard with an aerial view format.

The directional setback distances simplify the process of evaluating plans and options by considering the maximum separation distance in each of four main directions around a site. This is done to the north, south, east and west of the site, or to the northeast, southeast, northwest and southwest of the site, giving a good idea of the expected reach of odor impact in each direction.

The odor rose focuses on weather factors, such as prevailing wind direction and atmospheric conditions, that will determine the directions of greatest odor impact.

The Nebraska Department of Agriculture, U.S. Department of Agriculture National Research Initiative, Nebraska Pork Producers and the Nebraska Environmental Trust fund this research.

Improving soybean’s potential for biodiesel use

UNL researchers are working to modify the fatty acid profile of soybean oil for biodiesel.

A team of researchers in UNL’s Plant Transformation Core Facility within the Center for Biotechnology is investigating three fatty acid profiles in genetically modified soybeans to see how they fare as biodiesel feedstock.

The first oil they developed was from high oleic acid soybeans. These beans had 85 percent to 91 percent higher oleic acid content, compared with 15 percent to 20 percent in conventional varieties and lower saturated fatty acids.

The second is a high-oleic acid oil with elevated amounts of stearic acid, or saturated fat. This may enhance the ignition quality but will reduce the fuel’s cold flow property.

The third type is a high-oleic acid, high-ricinoleic soybean oil. Collaborating with a Canadian company, the researchers are essentially making castor oil in soybean plants. Brazil already is making biodiesel out of 100 percent castor oil. The U.S. government is not in favor of castor plants since the byproduct is ricin, a potential bioterrorism agent.

UNL researchers are not yet sure if castor oil—producing soybeans will be beneficial in biodiesel production, but it is worth investigating.

glimpses at ARD research

◆ The School of Natural Resources’ new home will help make its research, extension and teaching efforts more cohesive. SNR faculty and staff, once divided among many buildings across both City Campus and East Campus, moved into the former Clifford Hardin Nebraska Center for Continuing Education in 2006. Funded by U.S. Department of Agriculture and state money, the $16.5 million renovation provides 150,500 square feet of office, lab and classroom space, as well as an auditorium with a new audio-visual system and a large lobby with an outreach mall and store.

◆ A new Water Resources Advisory Panel will share its thoughts and opinions on water resources issues and offer UNL advice and assistance in the Water Resources Research Initiative. A major goal of that initiative is strengthening the University’s ties with state and federal agencies responsible for water resources in Nebraska, as well as with the natural resources districts, irrigation districts, agricultural business organizations and others with ties to Nebraska water issues. The panel includes representatives from state government, environmental organizations, agricultural groups and irrigation providers.

◆ An expansion of the feedlot near Mead provides more research space for the animal science department. The expansion increased from 100 to 150 the number of pens. The expansion will allow for both more research projects and also larger experiments.

◆ Nebraska counties where a Wal-Mart is located have experienced on average a slower growth in standard of living than counties without the world’s largest retailer, a preliminary University of Nebraska–Lincoln study shows. The UNL study compared how growth in household income from 1979 to 2002 differed between 19 counties with Wal-Marts and 74 without, after controlling for other economic variables that determine household income. The study by a UNL agricultural economist found that the average annual growth in median household income, adjusted for inflation, in the 19 counties with a Wal-Mart was $142.62 below the average annual growth in median household income in the 74 counties without a Wal-Mart from 1979 to 2002.
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.

### Faculty Awards and Recognitions

<table>
<thead>
<tr>
<th>Agricultural Economics</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Konstantinos Giannakas</strong> received the Graduate Student Organization Faculty Award from the Graduate Student Organization.</td>
</tr>
<tr>
<td><strong>Dennis Conley</strong> received the Grateful Appreciation for Contributions from the International Food and Agribusiness Association.</td>
</tr>
<tr>
<td><strong>Amalia Yiannaka</strong> received the “Young” Professionals Heading South Award from the Australian Agricultural and Resource Economics Society (AARES) and the American Agricultural Economics Association to attend the AARES annual meeting in Australia; received the Outstanding Ph.D. Thesis Award at the Canadian Agricultural Economics Association annual meeting; and received the Graduate Student Organization Faculty Award from Agricultural Economics.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Agronomy and Horticulture</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Jerry Eastin</strong> received the Sorghum Industry Award from the Nebraska Grain Sorghum Producers Association and the Nebraska Grain Sorghum Board.</td>
</tr>
<tr>
<td><strong>Richard B. Ferguson</strong> received the Water Guardian of the Year Award from the Nebraska Agribusiness Association, Inc.</td>
</tr>
<tr>
<td><strong>Roch Gaussoin</strong> received the Fellow Award from the American Society of Agronomy.</td>
</tr>
<tr>
<td><strong>Don Lee</strong> received the Omtvedt Innovation Award.</td>
</tr>
<tr>
<td><strong>Dale Lindgren</strong> received the Viehmeyer Award from the American Penstemon Society.</td>
</tr>
<tr>
<td><strong>Drew Lyon</strong> received the Fellow Award from the American Society of Agronomy.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Animal Science</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Don Adams</strong> received the Distinguished Educational Service Award from the University of Nebraska–Lincoln.</td>
</tr>
<tr>
<td><strong>Michael Brumm</strong> was named to the National Hog Farmer magazine’s list of “Top 50 Men and Women Who Made a Difference in the U.S. Pork Industry.”</td>
</tr>
<tr>
<td><strong>Ronald Christenson</strong> received the Research Fellow Award from the American Society of Animal Science.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Biochemistry</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ruma Banerjee</strong> received a Chancellor’s Distinguished Series Lecturer award from the University of Nebraska.</td>
</tr>
<tr>
<td><strong>Don Becker</strong> received the National Science Foundation Career Award.</td>
</tr>
<tr>
<td>Biological Systems Engineering</td>
</tr>
<tr>
<td>-------------------------------</td>
</tr>
<tr>
<td><strong>Greg Bashford</strong> received the 2005 Dinsdale Family Faculty Award for outstanding teaching, research and outreach in IANR.</td>
</tr>
<tr>
<td><strong>Tom Franti</strong> received two Blue Ribbon Awards from the American Society of Agricultural Engineers for Educational Aids competition.</td>
</tr>
<tr>
<td><strong>Suat Irmak</strong> received the Best Practice Paper Award from the World Water and Environmental Resources Congress, Irrigation and Drainage Council, in Anchorage Alaska and the Bureau of Reclamation Commissioner’s Water Conservation Award.</td>
</tr>
<tr>
<td><strong>Rick Koelsch</strong> received the G.B. Gunlogson Countryside Engineering Award and a Blue Ribbon Award from the American Society of Agricultural Engineers.</td>
</tr>
<tr>
<td><strong>William Kranz</strong> received the Bureau of Reclamation Commissioner’s Water Conservation Award.</td>
</tr>
<tr>
<td><strong>Derrel Martin</strong> received the Bureau of Reclamation Commissioner’s Water Conservation Award.</td>
</tr>
<tr>
<td><strong>Jose Payero</strong> received the Bureau of Reclamation Commissioner’s Water Conservation Award.</td>
</tr>
<tr>
<td><strong>C. Dean Yonts</strong> received the Bureau of Reclamation Commissioner’s Water Conservation Award.</td>
</tr>
<tr>
<td><strong>Education and Human Sciences Departments</strong></td>
</tr>
<tr>
<td><strong>Family and Consumer Sciences</strong></td>
</tr>
<tr>
<td><strong>Douglas Abbott</strong> received the U.S. Fulbright Senior Scholar.</td>
</tr>
<tr>
<td><strong>Richard Bischoff</strong> received the College of Education and Human Sciences Distinguished Teaching Award.</td>
</tr>
<tr>
<td><strong>Fernando Osorio</strong> received the Dermott Coyne Award in recognition of leadership and outstanding service to international students from the University of Nebraska–Lincoln International Affairs Office.</td>
</tr>
<tr>
<td><strong>Gary P. Rupp</strong> received the Beef Award at the American Association of Bovine Practitioners Conference, Fort Worth, Texas.</td>
</tr>
<tr>
<td><strong>David R. Smith</strong> received the Wendell Burgher Beef Industry Award from the University of Nebraska Foundation.</td>
</tr>
</tbody>
</table>
Cody Hollist received the Certificate of Recognition for Contribution to Students from the University of Nebraska–Lincoln Teaching Council and the University of Nebraska–Lincoln Parents Association.

**Nutrition and Health Sciences**

Timothy Carr received the Excellence in Teaching Award from Gamma Sigma Delta Honor Society.

Judy Driskell received the Excellence in Research Award from Gamma Sigma Delta Honor Society.

**Textiles, Clothing and Design**

Patricia Crews received the Distinguished Scholar Award from the International Textile and Apparel Association.

**Off-Campus Research Centers**

**Northeast Research and Extension Center**

Terry Mader received the Wendell Burgher Industry Professorship and Honorary Professor in the School of Animal Studies, University of Queensland, Brisbane, Australia.

Charles A. Shapiro received the Fellow Award from the American Society of Agronomy.

**Panhandle Research and Extension Center**

David Baltensperger received the Outstanding Extension Specialist award from the Specialist Section of the Nebraska Cooperative Extension Association (NCEA).

Linda Boeckner received the Omtvedt Innovation Award from the Institute of Agriculture and Natural Resources, University of Nebraska–Lincoln.

Drew Lyon received the Fellow from the American Society of Agronomy and the Outstanding Entry in the Educational Aids Competition/Publications: Manuals and Workbooks from the American Society of Agricultural and Biological Engineers.

Ivan Rush received the American Society of Animal Science Extension Award presented by Pfizer Animal Health and the Extension Award of Merit from the Nebraska Chapter of Gamma Sigma Delta.

John Smith received the Nebraska ASABE - Engineer of the Year Award from the American Society of Agricultural and Biological Engineers.

C. Dean Yonts received the Outstanding Entry in the Educational Aids Competition/Publications: Manuals and Workbooks from the American Society of Agricultural and Biological Engineers, the Outstanding Entry in the Educational Aids Competition: Films, Satellite Conferences, Videotapes, the Electronic Presentations from the American Society of Agricultural and Biological Engineers and the Bureau of Reclamation Commissioner’s Water Conservation Award from the United States Bureau of Reclamation.

**West Central Research and Extension Center**

Don Adams received the Distinguished Educational Service Award from the University of Nebraska.

Dale Lindgren received the Glenn Viehmeyer Award for “Developing Penstemon Hybrids of Merit” from the American Penstemon Society.
### 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 812 graduate students are pursuing advanced degrees with ARD faculty. The quality of our graduate students is reflected in the recognition they receive.

#### Agricultural Economics

<table>
<thead>
<tr>
<th>Name</th>
<th>Award Description</th>
<th>Department</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alejandro S. Plastina</td>
<td>received the Dr. James B. Hassler Award for Outstanding Research by a Graduate Student</td>
<td>Department of Agricultural Economics</td>
</tr>
<tr>
<td>Ikrom S. Artikov</td>
<td>received the Outstanding M.S. Student Award from the Department of Agricultural Economics</td>
<td></td>
</tr>
<tr>
<td>Brahim Bouras</td>
<td>received the Outstanding Ph.D. Student Award from the Department of Agricultural Economics</td>
<td></td>
</tr>
<tr>
<td>Kyriakos Drivas</td>
<td>received the CAFIO, Department of Agricultural Economics Graduate Student Research Travel Award and the Fellow Graduate Student Award from the Department of Agricultural Economics Graduate Student Organization</td>
<td></td>
</tr>
<tr>
<td>Christopher Kerr</td>
<td>received the Outstanding MBA Agribusiness student Award.</td>
<td></td>
</tr>
<tr>
<td>Marianna Khachaturyan</td>
<td>received the CAFIO and the Graduate Student Research Travel Award from the Department of Agricultural Economics.</td>
<td></td>
</tr>
<tr>
<td>Gibson Nene</td>
<td>received an Officer Award from the Graduate Student Organization and the Outstanding M.S. Student award from the Department of Agricultural Economics.</td>
<td></td>
</tr>
<tr>
<td>Aaron Raymond</td>
<td>received the SAMBA, UNL Fellow Graduate Student Award.</td>
<td></td>
</tr>
</tbody>
</table>

#### Agronomy and Horticulture

<table>
<thead>
<tr>
<th>Name</th>
<th>Award Description</th>
<th>Department</th>
</tr>
</thead>
<tbody>
<tr>
<td>Keri L. Andersen</td>
<td>received the David H. and Anna E. Larrick Student Travel Award from the Agricultural Research Division.</td>
<td></td>
</tr>
<tr>
<td>Neal Bryan</td>
<td>received the W.R. Chapline Fellowship from the Center for Grassland Studies and the Frank and Marie Wheeler Fellowship from the Office of Graduate Studies.</td>
<td></td>
</tr>
</tbody>
</table>

#### Animal Science

<table>
<thead>
<tr>
<th>Name</th>
<th>Award Description</th>
<th>Department</th>
</tr>
</thead>
<tbody>
<tr>
<td>Michelle Baltes</td>
<td>received a Widaman Trust Distinguished Graduate Assistant Award and two William G. Whitmore Travel Grants from the Agricultural Research Division.</td>
<td></td>
</tr>
<tr>
<td>Benjamin Bass</td>
<td>received a William G. Whitmore Travel Grant from the Agricultural Research Division and a V.H. Arthaud Travel Award from the Animal Science Department.</td>
<td></td>
</tr>
</tbody>
</table>
Eric Behlke received an outstanding Poster Award and represented the Animal Science Department as an Honored Speaker at the University of Nebraska-Lincoln NelnSci Symposium.

Rebecca Bott received a William G. Whitmore Travel Grant from the Agricultural Research Division, a V.H. Arthaud Travel Award from the Animal Science Department and a Fellowship from the Livestock Congress.

Virgil Bremer received a Travel Award from the International Livestock Congress, a William G. Whitmore Travel Grant from the Agricultural Research Division and a V.H. Arthaud Travel Award from the Animal Science Department.

Heidi Harris received a V.H. Arthaud Travel Award from the Animal Science Department and a William G. Whitmore Travel Grant from the Agricultural Research Division.

Jennie James received two William G. Whitmore Travel Grants from the Agricultural Research Division.

Blaine Jenschke received a William G. Whitmore Travel Grant from the Agricultural Research Division.

Matt Luebbe received a William G. Whitmore Travel Grant from the Agricultural Research Division.

Jeremy Martin received the John and Louise Skala Fellowship, two William G. Whitmore Travel Grants from the Agricultural Research Division and a Hazel V. Emley Fellowship from the Office of Graduate Studies.

James MacDonald received a William G. Whitmore Travel Grant from the Agricultural Research Division.

Emily McDonald received a William G. Whitmore Travel Grant from the Agricultural Research Division and a V.H. Arthaud Travel Award from the Animal Science Department.

Jessica Meisinger received a William G. Whitmore Travel Grant from the Agricultural Research Division and a V.H. Arthaud Travel Award from the Animal Science Department.

Roman Moreno received the Ned S. and Esther B. Raun International Graduate Fellowship from the Animal Science Department.

Sarah Morris received a V.H. Arthaud Travel Award from the Animal Science Department and a William G. Whitmore Travel Grant from the Agricultural Research Division.

Jason Scheffler received a Milton E. Mohr Fellowship from the Center for Biotechnology.

Hirako Taira received a Poster Presentation Award of Excellence from the Poultry Science Association.

Robin Ten Broeck received a Widaman Trust Distinguished Graduate Assistant Award and a William G. Whitmore Travel Grant from the Agricultural Research Division.

April Tepfer received a Widaman Trust Distinguished Graduate Assistant Award and a William G. Whitmore Travel Grant from the Agricultural Research Division along with a V.H. Arthaud Travel Award from the Animal Science Department.

James MacDonald received a William G. Whitmore Travel Grant from the Agricultural Research Division.

Emily McDonald received a William G. Whitmore Travel Grant from the Agricultural Research Division and a V.H. Arthaud Travel Award from the Animal Science Department.

Jessica Meisinger received a William G. Whitmore Travel Grant from the Agricultural Research Division and a V.H. Arthaud Travel Award from the Animal Science Department.

Biochemistry

David Adle was awarded the Hazel Emley Fellowship and Milton Mohr Fellowship from the Center for Biotechnology.

Alamelu Bharadwaj received a Best Poster award for “Characterization of Prostate Tumor Cells Selected for Inducible Gene Expression” at the Sigma Xi Research Fair Poster Competition; received a Travel Grant Award at the NelnSci. Nebraska Symposium on Interdisciplinary Graduate Science Research from the Office of Graduate Studies; was selected as a member of the steering committee for the NelnSci 2006 symposium; and received a Nebraska Center for Cellular Signaling Fellowship from the University of Nebraska Medical Center.

Valentin Cracan received the Chancellor’s Doctoral Fellowship from the Department of Graduate Studies.

Razvan Dumitru was awarded the Widaman Trust Fellowship from the Agricultural Research Division.

Robert Galbenus was awarded Outstanding Poster and received a Travel Grant Award at the NelnSci. Nebraska Symposium on Interdisciplinary Graduate Science Research from the Office of Graduate Studies.

Carmen Gherasim was awarded the CASNR Fellowship and the Holling Family Award for Teaching Excellence from the College of Agricultural Sciences and Natural Resources.

Rama Kothpalli was awarded the Widaman Trust Fellowship from the Agricultural Research Division.

Vyacheslav Labunsky received the Milton Mohr Graduate Fellowship in Biotechnology from the Center for Biotechnology.

Melissa Lucas was awarded the Othmer Fellowship from the Office of Graduate Studies.

Peter Madzelan was awarded the Redox Biology Center Fellowship from the Redox Biology Center.

Amy Miller was awarded an Othmer Fellowship from the Office of Graduate Studies.

Elizabeth Pierce was awarded the Redox Biology Center Fellowship from the Redox Biology Center.

Anna Prudova was awarded the American Heart Association Fellowship.

Devis Sinani was awarded the Nutricia Foundation Fellowship from the Nutricia Foundation in the Netherlands.

Dan Su was awarded the Widaman Trust Fellowship from the Agricultural Research Division.

Olga Vitvitkaia was awarded the Chancellor’s Fellowship from the Office of Graduate Studies; her biography was published in the Chancellor’s List of Graduate Students of America.

Anna Witt received the Chancellor’s Doctoral Fellowship from the Office of Graduate Studies.

Biological Systems Engineering

Katrina Christiansen received a Mary and Charles C. Cooper/Emma I. Sharpless Fellowship from the College of Agricultural Sciences and Natural Resources and the Agricultural Research Division.
Junjie Guan received the ASAE Student of the Year Award from the American Society of Agricultural Engineers; Outstanding Graduate Student of Sigma Xi Scientific Society - University of Nebraska–Lincoln Chapter; Marvin Byer Scholar Award - Research and Development Association for Military Food and Packaging Systems, Inc.; Rheology Division Travel Award of the American Association of Cereal Chemists, San Diego, California; Graduate Fellowship of American Association of Cereal Chemists Bill Doty Memorial Fellowship Fund, San Diego, California; Phi Beta Delta Chapter Outstanding International Award; John and Louise Skala Distinguished Fellowship from the Agricultural Research Division; and a Milton E. Mohr Fellowship.

Melissa Halverson received a Nebraska Water Environment Federation scholarship.

Ajay Kumar received a John and Louise Skala Distinguished Fellowship from the Agricultural Research Division and a Milton E. Mohr Fellowship from the College of Engineering.

Luis Lagos received a Mary and Charles C. Cooper/Emma I. Sharpless Fellowship from the College of Agricultural Sciences and Natural Resources and the Agricultural Research Division.

Eric Newgard received a Mary and Charles C. Cooper/Emma I. Sharpless Fellowship from the College of Agricultural Sciences and Natural Resources and the Agricultural Research Division.

Corey Searle received a Milton E. Mohr Fellowship from the College of Agricultural Sciences and Natural Resources.

Balaji Sethuramasamyraj received the Outstanding International Graduate Student Award from the Agricultural Research Division.

Bryan Smith received a Milton E. Mohr Fellowship from the College of Agricultural Sciences and Natural Resources.

Nick Sutko received the Colonel Theodore A. Leisen Memorial Scholarship from the Nebraska Section of the American Water Works Association.

Yixiang Xu received the Franklin and Orinda Johnson Fellowship and the John and Louise Skala Distinguished Fellowship.

Entomology

Nicholas Aliano received a Hazel V. Emley 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 two Myron H. Swenk Memorial Fund Travel Awards from the Bruner Club Executive Committee.

Wyatt Anderson received a David H. and Anna 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.

Tierney Brosius received a Widaman Trust Distinguished Graduate Assistant Award from the Agricultural Research Division, two Myron H. Swenk Memorial Fund Travel Awards from the Bruner Club Executive Committee, and was initiated into Gamma Sigma Delta.

Mathew Brust received a Myron H. Swenk Memorial Fund Travel Award from the Bruner Club Executive Committee.

Laura Campbell received a Hazel V. Emley Fellowship from the Office of Graduate Studies, a Farmers National Company Fellowship from the College of Agricultural Sciences and Natural Resources, and a Myron H. Swenk Memorial Fund Travel Award from the Bruner Club Executive Committee.

Pete Clark received a David H. and Anna 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 Myron H. Swenk Memorial Fund Travel Award from the Bruner Club Executive Committee.

Alex Cunningham received a Farmers National Company Fellowship from the College of Agricultural Sciences and Natural Resources and a Myron H. Swenk Memorial Fund Travel Award from the Bruner Club Executive Committee.

Thomas Eickhoff received the 2005 Entomological Society of America (ESA) Student Activity Award sponsored by Monsanto Company, the 2005 ESA Foundation’s Kenneth and Barbara Starks Plant Resistance to Insects Graduate Student Research Award and a Elvis Dickason Memorial Fund Travel Award from the Bruner Club Executive Committee.

Michael Fisher received a Myron H. Swenk Memorial Fund Travel Award from the Bruner Club Executive Committee.

Andrea Gutsche received a Mary and Charles C. Cooper/Emma I. Sharpless Fellowship from the College of Agricultural Sciences and Natural Resources and the Agricultural Research Division.

Shauna Hawkins received the Outstanding Graduate Student Award from the British Columbia Entomological Society and a National Science and Engineering Research Council (NSERC-Canada) graduate fellowship.

Timothy Huntington received a Teaching Assistant Award from the Holling Family Award Program for Teaching Excellence.

Timothy Husen received a Ward A. and Helen W. Combs Scholarship from the Entomology Department, a Myron H. Swenk Memorial Fund Travel Award from the Bruner Club Executive Committee, and was recognized for submitting an outstanding poster to the 2006 Research Fair Poster Competition at UNL.

Jeffrey Krumm received a David H. and Anna E. Larrick Student Travel Award from the Agricultural Research Division.

Leonardo Magalhaes received a Myron H. Swenk Memorial Fund Travel Award from the Bruner Club Executive Committee.

Sasi Maliphan received a Myron H. Swenk Memorial Fund Travel Award from the Bruner Club Executive Committee.

Paul Nabity received a Myron H. Swenk Memorial Fund Travel Award from the Bruner Club Executive Committee and was initiated into Gamma Sigma Delta.
Eliseu Pereira received a fellowship from the Coordination for the Improvement of Higher Education Personnel of the Brazilian Ministry of Education, 1st Place in the Ph.D. student oral presentation competition at the National Entomological Society of America Meeting, and a Myron H. Swenk Memorial Fund Travel Award from the Bruner Club Executive Committee.

Sajeewani Samarakoon received two Myron H. Swenk Memorial Fund Travel Awards from the Bruner Club Executive Committee.

Rosana Serikawa received two Myron H. Swenk Memorial Fund Travel Awards from the Bruner Club Executive Committee.

Benjawan Siriwetwiwat received a David H. and Anna 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 the 2005 ESA Student Certification Award, a Ward A. and Helen W. Combs Scholarship from the Entomology Department, and two Elvis Dickason Memorial Fund Travel Awards from the Bruner Club Executive Committee.

Sheri Svehla received a Myron H. Swenk Memorial Fund Travel Award from the Bruner Club Executive Committee.

Bamphitlhi Tiroesele received a Myron H. Swenk Memorial Fund Travel Award from the Bruner Club Executive Committee.

Zhengting Fu, a graduate student in Plant Pathology, received the Agricultural Research Division Hardin Fellowship. He is being congratulated by benefactors Dr. and Mrs. Clifford Hardin.

Food Science and Technology

Daniela Bautista received the Luther Drake Scholarship from the College of Agricultural Sciences and Natural Resources and the Oak B. Smith Scholarship from Food Science and Technology.

Joe Baumert received the Hazel V. Emily Fellowship Award from the University of Nebraska.

Loren Gemar received the IFT Undergraduate Scholarship from the Institute of Food Technologists, the Oak B. Smith Scholarship from Food Science and Technology and the George McGinnis Scholarship from the College of Agricultural Sciences and Natural Resources.

Jun Goh received the David H. and Anna E. Larrick Travel Award from the Agricultural Research Division.

Jennifer Huebner received the IFT Graduate Fellowship Award, the Twila Herman Claybaugh Fellowship and the Widaman Distinguished Graduate Assistant Award from the Agricultural Research Division.

Morgan McGowan received the IFT Undergraduate Scholarship from the Institute of Food Technologists and the Holling Memorial Award from the College of Agricultural Sciences and Natural Resources.

Kari Shoaf received the Wheeler Fellowship from the Office of Graduate Studies, the IFT Graduate Fellowship Award from the Institute of Food Technologists and the David H. and Anna E. Larrick Travel Award from the Agricultural Research Division.

R.M. Wajira Ratnayake received the Maude Hammond Fling Fellowship recognizing highest level of academic performance as a graduate student awarded by the Office of Graduate Studies, the Outstanding Paper in Cereal Chemistry Award sponsored by the Corn Refiners Association, USA, AACC International Annual Meeting, and the AACC International Graduate Fellowship sponsored by Charles Becker Endowment, AACC International.

Rachel Reuss received the Food Science Club Award from the Institute of Food Technologists and the Oak B. Smith Scholarship from the College of Agricultural Sciences and Natural Resources.

Roxana Yglesias received the Chancellor’s Doctoral Fellowship awarded by the Office of Graduate Studies.

Plant Pathology

Maricelis Acevedo received the Maude Hammond Fling Fellowship and the Goss Fellowship from the Department of Plant Pathology and the David H. and Anna E. Larrick Student Travel Award from the Agricultural Research Division.

Zhengqing Fu received the Milton E. Mohr Fellowship from the Center for Biotechnology; the Hardin Fellowship from the Agricultural Research Division and the Goss Fellowship from the Department of Plant Pathology.

Zhengxiang Ge received a David H. and Anna E. Larrick Student Travel Award from the Agricultural Research Division.

Lindsey Otto-Hanson received the Outstanding Poster Award at the Nebraska Symposium on Interdisciplinary Graduate Science Research; and David H. and Anna E. Larrick Student Travel Award from the Agricultural Research Division.

Camile Semighini received the Widamen Trust Distinguished Graduate Assistant Award from the Agricultural Research Division.

Giane M. Yanai received the Milton E. Mohr Fellowship from the Center for Biotechnology.
School of Natural Resources

**Branden O’Hare** received a $2,000 UCARE grant for his research, “Developing a habitat model for Bailey’s Eastern Woodrat in the Niobrara Valley.”

**Kimberly Payne** received an Environmental Protection Agency STAR Fellowship for her research project, “Interactions among plants, soils and microorganisms and their roles in stabilizing the Nebraska Sand Hills.”

**Heidi Puckett** received the Outstanding Graduate Student Research Award from the Nebraska Statewide Arboretum.

Veterinary and Biomedical Sciences

**Rohana Dassanayake** received a Milton E. Mohr Scholarship from the Center for Biotechnology, the Maude Hammond Fling Fellowship for High Scholastic Performance and Accomplishments as a Student Scholar from the Office of Graduate Studies; and the William G. Whitmore Memorial Travel Fund award from the Agricultural Research Division.

**Joseph Erume** received the Frank and Marie Wheeler Fellowship from the Office of Graduate Studies and the Shear-Miles Fellowship from the Agricultural Research Division.

**Vicki Geiser**, Ph.D. Program, received from the Department of Veterinary and Biomedical Sciences the Best Seminar Award and the Kirschstein National Research Service Award from the National Institutes of Health.

**Florence Meyer** received the Maude Hammond Fling Fellowship for High Scholastic Performance and Accomplishments as a Student Scholar from the Office of Graduate Studies.

**Yuko Mori** received the Widaman Trust Distinguished Graduate Assistant Award from the Agricultural Research Division.

**Paul Nabity**, M.S. Program, received the Best Seminar Award from the Department of Veterinary and Biomedical Sciences.

**Sandra Perez** received the Susan Ann Smith Mills Award from a University Foundation Endowment awarded through the Department of Veterinary and Biomedical Sciences.

**Yin Wang** received the Othmer Fellowship from the Office of the Graduate Studies.

Education and Human Sciences Departments

**Yap-Ching Chew** received the Widaman Trust Distinguished Graduate Assistant Award from the Agricultural Research Division.

**Yousef Hassan** received the Centennial Fellowship from the Office of Graduate Studies.

**Keyna Kobza** received a NE-BRIN (Nebraska Biomedical Research Infrastructure Network) Graduate Fellowship from NE-INBRE (Nebraska IDeA Network of Biomedical Research Excellence) through the University of Nebraska Medical Center.

**Shakhlo Yarbayeva** received the Widaman Trust Distinguished Graduate Assistant Award from the Agricultural Research Division.

Textiles, Clothing and Design

**Jonathan Gregory** received the Barbara L. Kuhlman Foundation Scholarship.

Off-Campus Research Centers

Northeast Research and Extension Center

**Nick Sutko** received the Colonel Theodore A. Leisen Memorial Scholarship from the Nebraska Section, American Water Works Association.

Panhandle Research and Extension Center

**Douglas G. Felter** took first place in the Crop Science Society of America Division C-3 Graduate Student Poster Contest at the ASA-CSSA-SSSA annual meeting in Salt Lake City.

West Central Research and Extension Center

**Sarah Morris** received a V.H. Arthaud Travel Award from the Animal Science Department and a William G. Whitmore Travel Grant from the Agricultural Research Division.
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.

Animal Science

Lesha Eggers received an Undergraduate Honors Student Research Award for “Role of mGPD in Response to High and Low Heat Loss Selections” from the Agricultural Research Division. (M.K. Nielsen, Advisor)

Biochemistry

Nathan Beins received an Undergraduate Honors Student Research Award for “Characterization of the Sumoylation of C-terminal Domaine Lysine Residues in Cystathionine B-Synthase.” (R. Banerjee, Advisor)

Biological Systems Engineering

Brent Hanson received an Undergraduate Honors Student Research Award for “Yogurt Powder Functional Properties as Affected by Drying Methods” from the Agricultural Research Division. (D. Schulte and C. Weller, Advisors)

Ross Havlat received an Undergraduate Honors Student Research Award for “Installation Requirements for Metering Irrigation Water.” (Dean Eisenhauer, Advisor)

Abby Luettel received an Undergraduate Honors Student Research Award for “Bioscousitic Properties of Three-Dimensional Anthropomorphic Breast Phantoms” from the Agricultural Research Division. (G. Bashford, Advisor)

Gwen Skar received an Undergraduate Honors Student Research Award for “Dental Enamel Thickness Measurement Using Ultrasound” from the Agricultural Research Division. (G. Bashford, Advisor)

Nicholas Tomesen received an Undergraduate Honors Student Research Award for “Evaluation of Ultrasonic Images for Quantification of Tendon and Ligate Structure.” (G. Bashford, Advisor)
ARD 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 2005-2006.

### Variety and Germplasm Releases

<table>
<thead>
<tr>
<th>Crop:</th>
<th>Grain Sorghum [Sorghum bicolor (L.) Moench]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Germplasm Release:</td>
<td>N592 – N598</td>
</tr>
<tr>
<td>Released by:</td>
<td>The United States Department of Agriculture, Agricultural Research Service, Nebraska Agricultural Experiment Station, and the University of Nebraska Agricultural Research Division.</td>
</tr>
<tr>
<td>Characteristics:</td>
<td>These sorghum [Sorghum bicolor (L.) Moench] genetic stocks were developed by crossing the recurrent parents Atlas, Kansas Collier, Rox Orange, and Early Hegari-Sart to brown midrib sources N121 (bmr-6) and F220 (bmr-12), followed by a minimum of four cycles of selfing and backcrossing. Crossing was facilitated by the use of the nuclear male-sterility gene $m_s$. Following the last backcross, the lines were selfed and advanced head-to-row for four generations to fix the brown midrib genes in the homozygous recessive condition (bmr-6 bmr-6 or bmr-12 bmr-12) and the male-sterility loci in the male-fertile condition ($M_s$, $M_s$). The brown midrib near-isolines were then selected for similarity to the wild-type phenotype and for male-fertility. The genetic stocks closely resemble the recurrent parent. Release of these genetic stocks makes brown midrib genes known to down-regulate two specific enzymes important in lignin synthesis, cinnamyl alcohol dehydrogenase (bmr-6) and O-methyltransferase (bmr-12) available in diverse near-isogenic forage sorghum backgrounds allowing direct comparison of gene effects across these broad backgrounds. They have immediate application for basic research involving lignin synthesis, and also may be utilized as germplasm for development of improved brown midrib forage sorghum lines and hybrids. Because of the presence of a high-tannin testa layer in seed of all but one of these lines, direct increase and use of these genetic stocks as cultivars is strongly discouraged.</td>
</tr>
</tbody>
</table>

### Agronomy and Horticulture

<table>
<thead>
<tr>
<th>Crop:</th>
<th>Grain Sorghum [Sorghum bicolor (L.) Moench]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Germplasm Release:</td>
<td>N599 – N610</td>
</tr>
<tr>
<td>Released by:</td>
<td>The United States Department of Agriculture, Agricultural Research Service, Nebraska Agricultural Experiment Station, and the University of Nebraska Agricultural Research Division.</td>
</tr>
<tr>
<td>Characteristics:</td>
<td>These sorghum [Sorghum bicolor (L.) Moench] genetic stocks were developed by crossing the recurrent parents Wheatland, Redlan, RTx430, BTx623, BTz630, and BTx631 to the brown midrib sources N121 (bmr-6) and F220 or F324 (bmr-12) followed by three to four cycles of selfing then backcrossing. Crossing was facilitated by the use of the nuclear male-sterility gene $m_s$. Following...</td>
</tr>
</tbody>
</table>
the final backcross, the lines were selfed and advanced head-to-row for four generations to fix the brown midrib genes in the homozygous recessive condition (bmr-6 bmr-6 or bmr-12 bmr-12) and the male-sterility loci in the male-fertile condition (Ms, Ms). The brown midrib near-isolines were then selected for similarity to the wild-type phenotype and for male-fertility. Lines that maintained sterility when crossed to A1 cytoplasmic male steriles (B-lines) were also converted to cytoplasmic male-sterile A-lines by crossing them to their A-line wild-type counterparts and recovering the brown midrib lines in A1 cytoplasm after a minimum of 4 additional backcross generations. The genetic stocks closely resemble the recurrent parent. Release of these genetic stocks makes brown midrib genes known to down-regulate two specific enzymes important in lignin synthesis, cinnamyl alcohol dehydrogenase (bmr-6) and O-methyltransferase (bmr-12) available in diverse near-isogenic grain sorghum backgrounds. This will allow direct comparison of gene effects across these broad backgrounds. They have immediate application for basic research involving lignin synthesis, and also may be utilized as germplasm for development of improved brown midrib lines and hybrids.

Crop: Forage Sorghum [Sorghum bicolor (L.) Moench]

Germplasm
Release: 'Atlas bmr-12'


Released by: The United States Department of Agriculture, Agricultural Research Service, Nebraska Agricultural Experiment Station, and the University of Nebraska Agricultural Research Division

Characteristics: 'Atlas bmr-12' forage sorghum [Sorghum bicolor (L.) Moench] was developed by crossing Atlas to the brown midrib source F220 followed by four cycles of selfing and backcrossing. Crossing was facilitated by the use of the nuclear male-sterility gene Ms. Following the fourth backcross, the line was selfed and advanced head-to-row for four generations to fix the brown midrib genes in the homozygous recessive condition (bmr-12 bmr-12) and the male-sterility loci in the male-fertile condition (Ms, Ms). The brown midrib cultivar was then selected for similarity to the wild-type Atlas phenotype and for male fertility. Atlas bmr-12 closely resembles Atlas and is completely male-fertile in Lincoln, NE and Ithaca, NE. Atlas bmr-12 did not restore fertility in A1 cytoplasmic male-sterile lines under greenhouse conditions. It is three days earlier in maturity than Atlas, is equivalent in height (218 cm) to Atlas, and like Atlas has white seed with no tannin-containing testa, normal white endosperm, is awnless, has purple necrotic wound response, and juicy culms. Release of Atlas bmr-12 makes the digestibility enhancing brown midrib gene bmr-12 available in a currently utilized self-pollinated forage sorghum cultivar with known performance and adaptation. This cultivar is well suited for use by small and sustainable farms that rely on the ability to produce their own seed, and for small seed growers and companies specializing in the production and marketing of open-pollinating forage varieties. This release directly satisfies many of the mandates of Departmental Regulation 9700-1 Policy (b): Develop and support research, development, regulatory, and outreach programs and initiatives that focus on the special needs of small farms, especially those programs that help small farms develop alternative enterprises, value-added products, and collaborative marketing efforts, including cooperatives that enhance stewardship of biological, natural, human, and community resources.

Crop: Maize (Zea mays L.)

Germplasm
Release: Populations N551 and N552

Scientists: M.A. Thomas-Compton, the late W.A. Compton, S. Kaeppler, D.D. Galusha, and W.K. Russell

Released by: The United States Department of Agriculture, Agricultural Research Service, Nebraska Agricultural Experiment Station, and the University of Nebraska Agricultural Research Division

Characteristics: N551 was developed by seven generations of self-pollination from the population NCLNB_01. N552 was developed by seven generations of self-pollination from the population NS[S1]1_08. Both inbreds have been evaluated in hybrid combination on several
different testers and during at least three years. The primary attribute of both N551 and N552 hybrids is excellent grain yield. N551 hybrids are approximately the same maturity as comparable FR1064 hybrids, whereas N552 hybrids are one to two days earlier. Hybrids of both inbreds have good tolerance to root lodging compared to the checks, but a potential weakness is susceptibility to stalk lodging. In per se evaluation trials conducted in two irrigated environments, N551 had significantly less grain yield (85.1 bu/A) than the inbred check, B73 (100.0 bu/A), whereas grain yield of N552 was significantly greater (141.3 bu/A). The very high grain yield of N552 was partially attributable to prolificacy. Under irrigated nurseries in 2003 and 2004 at Lincoln, NE, neither N551 nor N552 exhibited any silk delay relative to pollen shed. Cob color of N551 is white and cob color of N552 is light red. Compared to commercial checks, hybrids of both N551 and N552 have good performance, particularly for grain yield and root strength. Both should have value as parents in breeding populations because of their unique parentage.

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

Variety Name: ‘Hallam’


Released by: Nebraska Agricultural Experiment Station, University of Nebraska, and United States Department of Agriculture, Agricultural Research Service.

Characteristics: Hallam was selected from the cross Brule/Bennett/Niobrara that was made in 1992. It was evaluated as NE98471 in Nebraska yield nurseries starting in 1999, in the Northern Regional Performance Nursery in 2001 and 2002, and in Nebraska cultivar performance trials in 2002-2004. In the Nebraska cultivar performance trials, it appears to be narrowly adapted and performs best in eastern Nebraska. In its primary area of adaptation (eastern NE), Hallam (5 environments) has yielded 4540 kg ha⁻¹, which was greater than Wesley, Millennium, Wahoo, and Alliance. Hallam is not recommended for irrigation where other wheat cultivars with superior performance, especially with better straw strength, would be recommended. Other measurements of performance show that Hallam is moderately early in maturity, is a semi-dwarf wheat cultivar, has a moderate straw strength, and its winter hardiness is good to very good. Hallam is moderately resistant to stem rust (caused by Puccinia graminis Pers.:Pers.f.sp.tritici Eriks & E. Henn), stripe rust (caused by P. striiformis Westendorp f. sp. tritici) and Hessan fly (Mayetiola destructor Say). It is moderately susceptible to leaf rust (caused by P. triticina Eriks). It is susceptible to wheat soilborne mosaic virus and barley yellow dwarf virus, but may contain a low level of tolerance to wheat streak mosaic virus. The name Hallam was chosen to honor Hallam, NE, a town and its people rebuilding after a tornado.
ments of performance from comparison trials show that Infinity CL is medium in maturity, is a semi-dwarf wheat cultivar, has moderate straw strength, and its winter hardiness is good to very good and comparable to other winter wheat cultivars adapted and commonly grown in Nebraska. Infinity CL is moderately resistant to stem rust (caused by *Puccinia graminis* Pers.:Pers.f.sp.tritici Eriks & E. Henn), moderately resistant to leaf rust (caused by *P. triticina* Eriks) and stripe rust (caused by *P. striiformis* Westendorp f. sp. *tritici*). It is susceptible to Hessian fly (*Mayetiola destructor* Say) and wheat soilborne mosaic virus, but may contain a low level of tolerance to wheat streak mosaic virus. Infinity CL contains a patented gene owned by BASF. BASF retains ownership of the gene. Infinity CL was released primarily for its superior adaptation to rainfed wheat production systems in Nebraska and counties in adjacent states. The name Infinity CL was chosen because it is a Clearfield™ wheat that will be used with Beyond® herbicide.

### Off-Campus Research Centers

#### Panhandle Research and Extension Center

**Crop:** Annual Ryegrass (*L. Multiflorum*)

**Variety Release:** ‘Stockaid’

**Scientists:** G. Prine and D. Baltensperger

**Released by:** Florida Agricultural Experiment Station and the Institute of Agriculture and Natural Resources, University of Nebraska–Lincoln

**Characteristics:** ‘Stockard’ has late maturity, crown-rust resistance and gray leaf spot resistance and excellent cold hardiness. It is expected to be best adapted to the northern edge of annual ryegrass production regions, but with good adaptation over the entire ryegrass production area.

---

### Plant Pathology

**Crop:** Common bean (*Phaseolus vulgaris* L.)

**Variety Name or Germplasm Nomenclature:** BELMINEB-RMR-8, -9, -11, -12 and -13

**Scientists:** J.R. Steadman, M.A. Pastor-Corrales, J.D. Kelly

**Released by:** United States Department of Agriculture, Agricultural Research Service, Washington, DC; University of Nebraska–Lincoln, Agricultural Research Division; Michigan Agricultural Experiment Station, East Lansing, Michigan

**Characteristics:** Rust and mosaic resistant, high yielding, upright, short vine, white seeded great northern dry bean germplasm.
Agricultural Research Division (ARD) is one of five divisions 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 2006)

**University of Nebraska Board of Regents**

Randolph Ferlic, Omaha  
Chuck Hassebrook, Walthill  
Howard Hawks, Omaha  
Bob Phares, North Platte  
Jim McClurg, Lincoln  
Drew Miller, Papillion  
Ken Schroeder, Kearney  
Charles S. Wilson, Lincoln

**Student Regents**

UNMC — Dan Connealy  
UNO — Steve Massara  
UNL — Matt Schaefer  
UNK — Mike Eiberger

**Administrative Officers**

James B. Milliken, President, University of Nebraska  
Harvey S. Perlman, Chancellor, University of Nebraska–Lincoln  
John C. Owens, Harlan Vice Chancellor, Institute of Agriculture and Natural Resources, and Vice President, University of Nebraska

**Agricultural Research Division**

Darrell W. Nelson, Dean and Director  
Gary L. Cummingham, Dean and Director  
Z B Mayo, Interim Associate Dean and Associate Director  
Daniel J. Duncan, Assistant Director  
Marjorie J. Kostelnik, Associate Director, Education and Human Sciences  
Dora Dill, Secretary Specialist  
Nelvie Lienemann, Administrative Technician  
Diane Mohrhoff, Project Assistant  
Karen Jackson, Programming Assistant  
Nancy Shoemaker, Clerical III

---

1 Ended appointment 2005-2006  
2 Began appointment 2005-2006
Organizational Chart

Institute of Agriculture and Natural Resources
University of Nebraska–Lincoln
June 2006

Harlan Vice Chancellor
John C. Owens

Associate Vice Chancellor
Susan Fritz

Assistant Vice Chancellor
Finance and Personnel
Alan R. Moeller

Dean
Agricultural Research Division
Gary L. Cunningham

Dean
College of Agricultural Sciences and Natural Resources
Steve Waller

Dean
College of Education and Human Sciences (IANR Research and Extension)
Marjorie J. Kostelnik

Dean
Extension Division
Elbert Dickey**

*Director, Nebraska Agricultural Experiment Station
**Director, University of Nebraska Extension
Administrative Units Reporting to Agricultural Research Division
Institute of Agriculture and Natural Resources
The University of Nebraska–Lincoln

Agricultural/Natural Resources Units

Agricultural Economics
Alan Baquet, Head

Agricultural Leadership, Education and Communication
Susan Fritz1
Daniel Wheeler, Head2

Agronomy and Horticulture
Lowell Moser, Interim Head1
Mark Lagrimini, Head2

Animal Science
Donald Beermann, Head

Biochemistry
Donald Weeks

Biological Systems Engineering
Ron Yoder, Head

Entomology
Fred Baxendale, Interim Head1

Food Science and Technology
David Jackson, Interim Head1
Rolando Flores, Head2

Plant Pathology
Anne Vidaver, Head

School of Natural Resources
Mark Kuzila, Director

Statistics
Walter Stroup, Chair

Veterinary and Biomedical Sciences
Rod Moxley, Interim Head1
David Hardin, Head2

Education and Human Sciences Departments

Family and Consumer Sciences
Julie Johnson, Chair

Nutrition and Health Sciences
Marilynn Schnepf, Chair

Textiles, Clothing and Design
Michael James, Chair

Off-Campus Research Centers

Agricultural Research and Development Center
Ithaca—Daniel Duncan, Director

Northeast Research and Extension Center
Concord—John Witkowski, Director

Panhandle Research and Extension Center
Scottsbluff—Charles Hibberd, Director

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
Steve Taylor, Director1
Rolando Flores, Director2

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
Brenda Caine, Interim Director1
Roger Terry, Interim Director2

1Ended appointment during 2005-2006
2Began appointment during 2005-2006
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
Approximately 302 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 40 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 60 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 its 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 2005-2006 departmental budgets.
# Agricultural/Natural Resources Units

## Agricultural Economics

<table>
<thead>
<tr>
<th>Rank</th>
<th>Rsch</th>
<th>Ext</th>
<th>Tch</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alan E. Baquet(^2)</td>
<td>0.07</td>
<td>0.72</td>
<td>0.21</td>
<td></td>
</tr>
<tr>
<td>Richard T. Clark(^1)</td>
<td>0.51</td>
<td>0.20</td>
<td>0.29</td>
<td></td>
</tr>
<tr>
<td>J. David Aiken</td>
<td>0.45</td>
<td>0.25</td>
<td>0.30</td>
<td></td>
</tr>
<tr>
<td>Azzeddine Azzam</td>
<td>0.75</td>
<td>0.00</td>
<td>0.25</td>
<td></td>
</tr>
<tr>
<td>Dennis Conley</td>
<td>0.45</td>
<td>0.00</td>
<td>0.55</td>
<td></td>
</tr>
<tr>
<td>Lilyan Fulginiti</td>
<td>0.75</td>
<td>0.00</td>
<td>0.25</td>
<td></td>
</tr>
<tr>
<td>Konstantinos Giannakas</td>
<td>0.75</td>
<td>0.00</td>
<td>0.25</td>
<td></td>
</tr>
<tr>
<td>Glenn A. Helmers(^1)</td>
<td>0.60</td>
<td>0.00</td>
<td>0.40</td>
<td></td>
</tr>
<tr>
<td>Bruce B. Johnson</td>
<td>0.45</td>
<td>0.00</td>
<td>0.55</td>
<td></td>
</tr>
<tr>
<td>H. Douglas Jose</td>
<td>0.20</td>
<td>0.80</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td>Bradley Lubben(^2)</td>
<td>0.25</td>
<td>0.75</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gary Lynne</td>
<td>0.75</td>
<td>0.00</td>
<td>0.25</td>
<td></td>
</tr>
<tr>
<td>Richard Perrin</td>
<td>0.75</td>
<td>0.00</td>
<td>0.25</td>
<td></td>
</tr>
<tr>
<td>E. Wesley Peterson</td>
<td>0.65</td>
<td>0.00</td>
<td>0.35</td>
<td></td>
</tr>
<tr>
<td>Jeffrey S. Royer</td>
<td>0.75</td>
<td>0.00</td>
<td>0.25</td>
<td></td>
</tr>
<tr>
<td>Raymond J. Supalla</td>
<td>0.75</td>
<td>0.00</td>
<td>0.25</td>
<td></td>
</tr>
<tr>
<td>Amalia Yiannaka</td>
<td>0.50</td>
<td>0.00</td>
<td>0.50</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Area of Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Head</td>
</tr>
<tr>
<td>Interim Head</td>
</tr>
<tr>
<td>Agricultural and Natural Resources Law</td>
</tr>
<tr>
<td>Research and Quantitative Methods, Industrial Organization of Food Processing</td>
</tr>
<tr>
<td>Agribusiness</td>
</tr>
<tr>
<td>Agricultural Policies/Production</td>
</tr>
<tr>
<td>Food and Agribusiness Marketing</td>
</tr>
<tr>
<td>Farm Management, Agricultural Finance Policy</td>
</tr>
<tr>
<td>Resource and Community Economics</td>
</tr>
<tr>
<td>Farm and Ranch Management, Agricultural Finance Policy</td>
</tr>
<tr>
<td>Public Policy</td>
</tr>
<tr>
<td>Natural Resource Economics</td>
</tr>
<tr>
<td>Production Economics</td>
</tr>
<tr>
<td>International Trade, Development and Policy</td>
</tr>
<tr>
<td>Agricultural Marketing Systems, Agribusiness Management, Organization and Performance of Agriculture and Food Industries</td>
</tr>
<tr>
<td>Natural Resource Economics</td>
</tr>
<tr>
<td>Intellectual Property Rights, Industrial Organization, Agricultural Marketing, Environmental and Resource Economics</td>
</tr>
</tbody>
</table>

## Agricultural Leadership, Education and Communication

<table>
<thead>
<tr>
<th>Rank</th>
<th>Rsch</th>
<th>Ext</th>
<th>Tch</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daniel W. Wheeler</td>
<td>0.25</td>
<td>0.25</td>
<td>0.50</td>
<td></td>
</tr>
<tr>
<td>John E. Barbuto Jr.</td>
<td>0.50</td>
<td>0.50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Susan Fritz(^1)</td>
<td>0.37</td>
<td>0.54</td>
<td>0.09</td>
<td></td>
</tr>
<tr>
<td>James W. King</td>
<td>0.25</td>
<td>0.75</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Area of Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Head, Leadership Development</td>
</tr>
<tr>
<td>Leadership Development</td>
</tr>
<tr>
<td>Leadership Development</td>
</tr>
<tr>
<td>Distance Education</td>
</tr>
</tbody>
</table>

\(^1\)Ended research appointment during 2005-2006  
\(^2\)Began research appointment during 2005-2006
## Agronomy and Horticulture

<table>
<thead>
<tr>
<th>Rank</th>
<th>Rsch</th>
<th>Ext</th>
<th>Tch</th>
<th>Other</th>
<th>Area of Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mark Lagrimini</td>
<td>Professor</td>
<td>0.47</td>
<td>0.15</td>
<td>0.38</td>
<td>Head</td>
</tr>
<tr>
<td>Lowell E. Moser</td>
<td>Professor</td>
<td>0.35</td>
<td>0.65</td>
<td></td>
<td>Head</td>
</tr>
<tr>
<td>Bruce E. Anderson</td>
<td>Professor</td>
<td>0.25</td>
<td>0.75</td>
<td></td>
<td>Forage Specialist</td>
</tr>
<tr>
<td>Timothy J. Arkebauer</td>
<td>Professor</td>
<td>0.85</td>
<td>0.15</td>
<td>0.25</td>
<td>Crop Environmental Physiologist</td>
</tr>
<tr>
<td>P. Stephen Baenziger</td>
<td>Professor</td>
<td>0.75</td>
<td></td>
<td>0.25</td>
<td>Small Grains Breeding and Genetics</td>
</tr>
<tr>
<td>Mark L. Bernards</td>
<td>Assistant Professor</td>
<td>0.50</td>
<td>0.50</td>
<td></td>
<td>Irrigated Weed Scientist</td>
</tr>
<tr>
<td>Kenneth G. Cassman</td>
<td>Professor</td>
<td>0.60</td>
<td>0.30</td>
<td>0.10</td>
<td>Systems Agronomist</td>
</tr>
<tr>
<td>Thomas E. Clemente</td>
<td>Associate Professor</td>
<td>0.40</td>
<td></td>
<td>0.60</td>
<td>Manager, Plant Transformation Core</td>
</tr>
<tr>
<td>Achim R. Dobermann</td>
<td>Professor</td>
<td>0.70</td>
<td>0.30</td>
<td></td>
<td>Soil Fertility/Integrated Nutrient</td>
</tr>
<tr>
<td>Rhae A. Drijber</td>
<td>Associate Professor</td>
<td>0.75</td>
<td>0.25</td>
<td></td>
<td>Soil Microbial Ecologist</td>
</tr>
<tr>
<td>Ismail M. Dweikat</td>
<td>Associate Professor</td>
<td>0.80</td>
<td>0.20</td>
<td></td>
<td>Sorghum Genetics</td>
</tr>
<tr>
<td>Thomas E. Elthon</td>
<td>Associate Professor</td>
<td>0.62</td>
<td>0.08</td>
<td>0.3</td>
<td>Protein Researcher</td>
</tr>
<tr>
<td>Richard B. Ferguson</td>
<td>Professor</td>
<td>0.75</td>
<td>0.25</td>
<td></td>
<td>Soil Fertility Specialist</td>
</tr>
<tr>
<td>Charles A. Francis</td>
<td>Professor</td>
<td>0.43</td>
<td>0.20</td>
<td>0.37</td>
<td>Farming and Landscape Design</td>
</tr>
<tr>
<td>Roch E. Gaussoin</td>
<td>Professor</td>
<td>0.25</td>
<td>0.75</td>
<td></td>
<td>Turfgrass Management and Physiology</td>
</tr>
<tr>
<td>George L. Graef</td>
<td>Professor</td>
<td>0.85</td>
<td>0.15</td>
<td></td>
<td>Soybean Breeding and Genetics</td>
</tr>
<tr>
<td>Robert A. Graybosch</td>
<td>Professor</td>
<td></td>
<td></td>
<td>USDA</td>
<td>Wheat Genetics</td>
</tr>
<tr>
<td>Laurie Hodges</td>
<td>Associate Professor</td>
<td>0.35</td>
<td>0.65</td>
<td></td>
<td>Commercial Horticulture Production</td>
</tr>
<tr>
<td>Garald L. Horst</td>
<td>Professor</td>
<td>0.40</td>
<td>0.60</td>
<td></td>
<td>Turfgrass Physiology and Management</td>
</tr>
<tr>
<td>Donald J. Lee</td>
<td>Professor</td>
<td>0.25</td>
<td>0.15</td>
<td>0.60</td>
<td>Plant Geneticist</td>
</tr>
<tr>
<td>John L. Lindquist</td>
<td>Associate Professor</td>
<td>0.80</td>
<td>0.20</td>
<td></td>
<td>Crop/Weed Ecologist</td>
</tr>
<tr>
<td>Sally A. Mackenzie</td>
<td>Professor</td>
<td>0.50</td>
<td>0.10</td>
<td>0.40</td>
<td>Program Leader, Plant Science Initiative</td>
</tr>
<tr>
<td>Martha Mamo</td>
<td>Associate Professor</td>
<td>0.25</td>
<td>0.75</td>
<td></td>
<td>Soil Chemist/Biochemistry</td>
</tr>
<tr>
<td>John Markwell</td>
<td>Professor</td>
<td>0.25</td>
<td>0.75</td>
<td>0.75</td>
<td>Plant Biochemistry</td>
</tr>
<tr>
<td>Alexander R. Martin</td>
<td>Professor</td>
<td>0.33</td>
<td>0.67</td>
<td></td>
<td>Integrated Weed Management/Reduced</td>
</tr>
<tr>
<td>Stephen C. Mason</td>
<td>Professor</td>
<td>0.50</td>
<td>0.50</td>
<td></td>
<td>Herbicide Input</td>
</tr>
<tr>
<td>Martin A. Massengale</td>
<td>Professor</td>
<td>0.36</td>
<td>0.27</td>
<td>0.12</td>
<td>0.25</td>
</tr>
<tr>
<td>Dennis L. McCallister</td>
<td>Professor</td>
<td>0.40</td>
<td>0.60</td>
<td></td>
<td>Grassland/Forages, Director, Center for</td>
</tr>
<tr>
<td>Lenis A. Nelson</td>
<td>Professor</td>
<td>0.50</td>
<td>0.50</td>
<td></td>
<td>Grassland Studies</td>
</tr>
<tr>
<td>Ellen T. Paparozzi</td>
<td>Professor</td>
<td>0.50</td>
<td>0.50</td>
<td></td>
<td>Soil Chemistry</td>
</tr>
<tr>
<td>Jeffrey F. Pedersen</td>
<td>Professor</td>
<td></td>
<td></td>
<td>USDA</td>
<td>Crop Variety Evaluation/New Crops</td>
</tr>
<tr>
<td>Paul E. Read</td>
<td>Professor</td>
<td>0.50</td>
<td>0.25</td>
<td>0.25</td>
<td>Urban Horticulture, Floriculture and</td>
</tr>
<tr>
<td>Terrance P. Riordan</td>
<td>Professor</td>
<td>0.65</td>
<td>0.15</td>
<td>0.20</td>
<td>Ornaments</td>
</tr>
<tr>
<td>W. Ken Russell</td>
<td>Associate Professor</td>
<td>0.80</td>
<td>0.20</td>
<td></td>
<td>USDA</td>
</tr>
<tr>
<td>Gautam Sarath</td>
<td>Professor</td>
<td></td>
<td></td>
<td>USDA</td>
<td>Molecular Biologist</td>
</tr>
<tr>
<td>Walter H. Schacht</td>
<td>Professor</td>
<td>0.60</td>
<td>0.40</td>
<td></td>
<td>Range Science</td>
</tr>
<tr>
<td>James S. Schepers</td>
<td>Professor</td>
<td></td>
<td></td>
<td>USDA</td>
<td>Soil Chemistry</td>
</tr>
<tr>
<td>John F. Shanahan</td>
<td>Associate Professor</td>
<td>0.65</td>
<td>0.15</td>
<td>0.20</td>
<td>Crop Physiology</td>
</tr>
<tr>
<td>Robert C. Shearman</td>
<td>Professor</td>
<td>0.60</td>
<td></td>
<td></td>
<td>Integrated Turfgrass Management</td>
</tr>
<tr>
<td>Roy F. Spalding</td>
<td>Professor</td>
<td>0.90</td>
<td>0.10</td>
<td></td>
<td>Hydrochemist, Director, Water Science</td>
</tr>
<tr>
<td>James E. Specht</td>
<td>Professor</td>
<td>0.80</td>
<td>0.20</td>
<td></td>
<td>Laboratory</td>
</tr>
<tr>
<td>Paul E. Staswick</td>
<td>Professor</td>
<td>0.85</td>
<td>0.15</td>
<td></td>
<td>Soybean Physiologist-Geneticist</td>
</tr>
<tr>
<td>James L. Stubendieck</td>
<td>Professor</td>
<td>0.25</td>
<td>0.25</td>
<td>0.50</td>
<td>Range Ecology, Director, Center for</td>
</tr>
</tbody>
</table>

1. Ended research appointment during 2005-2006
2. Began research appointment during 2005-2006
<table>
<thead>
<tr>
<th>Rank</th>
<th>Name</th>
<th>Position</th>
<th>Rsch</th>
<th>Ext</th>
<th>Tch</th>
<th>Other</th>
<th>Area of Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Agronomy and Horticulture (continued)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Jeanette A. Thurston</td>
<td>Assistant Professor</td>
<td></td>
<td></td>
<td></td>
<td>USDA</td>
<td>Environmental Microbiologist</td>
</tr>
<tr>
<td></td>
<td>Gary E. Varvel</td>
<td>Professor</td>
<td></td>
<td></td>
<td></td>
<td>USDA</td>
<td>Soil Management</td>
</tr>
<tr>
<td></td>
<td>Kenneth P. Vogel</td>
<td>Professor</td>
<td></td>
<td></td>
<td></td>
<td>USDA</td>
<td>Grass Breeding</td>
</tr>
<tr>
<td></td>
<td>Daniel T. Walters</td>
<td>Professor</td>
<td>0.65</td>
<td>0.35</td>
<td></td>
<td>USDA</td>
<td>Soil Management</td>
</tr>
<tr>
<td></td>
<td>Brian J. Weinhold</td>
<td>Assistant Professor</td>
<td></td>
<td></td>
<td></td>
<td>USDA</td>
<td>Soil Fertility</td>
</tr>
<tr>
<td></td>
<td>Wallace W. Wilhelm</td>
<td>Professor</td>
<td></td>
<td></td>
<td></td>
<td>USDA</td>
<td>Crop Physiology</td>
</tr>
<tr>
<td></td>
<td>Charles S. Wortmann</td>
<td>Associate Professor</td>
<td>0.30</td>
<td>0.70</td>
<td></td>
<td></td>
<td>Nutrient Management Specialist</td>
</tr>
<tr>
<td><strong>Animal Science</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Donald H. Beermann</td>
<td>Professor</td>
<td>0.35</td>
<td>0.34</td>
<td>0.31</td>
<td>USDA</td>
<td>Head</td>
</tr>
<tr>
<td></td>
<td>Mary M. Beck</td>
<td>Professor</td>
<td>0.70</td>
<td>0.30</td>
<td></td>
<td>USDA</td>
<td>Poultry Physiology</td>
</tr>
<tr>
<td></td>
<td>Gary L. Bennett</td>
<td>Professor</td>
<td></td>
<td></td>
<td></td>
<td>USDA</td>
<td>Systems</td>
</tr>
<tr>
<td></td>
<td>Dennis R. Brink</td>
<td>Professor</td>
<td>0.30</td>
<td>0.70</td>
<td></td>
<td>USDA</td>
<td>Ruminant Nutrition</td>
</tr>
<tr>
<td></td>
<td>Chris R. Calkins</td>
<td>Professor</td>
<td>0.70</td>
<td>0.30</td>
<td></td>
<td>USDA</td>
<td>Meats</td>
</tr>
<tr>
<td></td>
<td>Lane K. Christenson</td>
<td>Professor</td>
<td></td>
<td></td>
<td></td>
<td>Academia</td>
<td>Physiology</td>
</tr>
<tr>
<td></td>
<td>Ronald K. Christenson</td>
<td>Professor</td>
<td></td>
<td></td>
<td></td>
<td>USDA</td>
<td>Physiology</td>
</tr>
<tr>
<td></td>
<td>Larry V. Cundiff</td>
<td>Professor</td>
<td></td>
<td></td>
<td></td>
<td>USDA</td>
<td>Beef Genetics</td>
</tr>
<tr>
<td></td>
<td>Andrea S. Cupp</td>
<td>Assistant Professor</td>
<td>0.70</td>
<td>0.30</td>
<td></td>
<td>USDA</td>
<td>Beef Physiology</td>
</tr>
<tr>
<td></td>
<td>Robert A. Cushman</td>
<td>Professor</td>
<td></td>
<td></td>
<td></td>
<td>USDA</td>
<td>Physiology</td>
</tr>
<tr>
<td></td>
<td>Samar A. Elnagar</td>
<td>Professor</td>
<td></td>
<td></td>
<td></td>
<td>Academia</td>
<td>Physiology</td>
</tr>
<tr>
<td></td>
<td>Galen E. Erickson</td>
<td>Assistant Professor</td>
<td>0.50</td>
<td>0.40</td>
<td>0.10</td>
<td>USDA</td>
<td>Feedlot Nutrition</td>
</tr>
<tr>
<td></td>
<td>Calvin L. Ferrell</td>
<td>Professor</td>
<td></td>
<td></td>
<td></td>
<td>USDA</td>
<td>Nutrition</td>
</tr>
<tr>
<td></td>
<td>J. Joe Ford</td>
<td>Professor</td>
<td></td>
<td></td>
<td></td>
<td>USDA</td>
<td>Physiology</td>
</tr>
<tr>
<td></td>
<td>Kathryn J. Hanford</td>
<td>Research Assistant Professor</td>
<td></td>
<td></td>
<td></td>
<td>1.00</td>
<td>Statistical Genetics</td>
</tr>
<tr>
<td></td>
<td>Thomas G. Jenkins</td>
<td>Professor</td>
<td></td>
<td></td>
<td></td>
<td>USDA</td>
<td>Genetics</td>
</tr>
<tr>
<td></td>
<td>Rodger K. Johnson</td>
<td>Professor</td>
<td>0.60</td>
<td>0.40</td>
<td></td>
<td>USDA</td>
<td>Swine Genetics</td>
</tr>
<tr>
<td></td>
<td>Steven J. Jones</td>
<td>Professor</td>
<td>0.35</td>
<td>0.65</td>
<td></td>
<td>USDA</td>
<td>Meats</td>
</tr>
<tr>
<td></td>
<td>Jeffrey F. Keown</td>
<td>Professor</td>
<td>0.30</td>
<td>0.70</td>
<td></td>
<td>USDA</td>
<td>Dairy Management</td>
</tr>
<tr>
<td></td>
<td>Terry J. Klopfenstein</td>
<td>Professor</td>
<td>0.70</td>
<td>0.30</td>
<td></td>
<td>USDA</td>
<td>Ruminant Nutrition</td>
</tr>
<tr>
<td></td>
<td>Richard K. Koelsch</td>
<td>Associate Professor</td>
<td>0.09</td>
<td>0.21</td>
<td>0.70</td>
<td>USDA</td>
<td>Livestock Waste Management</td>
</tr>
<tr>
<td></td>
<td>Paul J. Kononoff</td>
<td>Assistant Professor</td>
<td>0.70</td>
<td>0.30</td>
<td></td>
<td>USDA</td>
<td>Dairy Nutrition</td>
</tr>
<tr>
<td></td>
<td>Mohammad Koohmaraie</td>
<td>Professor</td>
<td></td>
<td></td>
<td></td>
<td>USDA</td>
<td>Meats</td>
</tr>
<tr>
<td></td>
<td>Larry L. Larson</td>
<td>Associate Professor</td>
<td>0.40</td>
<td>0.60</td>
<td></td>
<td>USDA</td>
<td>Dairy Physiology</td>
</tr>
<tr>
<td></td>
<td>Kreg A. Leymaster</td>
<td>Professor</td>
<td></td>
<td></td>
<td></td>
<td>USDA</td>
<td>Genetics</td>
</tr>
<tr>
<td></td>
<td>Donald D. Lunstra</td>
<td>Professor</td>
<td></td>
<td></td>
<td></td>
<td>USDA</td>
<td>Physiology</td>
</tr>
<tr>
<td></td>
<td>Roger W. Mandigo</td>
<td>Professor</td>
<td>0.60</td>
<td>0.40</td>
<td></td>
<td>USDA</td>
<td>Meats</td>
</tr>
<tr>
<td></td>
<td>Phillip S. Miller</td>
<td>Professor</td>
<td>0.60</td>
<td>0.40</td>
<td></td>
<td>USDA</td>
<td>Swine Nutrition</td>
</tr>
<tr>
<td></td>
<td>Jess L. Miner</td>
<td>Associate Professor</td>
<td>0.70</td>
<td>0.30</td>
<td></td>
<td>USDA</td>
<td>Nutritional Biochemistry</td>
</tr>
<tr>
<td></td>
<td>Merlyn K. Nielsen</td>
<td>Professor</td>
<td>0.60</td>
<td>0.40</td>
<td></td>
<td>USDA</td>
<td>Genetics</td>
</tr>
<tr>
<td></td>
<td>Rick J. Rasby</td>
<td>Professor</td>
<td>0.25</td>
<td>0.75</td>
<td></td>
<td>USDA</td>
<td>Beef Management</td>
</tr>
<tr>
<td></td>
<td>Thomas A. Rathje</td>
<td>Professor</td>
<td></td>
<td></td>
<td></td>
<td>Industry</td>
<td>Swine Genetics</td>
</tr>
<tr>
<td></td>
<td>Gary A. Rohrer</td>
<td>Professor</td>
<td></td>
<td></td>
<td></td>
<td>USDA</td>
<td>Genetics</td>
</tr>
<tr>
<td></td>
<td>Sheila E. Scheideler</td>
<td>Professor</td>
<td>0.45</td>
<td>0.50</td>
<td>0.05</td>
<td>USDA</td>
<td>Poultry Management</td>
</tr>
<tr>
<td></td>
<td>Rick A. Stock</td>
<td>Professor</td>
<td></td>
<td></td>
<td></td>
<td>Industry</td>
<td>Ruminant Nutrition</td>
</tr>
<tr>
<td></td>
<td>Mike T. Van Koevering</td>
<td>Professor</td>
<td></td>
<td></td>
<td></td>
<td>Industry</td>
<td>Ruminant Nutrition</td>
</tr>
<tr>
<td></td>
<td>L. Dale Van Vleck</td>
<td>Professor</td>
<td>0.05</td>
<td>0.15</td>
<td></td>
<td>USDA</td>
<td>Genetics</td>
</tr>
<tr>
<td></td>
<td>Vincent H. Varel</td>
<td>Professor</td>
<td></td>
<td></td>
<td></td>
<td>USDA</td>
<td>Bacterial Physiology</td>
</tr>
<tr>
<td></td>
<td>John S. Weber</td>
<td>Assistant Professor</td>
<td>0.80</td>
<td>0.20</td>
<td></td>
<td>USDA</td>
<td>Functional Genomics</td>
</tr>
<tr>
<td></td>
<td>Tommy L. Wheeler</td>
<td>Professor</td>
<td></td>
<td></td>
<td></td>
<td>USDA</td>
<td>Meats</td>
</tr>
<tr>
<td></td>
<td>Brett R. White</td>
<td>Assistant Professor</td>
<td>0.50</td>
<td>0.50</td>
<td></td>
<td>USDA</td>
<td>Swine Physiology</td>
</tr>
<tr>
<td></td>
<td>Jennifer R. Wood</td>
<td>Assistant Professor</td>
<td>0.60</td>
<td>0.40</td>
<td></td>
<td>USDA</td>
<td>Physiological Genomics</td>
</tr>
</tbody>
</table>
### Biochemistry

<table>
<thead>
<tr>
<th>Rank</th>
<th>Rsch</th>
<th>Ext</th>
<th>Tch</th>
<th>Other</th>
<th>Area of Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Donald P. Weeks</td>
<td>0.55</td>
<td>0.10</td>
<td>0.35</td>
<td></td>
<td>Head, Plant Molecular Biology</td>
</tr>
<tr>
<td>Han H. Asard</td>
<td>0.46</td>
<td></td>
<td></td>
<td>0.54</td>
<td>Plant Biochemistry</td>
</tr>
<tr>
<td>Ruma Banerjee</td>
<td>0.85</td>
<td>0.15</td>
<td></td>
<td></td>
<td>Mechanistic Enzymology</td>
</tr>
<tr>
<td>Joseph J. Barycki</td>
<td>0.80</td>
<td>0.20</td>
<td></td>
<td></td>
<td>Protein Crystallography</td>
</tr>
<tr>
<td>Donald F. Becker</td>
<td>0.80</td>
<td>0.20</td>
<td></td>
<td></td>
<td>Protein Electrochemistry</td>
</tr>
<tr>
<td>Raymond Chollet</td>
<td>0.80</td>
<td>0.20</td>
<td></td>
<td></td>
<td>Photosynthesis</td>
</tr>
<tr>
<td>Dmitri Fomenko</td>
<td></td>
<td></td>
<td>1.00</td>
<td></td>
<td>Molecular Biology</td>
</tr>
<tr>
<td>Vadim N. Gladyshev</td>
<td>0.80</td>
<td>0.20</td>
<td></td>
<td>1.00</td>
<td>Redox Biology, Selenium Biochemistry</td>
</tr>
<tr>
<td>Hwa-Young Kim</td>
<td>0.80</td>
<td>0.20</td>
<td></td>
<td></td>
<td>Metal Metabolism</td>
</tr>
<tr>
<td>Jaekwun Lee</td>
<td>0.80</td>
<td>0.20</td>
<td></td>
<td>0.50</td>
<td>Plant Biochemistry</td>
</tr>
<tr>
<td>John P. Markwell</td>
<td>0.25</td>
<td>0.25</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sergey V. Novoselov</td>
<td>0.80</td>
<td>0.15</td>
<td></td>
<td>1.00</td>
<td>Molecular/Cell Biology</td>
</tr>
<tr>
<td>Stephen W. Ragsdale</td>
<td>0.85</td>
<td>0.15</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ashraf Raza</td>
<td></td>
<td></td>
<td>1.00</td>
<td></td>
<td>Structural Biology</td>
</tr>
<tr>
<td>Gautam Sarath</td>
<td></td>
<td></td>
<td>1.00</td>
<td></td>
<td>Protein Biochemistry</td>
</tr>
<tr>
<td>Javier Seravalli</td>
<td></td>
<td></td>
<td>1.00</td>
<td></td>
<td>Enzymology</td>
</tr>
<tr>
<td>Melanie Simpson</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Madhavan Soundararajan</td>
<td>0.80</td>
<td>0.20</td>
<td></td>
<td>0.63</td>
<td>Plant Molecular Biology</td>
</tr>
<tr>
<td>Robert Spreitzer</td>
<td>0.85</td>
<td>0.15</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Julie M. Stone</td>
<td>0.37</td>
<td></td>
<td></td>
<td>1.00</td>
<td>Gaseous Emissions</td>
</tr>
<tr>
<td>Mark A. Wilson</td>
<td>0.80</td>
<td>0.20</td>
<td></td>
<td></td>
<td>Evanston Northwestern Healthcare Research Institute</td>
</tr>
<tr>
<td>Charles Wood</td>
<td>0.25</td>
<td></td>
<td></td>
<td>0.75</td>
<td>USDA Animal, Environmental and Waste Management</td>
</tr>
<tr>
<td>Mamoru Yamanishi</td>
<td></td>
<td></td>
<td></td>
<td>1.00</td>
<td>Hill's Pet Nutrition, Inc.</td>
</tr>
</tbody>
</table>

1 Ended research appointment during 2005-2006
2 Began research appointment during 2005-2006

### Biological Systems Engineering

<table>
<thead>
<tr>
<th>Rank</th>
<th>Rsch</th>
<th>Ext</th>
<th>Tch</th>
<th>Other</th>
<th>Area of Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ronald E. Yoder</td>
<td>0.35</td>
<td>0.50</td>
<td>0.15</td>
<td>1.00</td>
<td>Head, Irrigation and Water Resources Engineering</td>
</tr>
<tr>
<td>Viacheslav I. Adamchuk</td>
<td>0.40</td>
<td>0.50</td>
<td>0.10</td>
<td></td>
<td>Precision Agriculture</td>
</tr>
<tr>
<td>Alejandro Amexquita</td>
<td></td>
<td>0.50</td>
<td></td>
<td></td>
<td>Industry Food Safety Engineering</td>
</tr>
<tr>
<td>Gregory R. Bashford</td>
<td>0.50</td>
<td>0.50</td>
<td></td>
<td></td>
<td>Biomedical Engineering</td>
</tr>
<tr>
<td>David Billesbach</td>
<td></td>
<td></td>
<td></td>
<td>1.00</td>
<td>Gaseous Emissions</td>
</tr>
<tr>
<td>Rhonda M. Brand</td>
<td></td>
<td></td>
<td></td>
<td>USDA</td>
<td>USDA Animal, Environmental and Waste Management</td>
</tr>
<tr>
<td>Tami Brown-Brandl</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>USDA Animal, Environmental and Waste Management</td>
</tr>
<tr>
<td>Roger A. Eigenberg</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Hydrology and Irrigation</td>
</tr>
<tr>
<td>Dean E. Eisenhauer</td>
<td>0.50</td>
<td>0.50</td>
<td></td>
<td></td>
<td>Industry Industrial Ag Products</td>
</tr>
<tr>
<td>Qi Fang</td>
<td></td>
<td></td>
<td></td>
<td>Industry Bioenergy, Biomaterials, Biolubricants</td>
<td></td>
</tr>
<tr>
<td>Sandun Fernando</td>
<td></td>
<td></td>
<td></td>
<td>Industry Surface Water Management</td>
<td></td>
</tr>
<tr>
<td>Thomas G. Franti</td>
<td>0.25</td>
<td>0.75</td>
<td></td>
<td>Industry Food and Bioprocess Engineering</td>
<td></td>
</tr>
<tr>
<td>Girish Ganjyal</td>
<td></td>
<td></td>
<td></td>
<td>Industry Pharmaceutical Manufacturing</td>
<td></td>
</tr>
<tr>
<td>Aris Gennadios</td>
<td></td>
<td></td>
<td></td>
<td>Industry Hill's Pet Nutrition, Inc.</td>
<td></td>
</tr>
<tr>
<td>Viswas Ghorpade</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Biological Systems Engineering (continued)

<table>
<thead>
<tr>
<th>Rank</th>
<th>Rsch</th>
<th>Ext</th>
<th>Tch</th>
<th>Other</th>
<th>Area of Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>John E. Gilley</td>
<td>Adjunct Professor</td>
<td>USDA</td>
<td>Soil Erosion and Waste Management</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Junjie Guan</td>
<td>Adjunct Assistant Professor</td>
<td>Industry</td>
<td>Food and Bioprocess Engineering</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Milford A. Hanna</td>
<td>Professor</td>
<td>USDA</td>
<td>Irrigation Management</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Terry A. Howell</td>
<td>Adjunct Professor</td>
<td>USDA</td>
<td>Irrigation Management</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Keum Taek Hwang</td>
<td>Adjunct Assistant Professor</td>
<td>Industry</td>
<td>Food Processing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ayse Irmak</td>
<td>Adjunct Research Assistant Professor</td>
<td>USDA</td>
<td>1.00 Crop Modeling</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>USDA</td>
<td>USDA Irrigation Management and Soil and Water Engineering</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>USDA</td>
<td>0.70 Surface Hydrology</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>USDA</td>
<td>Engineering and Modeling of Biological Systems</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>USDA</td>
<td>Sensors and Controls Engineering</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>USDA</td>
<td>Livestock Bioenvironmental Engineering</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>USDA</td>
<td>Irrigation and Water Resources Engineering</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>USDA</td>
<td>Sensors and Machine Vision</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>USDA</td>
<td>Livestock Environment</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>USDA</td>
<td>Pollution Control and Energy Systems</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>USDA</td>
<td>Food and Bioprocess Engineering</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>USDA</td>
<td>Food and Bioprocess Engineering</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>USDA</td>
<td>1.00 Food and Bioprocess Engineering</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>USDA</td>
<td>Bioenvironmental Engineering</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>USDA</td>
<td>Animal, Environment and Waste Management</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yiqi Yang</td>
<td>Professor</td>
<td>USDA</td>
<td>Textile Chemistry and</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Entomology

<table>
<thead>
<tr>
<th>Rank</th>
<th>Rsch</th>
<th>Ext</th>
<th>Tch</th>
<th>Other</th>
<th>Area of Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lisa M. Baird</td>
<td>Professor</td>
<td>U San Diego</td>
<td>Insect/Plant Interactions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frederick P. Baxendale</td>
<td>Professor</td>
<td>USDA</td>
<td>Livestock Entomology</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dennis R. Berkebile</td>
<td>Assistant Professor</td>
<td>USDA</td>
<td>Insect/Plant Interactions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>John D. Burd</td>
<td>Professor</td>
<td>USDA</td>
<td>Global Regulatory Molecule</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Michael D. Culy</td>
<td>Associate Professor</td>
<td>USDA</td>
<td>Field Crop Insect Ecology</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stephen D. Danielson</td>
<td>Associate Professor</td>
<td>USDA</td>
<td>Insect Ecology</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Odair Fernandes</td>
<td>Assistant Professor</td>
<td>St. Joseph's</td>
<td>Forensic Entomology</td>
<td></td>
<td></td>
</tr>
<tr>
<td>John E. Foster</td>
<td>Professor</td>
<td>1.00</td>
<td>Insect/Plant Interactions/IPM Rice Insects</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neal H. Haskell</td>
<td>Professor</td>
<td>State</td>
<td>Plant Resistance to Insects, Insect/Plant Interaction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E.A. Henrichs</td>
<td>Professor</td>
<td>UNK</td>
<td>Insect Ecology</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tiffany M. Heng-Moss</td>
<td>Associate Professor</td>
<td>UNK</td>
<td>Insect Ecology and Physiology</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leon G. Higley</td>
<td>Professor</td>
<td>UNK</td>
<td>Integrated Pest Management</td>
<td></td>
<td></td>
</tr>
<tr>
<td>W. Wyatt Hoback</td>
<td>Associate Professor</td>
<td>UNK</td>
<td>Lead for International Trade Integration</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scott H. Hutchins</td>
<td>Professor</td>
<td>UNK</td>
<td>Urban Pest Management</td>
<td></td>
<td></td>
</tr>
<tr>
<td>David J. Isenhour</td>
<td>Professor</td>
<td>UNK</td>
<td>Medical Entomology</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shripat T. Kamble</td>
<td>Professor</td>
<td>UNK</td>
<td>Insect Ecology and Behavior</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wayne Kramer</td>
<td>Assistant Professor</td>
<td>State</td>
<td>Plant Resistance to Insects</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lance J. Meinke</td>
<td>Professor</td>
<td>State</td>
<td>Biological Control</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Daniel J. Moellenbeck</td>
<td>Assistant Professor</td>
<td>State</td>
<td>Biological Control</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jaime Molina-Ochoa</td>
<td>Professor</td>
<td>State</td>
<td>Biological Control</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(continued)
<table>
<thead>
<tr>
<th>Rank</th>
<th>Rsch</th>
<th>Ext</th>
<th>Tch</th>
<th>Other</th>
<th>Area of Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frank B. Pearis</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>CSU Insect/Plant Interactions</td>
</tr>
<tr>
<td>Robert K. D. Peterson</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>MSU Integrated Pest Management</td>
</tr>
<tr>
<td>Brett C. Ratcliffe</td>
<td>0.80</td>
<td>0.20</td>
<td></td>
<td></td>
<td>USDA Systematics of Scarabaeidae</td>
</tr>
<tr>
<td>Gautam Sarath</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>USDA Biochemistry and Molecular Biology</td>
</tr>
<tr>
<td>Blair D. Siegfried</td>
<td>0.80</td>
<td>0.20</td>
<td></td>
<td></td>
<td>Insect Toxicology</td>
</tr>
<tr>
<td>Steven R. Skoda</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>USDA Livestock Entomology</td>
</tr>
<tr>
<td>David B. Taylor</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>USDA Livestock Entomology</td>
</tr>
<tr>
<td>Robert J. Wright</td>
<td>0.50</td>
<td>0.50</td>
<td></td>
<td></td>
<td>Field Crops Entomology, Integrated Pest Management, Biological Control</td>
</tr>
</tbody>
</table>

**Entomology (continued)**

**Food Science and Technology**

<table>
<thead>
<tr>
<th>Rank</th>
<th>Rsch</th>
<th>Ext</th>
<th>Tch</th>
<th>Other</th>
<th>Area of Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rolando A. Flores</td>
<td>0.40</td>
<td>0.34</td>
<td>0.26</td>
<td></td>
<td>Department Head/Center Director</td>
</tr>
<tr>
<td>Andrew K. Benson</td>
<td>0.60</td>
<td>0.40</td>
<td></td>
<td></td>
<td>Food Microbiology</td>
</tr>
<tr>
<td>Lloyd B. Bullerman</td>
<td>0.75</td>
<td>0.10</td>
<td>0.15</td>
<td></td>
<td>Food Microbiology/Mycology</td>
</tr>
<tr>
<td>Susan B. Cuppett</td>
<td>0.40</td>
<td>0.60</td>
<td></td>
<td></td>
<td>Food Lipids</td>
</tr>
<tr>
<td>Richard Goodman</td>
<td></td>
<td></td>
<td>1.00</td>
<td></td>
<td>Food Allergy Research</td>
</tr>
<tr>
<td>Milford A. Hanna</td>
<td>0.20</td>
<td></td>
<td>0.80</td>
<td></td>
<td>Food and Bioprocess Engineering</td>
</tr>
<tr>
<td>Susan Hefle</td>
<td>0.40</td>
<td>0.10</td>
<td>0.50</td>
<td></td>
<td>Food Allergy Research</td>
</tr>
<tr>
<td>Robert W. Hutkins</td>
<td>0.65</td>
<td>0.35</td>
<td></td>
<td></td>
<td>Food Biotechnology</td>
</tr>
<tr>
<td>David S. Jackson</td>
<td>0.60</td>
<td>0.30</td>
<td>0.10</td>
<td></td>
<td>Cereals/Oilseeds Processing</td>
</tr>
<tr>
<td>Vicki Schlegel</td>
<td>0.90</td>
<td></td>
<td>0.10</td>
<td></td>
<td>Quality Assurance</td>
</tr>
<tr>
<td>Durward A. Smith</td>
<td>0.25</td>
<td>0.60</td>
<td>0.15</td>
<td></td>
<td>Horticultural Food Crops Processing</td>
</tr>
<tr>
<td>Jeyamkondan Subbiah</td>
<td>0.45</td>
<td></td>
<td>0.55</td>
<td></td>
<td>Food and Bioprocess Engineering</td>
</tr>
<tr>
<td>Steve L. Taylor</td>
<td>0.45</td>
<td>0.34</td>
<td>0.21</td>
<td></td>
<td>Food Toxicology, Food Allergens</td>
</tr>
<tr>
<td>Harsharvardhan Thipareddi</td>
<td>0.30</td>
<td>0.70</td>
<td></td>
<td></td>
<td>Food Safety/Food Microbiology</td>
</tr>
<tr>
<td>Randy L. Wehling</td>
<td>0.50</td>
<td></td>
<td>0.50</td>
<td></td>
<td>Food Analysis</td>
</tr>
<tr>
<td>Curtis L. Weller</td>
<td></td>
<td>0.20</td>
<td>0.80</td>
<td></td>
<td>Food and Bioprocess Engineering</td>
</tr>
<tr>
<td>Michael G. Zeece</td>
<td>0.75</td>
<td>0.25</td>
<td></td>
<td></td>
<td>Food Protein Chemistry</td>
</tr>
<tr>
<td>Chaomei Zhang</td>
<td></td>
<td></td>
<td>1.00</td>
<td></td>
<td>Food Microbiology</td>
</tr>
</tbody>
</table>

1 Ended research appointment during 2005-2006
2 Began research appointment during 2005-2006
### Plant Pathology

<table>
<thead>
<tr>
<th>Name</th>
<th>Rank</th>
<th>Rsch</th>
<th>Ext</th>
<th>Tch</th>
<th>Other</th>
<th>Area of Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anne K. Vidaver</td>
<td>Professor</td>
<td>0.75</td>
<td>0.15</td>
<td>0.1</td>
<td>1.00</td>
<td>Head</td>
</tr>
<tr>
<td>James Alfano</td>
<td>Associate Professor</td>
<td></td>
<td></td>
<td></td>
<td>1.00</td>
<td>PSI Genetics of Plant-Bacterial Interactions</td>
</tr>
<tr>
<td>ShaoRong Chen¹</td>
<td>Research Assistant Professor</td>
<td></td>
<td></td>
<td></td>
<td>1.00</td>
<td>Plant Molecular Biology</td>
</tr>
<tr>
<td>Martin B. Dickman¹</td>
<td>Associate Professor</td>
<td>0.85</td>
<td>0.15</td>
<td></td>
<td>1.00</td>
<td>Genetics of Host/Parasite Interactions</td>
</tr>
<tr>
<td>David Dunigan</td>
<td>Research Assistant Professor</td>
<td></td>
<td></td>
<td></td>
<td>1.00</td>
<td>Algal Viruses</td>
</tr>
<tr>
<td>Roy C. French</td>
<td>Associate Professor</td>
<td></td>
<td></td>
<td></td>
<td>USDA</td>
<td>Viruses and Nucleic Acids</td>
</tr>
<tr>
<td>Deanna L. Funnell</td>
<td>Assistant Professor</td>
<td></td>
<td></td>
<td></td>
<td>USDA</td>
<td>Sorghum Pathology</td>
</tr>
<tr>
<td>Loren Giesler</td>
<td>Associate Professor</td>
<td>0.25</td>
<td>0.75</td>
<td></td>
<td>1.00</td>
<td>Soybean, Alfalfa and Landscape Ornament</td>
</tr>
<tr>
<td>Steve Harris</td>
<td>Associate Professor</td>
<td></td>
<td></td>
<td></td>
<td>USDA</td>
<td>PSI Genetics of Fungal Morphogenesis</td>
</tr>
<tr>
<td>Tamra A. Jackson</td>
<td>Assistant Professor</td>
<td>0.25</td>
<td>0.75</td>
<td></td>
<td>1.00</td>
<td>Corn and Sorghum</td>
</tr>
<tr>
<td>Byeong-ryool Jeong²</td>
<td>Research Assistant Professor</td>
<td></td>
<td></td>
<td></td>
<td>1.00</td>
<td>Molecular Biology</td>
</tr>
<tr>
<td>Ming Kang</td>
<td>Research Assistant Professor</td>
<td></td>
<td></td>
<td></td>
<td>1.00</td>
<td>Algal Viruses</td>
</tr>
<tr>
<td>Amit Mitra</td>
<td>Associate Professor</td>
<td>0.9</td>
<td></td>
<td>0.1</td>
<td></td>
<td>Plant Vector/Plant Transformation</td>
</tr>
<tr>
<td>James E. Partridge</td>
<td>Associate Professor</td>
<td></td>
<td></td>
<td></td>
<td>1.00</td>
<td>Host/Parasite Interactions/Stress</td>
</tr>
<tr>
<td>Thomas O. Powers</td>
<td>Associate Professor</td>
<td>0.9</td>
<td>0.1</td>
<td></td>
<td></td>
<td>Nematology</td>
</tr>
<tr>
<td>James R. Steadman</td>
<td>Professor</td>
<td>0.9</td>
<td></td>
<td>0.1</td>
<td></td>
<td>Epidemiology of Vegetable Diseases</td>
</tr>
<tr>
<td>Drake C. Stenger</td>
<td>Associate Professor</td>
<td></td>
<td></td>
<td></td>
<td>USDA</td>
<td>Wheat Virology</td>
</tr>
<tr>
<td>Karin van Dijk¹</td>
<td>Research Assistant Professor</td>
<td></td>
<td></td>
<td></td>
<td>1.00</td>
<td>Gene Silencing</td>
</tr>
<tr>
<td>James L. Van Etten</td>
<td>Professor</td>
<td>0.9</td>
<td></td>
<td></td>
<td>0.1</td>
<td>Molecular Virology</td>
</tr>
<tr>
<td>John E. Watkins³</td>
<td>Professor</td>
<td>0.25</td>
<td>0.75</td>
<td></td>
<td>1.00</td>
<td>Small Grains, Turf and Alfalfa</td>
</tr>
<tr>
<td>Thomas J. Weissling¹</td>
<td>Research Assistant Professor</td>
<td></td>
<td></td>
<td></td>
<td>1.00</td>
<td>Field Disease Surveillance</td>
</tr>
<tr>
<td>Stephen Wegulo</td>
<td>Assistant Professor</td>
<td>0.25</td>
<td>0.75</td>
<td></td>
<td></td>
<td>Small Grains, Forages, and Ornamental Plants</td>
</tr>
<tr>
<td>Gary Y. Yuen</td>
<td>Professor</td>
<td>0.85</td>
<td>0.15</td>
<td></td>
<td>1.00</td>
<td>Soilborne Diseases</td>
</tr>
<tr>
<td>Yuanzheng Zhang¹</td>
<td>Research Assistant Professor</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Molecular Biology</td>
</tr>
</tbody>
</table>

### School of Natural Resources

<table>
<thead>
<tr>
<th>Name</th>
<th>Rank</th>
<th>Rsch</th>
<th>Ext</th>
<th>Tch</th>
<th>Other</th>
<th>Area of Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mark S. Kuzila</td>
<td>Professor and Director</td>
<td>0.58</td>
<td>0.26</td>
<td>0.16</td>
<td>1.00</td>
<td>Soil Science/Survey</td>
</tr>
<tr>
<td>Craig R. Allen</td>
<td>Adjunct Associate Professor</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Unit Leader, Nebraska Cooperative Fish and Wildlife Research Unit</td>
</tr>
<tr>
<td>Tala Awada</td>
<td>Assistant Professor</td>
<td>0.8</td>
<td>0.2</td>
<td></td>
<td>0.25</td>
<td>Plant Ecophysiology</td>
</tr>
<tr>
<td>Jerry F. Ayers</td>
<td>Associate Professor</td>
<td>0.75</td>
<td>0.3</td>
<td></td>
<td>0.25</td>
<td>Environmental Geophysics, Hydrogeology</td>
</tr>
<tr>
<td>James R. Brandle</td>
<td>Professor</td>
<td>0.7</td>
<td></td>
<td>0.3</td>
<td></td>
<td>Forestry/Windbreaks</td>
</tr>
<tr>
<td>Mark Burbach</td>
<td>Assistant Geoscientist</td>
<td>0.75</td>
<td>0.25</td>
<td></td>
<td></td>
<td>Environmental Monitoring, Human Dimensions</td>
</tr>
<tr>
<td>Marvin Carlson</td>
<td>Professor</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td>Geology/Stratigraphy, Tectonics</td>
</tr>
<tr>
<td>Xun-Hong Chen</td>
<td>Professor</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td>Hydrogeology</td>
</tr>
<tr>
<td>Steven D. Comfort</td>
<td>Professor</td>
<td>0.75</td>
<td>0.15</td>
<td>0.1</td>
<td>0.75</td>
<td>Soil Environmental Chemist</td>
</tr>
<tr>
<td>Kenneth Dewey</td>
<td>Professor</td>
<td>0.06</td>
<td>0.19</td>
<td></td>
<td></td>
<td>Meteorology/Climatology; Climate Variations, Severe Weather</td>
</tr>
<tr>
<td>Duane Eversoll</td>
<td>Professor</td>
<td>0.75</td>
<td>0.25</td>
<td></td>
<td>0.5</td>
<td>Engineering and Environmental Geology</td>
</tr>
<tr>
<td>Patricia Freeman</td>
<td>Professor</td>
<td>0.75</td>
<td>0.25</td>
<td></td>
<td></td>
<td>Mammalian Biology; Vertebrate Zoology</td>
</tr>
<tr>
<td>Anatoly A. Gitelson</td>
<td>Professor</td>
<td>0.75</td>
<td>0.25</td>
<td></td>
<td></td>
<td>Remote Sensing</td>
</tr>
<tr>
<td>James Goeké</td>
<td>Professor</td>
<td>0.25</td>
<td>0.75</td>
<td></td>
<td></td>
<td>Groundwater Geology</td>
</tr>
<tr>
<td>David C. Gosselin</td>
<td>Professor</td>
<td>0.6</td>
<td>0.1</td>
<td>0.3</td>
<td></td>
<td>Earth Science</td>
</tr>
<tr>
<td>Paul Hanson²</td>
<td>Assistant Professor</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td>Cenozoic Stratigraphy</td>
</tr>
<tr>
<td>F. Edwin Harvey</td>
<td>Associate Professor</td>
<td>0.8</td>
<td></td>
<td>0.2</td>
<td>1.00</td>
<td>Hydrogeology</td>
</tr>
<tr>
<td>Michael J. Hayes</td>
<td>Research Associate Professor</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Agricultural Climatology</td>
</tr>
<tr>
<td>Rank</td>
<td>Name</td>
<td>Rank</td>
<td>Rsch</td>
<td>Ext</td>
<td>Tch</td>
<td>Other</td>
</tr>
<tr>
<td>----------------------</td>
<td>-------------------------------</td>
<td>------</td>
<td>------</td>
<td>-----</td>
<td>-----</td>
<td>-------</td>
</tr>
<tr>
<td>Kyle D. Hoagland</td>
<td>Professor</td>
<td></td>
<td>0.35</td>
<td></td>
<td>0.15</td>
<td>0.5</td>
</tr>
<tr>
<td>Aris Holz</td>
<td>Research Assistant Professor</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1.00</td>
</tr>
<tr>
<td>John Holz</td>
<td>Assistant Professor</td>
<td></td>
<td>0.12</td>
<td>0.13</td>
<td>0.15</td>
<td>0.6</td>
</tr>
<tr>
<td>Qi Hu</td>
<td>Associate Professor</td>
<td></td>
<td>0.55</td>
<td></td>
<td>0.2</td>
<td>0.25</td>
</tr>
<tr>
<td>Kenneth G. Hubbard</td>
<td>Professor</td>
<td></td>
<td>0.67</td>
<td>0.23</td>
<td>0.1</td>
<td></td>
</tr>
<tr>
<td>Scott E. Hygnstrom</td>
<td>Professor</td>
<td></td>
<td>0.25</td>
<td>0.35</td>
<td>0.25</td>
<td>0.15</td>
</tr>
<tr>
<td>J. Michael Jess</td>
<td>Senior Lecturer</td>
<td>0.15</td>
<td>0.65</td>
<td></td>
<td>0.2</td>
<td></td>
</tr>
<tr>
<td>Robert M. Joeckel</td>
<td>Assistant Professor</td>
<td>0.75</td>
<td>0.25</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ron J. Johnson</td>
<td>Professor</td>
<td></td>
<td>0.31</td>
<td>0.69</td>
<td></td>
<td>1.00</td>
</tr>
<tr>
<td>Cody L. Knutson</td>
<td>Assistant Geoscientist</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Susan Lackey</td>
<td>Geoscientist</td>
<td>0.3</td>
<td>0.7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>John Lenters</td>
<td>Assistant Professor</td>
<td>0.68</td>
<td>0.12</td>
<td></td>
<td></td>
<td>1.00</td>
</tr>
<tr>
<td>Xiaomao Lin</td>
<td>Research Assistant Professor</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>James W. Merchant</td>
<td>Professor</td>
<td>0.6</td>
<td>0.4</td>
<td></td>
<td></td>
<td>0.6</td>
</tr>
<tr>
<td>Sunil Narumalani</td>
<td>Associate Professor</td>
<td>0.4</td>
<td></td>
<td></td>
<td></td>
<td>0.7</td>
</tr>
<tr>
<td>Robert Oglesby</td>
<td>Assistant Professor</td>
<td>0.3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mark Pegg</td>
<td>Assistant Professor</td>
<td>0.5</td>
<td>0.5</td>
<td></td>
<td></td>
<td>1.00</td>
</tr>
<tr>
<td>Rick Perk</td>
<td>Assistant Geoscientist</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kevin Pope</td>
<td>Adjunct Assistant Professor</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1.00</td>
</tr>
<tr>
<td>Larkin A. Powell</td>
<td>Associate Professor</td>
<td>0.4</td>
<td>0.6</td>
<td></td>
<td></td>
<td>1.00</td>
</tr>
<tr>
<td>Karl Reinhard</td>
<td>Professor</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1.00</td>
</tr>
<tr>
<td>Donald C. Rundquist</td>
<td>Professor</td>
<td>0.65</td>
<td>0.35</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Michele M. Schoeneberger</td>
<td>Adjunct Assistant Professor</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>USDA</td>
</tr>
<tr>
<td>Karina Schoengold</td>
<td>Assistant Professor</td>
<td>0.75</td>
<td>0.25</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patrick J. Shea</td>
<td>Professor</td>
<td>0.8</td>
<td>0.1</td>
<td>0.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Steven Sibray</td>
<td>Associate Geoscientist</td>
<td>0.75</td>
<td>0.25</td>
<td></td>
<td></td>
<td>0.5</td>
</tr>
<tr>
<td>Rachel A. Simpson</td>
<td>Research Assistant Professor</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.5</td>
</tr>
<tr>
<td>Joseph M. Skopp</td>
<td>Associate Professor</td>
<td>0.5</td>
<td>0.5</td>
<td></td>
<td></td>
<td>1.00</td>
</tr>
<tr>
<td>Daniel D. Snow</td>
<td>Research Assistant Professor</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mary E. Spalding</td>
<td>Professor</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td>1.00</td>
</tr>
<tr>
<td>Venkataramana Sridhar</td>
<td>Research Assistant Professor</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scott Summerside</td>
<td>Associate Geoscientist</td>
<td>0.75</td>
<td>0.25</td>
<td></td>
<td></td>
<td>1.00</td>
</tr>
<tr>
<td>Andrew Suyker</td>
<td>Research Assistant Professor</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1.00</td>
</tr>
<tr>
<td>Mark Svoboda</td>
<td>Assistant Geoscientist</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.15</td>
</tr>
<tr>
<td>James Swinehart</td>
<td>Professor</td>
<td>0.85</td>
<td></td>
<td></td>
<td></td>
<td>0.15</td>
</tr>
<tr>
<td>Jozsef Szlagyi</td>
<td>Associate Professor</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td>1.00</td>
</tr>
<tr>
<td>Tsegaye Tadesse</td>
<td>Assistant Geoscientist</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Steven Thomas</td>
<td>Assistant Professor</td>
<td>0.8</td>
<td>0.2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Richard Andrew J. Tyre</td>
<td>Assistant Professor</td>
<td>0.6</td>
<td>0.4</td>
<td></td>
<td></td>
<td>0.15</td>
</tr>
<tr>
<td>Shashi B. Verma</td>
<td>Professor</td>
<td>0.85</td>
<td>0.15</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elizabeth A. Walter-Shea</td>
<td>Professor</td>
<td>0.65</td>
<td>0.35</td>
<td></td>
<td></td>
<td>1.00</td>
</tr>
<tr>
<td>Brian Wardlow</td>
<td>Research Professor</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1 Ended research appointment during 2005-2006
2 Began research appointment during 2005-2006
### School of Natural Resources (continued)

<table>
<thead>
<tr>
<th>Rank</th>
<th>Rsch</th>
<th>Ext</th>
<th>Tch</th>
<th>Other</th>
<th>Area of Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>David A. Wedin</td>
<td>Associate Professor</td>
<td>0.6</td>
<td>0.4</td>
<td></td>
<td>Ecology</td>
</tr>
<tr>
<td>Albert Weiss</td>
<td>Professor</td>
<td>0.85</td>
<td>0.15</td>
<td></td>
<td>Agricultural Meteorology</td>
</tr>
<tr>
<td>Donald A. Wilhite</td>
<td>Professor</td>
<td>0.9</td>
<td>0.1</td>
<td></td>
<td>Agricultural Climatology</td>
</tr>
<tr>
<td>Jinsheng You²</td>
<td>Research Professor</td>
<td></td>
<td>1.00</td>
<td></td>
<td>Climatology</td>
</tr>
<tr>
<td>C. William Zanner¹</td>
<td>Assistant Professor</td>
<td>0.6</td>
<td>0.1</td>
<td>0.3</td>
<td>Soil Geomorphology</td>
</tr>
<tr>
<td>Xinhua Zhou</td>
<td>Research Assistant Professor</td>
<td></td>
<td>1.00</td>
<td></td>
<td>Ecophysiologist/Modeler</td>
</tr>
</tbody>
</table>

### Statistics

<table>
<thead>
<tr>
<th>Rank</th>
<th>Title</th>
<th>Rsch</th>
<th>Ext</th>
<th>Tch</th>
<th>Other</th>
<th>Area of Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Walter W. Stroup</td>
<td>Professor</td>
<td>0.25</td>
<td>0.25</td>
<td>0.5</td>
<td></td>
<td>Chair, Statistical Consultant</td>
</tr>
<tr>
<td>Chris Bilder</td>
<td>Associate Professor</td>
<td>0.25</td>
<td>0.2</td>
<td></td>
<td></td>
<td>Statistical Consultant</td>
</tr>
<tr>
<td>Erin Blankenship</td>
<td>Associate Professor</td>
<td>0.55</td>
<td>0.45</td>
<td></td>
<td></td>
<td>Statistical Consultant</td>
</tr>
<tr>
<td>Kent Eskridge</td>
<td>Professor</td>
<td>0.65</td>
<td>0.35</td>
<td></td>
<td></td>
<td>Statistical Consultant</td>
</tr>
<tr>
<td>Stephen D. Kachman</td>
<td>Professor</td>
<td>0.5</td>
<td>0.5</td>
<td></td>
<td></td>
<td>Statistical Consultant</td>
</tr>
<tr>
<td>David B. Marx</td>
<td>Professor</td>
<td>0.55</td>
<td>0.45</td>
<td></td>
<td></td>
<td>Statistical Consultant</td>
</tr>
<tr>
<td>Anne Parkhurst</td>
<td>Professor</td>
<td>0.55</td>
<td>0.45</td>
<td></td>
<td></td>
<td>Statistical Consultant</td>
</tr>
</tbody>
</table>

### Veterinary and Biomedical Sciences

<table>
<thead>
<tr>
<th>Rank</th>
<th>Title</th>
<th>Rsch</th>
<th>Ext</th>
<th>Tch</th>
<th>Other</th>
<th>Area of Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>John A. Schmitz</td>
<td>Professor</td>
<td>0.90</td>
<td>0.1</td>
<td>0.55</td>
<td></td>
<td>Veterinary Pathology</td>
</tr>
<tr>
<td>Raul G. Barletta</td>
<td>Professor</td>
<td>0.90</td>
<td>0.1</td>
<td></td>
<td></td>
<td>Molecular Biology</td>
</tr>
<tr>
<td>Bruce W. Broderson</td>
<td>Research Associate Professor</td>
<td>0.85</td>
<td>0.15</td>
<td></td>
<td></td>
<td>Analytical Toxicology</td>
</tr>
<tr>
<td>Michael P. Carlson</td>
<td>Lecturer</td>
<td>0.85</td>
<td>0.15</td>
<td></td>
<td></td>
<td>Infectious Diseases</td>
</tr>
<tr>
<td>Alan R. Doster</td>
<td>Professor</td>
<td>0.80</td>
<td>0.10</td>
<td></td>
<td></td>
<td>Diagnostic Pathology</td>
</tr>
<tr>
<td>Gerald E. Duhamel</td>
<td>Professor</td>
<td>0.80</td>
<td>0.10</td>
<td></td>
<td></td>
<td>Diagnostic/Research Pathology</td>
</tr>
<tr>
<td>M. Rohan Fernando</td>
<td>Research Assistant Professor</td>
<td>0.20</td>
<td>0.30</td>
<td></td>
<td></td>
<td>Molecular Biology/Biochemistry</td>
</tr>
<tr>
<td>Dicky D. Griffin</td>
<td>Professor</td>
<td>0.90</td>
<td>0.1</td>
<td>0.5</td>
<td></td>
<td>Beef Cattle Medicine</td>
</tr>
<tr>
<td>Clinton J. Jones</td>
<td>Professor</td>
<td>0.65</td>
<td>0.35</td>
<td></td>
<td></td>
<td>Molecular Virology</td>
</tr>
<tr>
<td>Clayton L. Kelling</td>
<td>Professor</td>
<td>0.50</td>
<td>0.1</td>
<td>0.5</td>
<td></td>
<td>Research Virology</td>
</tr>
<tr>
<td>Marjorie F. Lou</td>
<td>Professor</td>
<td>0.90</td>
<td>0.1</td>
<td></td>
<td></td>
<td>Research Biochemistry</td>
</tr>
<tr>
<td>Rodney A. Moxley</td>
<td>Professor</td>
<td>0.60</td>
<td>0.4</td>
<td>0.4</td>
<td></td>
<td>Diagnostic/Research Virology</td>
</tr>
<tr>
<td>Fernando A. Osorio</td>
<td>Professor</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td>Virology</td>
</tr>
<tr>
<td>Asit K. Pattnaik</td>
<td>Professor and Interim Head</td>
<td>0.50</td>
<td>0.5</td>
<td>1.00</td>
<td></td>
<td>Diagnostic/Research Pathology</td>
</tr>
<tr>
<td>Douglas G. Rogers¹</td>
<td>Professor</td>
<td>0.25</td>
<td>0.75</td>
<td></td>
<td></td>
<td>Director, GPVEC, Beef Cattle Medicine</td>
</tr>
<tr>
<td>Gary P. Rupp</td>
<td>Professor</td>
<td>0.50</td>
<td>0.5</td>
<td>1.00</td>
<td></td>
<td>Diagnostic Research Pathology</td>
</tr>
<tr>
<td>David J. Steffen</td>
<td>Professor</td>
<td>0.25</td>
<td>0.75</td>
<td></td>
<td></td>
<td>Dairy and Beef Cattle Health</td>
</tr>
<tr>
<td>David R. Smith</td>
<td>Associate Professor</td>
<td>0.90</td>
<td>0.1</td>
<td>0.3</td>
<td></td>
<td>Microbiology</td>
</tr>
<tr>
<td>Greg A. Somerville</td>
<td>Assistant Professor</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td>Molecular Biology</td>
</tr>
<tr>
<td>Yange Zhang¹</td>
<td>Research Assistant Professor</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td>Cell Biology/Bio-Imaging</td>
</tr>
<tr>
<td>Joe Y. Zhou</td>
<td>Research Associate Professor</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Education and Human Sciences Departments

#### Family and Consumer Sciences

<table>
<thead>
<tr>
<th>Name</th>
<th>Rank</th>
<th>Rsch</th>
<th>Ext</th>
<th>Tch</th>
<th>Other</th>
<th>Department (Area of Responsibility)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Julie M. Johnson</td>
<td>Professor</td>
<td>0.12</td>
<td>0.11</td>
<td></td>
<td>0.77</td>
<td>Chair</td>
</tr>
<tr>
<td>Douglas A. Abbott</td>
<td>Professor</td>
<td>0.25</td>
<td></td>
<td></td>
<td>0.75</td>
<td>Youth at Risk</td>
</tr>
<tr>
<td>Richard J. Bischoff</td>
<td>Associate Professor</td>
<td>0.25</td>
<td></td>
<td>0.75</td>
<td></td>
<td>Collaborative Health Care</td>
</tr>
<tr>
<td>Susan Churchill</td>
<td>Associate Professor</td>
<td>0.24</td>
<td></td>
<td></td>
<td>0.76</td>
<td>Families’ Economic Well Being</td>
</tr>
<tr>
<td>Rochelle Dalla</td>
<td>Associate Professor</td>
<td>0.25</td>
<td></td>
<td></td>
<td>0.75</td>
<td>Migration</td>
</tr>
<tr>
<td>Maria de Guzman(^1)</td>
<td>Assistant Professor</td>
<td>0.24</td>
<td>0.73</td>
<td></td>
<td>0.03</td>
<td>Adolescent Development</td>
</tr>
<tr>
<td>John D. DeFrain</td>
<td>Professor</td>
<td>0.25</td>
<td>0.75</td>
<td></td>
<td></td>
<td>Building Strong Families</td>
</tr>
<tr>
<td>Carolyn Edwards</td>
<td>Professor</td>
<td>0.25</td>
<td></td>
<td></td>
<td>0.75</td>
<td>Cultural Diversity/Early Childhood</td>
</tr>
<tr>
<td>Cody Hollist(^1)</td>
<td>Associate Professor</td>
<td>0.24</td>
<td></td>
<td>0.76</td>
<td></td>
<td>At-risk adolescents; Latino Families</td>
</tr>
<tr>
<td>Cathey Huddleston-Casas</td>
<td>Assistant Professor</td>
<td>0.25</td>
<td></td>
<td>0.75</td>
<td></td>
<td>Families’ Economic Well Being</td>
</tr>
<tr>
<td>Helen Raikes(^1)</td>
<td>Professor</td>
<td>0.45</td>
<td></td>
<td></td>
<td>0.55</td>
<td>Early Childhood Education Settings; Young Children’s Development</td>
</tr>
<tr>
<td>Kathy Prochaska-Cue</td>
<td>Associate Professor</td>
<td>0.12</td>
<td>0.75</td>
<td></td>
<td>0.13</td>
<td>Family Financial Management</td>
</tr>
<tr>
<td>Yan Xia</td>
<td>Assistant Professor</td>
<td>0.11</td>
<td></td>
<td></td>
<td>0.89</td>
<td>Risk and Resiliency of Youth</td>
</tr>
</tbody>
</table>

#### Nutrition and Health Sciences

<table>
<thead>
<tr>
<th>Name</th>
<th>Rank</th>
<th>Rsch</th>
<th>Ext</th>
<th>Tch</th>
<th>Other</th>
<th>Department (Area of Responsibility)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marilyn Schnepf</td>
<td>Professor</td>
<td>0.40</td>
<td>0.10</td>
<td></td>
<td>0.50</td>
<td>Chair</td>
</tr>
<tr>
<td>Julie A. Albrecht</td>
<td>Associate Professor</td>
<td>0.25</td>
<td>0.75</td>
<td></td>
<td></td>
<td>Food Safety</td>
</tr>
<tr>
<td>Timothy Carr</td>
<td>Associate Professor</td>
<td>0.50</td>
<td></td>
<td></td>
<td>0.50</td>
<td>Nutritional Biochemistry</td>
</tr>
<tr>
<td>Judy Driskell</td>
<td>Professor</td>
<td>0.50</td>
<td></td>
<td></td>
<td>0.50</td>
<td>Nutrition</td>
</tr>
<tr>
<td>Nancy M. Lewis</td>
<td>Professor</td>
<td>0.44</td>
<td></td>
<td>0.56</td>
<td></td>
<td>Nutrition</td>
</tr>
<tr>
<td>Kaye Stanek-Kroground</td>
<td>Associate Professor</td>
<td>0.25</td>
<td></td>
<td>0.75</td>
<td></td>
<td>Nutrition</td>
</tr>
<tr>
<td>Janos Zempleni</td>
<td>Assistant Professor</td>
<td>0.50</td>
<td></td>
<td></td>
<td>0.50</td>
<td>Nutritional Biochemistry</td>
</tr>
</tbody>
</table>

#### Textiles, Clothing and Design

<table>
<thead>
<tr>
<th>Name</th>
<th>Rank</th>
<th>Rsch</th>
<th>Ext</th>
<th>Tch</th>
<th>Other</th>
<th>Department (Area of Responsibility)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Michael James</td>
<td>Professor</td>
<td>0.10</td>
<td></td>
<td>0.90</td>
<td></td>
<td>Chair</td>
</tr>
<tr>
<td>Patricia Cox Crews</td>
<td>Professor</td>
<td>0.25</td>
<td></td>
<td>0.75</td>
<td></td>
<td>Textile Conservation and Science</td>
</tr>
<tr>
<td>Nancy Miller(^1)</td>
<td>Professor</td>
<td>0.25</td>
<td>0.25</td>
<td>0.50</td>
<td></td>
<td>Merchandising</td>
</tr>
<tr>
<td>Shirley M Niemeyer</td>
<td>Professor</td>
<td>0.25</td>
<td>0.75</td>
<td></td>
<td></td>
<td>Housing and Environment</td>
</tr>
<tr>
<td>Yiqi Yang</td>
<td>Professor</td>
<td>0.35</td>
<td></td>
<td>0.65</td>
<td></td>
<td>Textile Science</td>
</tr>
</tbody>
</table>

\(^1\)Ended research appointment during 2005-2006

\(^2\)Began research appointment during 2005-2006
### Off-Campus Research Centers

#### Northeast Research and Extension Center

<table>
<thead>
<tr>
<th>Name</th>
<th>Rank</th>
<th>Rsch</th>
<th>Ext</th>
<th>Tch</th>
<th>Other</th>
<th>Department</th>
</tr>
</thead>
<tbody>
<tr>
<td>John F. Witkowski</td>
<td>Professor</td>
<td>0.25</td>
<td>0.75</td>
<td></td>
<td></td>
<td>Director</td>
</tr>
<tr>
<td>Michael C. Brumm</td>
<td>Professor</td>
<td>0.50</td>
<td>0.50</td>
<td></td>
<td></td>
<td>Animal Science (Swine Production)</td>
</tr>
<tr>
<td>Thomas E. Hunt</td>
<td>Associate Professor</td>
<td>0.50</td>
<td>0.50</td>
<td></td>
<td></td>
<td>Entomology (Entomologist)</td>
</tr>
<tr>
<td>Stevan Knezevic</td>
<td>Associate Professor</td>
<td>0.50</td>
<td>0.50</td>
<td></td>
<td></td>
<td>Agronomy and Horticulture (Weed Science)</td>
</tr>
<tr>
<td>William L. Kranz</td>
<td>Associate Professor</td>
<td>0.25</td>
<td>0.75</td>
<td></td>
<td></td>
<td>Biological Systems Engineering (Water Quality)</td>
</tr>
<tr>
<td>Terry L. Mader</td>
<td>Professor</td>
<td>0.50</td>
<td>0.50</td>
<td></td>
<td></td>
<td>Animal Science (Beef Cattle)</td>
</tr>
<tr>
<td>Charles A. Shapiro</td>
<td>Professor</td>
<td>0.50</td>
<td>0.50</td>
<td></td>
<td></td>
<td>Agronomy and Horticulture (Soils and Crop Nutrition)</td>
</tr>
<tr>
<td>David P. Shelton</td>
<td>Professor</td>
<td>0.50</td>
<td>0.50</td>
<td></td>
<td></td>
<td>Biological Systems Engineering (Soil Conservation)</td>
</tr>
</tbody>
</table>

#### Panhandle Research and Extension Center

<table>
<thead>
<tr>
<th>Name</th>
<th>Rank</th>
<th>Rsch</th>
<th>Ext</th>
<th>Tch</th>
<th>Other</th>
<th>Department</th>
</tr>
</thead>
<tbody>
<tr>
<td>Charles A. Hibberd</td>
<td>Professor</td>
<td>0.45</td>
<td>0.55</td>
<td></td>
<td></td>
<td>Director</td>
</tr>
<tr>
<td>David D. Baltensperger</td>
<td>Professor</td>
<td>0.75</td>
<td>0.25</td>
<td></td>
<td></td>
<td>Agronomy/Horticulture (Crop Breeding)</td>
</tr>
<tr>
<td>Linda S. Boeckner</td>
<td>Professor</td>
<td>0.25</td>
<td>0.75</td>
<td></td>
<td></td>
<td>Nutrition and Health Sciences (Nutrition and Dietetics)</td>
</tr>
<tr>
<td>Dillon M. Feuz</td>
<td>Professor</td>
<td>0.50</td>
<td>0.50</td>
<td></td>
<td></td>
<td>Agricultural Economics (Farm/Ranch Management)</td>
</tr>
<tr>
<td>Robert M. Harveson</td>
<td>Associate Professor</td>
<td>0.50</td>
<td>0.50</td>
<td></td>
<td></td>
<td>Plant Pathology (Specialty Crop Disease)</td>
</tr>
<tr>
<td>Gary L. Hert</td>
<td>Professor</td>
<td>0.50</td>
<td>0.50</td>
<td></td>
<td></td>
<td>Entomology (Entomology)</td>
</tr>
<tr>
<td>Gary W. Hergert</td>
<td>Professor</td>
<td>0.50</td>
<td>0.50</td>
<td></td>
<td></td>
<td>Agronomy/Horticulture (Soils)</td>
</tr>
<tr>
<td>Drew J. Lyon</td>
<td>Professor</td>
<td>0.50</td>
<td>0.50</td>
<td></td>
<td></td>
<td>Agronomy/Horticulture (Dryland Crops)</td>
</tr>
<tr>
<td>Alexander D. Pavlista</td>
<td>Professor</td>
<td>0.25</td>
<td>0.75</td>
<td></td>
<td></td>
<td>Agronomy/Horticulture (Potatoes)</td>
</tr>
<tr>
<td>Patrick E. Reece</td>
<td>Professor</td>
<td>0.50</td>
<td>0.50</td>
<td></td>
<td></td>
<td>Agronomy/Horticulture (Range Ecology)</td>
</tr>
<tr>
<td>Ivan G. Rush</td>
<td>Professor</td>
<td>0.25</td>
<td>0.75</td>
<td></td>
<td></td>
<td>Animal Science (Beef Cattle)</td>
</tr>
<tr>
<td>John A. Smith</td>
<td>Professor</td>
<td>0.50</td>
<td>0.50</td>
<td></td>
<td></td>
<td>Biological Systems Engineering (Machinery Systems)</td>
</tr>
<tr>
<td>Carlos A. Urrea</td>
<td>Assistant Professor</td>
<td>0.75</td>
<td>0.25</td>
<td></td>
<td></td>
<td>Agronomy/Horticulture (Dry Bean Breeding)</td>
</tr>
<tr>
<td>Robert G. Wilson</td>
<td>Professor</td>
<td>0.50</td>
<td>0.50</td>
<td></td>
<td></td>
<td>Agronomy/Horticulture (Weed Science)</td>
</tr>
<tr>
<td>C. Dean Yonts</td>
<td>Associate Professor</td>
<td>0.50</td>
<td>0.50</td>
<td></td>
<td></td>
<td>Biological Systems Engineering (Irrigation)</td>
</tr>
</tbody>
</table>

#### West Central Research and Extension Center

<table>
<thead>
<tr>
<th>Name</th>
<th>Rank</th>
<th>Rsch</th>
<th>Ext</th>
<th>Tch</th>
<th>Other</th>
<th>Department</th>
</tr>
</thead>
<tbody>
<tr>
<td>Don C. Adams</td>
<td>Professor</td>
<td>0.46</td>
<td>0.47</td>
<td>0.07</td>
<td></td>
<td>Animal Science (Range Cattle Nutrition)</td>
</tr>
<tr>
<td>John B. Campbell</td>
<td>Professor</td>
<td>0.25</td>
<td>0.25</td>
<td></td>
<td></td>
<td>Interim Director</td>
</tr>
<tr>
<td>Rick N. Funston</td>
<td>Assistant Professor</td>
<td>0.40</td>
<td>0.60</td>
<td></td>
<td></td>
<td>Entomology (Livestock/Crops)</td>
</tr>
<tr>
<td>Dale T. Lindgren</td>
<td>Professor</td>
<td>0.50</td>
<td>0.50</td>
<td></td>
<td></td>
<td>Animal Science (Reproductive Physiology)</td>
</tr>
<tr>
<td>Jose' Payero1</td>
<td>Assistant Professor</td>
<td>0.50</td>
<td>0.50</td>
<td></td>
<td></td>
<td>Agronomy/Horticulture (Ornamentals)</td>
</tr>
<tr>
<td>Matthew C. Stockton2</td>
<td>Assistant Professor</td>
<td>0.50</td>
<td>0.50</td>
<td></td>
<td></td>
<td>Biological Systems Engineering</td>
</tr>
<tr>
<td>David D. Tarkelson</td>
<td>Assistant Professor</td>
<td>0.50</td>
<td>0.50</td>
<td></td>
<td></td>
<td>Agricultural Economics</td>
</tr>
<tr>
<td>Jerry Volesky</td>
<td>Associate Professor</td>
<td>0.50</td>
<td>0.50</td>
<td></td>
<td></td>
<td>Agronomy/Horticulture (Soils)</td>
</tr>
</tbody>
</table>

---
1 Ended research appointment during 2005-2006
2 Began research appointment during 2005-2006
<table>
<thead>
<tr>
<th>Department (Area of Responsibility)</th>
<th>Rank</th>
<th>Rsch</th>
<th>Ext</th>
<th>Tch</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Interdisciplinary Activities</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Water Center</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kyle D. Hoagland</td>
<td>Professor</td>
<td>0.25</td>
<td>0.25</td>
<td>0.50</td>
<td>Director</td>
</tr>
<tr>
<td>J. Michael Jess</td>
<td>Lecturer</td>
<td></td>
<td></td>
<td></td>
<td>Associate Director</td>
</tr>
<tr>
<td><strong>Plant Science Initiative</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sally Mackenzie</td>
<td>Professor</td>
<td>0.60</td>
<td></td>
<td>0.40</td>
<td>Director, Plant Genomics</td>
</tr>
<tr>
<td>James R. Alfano</td>
<td>Associate Professor</td>
<td>0.88</td>
<td>0.12</td>
<td></td>
<td>Microbial Genetics</td>
</tr>
<tr>
<td>Thomas Clemente</td>
<td>Assistant Professor</td>
<td>0.60</td>
<td></td>
<td>0.40</td>
<td>Plant Transformation</td>
</tr>
<tr>
<td>Michael Fromm</td>
<td>Professor</td>
<td>0.52</td>
<td></td>
<td>0.48</td>
<td>Biochemical Genetics</td>
</tr>
<tr>
<td>Steven Harris</td>
<td>Assistant Professor</td>
<td>1.00</td>
<td></td>
<td></td>
<td>Fungal Genetics</td>
</tr>
<tr>
<td>Julie M. Stone</td>
<td>Assistant Professor</td>
<td>0.63</td>
<td></td>
<td>0.37</td>
<td>Plant Molecular Biology</td>
</tr>
<tr>
<td><strong>Agricultural Research Division</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gary L. Cunningham(^2)</td>
<td>Professor</td>
<td>1.00</td>
<td></td>
<td></td>
<td>Dean and Director</td>
</tr>
<tr>
<td>Z B Mayo(^2)</td>
<td>Professor</td>
<td>1.00</td>
<td></td>
<td></td>
<td>Associate Dean and Director</td>
</tr>
<tr>
<td>Daniel Duncan(^2)</td>
<td></td>
<td>1.00</td>
<td></td>
<td></td>
<td>Assistant Director</td>
</tr>
<tr>
<td>Marjorie J. Kostelnik</td>
<td>Professor</td>
<td>0.12</td>
<td>0.13</td>
<td>0.75</td>
<td>Associate Dean and Director</td>
</tr>
<tr>
<td><strong>Biotechnology Center</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Michael Fromm</td>
<td>Professor</td>
<td>0.48</td>
<td></td>
<td>0.52</td>
<td>Director</td>
</tr>
<tr>
<td>Thomas Clemente</td>
<td>Associate Professor</td>
<td>0.60</td>
<td></td>
<td>0.40</td>
<td>Plant Transformation</td>
</tr>
<tr>
<td><strong>Center for Applied Rural Innovation</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alan Baquet</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Director</td>
</tr>
<tr>
<td><strong>Industrial Agricultural Rural Innovation</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Milford Hanna</td>
<td>Professor</td>
<td>0.25</td>
<td></td>
<td>0.75</td>
<td>Director</td>
</tr>
<tr>
<td><strong>Center for Grassland Studies</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Martin Massengale</td>
<td>Professor</td>
<td>0.25</td>
<td></td>
<td>0.75</td>
<td>Director</td>
</tr>
</tbody>
</table>
The Agricultural Research Division hosted 67 visiting scientists and 71 research associates to the campus in 2005-2006. 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.

### Visiting Scientists

#### Agronomy and Horticulture

<table>
<thead>
<tr>
<th>Visiting Scientist</th>
<th>State/Country</th>
<th>Expertise/Discipline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adam Liska</td>
<td>United States</td>
<td>Ecological intensification</td>
</tr>
<tr>
<td>Ricardo Melgar</td>
<td>Argentina</td>
<td>Corn and soybean production practices</td>
</tr>
<tr>
<td>Anderson Machado de Mello</td>
<td>Brazil</td>
<td>Floriculture on penstemon</td>
</tr>
<tr>
<td>Tony Vyn</td>
<td>Indiana</td>
<td>High-yield corn and soybean research</td>
</tr>
</tbody>
</table>

#### Biochemistry

<table>
<thead>
<tr>
<th>Visiting Scientist</th>
<th>State/Country</th>
<th>Expertise/Discipline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shaheen Ahmed</td>
<td>Bangladesh</td>
<td>Plant biochemistry/physiology</td>
</tr>
<tr>
<td>Alajos Berczi</td>
<td>Hungary</td>
<td>Biochemistry and biophysics of membrane proteins</td>
</tr>
<tr>
<td>Veneracion Cabana</td>
<td>USA</td>
<td>Immunology</td>
</tr>
<tr>
<td>Sebastian Carballal</td>
<td>Uruguay</td>
<td>Peroxynitrite biochemistry</td>
</tr>
</tbody>
</table>

#### Entomology

<table>
<thead>
<tr>
<th>Visiting Scientist</th>
<th>State/Country</th>
<th>Expertise/Discipline</th>
</tr>
</thead>
<tbody>
<tr>
<td>David Carter</td>
<td>Kansas</td>
<td>Molecular assessment</td>
</tr>
<tr>
<td>Graciela Godoy-Lutz</td>
<td>Dominican Republic</td>
<td>Plant pathology</td>
</tr>
<tr>
<td>Jigang Han</td>
<td>China</td>
<td>Gene silencing</td>
</tr>
<tr>
<td>Teodora Kolarova-Kancheva</td>
<td>Bulgaria</td>
<td>Plant molecular biology</td>
</tr>
<tr>
<td>Govindappa Melappa</td>
<td>India</td>
<td>Genetic engineering</td>
</tr>
<tr>
<td>Ji-Young Min</td>
<td>Korea</td>
<td>Fungal biochemistry</td>
</tr>
<tr>
<td>Hyoun-Hyang Park</td>
<td>South Korea</td>
<td>Plant molecular biology</td>
</tr>
<tr>
<td>Varvara Yashchenko</td>
<td>Russia</td>
<td>Chlorella viruses</td>
</tr>
</tbody>
</table>
Plant Pathology

Visiting Scientist: David Carter  
State/Country: Kansas  
Expertise/Discipline: Molecular assessment

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

Visiting Scientist: Jigang Han  
State/Country: China  
Expertise/Discipline: Gene silencing

Visiting Scientist: Teodora Kolarova-Kancheva  
State/Country: Bulgaria  
Expertise/Discipline: Plant molecular biology

Visiting Scientist: Govindappa Melappa  
State/Country: India  
Expertise/Discipline: Genetic engineering

Visiting Scientist: Ji-Young Min  
State/Country: Korea  
Expertise/Discipline: Fungal biochemistry

Visiting Scientist: Hyoun-Hyang Park  
State/Country: South Korea  
Expertise/Discipline: Plant molecular biology

Visiting Scientist: Varvara Yashchenko  
State/Country: Russia  
Expertise/Discipline: Chlorella viruses

School of Natural Resources

Visiting Scientist: Mohd Zaki Bin M. Amin  
State/Country: Malaysia  
Expertise/Discipline: Water resources management

Visiting Scientist: Wanga Chakanika  
State/Country: Zambia  
Expertise/Discipline: Education

Research Associate: Xi Chen  
State/Country: China  
Expertise/Discipline: Surface and ground water hydrology

Visiting Scientist: David Cobon  
State/Country: Australia  
Expertise/Discipline: Climatology, drought management

Visiting Scientist: Heidi Cullen  
State/Country: Georgia/USA  
Expertise/Discipline: Climatology and ocean-atmosphere dynamics, engineering

Visiting Scientist: Robert G. Dick  
State/Country: Australia  
Expertise/Discipline: Water management and use

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

Visiting Scientist: Michelle Enseby  
State/Country: Australia  
Expertise/Discipline: Statistical ecology and bird ecology

Visiting Scientist: Ginny Forrest  
State/Country: Australia  
Expertise/Discipline: Forest management and farm forestry

Visiting Scientist: Sandra Garcia Galiano  
State/Country: Spain  
Expertise/Discipline: Water resources engineering

Research Associate: Fensquig Jiang  
State/Country: China  
Expertise/Discipline: Ecosystems in semiarid environments

Visiting Scientist: Chipepo Kankasa  
State/Country: Zambia  
Expertise/Discipline: Education

Visiting Scientist: Shamitiba Kanyanga  
State/Country: Zambia  
Expertise/Discipline: Research and graduate education

Visiting Scientist: Judith Lungu  
State/Country: Zambia  
Expertise/Discipline: Agriculture

Visiting Scientist: Yakub Mulla  
State/Country: Zambia  
Expertise/Discipline: Medicine

Visiting Scientist: Afonso do Ó Pinto Alho  
State/Country: Portugal  
Expertise/Discipline: Drought management

Visiting Scientist: Boureima de Salam OUEDRAOGO  
State/Country: Burkina Faso  
Expertise/Discipline: Crises and disaster management

Visiting Scientist: Y.V. Malla Reddy  
State/Country: India  
Expertise/Discipline: Agronomy

Visiting Scientist: Tunlawit Satapanajaru  
State/Country: Thailand  
Expertise/Discipline: Environmental chemistry

Visiting Scientist: Robert Serpell  
State/Country: Zambia  
Expertise/Discipline: Education
<table>
<thead>
<tr>
<th>Visiting Scientist</th>
<th>State/Country</th>
<th>Expertise/Discipline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Haji Ahmad Jamalluddin Shaaban</td>
<td>Malaysia</td>
<td>Water resources management</td>
</tr>
<tr>
<td>Yi Shi</td>
<td>China</td>
<td>Human and society</td>
</tr>
<tr>
<td>Miroslav Trnka</td>
<td>Czech Republic</td>
<td>Agricultural meteorology</td>
</tr>
<tr>
<td>Gary Woodard</td>
<td>Arizona</td>
<td>Conservation, economics, K-12 education, information transfer, institutions/policy planning and law</td>
</tr>
<tr>
<td>Liguita Yaya Mahamat</td>
<td>Chad</td>
<td>Chadian Red Cross organization</td>
</tr>
<tr>
<td>Ayhan Yildirim</td>
<td>Turkey</td>
<td>Fisheries ecology</td>
</tr>
<tr>
<td>Zdenek Zalud</td>
<td>Czech Republic</td>
<td>Agricultural meteorology</td>
</tr>
</tbody>
</table>

### Education and Human Sciences Departments

### Veterinary and Biomedical Sciences

<table>
<thead>
<tr>
<th>Visiting Scientist</th>
<th>State/Country</th>
<th>Expertise/Discipline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ayala Livneh</td>
<td>Israel</td>
<td><em>Mycobacterium paratuberculosis</em></td>
</tr>
<tr>
<td>Sebastian Aguirre</td>
<td>Argentina</td>
<td>Porcine reproductive respiratory syndrome virus (PRRSV)</td>
</tr>
<tr>
<td>Marcelo de Lima</td>
<td>Brazil</td>
<td>Veterinary virology</td>
</tr>
<tr>
<td>Esther Alvarez Garcia</td>
<td>Spain</td>
<td>Porcine respiratory and reproductive syndrome</td>
</tr>
<tr>
<td>Stefan Löfgren</td>
<td>Sweden</td>
<td>Effects of ultraviolet radiation on ocular tissues</td>
</tr>
</tbody>
</table>

### Textiles, Clothing and Design

<table>
<thead>
<tr>
<th>Visiting Scientist</th>
<th>State/Country</th>
<th>Expertise/Discipline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Taejung Kim</td>
<td>South Korea</td>
<td>Textile/polymer modeling</td>
</tr>
<tr>
<td>Daesik Yun</td>
<td>South Korea</td>
<td>Textile chemistry</td>
</tr>
</tbody>
</table>

### Off-Campus Research Centers

### Northeast Research and Extension Center

<table>
<thead>
<tr>
<th>Visiting Scientist</th>
<th>State/Country</th>
<th>Expertise/Discipline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Radivoj Jevtic</td>
<td>Serbia</td>
<td>Plant pathology and weeds</td>
</tr>
</tbody>
</table>

### Panhandle Research and Extension Center

<table>
<thead>
<tr>
<th>Visiting Scientist</th>
<th>State/Country</th>
<th>Expertise/Discipline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sean Keenan</td>
<td>Oklahoma</td>
<td>Biologically intensive area-wide integrated pest management of the Russian wheat aphid and greenbug project</td>
</tr>
</tbody>
</table>
Research Associates

Agronomy and Horticulture

Research Associate: Liakat Ali
State/Country: Canada
Expertise/Discipline: Genetic and molecular basis of agronomic performance

Research Associate: Brigid Amos
State/Country: Nebraska
Expertise/Discipline: Soil carbon sequestration in maize-based cropping systems

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

Research Associate: Fanming Kong
State/Country: China
Expertise/Discipline: Gene expression in transgenic soybeans

Research Associate: Indra Sandall
State/Country: India
Expertise/Discipline: Gene expression in transgenic soybeans and wheat

Research Associate: Peter Skelton
State/Country: Nebraska
Expertise/Discipline: Farming system performance

Research Associate: Scott Tubbs
State/Country: Florida
Expertise/Discipline: Nitrous Oxide emissions in relay cropping systems

Biochemistry

Research Associate: Natalia Agisheva
State/Country: Russia
Expertise/Discipline: Redox biology

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

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

Research Associate: Bekir Col
State/Country: Turkey
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: Omer Kabil
State/Country: Turkey
Expertise/Discipline: Enzymology

Research Associate: Mikhail Khoretonenko
State/Country: Russia
Expertise/Discipline: Virology

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

Research Associate: Jiusheng Lin
State/Country: China
Expertise/Discipline: Methionine sulfoxide reduction

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

Research Associate: Kwang Hong 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: Heiko Mix
State/Country: Germany
Expertise/Discipline: Selenoproteins
<table>
<thead>
<tr>
<th>Research Associate</th>
<th>State/Country</th>
<th>Expertise/Discipline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sergey Novoselov</td>
<td>Russia</td>
<td>Selenoproteins</td>
</tr>
<tr>
<td>Yexin Ouyang</td>
<td>China</td>
<td>Plant molecular biology and biochemistry</td>
</tr>
<tr>
<td>Dominique Padovani</td>
<td>France</td>
<td>Enzymology</td>
</tr>
<tr>
<td>Ashraf Raza</td>
<td>Pakistan</td>
<td>Mass spectrometry</td>
</tr>
<tr>
<td>Javier Seravalli</td>
<td>Costa Rica</td>
<td>Enzymology</td>
</tr>
<tr>
<td>Valentina Shchedrina</td>
<td>Russia</td>
<td>Selenoproteins</td>
</tr>
<tr>
<td>Chris Spedaliere</td>
<td>New Jersey</td>
<td>Enzymology</td>
</tr>
<tr>
<td>Jay Stasser</td>
<td>Ohio</td>
<td>Biophysics</td>
</tr>
<tr>
<td>Dan Su</td>
<td>China</td>
<td>Thioredoxin reductase</td>
</tr>
<tr>
<td>Vekalet Tek</td>
<td>Turkey</td>
<td>Biochemistry</td>
</tr>
<tr>
<td>Srimanevan Wanduragala</td>
<td>Sri-Lanka</td>
<td>Biophysical chemistry</td>
</tr>
<tr>
<td>Qin Wei</td>
<td>China</td>
<td>Biochemistry-cell signaling</td>
</tr>
<tr>
<td>Mamoru Yamanishi</td>
<td>Japan</td>
<td>Enzymology</td>
</tr>
<tr>
<td>Wenxin Yu</td>
<td>China</td>
<td>Plant molecular biology</td>
</tr>
<tr>
<td>Deliang Zhang</td>
<td>China</td>
<td>Animal physiology</td>
</tr>
<tr>
<td>Weimin Zhang</td>
<td>China</td>
<td>Bioanalytical chemistry</td>
</tr>
<tr>
<td>Yan Zhang</td>
<td>China</td>
<td>Bioinformatics</td>
</tr>
<tr>
<td>Weidong Zhu</td>
<td>China</td>
<td>Enzymology</td>
</tr>
<tr>
<td>Christopher J. DeHeer</td>
<td>Nebraska/USA</td>
<td>Molecular biology of social insects</td>
</tr>
<tr>
<td>Haichuan Want</td>
<td>Canada</td>
<td>Insect biochemistry/molecular biology</td>
</tr>
<tr>
<td>Irina Agarkova</td>
<td>Uzbekistan</td>
<td>Molecular biology of plant pathogenic bacteria</td>
</tr>
<tr>
<td>Marco Buenrostro-Nava</td>
<td>Mexico</td>
<td>Molecular biology</td>
</tr>
<tr>
<td>Lisa Fitzgerald</td>
<td>Nebraska</td>
<td>Chlorella viruses</td>
</tr>
<tr>
<td>Ming Guo</td>
<td>China</td>
<td>Molecular biology of plant pathogenic bacteria</td>
</tr>
<tr>
<td>Alexander Ignatov</td>
<td>Russia</td>
<td>Plant pathology</td>
</tr>
<tr>
<td>Peter Mullin</td>
<td>Nebraska</td>
<td>Nematology</td>
</tr>
<tr>
<td>Paola Valbuzzi</td>
<td>Italy</td>
<td>Chlorella viruses</td>
</tr>
</tbody>
</table>
### School of Natural Resources

<table>
<thead>
<tr>
<th>Research Associate</th>
<th>State/Country</th>
<th>Expertise/Discipline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ya Ding</td>
<td>Nebraska</td>
<td>Natural resource economists</td>
</tr>
<tr>
<td>Song Feng</td>
<td>China</td>
<td>Diagnostics of climate variations</td>
</tr>
<tr>
<td>Jae H. Ryu</td>
<td>Nebraska</td>
<td>Hydrologist</td>
</tr>
</tbody>
</table>

### Textiles, Clothing and Design

<table>
<thead>
<tr>
<th>Research Associate</th>
<th>State/Country</th>
<th>Expertise/Discipline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abdus Salam</td>
<td>Bangladesh</td>
<td>Coloration and textile chemistry</td>
</tr>
</tbody>
</table>

### Veterinary and Biomedical Sciences

<table>
<thead>
<tr>
<th>Research Associate</th>
<th>State/Country</th>
<th>Expertise/Discipline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ofelia Cha on-Barletta</td>
<td>Columbia</td>
<td>Microbiology</td>
</tr>
<tr>
<td>Subash C. Das</td>
<td>India</td>
<td>Veterinary molecular virology</td>
</tr>
<tr>
<td>Shuanghu Liu</td>
<td>China</td>
<td>Hepatology and infectious diseases</td>
</tr>
<tr>
<td>Weiping Peng</td>
<td>China</td>
<td>Silkworm genetics and breeding</td>
</tr>
<tr>
<td>Yunquan Jiang</td>
<td>People's Republic of China</td>
<td>Genetics</td>
</tr>
<tr>
<td>Bonggoo Park</td>
<td>South Korea</td>
<td>Biochemistry and molecular biology</td>
</tr>
<tr>
<td>Mustapha Moulay Samrakandi</td>
<td>Morocco</td>
<td>Microbiology</td>
</tr>
<tr>
<td>Christina Topliff</td>
<td>Nebraska</td>
<td>Virologist/molecular biologist</td>
</tr>
<tr>
<td>Amit Kumar Pandey</td>
<td>India</td>
<td>Animal biotechnology</td>
</tr>
<tr>
<td>Selvakumar Subbian</td>
<td>India</td>
<td>Basic medical sciences</td>
</tr>
<tr>
<td>Kuiyi Xing</td>
<td>People's Republic of China</td>
<td>Biochemistry</td>
</tr>
</tbody>
</table>
Each faculty member with an ARD appointment has a federally-approved research project. A number of faculty have multiple projects. There are 338 research projects that were active for all or part of the 2005–2006 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 58 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 68 multistate coordinating committees, which serve to exchange information and coordinate cooperative research/extension activities among institutions.

Research projects are listed by departments. An asterisk (*) indicates that the project was terminated in fiscal year 2005–2006. Following are different types of projects and their funding source.

### 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.

**Intire-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 range lands 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.

### Funding Source

<table>
<thead>
<tr>
<th>Type</th>
<th>Funding Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hatch</td>
<td>Federal and State Funds</td>
</tr>
<tr>
<td>Hatch Multistate State</td>
<td>Federal Funds</td>
</tr>
<tr>
<td>McIntire-Stennis</td>
<td>State Funds</td>
</tr>
<tr>
<td>Special Grant</td>
<td>Federal, State, Public and Private</td>
</tr>
<tr>
<td>Competitive Grant</td>
<td>Federal Funds/USDA</td>
</tr>
<tr>
<td>Animal Health</td>
<td>Federal Funds</td>
</tr>
<tr>
<td>Cooperative Agreement</td>
<td>Other Grant</td>
</tr>
</tbody>
</table>

### Agricultural/ Natural Resources Units

#### Agricultural Economics

- **10-138 Hatch** Measurement of competitiveness of U.S. beef, soybean, wheat, and corn production (L.E. Fulginiti)
- **10-141 Hatch** Legal aspects of Nebraska agricultural and natural resources policy (J.D. Aiken)
- **10-145 Hatch** Finding motivations and mechanisms for profitable conservation (G.D. Lynne)
- **10-146 Hatch** Enforcement issues and efficiency in the agri-food marketing system: genetic modification, organic agriculture, and government intervention (K. Giannakas)
- **10-148 Multistate** NC-1003, Impact analysis and decision strategies for agricultural research (R.K. Perrin)
- **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)
- **10-151* Hatch** Economic impacts of changes in trade arrangements, bioterrorism threats and renewable fuels requirements on U.S. grain and oilseed sector (D.M. Conley)
- **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, bioterrorism threats and renewable fuels requirements on U.S. grain and oilseed sector (D.M. Conley)
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 NE (D.W. Wheeler)

Agronomy and Horticulture

12-002 Hatch
Genetics, breeding and evaluation of winter small grains crops for Nebraska (P.S. Baenziger, B.E. Beecher)

12-091 Hatch
Development of profitable reduced herbicide weed management systems through integration of management practices (A.R. Martin)

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

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

12-203 Hatch
Vertical integration, contract coordination and market power in agricultural raw product market (J. Roeyer)

12-205 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)

12-209 Hatch
Procedures for assessing impacts of nonpoint agrichemicals on ground water (R.F. Spalding)

12-241 Hatch
Ecological studies of Nebraska rangeland vegetation (J. Stubbendieck)

12-252 Hatch
Biodegradable application and soil chemical properties: changes in phosphorus and carbon pools (D.L. McCallister)

12-254 Hatch
Community structure and functional diversity of soil microbial communities in natural and agroecosystems (R.A. Drijver)

12-255 Hatch
Soybean breeding and genetic studies (G.L. Graef)

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

12-261 State
Cropping systems to optimize yield, water and nutrient use efficiency of pearl millet and grain sorghum (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 (B. Beecher)

12-281 Hatch
Enhancing crop diversity by understanding genotype by environment interactions (L.A. Nelson)

12-282 Hatch
Grazingland response to seasonal grazing strategies (W.H. Schacht)

12-283* Hatch
Utilizing biotechnology for sorghum and pearl millet improvement (I.M. Dweikat)

12-286 Other Grant
Application of geospatial and precision technologies (A. Dobermann, R.M. Caldwell, V.I. Adamchuk, R.B. Ferguson)

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

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)

12-292* Competitive Grant
Characterization of Ds transposition in the soybean genome (T.E. Clemente)

12-293 Multistate
NC-218, Assessing nitrogen mineralization and other diagnostic criteria to refine nitrogen rates for crops and minimize losses (D.T. Walters)

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 (B. Beecher)

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

12-299* Hatch
Development of stress resistant/high yield sorghum germplasm for release and use in investigation of contributing physiological mechanisms (J.D. Eastin)

12-301 Competitive Grant
Pollution and economic decision support tool for improved 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)

12-304* Hatch
Development of a transformation system for sorghum (Sorghum bicolor L.) (I. Dweikat, T. Clemente)

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

12-306 State

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)

20-056* Hatch
Integrated turfgrass management practices (R.C. Shearman)

20-057 Hatch
Application of micropropagation and biotechnology to improvement and multiplication of horticultural crops (P.E. Read)

20-060 Hatch
Breeding and development of buffalo grass for the central Great Plains (T.P. Riordan, R.C. Shearman)

20-063 Hatch
Grow-in and cultural practice impacts on USGA putting greens and their microbial communities (R.E. Gaussoin)

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

13-110* Multistate
NC-131, Molecular mechanisms regulating skeletal muscle growth and differentiation (S.J. Jones)

13-130 Hatch
Physiological and nutritional aspects of improving reproduction in dairy cattle (L.L. Larson)

13-144* Hatch
Utilization of phosphorus in cool- and warm-season grass hay by ruminants (D.R. Brink)

13-153 Hatch
Measuring and improving the quality, consistency, and uniformity of traits that influence meat value (C.R. Calkins, R.W. Mandigo)

13-154 Animal Health
Role of paracrine growth factors in bovine ovarian follicular development (A.S. Cupp)

13-156 Multistate
W-112, Reproductive performance in domestic ruminants (A.S. Cupp)

13-157 Multistate
NC-1119, Management system to improve the economic and environmental sustainability of dairy enterprises (H.D. Jose, T.J. 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)

13-163 Hatch
Improving profitability and sustainability of beef feedlot production through nutrient management and corn milling co-product utilization (G.E. Erickson)

13-164 Hatch
Alternative growing-finishing beef systems (T.J. Klopfenstein)

13-165* State
Role of hyaluronan during the ovulatory process in the beef cow (A.S. Cupp, M.A. Simpson)

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 (I.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)

13-170* Hatch
Expression analysis of GnRH stimulated pituitary genes in lines of swine divergent for ovulation rate (B.R. White)

13-171 Hatch
NE-1022, Poultry production systems: Optimization of production and welfare using physiological, behavioral and physical assessments (M. Beck)

13-172 Animal Health
Metabolic bone disease in laying hens: Etiology and genomics (M. Beck)

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)

13-175 State
Impact of biotin supplementation on early embryonic development (B. White, J. Zempleni)

13-176 Hatch
Physiological responses of growing calves to stable fly bites (D. Brink)

31-006* Special Grant
Integrated crop/livestock/forestry research for sustainable systems in Nebraska (T.J. Klopfenstein, J.R. Brandle, C.A. Francis, D.T. Walters)

Biochemistry

15-091* Hatch
Strategies for developing herbicide-tolerant crops (D.P. Weeks)

15-096* Competitive Grant
Rubisco selection and correction (R.J. Spreitzer)

15-099 State
Engineering plants for increased photosynthetic efficiency: introduction of the CO₂ concentration mechanism from C₄ plants into C₃ plants (D.P. Weeks, T. Clemente)

15-100 Multistate
NC-1142, Regulation of photosynthetic processes (R. Chollet, J. Markwell, R.J. Spreitzer)

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 CO₂ fixation and chlorophenol metabolism (S.W. Ragsdale)

15-104 Hatch
Regulation of the multifunctional proline utilization A (Put A) flavoprotein and proline metabolism in bacteria (D.F. Becker)

15-105 Hatch
Directed evolution of plant foremate 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)

Biological Systems Engineering

11-001 State
Evaluation of performance of new tractors (L.L. Bashford)

11-044* Multistate
Improvement of thermal and alternative processes for food (M.A. Hanna)

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)

11-121* Hatch
Fuzzy crop/weed image/signal analysis for variable-rate water and chemical application (G.E. Meyer)

11-122* Other Grant
Control of agrichemical loading to streams using grassed buffers in Great Plains watersheds (D.E. Eisenhauer, R.F. Spalding, T.G. Franti, D.D. Snow, M.G. Dosskey)

11-123 Hatch
Improved acquisition of thematic soil maps (V.I. Adamchuk)

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)
Entomology

17-054* Hatch Biochemistry and physiology of lipids, prostaglandins and related eicosanoids in insects (D.W. Stanley)

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)

17-082 Hatch Management of subterranean termites in urban/rural environments (S.T. Kamble)

17-083* State Synchronizing habitat enhancement practices with predator mobility for control of alfalfa insect pests (S.D. Danielson, J.R. Brandle, T.E. Hunt, E.E. Blankenship)

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

17-086* Other Grant Development and delivery of user friendly IPM tools for use with PC and PDA (L.G. Higley, T.E. Hunt, W.W. Hoback, D.A. Golick)

48-028 Hatch Spatial distribution and sampling of field crop insects (R.J. Wright)

28-087 Other Grant Quantifying risk factor for evolution of European Corn Borer resistance to Cry1F expressing corn hybrids (B. Siegfried)

17-095 Competitive Grant HACCP training and research to assist meat processors with process deviations for lethality and stabilization (H. Thippareddi, D.E. Burson)

16-096 Competitive Grant Population genomics of Listeria monocytogenes (A.K. Benson and M. Wiedmann)

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)

16-099 Competitive Grant Stability and functional activity of prebiotic oligosaccharides in foods (R.W. Hutkins, R.L. Wehling)

16-100 Other Grant Food safety: life-long learning through teacher training (R.W. Hutkins, J.H. Rupnow, G. Whipple, H. Thippareddi, L. Durso)

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


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)

19-016* Special Grant Midwest Advanced Food Manufacturing Alliance (S. Taylor)

19-017* Special Grant Alliance for Food Protection (S. Hefle)

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

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

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

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

Plant Pathology

21-069* Hatch Characterization of wheat leaf rust virulence in Nebraska and its implication for breeding for resistance (J.E. Watkins)

21-070 Hatch Mitigation of diseases of dry edible bean and stem rot of soybean by managed plant resistance (J.R. Steadman)

21-076 Hatch Pathogenic determinants of phytopathogenic fungi (M.B. Dickman)

21-079 Hatch Characterization of soybean diseases in Nebraska and development of plant disease management strategies in soybean and landscape plants (L.J. Giesler)

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

21-082 Hatch Detection and properties of Nebraska plant viruses with emphasis on soybean viruses (L.C. Lane)

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

21-084* Competitive Grant Utilization of direct repeat induced gene silencing in plant functional genomics (A. Mitra)
School of Natural Resources

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

21-086* Competitive Grant Chaperones of the type III protein secretion system of Pseudomonas syringae tomato DC 3000 (J.R. Alfano)

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

21-089* Hatch Development of allergen free wheat using gene silencing (A. Mitra, S. Baenziger, T. Powers)

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)

21-100 State Evaluation airborne remote sensing and the advanced vegetation index suite for crop disease detection: The case of dry bean rust (J.R. Steadman)

21-101 Competitive Grant Genomics of the necrotrophic fungal phytopathogen Sclerotinia sclerotiorum (M. Dickman)

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)

21-097* McIntire-Stennis Ecosystem consequences of woody species establishment in the Great Plains (D.A. Wedin)

21-098* McIntire-Stennis Windbreak shelter effects (J.R. Brandle, L. Hodges, S.J. Josiah)

21-099* Hatch Rapid estimation of soil hydraulic properties (J.M. Skopp)

21-100# Hatch Impacts of Pinus ponderosa establishment on ecosystem functions in the Sandhills of Nebraska (T.N. Awada, D. Wedin)

21-101 Hatch Agrochemicals in Nebraska groundwater: occurrence, trends, and health associations (M. Exner-Spalding)

21-102 Hatch Evaluation and remediation of chemically compromised soil environments (P.I. Shea)

21-103 Hatch Development of an optimal conjunctive use plan during irrigation seasons for a Nebraska river valley (X. Chen)

21-104 Hatch Determining time of recharge (AGE) of groundwater resources in Nebraska using water chemistry and environmental isotopes (F.E. Harvey)

21-105 State State-wide groundwater resource assessment: focus on arsenic (D.C. Gosselin)

21-106 State Remote sensing of the biophysical characteristics of agricultural vegetation (R.C. Rundquist, A. Gitelson)

21-107 Hatch Landscape-level mechanisms influencing population dynamics of birds (L.A. Powell)

21-108 Hatch Radiative transfer in vegetative canopies with emphasis on canopy structure (E.A. Walter-Shea)

21-109 Hatch Improving the simulation of winter wheat (Triticum aestivum L.) responses to the environment (A. Weiss)


21-111 Hatch NC-1005, Landscape ecology of white-tailed deer in agroforest ecosystems: A cooperative approach to support management (S.E. Hynghstrom)

21-032* Integrate Drought monitoring, planning, and mitigation (D. Wilhite)

21-033* Competitive Grant Drought monitoring, planning, and mitigation (D. Wilhite)

21-034 Hatch Characterization of land cover for improved numerical weather prediction modeling (J. Merchant, G. Henebry)

21-035 Multistate NC-1018, Impact of climate and soils on crop selection and management (K. Hubbard, S. Hu)

21-036* Other Grant Drought monitoring planning and mitigation (D. Wilhite)

21-037 Hatch Identification of thetriggering mechanisms of increased flood risk in the lower Missouri River (J. Sizlagy)

21-038 Hatch Decision-making for wildlife under severe uncertainty (A. Tyre)

21-039 Hatch Integrating biological diversity into managed land-use systems (R. Johnson)

21-040 Hatch Multidecadal alternation of sources affecting interannual summer rainfall variations in the central U.S. (S. Hu)

21-041 State Evolution, biomechanics and function in the teeth, jaws and skulls of insectivorous mammals (P. Freeman)

21-042 State Delineation of the physical framework and tectonic features controlling the occurrences of natural resources and natural hazards (M. Carlson)

21-043 State Nebraska landslides (D. Eversoll)

21-044 McIntire-Stennis Trees, shrubs, grasses and the Nebraska sandhills: Experimental ecohydrology and below ground ecology (D. Wedin)

21-045 Hatch Groundwater resource sustainability in SE and South Central Nebraska: Focus on hydrogeology of the Little Blue River Basin (S. Summerside)

21-046 State Environmental stewardship of cattle wastes: Do growth promoting steroids alter toxicity? (D. Snow, A. Kolok, G. Erickson)

21-047 State Determination of appropriate lake water quality expectation in agriculturally dominated ecosystems (J. Holz)

21-048 Other Grant Targeting watershed vulnerability and behaviors leading to adoption of conservation management practices (P. Shea)

21-049 Multistate W-1082, Evaluating the physical and biological availability of pesticides and pharmaceuticals in agricultural context (P. Shea)

Statistics

23-001 State Applications of statistics to research in agriculture (D.B. Marx, W.W. Stroup, A.M. Parkhurst, K.M. Eskridge)

23-003 Multistate W-173, Stress factors of farm animals and their effects on performance (A.M. Parkhurst)

Veterinary and Biomedical Sciences

14-039 State VBMS research laboratories and animal care facility (J.A. Schmitz)

14-059 State Veterinary diagnostic lab system: diagnostic surveillance and disease investigation in Nebraska livestock and poultry (J.A. Schmitz, A.R. Doster)

14-103* Animal Health Pathogenic mechanisms of bacterial respiratory pathogens (J.D. Cirillo)


14-115 Multistate NC-229, Porcine reproductive and respiratory syndrome (PRRRS) (P. Shea, A. Pattnaik, R. Johnson, J. Weber)

14-117* Competitive Grant Role of A/E proteins in E. coli 0157:H7 intestinal colonization of adult cattle (R.A. Moxley)

27-003 Hatch Exchange of carbon dioxide and other atmospheric trace gases in vegetated ecosystems (S.B. Verma)

27-007* Hatch Drought: response and policy implications (D.A. Wilhite, M.J. Hayes)

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

40-002 Hatch Remediating organic contaminants in soil and water through natural and accelerated destruction (S.D. Comfort)
14-118 Animal Health
Pathobiology of porcine colonic spirochetosis caused by Brachyspira pilosicoli (G.E. Duhamel)

14-119* Competitive Grant
Functional genomic analysis of bovine viral diarrhea virus (R.O. Donis)

14-120* Competitive Grant
Mapping of Mannheimia (pasteurella) haemolytica leukotoxin binding site(s) on bovine CD18 (S. Srikumaran)

14-121 Multistate
NC-107, Evolving pathogens, targeted sequences, and strategies for control of bovine respiratory disease (S. Srikumaran)

14-122* Competitive Grant
Functional analysis of bICPO, a bovine herpesvirus 1 gene that is a promiscuous trans-activator (C.J. Jones, Y. Zhang)

14-123 Other Grant
Develop pre-harvest version of the USDA-FSIS fast antibiotic screening test and antibiotic residue avoidance education (D.D. Griffin)

14-124* Competitive Grant
Immunity against porcine reproductive and respiratory syndrome virus infections (F.A. Osorio, O.J. Lopez)

14-125 Multistate

14-126 Animal Health
Pathogenesis of bovine viral diarrhea virus and bovine respiratory syncytial virus infections (C.L. Weller, S.L. Cuppett)

14-127 Competitive Grant
Intervention strategies to reduce Escherichia coli O157:H7 in beef feedyards (D.R. Smith, G.E. Erickson, R.A. Moxley, T.J. Klopfenstein, S. Hinkley)

14-128 Competitive Grant
Regulation of the latency-reactivation cycle by the bovine herpesvirus 1 (BHV-1) latency related gene (C.J. Jones, A.R. Doster)

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 (LR) 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)

14-137 State
Genetic basis of resistance to food-borne bacterial pathogen (G. Duhamel, J. Weber)

14-138 Competitive Grant
Functional analysis of bICPO, the major transcriptional regulatory gene of bovine herpesvirus (C. Jones)

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)

14-142 State
Development of broad-spectrum antibiotics against bacterial pathogens (R. Barletta)

39-142 State
Attitudinal and behavior factors related to adolescent sexual abstinence (D.A. Abbott)

92-036* Hatch
Outcomes in the collaborative management of mental health treatment within a primary care medical setting (R.J. Bischoff, C.W. Smith)

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

94-024* Hatch
Impacts of environmental disclosure policies and constraints on housing transaction practices (S.M. Niemeyer)

Education and Human Sciences Departments

92-036* Hatch
Outcomes in the collaborative management of mental health treatment within a primary care medical setting (R.J. Bischoff, C.W. Smith)

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

Nutrition and Health Sciences

36-062 Competitive Grant
Biotin affect cytokine metabolism (J. Zempleni)

91-045 Multistate
NC-219, Using stages of change model to promote consumption of grains, vegetables and fruits by young adults (N.M. Betts)

91-052 Competitive Grant
Using the stages of change model to increase fruit and vegetable intake (J. Ruud)

91-053 Hatch
The essential role of biotin in cell proliferation (J. Zempleni)

91-056 Multistate
W-1002, Nutrient bioavailability — phytoneutrants and beyond (J.A. Driskell)

91-057 Hatch
Regulatory mechanisms of intestinal cholesterol absorption (T.P. Carr)

91-058 Multistate
NC-1167, N-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)

91-060* Hatch
Identification and characterization of grain sorghum, lipid compounds responsible for lowering cholesterol levels in hamsters (T.P.Carr, V.L. Schlegel, C.L. Weller, S.L. Cuppett)

91-061 Hatch
The use of inulin as a functional food ingredient (M. Schnepf)

Textiles, Clothing and Design

94-024* Hatch
Impacts of environmental disclosure policies and constraints on housing transaction practices (S.M. Niemeyer)
### Off-Campus Research Centers

#### Northeast Research and Extension Center

<table>
<thead>
<tr>
<th>Code</th>
<th>State</th>
<th>Title</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>41-032</td>
<td>Multistate</td>
<td>NC-205, Ecology and management of European corn borer and other lipi-doteran pest of corn</td>
<td>(T. Hunt)</td>
</tr>
<tr>
<td>42-007</td>
<td>Hatch</td>
<td>Management considerations for feedlot cattle exposed to environmental stressors</td>
<td>(T.L. Mader)</td>
</tr>
<tr>
<td>42-024</td>
<td>Hatch</td>
<td>Environmentally sound utilization of animal manures and fertilizers in cropping systems for northeast Nebraska</td>
<td>(C.A. Shapiro)</td>
</tr>
<tr>
<td>42-025</td>
<td>Hatch</td>
<td>Integrated weed management (IWM) for eastern Nebraska</td>
<td>(S.Z. Knezevic)</td>
</tr>
<tr>
<td>42-026</td>
<td>Hatch</td>
<td>Developing economic thresholds for insect pests of conventional and value-added crops in northeast Nebraska</td>
<td>(T.E. Hunt)</td>
</tr>
<tr>
<td>42-027</td>
<td>Hatch</td>
<td>Developing operational criteria for application of swine lagoon water via center pivot</td>
<td>(W.L. Kranz)</td>
</tr>
</tbody>
</table>

### Panhandle Research and Extension Center

<table>
<thead>
<tr>
<th>Code</th>
<th>State</th>
<th>Title</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>44-004</td>
<td>State</td>
<td>Fertilizer and manure application for production of continuous corn</td>
<td>(D.D. Baltensperger, G. Hergert)</td>
</tr>
<tr>
<td>44-016</td>
<td>Hatch</td>
<td>Weed control systems for western Nebraska irrigated crops and rangeland</td>
<td>(R.G. Wilson)</td>
</tr>
<tr>
<td>44-042</td>
<td>Hatch</td>
<td>Agricultural enhancement of potato production and utilization</td>
<td>(A.D. Pavlista)</td>
</tr>
<tr>
<td>44-052</td>
<td>Hatch</td>
<td>The economics of alternative beef cattle marketing and feeding strategies</td>
<td>(D.M. Feuz)</td>
</tr>
<tr>
<td>44-055</td>
<td>Hatch</td>
<td>Intensification of winter wheat based dryland cropping systems for western Nebraska</td>
<td>(D.J. Lyon)</td>
</tr>
<tr>
<td>44-058</td>
<td>Hatch</td>
<td>Integrated management systems for arthropod pests in wheat and other crops in western Nebraska</td>
<td>(G.L. Hein)</td>
</tr>
<tr>
<td>44-060*</td>
<td>Hatch</td>
<td>The ecology, etiology, and management of crop diseases important to western Nebraska</td>
<td>(R.M. Harveson)</td>
</tr>
<tr>
<td>44-062</td>
<td>Hatch</td>
<td>Improvement of proso millet and other crops for adaptation to western Nebraska</td>
<td>(D.D. Baltensperger)</td>
</tr>
<tr>
<td>44-063</td>
<td>Hatch</td>
<td>Irrigation management with limited water supplies</td>
<td>(C.D. Yonts)</td>
</tr>
</tbody>
</table>

### U.S. Meat Animal Research Center

<table>
<thead>
<tr>
<th>Code</th>
<th>State</th>
<th>Title</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>44-011</td>
<td>State</td>
<td>Development and operation of the U.S. Meat Animal Research Center</td>
<td>(S. Kappes)</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Code</th>
<th>State</th>
<th>Title</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>46-001</td>
<td>State</td>
<td>Development and operation of the U.S. Meat Animal Research Center</td>
<td>(S. Kappes)</td>
</tr>
</tbody>
</table>

### West Central Research and Extension Center

<table>
<thead>
<tr>
<th>Code</th>
<th>State</th>
<th>Title</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>43-066</td>
<td>Hatch</td>
<td>Selection, development and propagation of native herbaceous landscape plants</td>
<td>(D.T. Lindgren)</td>
</tr>
</tbody>
</table>

### Interdisciplinary Activities

#### Administration

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>32-009*</td>
<td>Other Grant</td>
<td>Soil science and forest health management research-natural resources facility</td>
</tr>
</tbody>
</table>

### Agricultural Research and Development Center

<table>
<thead>
<tr>
<th>Code</th>
<th>State</th>
<th>Title</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>45-001</td>
<td>State</td>
<td>Field laboratory development</td>
<td>(D.J. Duncan)</td>
</tr>
</tbody>
</table>

### Center for Biotechnology

<table>
<thead>
<tr>
<th>Code</th>
<th>State</th>
<th>Title</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>34-001</td>
<td>Hatch</td>
<td>Mechanisms of plant cell signaling</td>
<td>(M.E. Fromm)</td>
</tr>
</tbody>
</table>
Center for Grassland Studies

33-001  State
Center for Grassland Studies
(M.A. Massengale)

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

Industrial Agricultural Products Center

29-013* Other Grant
Post award management of biomass r & d initiative projects (M.A. Hanna)

Plant Science Initiative

35-001* Competitive Grant
Mitochondria and Chloroplasts Gordon Conference (S.A. Mackenzie)

Sustainable Agriculture Research and Education (SARE) Program

32-008* Special Grant
North Central Region Sustainable Agriculture Research and Education Program (W. Wilcke)

32-010 Special Grant
FY02 NCR SARE Plan of Work (W. Wilcke)

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)

Nebraska Rural Initiative

03-101 Competitive Grant
Relocation to the Buffalo Commons using a marketing approach (R. Cantrell)
While 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. In each of the last six years the goals have been exceeded.

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 2005-2006. 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 2005.

### Journals in which faculty have published during 2005

#### Agricultural Economics

- Agricultural and Forest Meteorology
- Agricultural Systems
- Agronomy Journal
- Antimicrobial Agents Chemotherapy
- Applied and Environmental Microbiology
- Applied Engineering in Agriculture
- Australian Journal of Agricultural Research
- Computers and Electronics in Agriculture
- Crop Management
- Crop Science
- Euphytica
- Federation of European Biochemical Societies and Blackwell Publishing Journal
- Forage and Grazinglands
- Genome
- Geophysical Research Letters
- HortScience
- HortTechnology
- Human Ecology Review
- In Vitro Cellular Development Biology-Plant
- International Turfgrass Society Research Journal
- Journal of Animal Science
- Journal of Nutrition
- Journal of Plant Biochemistry and Biotechnology
- Journal of Soil and Water Conservation
- Journal of Environmental Quality
- Journal of Natural Resources and Life Sciences Education
- Journal of Nutrition
- Journal of Water and Health
- Journal of the American Society for Horticultural Science

#### Agronomy and Horticulture

- Agricultural Leadership, Education and Communication

- Academic Exchange Quarterly
- Interdisciplinary Journal of Knowledge and Learning Objectives
- Journal of Sustainable Agriculture
- Journal of Leadership and Organizational Studies
- Psychological Reports
Animal Science

Animal Genetics
Applied Engineering in Agriculture
Biochemical and Biophysical Research Communications
Crop Science
Dairy Science
Foodborne Pathogens and Disease
Genetics
Genetics, Selection, Evolution
International Journal of Food Microbiology
International Journal of Biometeorology
International Journal of Poultry Science
Journal of Environmental Quality
Journal of Applied Poultry Research
Journal of Animal Science
Meat Science
Microbiology
Physiological Genomics
Poultry Science
Rangelands
Science
Small Ruminant Research
Thailand Journal of Agricultural Science
The Professional Animal Scientist

Biological Systems Engineering

Advances in Polymer Technology
Applied Engineering in Agriculture
Computers and Electronics in Agriculture
Biosystems Engineering
Industrial Crops and Products
International Journal of Food Microbiology
International Journal of Remote Sensing
Irrigation Science
Journal of Environmental Quality
Journal of Soil and Water Conservation
Journal of Water and Health
Transactions of the American Society of Agricultural Engineers
Water Resources Research

Entomology

Archives of Insect Biochemistry and Physiology
Bulletin of Environmental Contamination Toxicology
Coleopterists Bulletin
Crop Science
Federation of American Societies for Experimental Biology Journal
HortScience
Insect Molecular Biology
Insect Biochemistry and Molecular Biology
Journal of Economic Entomology
Journal of Insect Science
Journal of Nutrition
Online Journal of Distance Learning Administration
Sociobiology

Biochemistry

Archives of Biochemical Biophysics
Biochemical and Biophysical Research Communications
Biochemical Biophysical Acta
Biochemistry
Bioinformatics
Canadian Journal of Botany
Cancer Research
Food Science and Technology
Cereal Chemistry
Crop Science
Expert Opinion Immunology
Food and Chemical Toxicology
Foodborne Pathology Diagnosis
International Archives Allergy Immunology
International Journal of Food Microbiology
Journal of Cereal Science
Journal of Food Protection
Journal of Nutrition
Journal of Bacteriology
Journal of Agricultural and Food Chemistry
Molecular Nutrition and Food Research

Plant Pathology
Applied and Environmental Microbiology
Archives of Virology
Biochemistry
Canadian Journal of Microbiology
Crop Science
Eukaryotic Cell
European Journal of Agronomy
Genetics
Journal of Bacteriology
Journal of General Virology
Journal of Virology
Journal of Structural Biology
Journal of Nematology
Molecular Plant Pathology
Molecular Plant-Microbe Interaction
Mycologia
Nature
Nematology
Phytopathology
Plant Health Progress
Plant Disease
Plant Pathology Journal
Systematic and Applied Microbiology
Virology

School of Natural Resources
Agricultural and Forest Meteorology
Agroforestry Systems
Agricultural Systems
American Geophysical Union
Applied Optics
Arid Ecosystems
Bioremediation Journal

Canadian Water Resources Journal
Canadian Journal of Forest Research
Comparative Biochemistry and Physiology
Ecology Letters
Environmental Management
Environmental Geology
Environmental Modeling and Assessment
Environmental Science and Technology
Evolution
Fisheries Management and Ecology
Gap Analysis Program Bulletin
Geophysical Research Letters
Great Plains Research
Ground Water
IEEE Transactions in Geoscience and Remote Sensing
Information Sciences
International Journal of Climatology
ISPRS Journal of Photogrammetry and Remote Sensing
Journal of Plant Physiology
Journal of Climate
Journal of Field Ornithology
Journal of Agricultural and Food Chemistry
Journal of Small-Scale Forest Economics, Management and Policy
Journal of Hydrology
Journal of Wildlife Management
Land Cover of Nebraska
Museum Notes
Natural Resources Research
New Phytologist
OIKOS
Practice Periodical of Hazardous, Toxic, and Radioactive Waste Management
Remote Sensing of Environment
Scientia Horticulturae
Wildlife Research

Statistics
Agricultural Systems
Computer and Electronics in Agriculture Crop Management Journal
Crops and Products
Euphytica
European Journal of Agronomy
Industrial Crops and Products
International Journal of Biometeorology
Journal of Agronomy
Journal of Dental Research
Journal of Animal Science
Journal of Food Protection
Journal of the American Dietetic Association
Journal of Dairy Science
Plant Disease
Soil Science
Veterinary and Biomedical Sciences
American Journal of Veterinary Research
American Journal of Physiology Heart Circulation Physiology
Antimicrobial Agents and Chemotherapy
Applied and Environmental Microbiology
Bovine Practitioner
Cornea
Current Eye Research
FEMS Microbiology Letters
Foodborne Pathogens and Disease
Investigative Ophthalmology and Visual Science
Journal of Animal Science
Journal of Clinical Microbiology
Journal of Virology
Journal of Bacteriology
Journal of General Virology
Virology

Education and Human Sciences Departments

Family and Consumer Sciences
American Journal of Maternal Child Nursing
College Student Journal
Community Work and Family
Family Relations
Great Plains Research
Hispanic Journal of Behavioral Sciences
International Journal of Sociology of the Family
Journal of Psychological and Social Issues
Journal of Bacteriology
Journal of Applied Developmental Psychology
Journal of Early Childhood Teacher Education
Korean Journal of Psychological Social Issues
Marriage and Family Review
MCN The American Journal of Maternal Child Nursing
Personality and Individual Differences
Young Children

Nutrition and Health Sciences
Annual Review of Nutrition
Environmental Science and Technology
Federation of American Societies for Experimental Biology Journal
Journal of Nutritional Biochemistry
Journal of The American Dietetic Association
Journal of Sensory Studies
Journal of Nutrition Biochemistry
Journal of Nutrition
Journal of Food Quality
Nutrition Research
Nutrition Today
Pakistan Journal of Nutrition
The American Dietetic Association Journal of Soil and Water Conservation

Textiles, Clothing and Design
American Association of Textile Chemists Colorists Review
Business and Society
Dyes and Pigments
Green Chemistry
Journal of Developmental Entrepreneurship
Journal of Fashion Management and Marketing
Journal of the American Institute for Conservation
Journal of Applied Polymer Science
Journal of Cotton Science
Polymer
Textiles Research Journal
Trends in Biotechnology

Off-Campus Research Centers
Northeast Research and Extension Center
Agronomy Journal
Applied Engineering in Agriculture
Crop Management Journal
International Journal of Biometeorology
Journal of Soil and Water Conservation
The Professional Animal Scientist
Transactions of the American Society of Agricultural Engineers
Weed Technology
Weed Science
Panhandle Research and Extension Center

Agronomy Journal
Crop Science
Crop Management Journal
Journal of Animal Science
Journal of Virology
Journal of Natural Resources and Life Sciences Education
Journal of Aging and Physical Activity
Journal of The American Dietetic Association
Plant Disease
Rangeland Ecology and Management
Soil Science
Weed Science
Weed Technology
Women's Health Issues

West Central Research and Extension Center

Agricultural Food Chemistry
Agronomy Journal
Crop Science
Crop Management Journal
HortScience
International Journal of Remote Sensing
Journal of Animal Science
Journal of Natural Resources and Life Sciences Education
Rangeland Ecology and Management
Soil Science
Transactions of the American Society of Agricultural Engineers

Water Center

Agricultural Food Chemistry
Research Publications (2005)

Agricultural/ Natural Resources Units

Agricultural Economics

Journal Articles

Aiken, J.D. 2005.
The western common law of tributary ground water: Implications for Nebraska. Nebraska Law Review 83:541-95. (J. Series No. 14662)

Comparing basis risk in futures and options: A test of the meta-industry hypothesis. Canadian Journal of Agricultural Economics 43:239-57. (J. Series No. 14477)

Delfino, E. 2005.
Understanding farmers’ decision making under the influence of electronic and climate information. American Journal of Agricultural Economics 87:177-97. (J. Series No. 14830)


Agricultural productivity and institutions in Sub-Saharan Africa. (R. K. Perrin, Advisor)

Ph.D. Dissertation

M.S. Theses

Comparative effects of the sorghum bmr-6 and bmr-12 genes I: Forage sorghum yield and quality. Crop Science 45:2234-2239.

Comparative effects of the sorghum bmr-6 and bmr-12 genes II: Grain sorghum grain yield, stover yield and stover quality. Crop Science 45:2240-2245. (J. Series No. 14830)


Adoption of riparian forest buffers on private lands in Nebraska, U.S.A. Small-Scale Forest Economics, Management, and Policy 4:185-203.

Referred Proceedings


Undergraduate and graduate teaching of courses on price risk management. In: Academic Symposium of the International Food and Agribusiness Management Association (IFAMA), Chicago, IL. URL: http://www.ifama.org/conferences/2005Conference/default.htm

Reexamination of the income capitalization approach to agricultural land valuation. In: Proceedings of the Southeast Decision Sciences Institute, Raleigh, NC. (CD publication)

Agricultural leadership, education and communication

Journal Articles

Motivation, charismatic and transformational leadership: A test of antecedents. Journal of Leadership and Organizational Studies 11:26-40. (J. Series No. 14764)


Influence of sex differences in leaders’ behavior. Psychological Reports 96:499-510. (J. Series No. 14864)

Referred Proceedings


M.S. Theses


Ph.D. Dissertations


Gomez, Alvarez L. 2005. Seven principles of good teaching practice: predictors of perceived learning and satisfaction with online courses. (J.W. King, Advisor)


Williams, S.N. 2005. Testing the relationships between personality, motivation, leadership and process to success of self-directed work teams. (S.M. Fritz, Advisor)


M.S. Theses

Soybean growth, development, and yield – the effect of planting date. (J.E. Specht and A.R. Dobermann, Advisors)

Development of novel input and output traits in soybean. (T.E. Clemente, Advisor)

Enhancing sustainability by adding a dynamic component to the cropping systems of the semiarid central Great Plains. (D.J. Lyon and T.J. Arkebauer, Advisors)

Ph.D. Dissertations

Understanding soil greenhouse gas fluxes in intensive maize-based cropping systems. (A.R. Dobermann, Advisor)

Warm-season grass germination and seedling development as affected by seed priming. (I.E. Moser and J.L. Stubendiek, Advisors)

Transferability of SSR markers in the grass family. (P.S. Baenziger and I.M. Dweikat, Advisors)

Legorreta-Padilla, EJ. 2005.
The impact of maize and soybean cropping systems on carbon and nitrogen dynamics in soil organic matter. (D.T. Walters, Advisor)

Ecology and management of Sandhills ecosystems: vegetation and quality response to summer grazing and fall stock rate on Sandhills rangeland and comparison of botanical composition, root mass-density, and carbon/nitrogen budgets in subirrigated meadows in the Sandhills. (W.H. Schacht and P.E. Reece, Advisors)

Primer design and real-time PCR for mRNA expression in velvetleaf and common sunflower. (A.R. Martin and F.W. Roeth, Advisors)

Animal Science

Journal Articles

Genomic mapping of direct and correlated responses to long-term selection for three to six week weight gain in mice. Genetics 170:1863-1877. (J. Series No. 14908)

Development of an integrated model for heat transfer and dynamic growth of Cladostereum perfringens during the cooling of cooked boneless ham. International Journal of Food Microbiology 101:123-144. (J. Series No. 14597)

An evaluation of production and economic efficiency of two beef systems from calving to slaughter. Journal of Animal Science 83:694-704. (J. Series No. 14180)

Epigenetic transgenerational actions of endocrine disruptors on male fertility. Science 308:1466-1469. (J. Series No. 14722)

Optimal wet corn gluten and protein levels in steam flaked corn-based finishing diets for steer calves. Journal of Animal Science 83:2798-2805. (J. Series No. 14604)


Effects of early season insect defoliation on the critical time for weed removal in soybean. (S.Z. Knezevic and T. Hunt, Advisors)

Competitiveness of major weed species in soybean. (S.Z. Knezevic and A. Martin, Advisors)

Microclimate modifications in central Great Plains using high tunnels. (L. Hodges, Advisor)

Kaye, N.M. 2005.
Nodulating and non-nodulating soybean rotation influence on soil NO2-N, soil H2O sorghum growth, grain yield and quality. (S.C. Mason, Advisor)

Lewis, J.D. 2005.
Soil physical properties of aging golf course putting greens. (R.E. Gussonin and R.C. Shearman, Advisors)

Nitrogen mineralization from soil and manure sources: in-situ study of tillage systems and management zones. (B.J. Wienehold and R.B. Ferguson, Advisors)

Identification and mapping of molecular markers associated with QTLs for kernel traits in pearl millet. (I.M. Dweikat, Advisor)

The development and assessment of interactive computer animations in plant breeding and genetics education. (D.J. Lee, Advisor)

Field sandbur control with various herbicides. (S.Z. Knezevic, D. Lee, and D. Nanuth, Advisors)

Transferability of SSR markers in the grass family. (P.S. Baenziger and M. Mamo, Advisors)

Genetic evaluation of dairy cattle with test-day models with autoregressive covariance structures and with a 305-day model. Dairy Science 88:3346-3353. (J. Series No. 14083)


Genetic relationship between milk and litter weight for Targhee, with a 305-day model. Dairy Science 88:3346-3353. (J. Series No. 14080)
M.S. Theses


Bott, R.C. 2005. The role of vascular endothelial growth factor (VEGF) in embryonic testis morphogenesis. (A.S. Cupp, Advisor)

Garza Quiroga, J.G. 2005. Effects of crude protein and/or crystalline amino acid concentration on serum IGF-1 concentrations and mRNA expression in growing pigs. (P.S. Miller, Advisor)

Hargrave, K.M. 2005. Conjugated linoleic acid-induced body fat loss and adipose tissue apoptosis. (J.L. Miner, Advisor)


Matayompong, P. 2005. Interactions of implant strategies and racopamine on carcass characteristics, muscle growth, and tenderness. (C.R. Calkins, Advisor)


Rios-Utrera, A. 2005. Effects of age, weight and fatness slaughter end points on estimates of genetic parameters for carcass traits. (L.D. Van Vleck, Advisor)

Senneke, S.L. 2005. Indexes in retrospect to determine situations in which no change in gestation length would be expected. (L.D. Van Vleck, Advisor)


Ph.D. Dissertations

Fischer, R.L. 2005. Effects of crude protein and/or crystalline amino acid concentration on serum IGF-1 concentrations and mRNA expression in growing pigs. (P.S. Miller, Advisor)


Garza Quiroga, J.G. 2005. Effects of crude protein and/or crystalline amino acid concentration on serum IGF-1 concentrations and mRNA expression in growing pigs. (P.S. Miller, Advisor)

Hargrave, K.M. 2005. Conjugated linoleic acid-induced body fat loss and adipose tissue apoptosis. (J.L. Miner, Advisor)


Matayompong, P. 2005. Interactions of implant strategies and racopamine on carcass characteristics, muscle growth, and tenderness. (C.R. Calkins, Advisor)


Rios-Utrera, A. 2005. Effects of age, weight and fatness slaughter end points on estimates of genetic parameters for carcass traits. (L.D. Van Vleck, Advisor)

Senneke, S.L. 2005. Indexes in retrospect to determine situations in which no change in gestation length would be expected. (L.D. Van Vleck, Advisor)


Biochemistry

Journal Articles


M.S. Theses


Serban, Bobby. 2005. Characterization of an arabidopsis enzyme that conjugates amino acids to indole-3-acetic acid. (P. Staswick, Advisor)

Ph.D. Dissertations


Kim, Y.J. 2005. Development and characterization of bathochromic phytochrome mutants. (P.S. Song and D. Weeks, Advisors)


Book Chapters

Biological Systems Engineering

Journal Articles


Book Chapters


Refereed Proceedings


M.S. Theses


Morse, J.L. 2005. System to develop and test compounding algorithms for circular ultrasound imaging. (G.R. Bashford, Advisor)

Ph.D. Dissertations


Xu, Y. 2005. Preparations and properties of biodegradable polymers from starch acetate and starch acetate-maleate mixed esters. (M.A. Hanna, Advisor)
Entomology

Journal Articles


Tirosele, B. 2005. Population dynamics of soybean aphid (Aphis glycines Matsumura - Homoptera: Aphididae) and bean leaf beetle (Cerotoma trifurcata Forster-Coleoptera: Chrysomelidae) on edamame soybean in Nebraska. (J.E. Foster and T.E. Hunt, Advisors)

Ph.D. Dissertations


Referred Proceeding


Research Proceeding


Book Chapters


Ph.D. Dissertations


School of Natural Resources

Journal Articles


M.S. Theses

Connat, J.A. 2005. Using close range spectroscopy to quantify corn leaf defoliation caused by simulated hail damage. (D.C. Rundquist, Advisor)

Eggemeyer, K. 2005. Ecophysiology of trees and grasses in the Nebraska Sandhills. (T. Awada and F.E. Harvey, Advisors)


Post van der Burg, M. 2005. Factors affecting songbird nest survival and brood parasitism in the rainwater basin region of Nebraska. (L. Powell, Advisor)


Ph.D. Dissertation


Education and Human Sciences

Family and Consumer Sciences

Journal Articles


Books


Book Chapters


Ph.D. Dissertations
Harris, B. 2005. Impact of early head start and community childcare partnerships on quality infant and toddler programming. (S. Churchill and P. Zeece, Advisors)


Zhao, J. 2005. A study of parental educational expectations for elementary, middle, and high school age children in Beijing, China. (J. DeFrain, Advisor)

Nutrition and Health Sciences

Journal Articles


Books


Book Chapters


M.S. Theses

Elvins, C.E. 2005. Validation of a method to access positions of three Division I female athletic teams: A retrospective study. (N.M. Lewis, Advisor)


Manthey, K.C. 2005. The influence of riboflavin on the oxidative folding of secretory proteins and oxidative stress in HepG2 cells. (J. Zempleni, Advisor)

McClanahan, J.M. 2005. Sensory qualities of ground bison patties prepared by two different cookery methods. (J.A. Driskell, Advisor)


Ritter-Gooder, P.K. 2005. Validity and reliability of a quantitative food frequency questionnaire measuring omega-3 fatty acid intakes in cardiac patients in the Midwest. (N.M. Lewis, Advisor)

Ph.D. Dissertation
Skipper, A. 2005. Development of a model and a survey of clinical dietitians, employers, and educators for interest in advanced medical nutrition therapy practice and education. (N.M. Lewis, Advisor)

Textiles, Clothing and Design
Journal Articles


Improving the resistance of poly-
lactide to hydrolysis based on the
arrangement of L- and D-lactide in
poly(L-lactide-co-D-lactide), p. 93. In: American Chemical Society
Polymeric Material Science and
Engineering Preprints, American
Chemical Society, Division of Poly-
mer Chemistry, New York, NY.

Gender differences of small com-
community business owners in network
membership perceptions, p. 210. In:
P. Dickson (ed.), International
Council of Small Business World
Conference Proceedings. The
George Washington School of Busi-
ness, Washington, D.C.

Miller, N.J., T.L. Besser, and A. Malshe.
2005.
Small business strategic networking:
Impacts and Outcomes, CD Section
3.1, In: E.L. Spotts (ed.), Develop-
ments in Marketing Sciences Annual
Conference Proceedings XXVIII. Uni-
versity of Miami, Coral Cables, FL.

Niehm, L.S., N. Miller, and
Assessing the impact of manage-
rial adjustment strategies on family
In: J. Gillman (ed.), Proceedings of
the United States Association for
Small Business and Entrepreneur-
ship Annual Conference. University
of Wisconsin, Madison, WI.

Niemeyer, S., C. Cook, and B.J. White.
2005.
Local housing decisions and rural
community vitality: Planning for
aging adults, p. 49. In: Midwest
Sociological Society Color Mobilizing
for Change Annual Meeting, Midwest
Sociology Society, La Crosse, WI.

Niehm, S., C. Cook, and B.J. White.
2005.
Housing and services for the aging in
rural communities, p. 66-68 (online:
http://www.housingeducators.org/
%20HERA%20Conf%20Proceedings.
pdf), In: K. Tremblay and L. Blaesi
(eds), Healthy Home Environments,
Housing Educators and Research
Association Annual Conference Pro-
ceedings, Boulder, CO.

Alternative fibers from agricultural
byproducts for textiles, p. 284-290.
In: American Association of Textile
Chemists and Colorists Book of Papers—AATCC
International Conference and
Exhibition, American Association of
Textile Chemists and Colorists,
Research Triangle Park, NC.

Influence of some commercial soft-
ceners on the properties of cotton
fabrics, p. 209-216. In: American
Association of Textile Chemists and
Colorists Book of Papers—AATCC
International Conference and
Exhibition, American Association of
Textile Chemists and Colorists,
Research Triangle Park, NC.

Takamura, E., K. Yoshizumi, and
Photoyellowing and photobleach-
ing of silk and wood fabrics under
monochromatic and multichromatic
light radiation, p. 75. In: K. MacKay,
B. Sztah, and J. Thompson (eds.),
American Institute for Conservation
Textile Specialty Group Postprints.
Minneapolis, MN.

Yang, Y., V. Naarani, and
Color repeatability in inkjet print-
ing, p. 201-207. In: American Asso-
ciation of Textile Chemists and
Colorists Book of Papers—AATCC
International Conference and
Exhibition, American Association of
Textile Chemists and Colorists,
Research Triangle Park, NC.

M.S. Theses

An exploratory study of women
in female-dominated strategic
networks versus women in male-
dominated strategic networks.
(N.J. Miller, Advisor)

Naarani, V. 2005.
Improvement of lightfastness of
reactive ink jet printed fabrics using
UV absorbers. (Y. Yang, Advisor)

M.A. Thesis

Moore, K. 2005.
Partisan pieces: Quilts of patriotic
and political persuasion. (P.C. Crews, Advisor)
Tympic temperature and behavior associated with processing feedlot cattle. The Professional Animal Scientist 21:339-344. (J. Series No. 14420)


Refereed Proceedings


M.S. Theses

Frohner, J.D. 2005. 
Health-related microbiological aerosols originating from spray irrigation of cattle wastewater. (J. Thurston-Enriquez and C.A. Shapiro, Advisors)

Effects of early season insect defoliation on the critical time for weed removal in soybean (S. Z. Knezevic and T.E. Hunt, Advisors)

Competitiveness of major weed species in soybean. (S.Z. Knezevic and A. Martin, Advisors)

Tirosele, B. 2005. 
Population dynamics of soybean aphid (Aphis glycines Matsumura-Homoptera: Aphididae) and bean leaf beetle (Cerota trifurcata Forster-Coleoptera: Chrysomelidae) on edamame soybean in Nebraska. (T.E. Hunt and J.F. Foster, Advisors)

Field sandbar control with various herbicides. (S.Z. Knezevic, D. Lee, and D. Nanuth, Advisors)

Ph.D. Dissertation

Assessment of the genetic structure, variability, and gene flow of the European corn borer, Ostrinia nubilalis (Hubner) (LEPIDOPTERA: CRAMBIDAE). (T.E. Hunt and J.F. Foster, Advisors)

Panhandle Research and Extension Center

Journal Articles


Registration of ’Armon’ hard white winter wheat. Crop Science 45:1661-1662.

Registration of ’Arrowsmith’ hard white winter wheat. Crop Science 45:1662-1663.


Early season applications of sulfur fertilizers increase potato yield and reduce tuber defects. Agronomy Journal 97:599-603.


Registration of NPM-5 and NPM-6 dwarf grain pearl millet restorer lines. Crop Science 45:1166-1167.


Using geospatial information technologies and field research to enhance classroom learning. Journal of Natural Resources and Life Sciences Education 34:62-66.


HC-Pro is a determinant of Eriophyidae mite transmission. Journal of Virology 79:9054-9061.


Agronomic characteristics, malt quality, and disease resistance of barley germplasm lines with partial Fusarium head blight resistance. Crop Science 45:1235-1240.


Repeated reduced rates of broadleaf herbicides in combination with methylated seed oil for postemergence weed control in sugarbeet (Beta vulgaris). Weed Technology 19:855-860.

Research Bulletin  
Effects of early season insect defoliation in soybean. (S.Z. Knezevic, Advisors)  
West Central Research and Extension Center

Journal Articles  

Effect of administration of human chorionic gonadotropin after artificial insemination on concentrations of progesterone and conception rates in beef heifers of hCG administration after artificial insemination on progesterone concentrations and AI conception rates in beef heifers. Journal of Animal Science 83:1403-1405. (J. Series No. 14672)


Survival and growth of wildflowers with buffalo grass or blue grama grass. HortScience 40:1787-1789. (J. Series No. 14490).


Response of soybean to deficit irrigation in the semi-arid environment of west-central Nebraska. Transactions of the American Society of Agricultural Engineers 48:2189-2203. (J. Series No. 14637)


Using geospatial information technologies and field research to enhance classroom learning. Journal of Natural Resources and Life Sciences Education 34:62-66.


Ph.D. Dissertation  
Ecology and management of Sandhills ecosystems: vegetation and quality response to summer grazing date and fall stocking rate on Sandhills rangeland and comparison of botanical composition, root mass-density, and carbon/nitrogen budgets in subirrigated meadows in the Sandhills. (W.H. Schacht and P.E. Reece, Advisors)

West Central Research and Extension Center

Ph.D. Dissertation  


Using geospatial information technologies and field research to enhance classroom learning. Journal of Natural Resources and Life Sciences Education 34:62-66.


Ph.D. Dissertation  

M.S. Thesis  
Harris, H.L. 2005.  
Utilization of whole soybeans or corn milling co-products in beef heifer development diets. (A.S. Cupp and R.N. Funston, Advisors)
ARD receives funding from federal formula funds, industry grants, federal grants and state appropriations. During fiscal year 2005-2006, ARD obtained external grant, contract and research support funds that totaled $37,715,479. This amount represents 36% percent of all research grant and contract funds received by UNL. 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**  
July 1, 2005 through June 30, 2006

<table>
<thead>
<tr>
<th>Federal Formula Funds:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Hatch Formula</td>
<td>$2,266,490</td>
</tr>
<tr>
<td>Multi-State Research</td>
<td>$864,548</td>
</tr>
<tr>
<td>McIntire-Stennis</td>
<td>$202,400</td>
</tr>
<tr>
<td>Animal Health</td>
<td>$145,203</td>
</tr>
<tr>
<td><strong>Total Federal Formula Funds</strong></td>
<td><strong>$3,478,641</strong></td>
</tr>
</tbody>
</table>

| State-Appropriated Funds               | $33,076,458  |

| Nebraska Research Initiative Funds     | $3,284,838   |

<table>
<thead>
<tr>
<th>Contracts and Grants:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>USDA Cooperative Agreements</td>
<td>$1,091,881</td>
</tr>
<tr>
<td>USDA Special and Competitive Grants</td>
<td>$5,197,492</td>
</tr>
<tr>
<td>Federal Grants - (NSF, NIH, USEPA, AID, DOE)</td>
<td>$9,111,588</td>
</tr>
<tr>
<td>Industry Grants and Gifts</td>
<td>$11,785,956</td>
</tr>
<tr>
<td><strong>Total Grants and Gifts</strong></td>
<td><strong>$27,186,917</strong></td>
</tr>
</tbody>
</table>

| Product Sales                          | $12,931,367  |

| **Total Expenditures**                 | **$79,958,221**|
Agricultural Research Division  
Research Investments by Category and Funding Source FY 2005

<table>
<thead>
<tr>
<th>Expenditure Category</th>
<th>State Appropriated and Hatch Funds</th>
<th>Federal Grants</th>
<th>Industry Grants</th>
<th>Revolving Funds</th>
<th>All Funds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salaries, Wages and Benefits</td>
<td>% of total within source</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrative/Faculty</td>
<td>41.1</td>
<td>12.1</td>
<td>10.0</td>
<td>1.8</td>
<td>23.4</td>
</tr>
<tr>
<td>Managerial/Professional</td>
<td>13.1</td>
<td>7.5</td>
<td>8.8</td>
<td>5.5</td>
<td>9.9</td>
</tr>
<tr>
<td>Office/Service</td>
<td>9.8</td>
<td>3.4</td>
<td>7.9</td>
<td>14.3</td>
<td>8.9</td>
</tr>
<tr>
<td>Hourly Wages</td>
<td>0.3</td>
<td>1.9</td>
<td>3.5</td>
<td>3.3</td>
<td>1.7</td>
</tr>
<tr>
<td>GRA Stipends</td>
<td>5.5</td>
<td>11.4</td>
<td>11.7</td>
<td>1.6</td>
<td>7.1</td>
</tr>
<tr>
<td>Benefits</td>
<td>16.1</td>
<td>8.7</td>
<td>9.8</td>
<td>6.6</td>
<td>11.9</td>
</tr>
<tr>
<td><strong>Subtotal:</strong></td>
<td><strong>85.9</strong></td>
<td><strong>45.0</strong></td>
<td><strong>51.8</strong></td>
<td><strong>33.1</strong></td>
<td><strong>62.9</strong></td>
</tr>
<tr>
<td>Operating</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supplies and Expenses</td>
<td>9.5</td>
<td>50.1</td>
<td>40.9</td>
<td>53.7</td>
<td>30.6</td>
</tr>
<tr>
<td>Travel</td>
<td>1.0</td>
<td>2.4</td>
<td>5.0</td>
<td>3.1</td>
<td>2.3</td>
</tr>
<tr>
<td>Equipment</td>
<td>3.6</td>
<td>2.5</td>
<td>10.1</td>
<td>10.1</td>
<td>4.3</td>
</tr>
<tr>
<td><strong>Subtotal:</strong></td>
<td><strong>14.1</strong></td>
<td><strong>55.0</strong></td>
<td><strong>48.2</strong></td>
<td><strong>66.9</strong></td>
<td><strong>37.1</strong></td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td><strong>100.0</strong></td>
<td><strong>100.0</strong></td>
<td><strong>100.0</strong></td>
<td><strong>100.0</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>
Agricultural Research Division
Selected Research Program Information

<table>
<thead>
<tr>
<th>Category</th>
<th>FY 2004</th>
<th>FY 2005</th>
<th>FY 2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Information:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Projects at beginning of year</td>
<td>371</td>
<td>330</td>
<td>371</td>
</tr>
<tr>
<td>Projects terminating</td>
<td>81</td>
<td>41</td>
<td>54</td>
</tr>
<tr>
<td>Projects revised</td>
<td>13</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>New projects</td>
<td>40</td>
<td>20</td>
<td>21</td>
</tr>
<tr>
<td>Projects at the end of the year</td>
<td>330</td>
<td>309</td>
<td>338</td>
</tr>
<tr>
<td>Faculty full-time equivalents (FTE)</td>
<td>126.5¹</td>
<td>131.9²</td>
<td>145.2²</td>
</tr>
<tr>
<td>Expenditures for budgeted research faculty:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Federal formula and state approp., $/FTE³</td>
<td>$297,557</td>
<td>$301,956</td>
<td>$274,380</td>
</tr>
<tr>
<td>Grant and contracts, $/FTE</td>
<td>$211,728</td>
<td>$217,849</td>
<td>$187,238</td>
</tr>
<tr>
<td>Product sales, $/FTE</td>
<td>$76,147</td>
<td>$86,447</td>
<td>$89,059</td>
</tr>
<tr>
<td>Outputs from research programs⁴:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Refereed journal articles</td>
<td>304</td>
<td>401</td>
<td>490</td>
</tr>
<tr>
<td>Research bulletins</td>
<td>3</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>Books and book chapters</td>
<td>69</td>
<td>88</td>
<td>62</td>
</tr>
<tr>
<td>M.S. and Ph.D. theses</td>
<td>120</td>
<td>145</td>
<td>125</td>
</tr>
<tr>
<td>Cultivars and germplasm released</td>
<td>15</td>
<td>30</td>
<td>8</td>
</tr>
<tr>
<td>Patents obtained</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

¹Includes research FTE in Plant Science Initiative.
²Includes Former Conservation and Survey Faculty Transferred to ARD Appropriated Account.
³Includes cost of administration and expenditures from the Nebraska Research Initiative by ARD-affiliated faculty.
⁴A large number of abstracts, technical reports, and other non-refereed articles also are published by faculty each year.