

# Growing

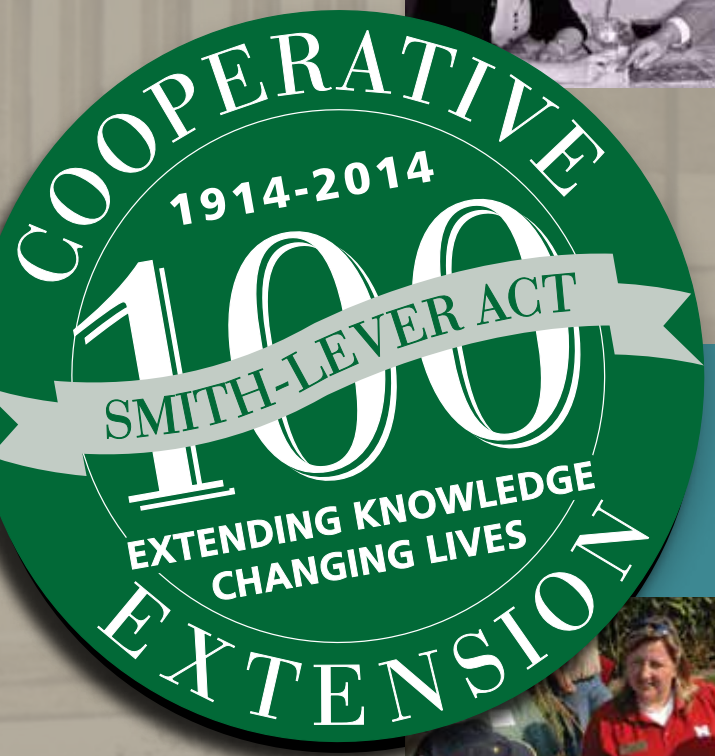
A HEALTHY FUTURE

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# A University on the Move



Ronnie D. Green

These days I often say that while we're living in 2014, we in IANR must think 2050, because that's where today's students will be living.

To help meet the future's challenges, we must think, plan and work today to use our resources as efficiently and effectively as possible to put in place the programs and infrastructure needed for a successful Nebraska future.

That's why it is so exciting these days to walk across our campus in Lincoln and travel across our statewide campus to see the growth occurring now, and envision the growth for that successful future.

The last *Growing* magazine told of wonderful growth in student numbers, and in faculty to do the research, teaching and extension that benefit all Nebraska. A few examples of the corresponding infrastructure growth we're seeing include watching the old Activities Building become the new East Campus Recreation Building, due to open in 2015.

We expect the new Veterinary Diagnostic Center construction will start this year with an expected 2017 opening, thanks to the Nebraska Legislature and our generous donors.

Other plans are in the works, such as transforming C.Y. Thompson Library into a new Campus Student Learning Commons, with library and student learning commons areas combined as a hub where students gather and learn.

We're discussing new student housing for our growing student population, and Legacy Plaza, a lovely landscaped green gathering space for students, stretching from the current C.Y. Thompson west to the green space mall south of Chase Hall.

Nebraska Innovation Campus has two buildings nearing completion, and two to begin construction shortly, buildings to foster public-private partnerships for Nebraska growth.

Across the state we're seeing infrastructure improvements at all the Research and Extension Centers, including new buildings, additions and renovations to support needs now and in 2050.

Near Grant, the generous gift that is the Stumpf International Wheat Center will open later this year. Near Sidney, generous donors have made the new headquarters building now nearing completion at the High Plains Agricultural Laboratory a reality.

The State Fairgrounds building being built in Grand Island will house our new UNL Extension Nebraska Agriculture Experience. It will open in August, and be open year-round to provide school children and others interactive experiences to learn about Nebraska agriculture and natural resources.

Both projects in the works and in the future are exciting, thanks to the continued support of our donors and stakeholders.

Thanks are due, too, to President J.B. Milliken, who after nearly a decade here is leaving NU to become chancellor of the City University of New York.

During his presidency J.B. has consistently said NU's goal "is to be the best public university in the country as measured by how well we serve the people of our state."

He has been a phenomenal leader for the University of Nebraska – and New York is very fortunate to have him coming to make a major difference through the next phase of his and Nana's lives.

The Robert B. Daugherty Water for Food Institute, Buffett Early Childhood Institute, and Rural Futures Institute all were created on his watch. Enrollment grew, as did commitment to affordable education, global engagement, and public-private partnerships, now seen at NIC.

We thank J.B. for his vision, dedication and commitment.

A handwritten signature in black ink that reads "Ronnie D. Green". The signature is fluid and cursive.

Ronnie D. Green, Ph.D.  
Vice President Agriculture and Natural Resources  
University of Nebraska  
Harlan Vice Chancellor, Institute of Agriculture  
and Natural Resources  
University of Nebraska-Lincoln

Cover: Cooperative Extension is celebrating its 100th anniversary this year. For more, see pages 6-9.

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# Growing A Healthy Future

Spring 2014

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## Livestock expansion has potential

A report from the University of Nebraska–Lincoln outlines the potential for expansion of the state’s livestock industry.

“We all know that livestock is big business in Nebraska,” said Ronnie Green, Harlan vice chancellor of the Institute of Agriculture and Natural Resources. “Clearly there are opportunities to expand the industry to ensure further economic success in our state.”

The report, prepared by UNL’s agricultural economics department, notes that the “Nebraska advantage,” a reference to the state’s unique mix of crop, livestock and biofuel production, has served the state well. However, the report notes, in some respects

Nebraska’s livestock industry has fallen behind those in other states.

The report, prepared in collaboration with the Nebraska Department of Agriculture, outlines potential expansion scenarios in beef cattle, dairy cattle, pork and poultry.

“As the state’s land-grant university,” Green said, “we are hoping to use this report as a way to start a statewide conversation about this potential, understanding that all Nebraska citizens have a stake in this matter.”

The report is posted online at the agricultural economics department’s website, [agecon.unl.edu/livestock](http://agecon.unl.edu/livestock).

## New mag for on-farm research

An interactive, online magazine now provides comprehensive information for those considering on-farm research. The “Grower’s Guide to On-Farm Research” at [go.unl.edu/2014onfarmzmag](http://go.unl.edu/2014onfarmzmag) was developed as a tool to be used in conjunction with the Nebraska On-Farm Research Network.

NOFRN is sponsored by University of Nebraska–Lincoln Extension in partnership with the Nebraska Corn Growers Association and the Nebraska Corn Board. The goal of the network is to put into effect a statewide, on-farm research program addressing critical farmer production, profitability and natural resources questions.

The guide provides a comprehensive overview of what growers can expect by participating in on-farm research.

Some of the current research includes irrigation, nitrogen management in corn production, corn population and cover crops.

For more information about the NOFRN, visit [cropwatch.unl.edu/web/farmresearch](http://cropwatch.unl.edu/web/farmresearch).



## Fructose isn't bad guy in obesity increase

Fructose has gotten a bad rap in the obesity epidemic, says an Institute of Agriculture and Natural Resources scientist whose research shows fat and other sugars are the primary culprits.

From 1970-2009, obesity rates in the United States increased from 13 percent of the population to 34 percent. Dietary fructose has been blamed as a possible contributor to this increase.

Nutrition scientist Tim Carr found that’s not the case, though. While the total energy availability in Americans’ food increased 10.7 percent over that period, consumption of fructose did not increase.

Carr based his findings on the U.S. Department of Agriculture’s Loss-Adjusted Food Availability Database and its Nutrition Database for Standard Reference.

Those resources, rich in data about Americans’ eating patterns over the years, show that the energy available from total glucose increased 13 percent. The main source of glucose in the American diet is starch. Also, glucose availability was more than three times that for fructose. Energy available from protein, carbohydrates and fat increased 4.7 percent, 9.8 percent and 14.6 percent, respectively.

“We’re focusing the spotlight in the wrong place,” Carr said. “Fructose turns out to be a relatively small contributor to the overall food supply.”

# An a-maizing tale

It began nearly 10 years ago, remembers Ronnie O'Brien, who at the time was the director of cultural education at the Great Platte River Road Archway in Kearney.

A man who worked at the Living History Farms in Iowa was going to put on a program at the archway. He had grown rare corn varieties in Iowa as part of his job.

"He gives me 400 kernels of corn. I put it in a cabinet," O'Brien said.

That corn wasn't discovered again until 2010 when an earth lodge was built at the Archway, and the chairman of the Ponca tribe came out to see it.

"We had lunch and were talking, and then, I remembered, I had the Ponca corn," she said.

O'Brien said a lot of the corn was blue in color, but about 100 kernels of the corn were gray.

Enter Tom Hoegemeyer, University of Nebraska-Lincoln corn geneticist.

O'Brien was told about Hoegemeyer through another acquaintance. She hand-delivered the 100 kernels of Ponca gray corn to him.

After doing some research, they found the Ponca tribe didn't have any of their corn left and asked if they could help revive it.

The first year they split up the corn so that it wouldn't be lost to a hail storm or raccoons.

Some of it was grown in Lincoln, some in Kearney. They got 30 pounds of seed corn to plant the next year. The northern Ponca then planted some at Niobrara. That year the southern Ponca came up to bless the garden at the Kearney archway.

"We had a tremendous crop that year," O'Brien said. Now the southern and northern Ponca tribes have the seed.

"And in all the research I've done, the only tribe I can find that had gray corn was the Ponca," O'Brien said.

Hoegemeyer has worked with various tribes to help them put together reasonable, scientific approaches to increase the varieties.

He puts together writings about their corn and growing systems combined with what is already known from corn breeding and science.

"I try to give them a reasonable set of procedures," Hoegemeyer said. "I was a pair of hands that helped them do something that they needed to do."

He also has worked with the Pawnee on a half dozen varieties, but the variety he found most interesting was one called Eagle Corn, which has a purple flash on the cap of white kernels that almost looks like a flying eagle on the top.

"We were told that it was the first time in a generation that they had enough of this corn to do an eagle corn ceremony," he said.

Hoegemeyer said it was very interesting to be able to work with this corn, especially for its genetic aspects.

He said some native American corns are in the U.S. germplasm collection, but said it would be interesting to gather corn from more tribes to see how much genetic relationship there is among them.

"I believe there are genes and traits in there that are valuable and will be valuable in the future. That needs to be preserved for humankind," he said.

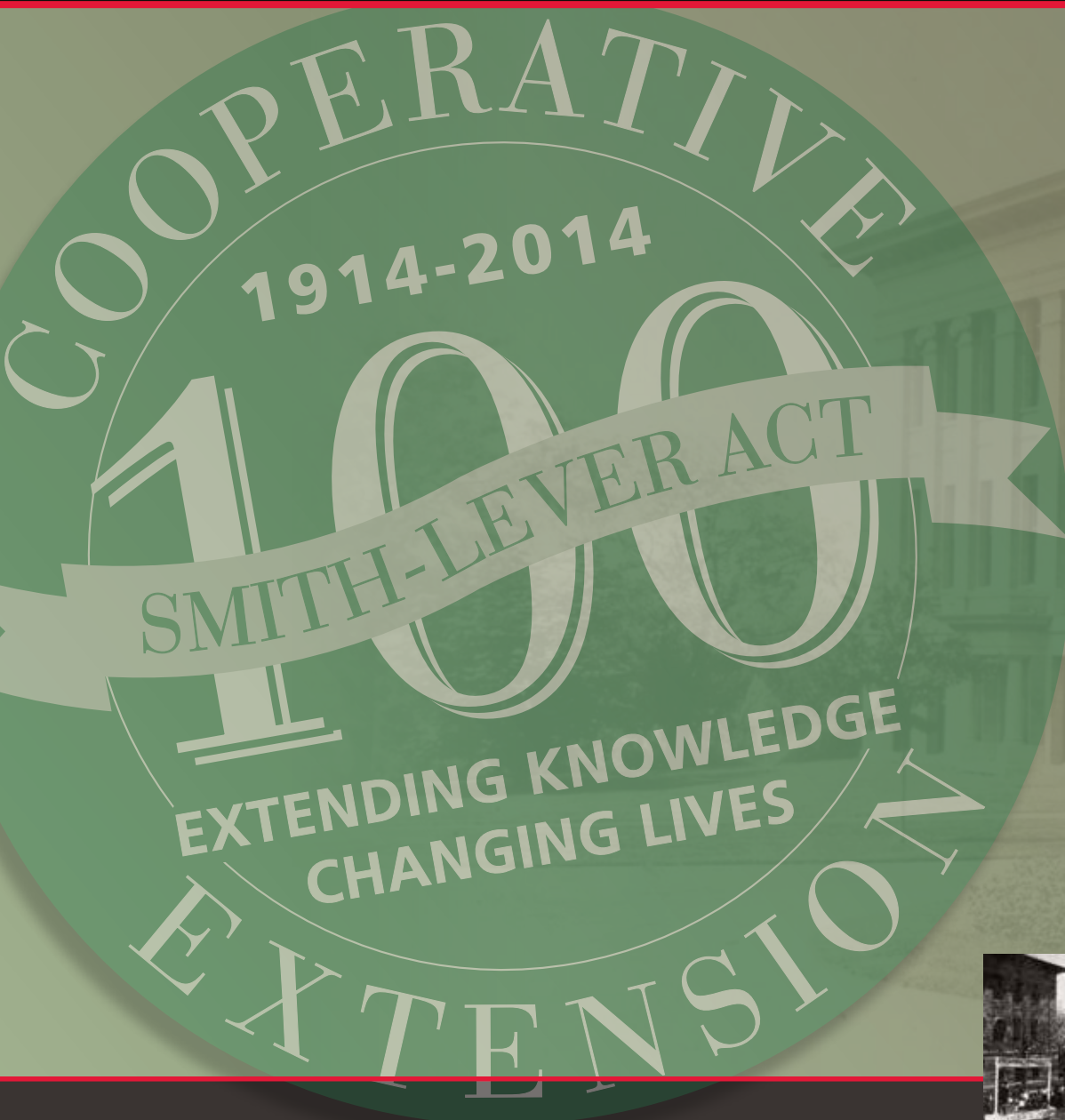
— Sandi Karstens

**Corn found in cabinet turns out to be rare Ponca variety**

Photos courtesy The Ponca City News



# A Centennial of



## Key historical notes:

### Smith Lever Act

1873-about 1918: Pre-extension, the University of Nebraska sponsored Farmers' Institutes aimed at sharing information with farmers and homemakers. In 1904, for instance, the university partnered with four railroads for "instructional trains" to cross the state offering instruction from university lecturers.

1914: Congress passes and President Wilson signs the Smith Lever Act, which creates the national Cooperative Extension Service. Total staff at that time was 45.

1917-18: Support of war effort was a primary focus, as Extension worked to put government suggestions on food production and conservation into practice. Congressional passage in 1917 of a law aimed at "stimulating agriculture and facilitating the distribution of products" provided funds that expanded Extension staffing and reach.

# Extension

**T**he first 100 years of Cooperative Extension in Nebraska and the nation are no dry, dusty history lesson.

And you can be assured the next 100 won't be either, says Chuck Hibberd, dean and director of University of Nebraska–Lincoln Extension.

Indeed, the history of Extension is the history of the last 100 years of the nation – born via the Smith-Lever Act shortly before World War I, it took on as one of its first tasks helping Americans boost food production and conservation during that conflict. Later, it was a key tool in pulling U.S. farmers through drought and depression before playing a role in yet another world war.

Through war and peace and over 100 years, Extension in Nebraska and the nation has helped American agriculture become the most efficient in the world; helped build young people into responsible adults through 4-H; and helped communities large and small, families and businesses deal with a host of challenges.



## 46 county agents

1919: By then, 46 counties employed agents, with eight having a second agent for home economics.

1933: Passage of the federal Agricultural Adjustment Act provided new federal funds to Extension as the Great Depression was getting under way. The goal was to increase farm income by reducing production. It did much to improve the financial well-being and raise the hopes of farmers but was invalidated in 1936 by the U.S. Supreme Court. Congress restored the program and Extension's role in it eventually diminished.

1934: Devastating drought hit the state. Extension helped with a vigorous program to control grasshoppers and cooperated with a federal cattle buying program to provide relief to farmers short of feed.

Some constants run through Extension's history, though, says Hibberd. He calls them "core values," and their constancy is critical to understanding why Extension has endured, and why it will continue to be relevant.

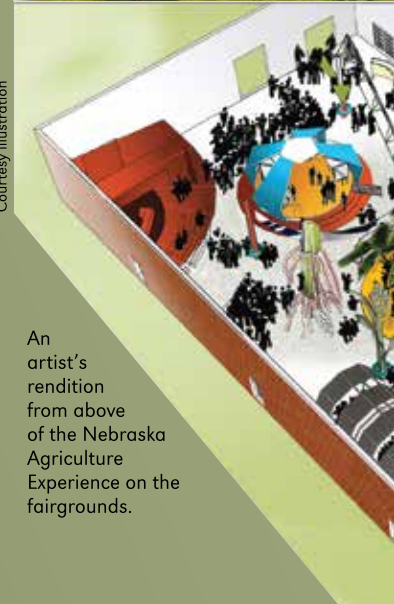
- Research-based, unbiased and part of a national land-grant university system. "That's what differentiates us from everyone else," he said. Transferring that knowledge as quickly as possible to users is essential.
- "It's about people, it's about relationships, it's about trust," Hibberd said. UNL Extension, throughout its history, has been community based. Educators live in 83 of the state's 93 counties. They know the people, they know the issues, they know the challenges and the opportunities in their communities.
- Extension measures its success by its real-world impact. "The work that we do makes a difference. It has to be useful and valuable and applicable," Hibberd said.

The technology has changed greatly how UNL Extension delivers its research-based, unbiased information, but these core values remain intact, Hibberd emphasized.

As proud as UNL Extension is of its centennial in 2014, it will continue to focus on the future, he added.

– Daniel R. Moser

# Nebras



Courtesy illustration

An artist's rendition from above of the Nebraska Agriculture Experience on the fairgrounds.



*More on the Extension Centennial*  
*Extension Centennial on YouTube*



1941-45: Extension again plays a central role in the nation's war effort, teaching Americans to grow Victory Gardens, developing a pasture-forage-livestock program whose aim was to boost production of meat, milk, eggs, grain and fiber crops; and 4-H programs.

1945-mid-'60s: Extension expanded its partnerships with other agencies, to this day a key facet of its success. Among those agencies: the Tennessee Valley Authority, Bureau of Reclamation, Nebraska Department of Agriculture and many agencies within USDA.

In the war's aftermath, Extension also helped former German POWs who stayed in the country get established here.



# ka Ag Experience

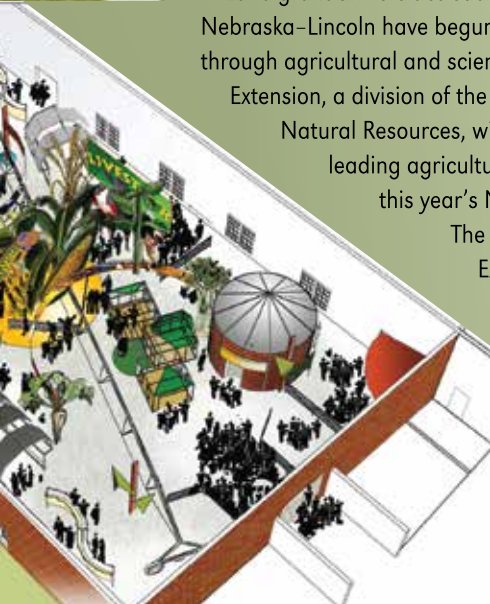


**A**s Americans – even Nebraskans – get farther removed from their agrarian roots, their understanding of agriculture fades, to the point that today’s consumers only dimly understand how the food in their favorite grocery store gets there.

Land-grant universities such as the University of Nebraska–Lincoln have begun to address that disconnect, through agricultural and science literacy efforts. UNL

Extension, a division of the Institute of Agriculture and Natural Resources, will unveil one of the nation’s leading agricultural literacy experiences at this year’s Nebraska State Fair.

The Nebraska Agriculture Experience will be housed in the new Nebraska Building on the fairgrounds in Grand Island. Comprising 25,000 square feet of space, the exhibit will be open year-round and offer an interactive way to connect with agriculture.



“This will be a premiere space designed for fairgoers and others year-round to learn where their food comes from, the science and technology of agriculture, and the importance of agriculture to the economy of Nebraska,” said Kathleen Lodl, associate dean of UNL Extension. During the year, the Nebraska Agriculture Experience will provide the opportunity for school



groups, trade groups, as well as the general public to learn more about Nebraska’s No. 1 industry.

Highlights of the Nebraska Agriculture Experience include:

- A full-size pivot irrigation system that will span the entire exhibit hall, giving visitors an up-close look at what they typically see only from a distance.
- Nebraska’s first Science on a Sphere video experience enclosed in the “Grain Bin Theater,” showing a powerful film on the state’s international leadership in agriculture.
- Virtual experiences such as driving a combine during corn harvest and managing the variable rate irrigation controls on a pivot irrigation system.
- State-of-the-art preparation kitchen and stage where consumers can learn about nutrition and easy meal-making featuring Nebraska grains and meat.
- A climbable Nebraska topographic map that demonstrates the diversity of Nebraska agriculture and the amazing elevation change from west to east across the state.
- Video programs featuring Nebraska farmers and ranchers talking about how they do what they do – and why they do it.

The Nebraska Building will also house Nebraska State Fair staff offices and a new exhibit being developed by the Nebraska Game and Parks Commission. The Nebraska Agriculture Experience is a partnership of UNL Extension, UNL’s Institute of Agriculture and Natural Resources and the Nebraska Department of Agriculture.

– Daniel R. Moser

1970s: NU President Durwood “Woody” Varner helped establish a golden era of irrigation in Nebraska with his belief the state’s farmers could vastly increase irrigation. In 1971 Varner and regents identified water resources and irrigation development as the first priority for new and expanded programs for the university. In the decades since UNL Extension experts have helped farmers use irrigation more efficiently. Nebraska currently leads the nation in crops under irrigation.

# Sunday scientist

**W**here other than at Sunday with a Scientist can children and adults learn about and appreciate walkingsticks and weather, bees and biofuels? Hands-on exploration of plants, animals, nature and more occur at the family-oriented monthly program at University of Nebraska State Museum. Sunday with a Scientist is a fun, informal way to educate children and families on topics related to science and natural history. Several Institute of Agriculture and Natural Resources faculty are involved.

In January, for example, a team led by entomologist Tiffany Heng-Moss invited visitors to hold hissing cockroaches, walkingsticks, giant millipedes and more.

“Sunday with a Scientist is an excellent opportunity to share our passion for insects and help children and their families discover the importance and role insects play in their daily lives, and the connection that insects have to our food systems,” Heng-Moss said.

Herpetologist Dennis Ferraro showed modern-day reptiles during the February opening weekend of the world’s largest 60-million year old *Titanoboa cerrejonensis*, a Smithsonian traveling exhibit on display through Sept. 7. That Sunday with a Scientist afternoon, a record crowd of 1,041 visited the museum.

“I get people interested by using live native reptiles, by talking about their ecological benefits and then broadening the conversation to involve the public in their own conservational stewardship,” Ferraro said.

Past IANR topics at Sunday with a Scientist include amphibians, turtles, forensic science, spiders, stormwater management, plant genetics, robotics, food science, bees, biofuels, the Ogallala Aquifer, Platte River Basin time-lapse project, extreme weather, climate change, water and toxic algae.

Sunday with a Scientist takes place from 1:30-4:30 p.m. on the third Sunday of each month at Morrill Hall, south of 14<sup>th</sup> and Vine streets on the University of Nebraska–Lincoln City Campus.

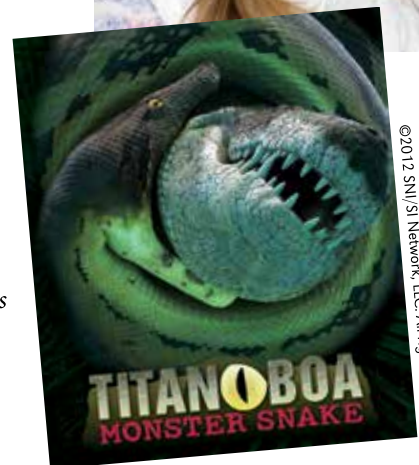
*More on Sunday with a Scientist*

– Cheryl Alberts



Visitors to the University of Nebraska State Museum get to interact with science in a variety of ways, including insects, left, and snakes, above, during Sunday with a Scientist.

iStock



*More on University of Nebraska State Museum's Titanoboa exhibit*

*See the exhibit being installed in University of Nebraska State Museum's Elephant Hall*

# There's a nap for that

## Being outdoors is good for a person. And relaxing, too.

Teachers and children of the Ruth Staples Child Development Laboratory found themselves more relaxed when naptime was outdoors, with children falling asleep faster than they did indoors. The outdoor naps have taken place for a few days during summer daycare sessions since 2008. It is a way for children to connect with nature.

"We are taking our indoors 'outdoors,'" said Jenny Leeper Miller, the lab's assistant director. "Anything that can be done inside can be done outside." That includes eating, literacy and art, as well as naps.

During indoor naptime, Leeper Miller said on average about half of the children stay awake. However when children and nap cots moved outside, all children fell asleep. Some soothed themselves by running their fingers through mulch and sand.

The children, she added, were completely comfortable being outdoors. They liked to watch insects, and could move their cots closer or farther away from anything holding their attention.

College student teachers, on the other hand, were more likely uncomfortable being outdoors, said Leeper Miller, who "grew up outside all day" as a child. The children's excitement and inquisitive attitudes about being outside helped the teachers relax, she added.

Children exclaimed that "It's fun when we eat outside and hear the birds. They eat outside, too."

Outdoor relaxation goes beyond hearing the sounds of nature, Leeper Miller said. For example, when nature sounds were played indoors during naptime, children did not fall asleep any faster than without the sounds.



Jenny Leeper Miller

Leeper Miller, fellow master teacher Erin Hamel and associate professor Julia Torquati presented the concept of bringing the inside outdoors and the integration of nature into early childhood environments at the North American Association for Environmental Education's national conference in October 2013 in Baltimore.

Last December, *ExchangeEveryDay*, an electronic communication of *Exchange Magazine*, highlighted the program and its inclusion in the new book "Growing with Nature: Supporting Whole-Child Learning in Outdoor Classrooms." *Exchange Magazine* is distributed to thousands of early childhood professionals globally.

Ruth Staples was founded in 1928. It serves children 18 months to 5 years and is a teacher training facility where University of Nebraska-Lincoln students take an active role in the classrooms by planning, implementing and evaluating activities with the children, under the supervision of faculty. The program is housed in the Department of Child, Youth and Family Studies in the College of Education and Human Sciences.

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- Cheryl Alberts



Nick Manes

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# A rough idea

## Nebraska golf courses testing buffalograss

**N**ebraska is where the buffalo roamed. Now the grass bearing the buffalo name-sake is beginning to take a stand in Nebraska golf courses, parks and elsewhere. Institute of Agriculture and Natural Resources turf experts last year planted winter-hardy, low-maintenance buffalograss at Dakota Dunes Country Club in South Dakota, and the hillsides surrounding Haymarket Park in Lincoln. Lincoln's Antelope Valley Project also showcases it. Drought and water restrictions are two reasons why.

"Once established, warm-season buffalograss requires much less water, fertilizing, mowing and pest control than do cool-season grasses such as Kentucky bluegrass or tall fescue," said Zac Reicher, Turfgrass Science Cyril Bish Professor of Horticulture.

Reicher and Keenan Amundsen, assistant professor of turf genetics, say that like other grasses, buffalograss does require irrigation, fertilization and aggressive weed control to become established.

Last summer at Dakota Dunes, about two acres of buffalograss was sown in the "rough," where grass typically is taller and more challenging for golfers.

"There are not a lot of data yet on how buffalograss performs on (Nebraska) golf courses," Amundsen said. It is expected to be seeded soon on courses in Kearney and in Iowa. He and Reicher are aggressively seeking other Nebraska courses interested in testing buffalograss.

Right now Nebraska buffalograss demand outweighs the supply, he added.

IANR expertise can be put to use on golf courses in other ways. Last summer, for example, Reicher was one of more than 75 volunteers at the U.S. Senior Open at the Omaha Country Club.

While maintaining his teaching and extension responsibilities on campus, Reicher volunteered eight hours a day, alongside students, alumni and nationwide professionals, to keep the course in top condition during tournament week.

While there Reicher helped recruit two students to the University of Nebraska-Lincoln's turfgrass and landscape management degree program.

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Keenan Amundsen, 402-472-8390, [kamundsen2@unl.edu](mailto:kamundsen2@unl.edu)

- Cheryl Alberts



istock

Zac Reicher

## New turfgrass specialist is far from green

Once established, warm-season buffalograss requires much less water, fertilizing, mowing and pest control than do cool-season grasses.



Buffalograss in Lincoln's Antelope Valley reduces maintenance costs.



Bill Kreuser

New IANR extension turfgrass specialist Bill Kreuser has soil and water management, and plant physiology, as his line of focus.

Kreuser earned his bachelor's and master's degrees at the University of Wisconsin-Madison, and his doctorate at Cornell University. Besides turf fertilization and management, Kreuser has studied physiological responses of creeping bentgrass to a horticultural oil, Civitas. He also has studied the effect plant colorants have on turfgrass growth and physiology; and why iron oxide layers can form in sand putting greens and how to manage iron layer formation.

Kreuser spent a two-year summer internship at Whistling Straits Golf Course at Sheboygan, Wis., and interned with U.S. Golf Association agronomist Bob Vavrek.

His UNL research goals include winterkill prevention and recovery, increasing precision of fertilizer, pesticide and water applications; drought and heat stress tolerance; reducing water requirements and practicality of effluent irrigation.

Previous extension turf specialist Roch Gaussoin now is head of the Department of Agronomy and Horticulture.

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– Cheryl Alberts

### Buffalograss characteristics:

- In deep soils, roots grow down to three feet or more, probably double that of Kentucky bluegrass.
- The five-month growing season is from mid-May to mid-October, meaning less water and fertilizer are needed.
- Bluegrass grows for nearly eight months.
- Buffalograss can live on 1/4 inch of water per week, compared to an inch or more for bluegrass
- Buffalograss loves sun, does well in low fertility and/or poorly drained soils, and when established can survive for short periods under flooded conditions.

# Hunger strike



## Buffett-4-H partnership takes aim at food insecurity

**A** collaboration between the National 4-H Council and the Howard G. Buffett Foundation is increasing food awareness.

In 2012-2013, University of Nebraska–Lincoln Extension 4-H piloted a project to increase awareness of national food insecurity and ideas to end hunger in their communities. Other pilot states were Illinois, North Dakota, Missouri and Kansas.

The pilot included the 4-H Empowering Youth to End Hunger project. Buffett also donated 3,000 copies of his book, *40 Chances: Finding Hope in a Hungry World* to 4-H.

Heather Borck, 4-H agriculture literacy team tri-leader, said the Nebraska project involved those such as community gardens, where children grew and tasted fresh vegetables, many for the first time. It involved 1,619 youth, 513 adults, 10,064 hours of education and service, as well as 17 entities statewide such as:



Howard G. Buffett

**Hastings elementary school children learned from master gardeners and extension staff how to care for vegetable plants. On gardening days students were able to taste vegetables straight from the garden, with zucchini and cucumbers as favorites.**

**Inner city Omaha school children were able to describe all the vegetables that grew in their garden and what foods were made with them. Excited children took two bites of the new foods and were required to politely say “No, thank you” if they declined additional bites. Unlike previous years, the garden has remained vandalism-free.**

**At two North Platte grocery stores, 4-H’ers demonstrated flavors, quantities and economics of nutritious homemade noodle stroganoff. Cost per serving: \$1.45.**

# 'Strategic Discussions for Nebraska' Shares Research for All

Food security means having enough to eat as well as the right kinds of nutritious foods. Particularly for children, insufficient nutrition puts them at risk for illness, weakens their immune system, and adversely affects learning and development.

In Nebraska for 2010-2012, 83,000 children under age 18 were food insecure, according to the National Kids Count Data Center.

Buffett's foundation reports that worldwide, nearly one-seventh of the world's 7 billion individuals are food insecure.

Food security means having enough to eat as well as the right kinds of nutritious foods.

Nebraska as a high-volume, food-producing state "is a great place to talk about food security," Borck said. "Ag literacy is an extremely important piece of our agriculturally driven state."

Buffett's *40 Chances* was distributed to some Nebraska extension offices.

The Howard G. Buffett Foundation also co-sponsors college-age activities about awareness and changing global food systems.

Heather Borck, 308-696-6784, [heather.borck@unl.edu](mailto:heather.borck@unl.edu)

—Cheryl Alberts

Sharing often-complicated research so a general audience can understand its importance is the mission of "Strategic Discussions for Nebraska" and leading that charge is Mary Garbacz, assistant professor of practice in the Department of Agricultural Leadership, Education and Communication.

The brainchild of Robert James, the publication was founded in 2007 with support from the Robert and Ardis James Family Foundation. While Robert and the late Ardis, both Nebraska natives, lived most of their lives in New York, the James family provided funds for Strategic Discussions for Nebraska because, Robert said, people in Nebraska are intelligent and can find solutions for national problems, such as immigration and the economy.

When the publication began, it was located in the College of Journalism and Mass Communications. Garbacz wrote almost all of the stories during the first years of the publication. In 2009, the publication was turned into a class, which Garbacz teaches.

In 2012, SDN and Garbacz moved to the Institute of Agriculture and Natural Resources, which now fully funds the publication.

SDN is used as the Agricultural and Environmental Sciences Communication (formerly ag journalism) degree program's capstone class. Students must take the course at the end of their major program of study.

The annual publication has covered a variety of topics related to food, water and fuel, ranging from food scarcity to beef production and the future of sustainable agriculture.

The course provides students the opportunity to use all the skills they've learned and take part in producing a publication with a wide distribution, Garbacz said.

The 2013 publication was mailed to more than 3,000 individuals and groups and distributed to about 2,500 additional individuals. It also available as an interactive PDF. For more information visit [sdn.unl.edu](http://sdn.unl.edu).

—Sandi Karstens



**Let's work together to grow IANR.**

If you would like to give us a hand and help IANR grow, contact Ann Bruntz, [abruntz@nufoundation.org](mailto:abruntz@nufoundation.org), 402-458-1176; or Josh Egley, [jegley@nufoundation.org](mailto:jegley@nufoundation.org), 402-458-1201

**CAMPAIGN for NEBRASKA**  
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# New Lab Gives More Space for Bio-Fiber Research

**A** new Bio-Fiber Development Laboratory on the University of Nebraska–Lincoln’s East Campus will allow more space to do research on agricultural crop residues for textiles, composites, filters and other products.

Located west of Agricultural Hall, near the Holdrege Street entrance on the East Campus Loop, the laboratory will allow for production of testable quantities of bio-fibers for industry to evaluate and hopefully adopt the technology for large-scale production, said Yiqi Yang, textiles scientist in UNL’s textiles, merchandising and fashion design department.

Yang and his Institute of Agriculture and Natural Resources textiles science team are working on developing several bio-fiber products made from renewable resources, such as cornhusks, cotton stalks, wheat straw, soybean stubble and feathers. They also are looking into using proteins from distillers grains, soy meal and agricultural wastes for green chemicals and even products for tissue engineering.

The new building houses several pieces of equipment that previously the department did not have room for, such as a capillary rheometer, which measures flowing behavior of polymers.

Yang already discovered a process to convert cellulose in cornhusks into natural textile fibers, which can be made into yarn and woven into fabric. In addition, he found ways to make thermoplastics from chicken feathers and plant proteins. Thermoplastics from

proteins are a lightweight material that can be used to make products ranging from toothbrush bristles to car bumpers. Typically they are oil-based.



Yiqi Yang

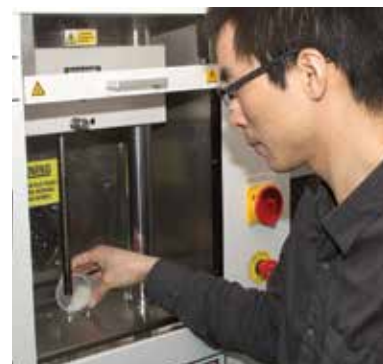
“This can help solve the problem of sustainability, extend the life of materials and reuse things that are available in Nebraska and the U.S.,” he said.

Yang is looking for grant money to hire more technicians to do even more production work.

The \$300,000 remodel was funded by the Office of Research and Economic Development, IANR and the College of Education and Human Sciences.

Yiqi Yang, 402-472-5197, [yyang2@unl.edu](mailto:yyang2@unl.edu)  
– Sandi Karstens

*More on bio-fiber research*



Nick Manes

Ganguel Pan, a textiles science major from China, works on the capillary rheometer, which measures flowing behavior of polymers. The capillary rheometer is just one of several pieces of equipment that the department previously did not have room for until the new Bio-Fiber Development Laboratory on UNL’s East Campus gave the department more space. It now can do more research on agricultural crop residues for textiles, composites, filters and other products.





# Groundwater Atlas

Jim Swinehart/Conservation and Survey Division/UNL



Courtesy photo

Jesse Korus

No one book can contain everything known about groundwater – though the new Groundwater Atlas of Nebraska is a good starting point for someone seeking answers to questions about Nebraska’s most valuable resource.

The third edition includes new chapters describing the interconnections among groundwater, surface water and the hydrochemical aspects of groundwater, as well as 20 new maps and diagrams.

“We wanted our readers to know that our understanding of groundwater in Nebraska has evolved over the past half century,” said Jesse Korus, survey geologist and lead author. “We continue to revise our maps to provide accurate and up-to-date information.”

Korus and other co-authors created maps, wrote text, and compiled and interpreted data over a two-year period. They focused on what they know best: the physical and chemical aspects of groundwater hydrology. Some maps show details available only through the use of digital cartography and computerized geographic information systems.

The atlas audience includes well drillers, teachers, conservationists, farmers, ranchers and other professionals. It also is a popular resource for training and licensing programs. Korus said the Nebraska Water Leaders Academy, a yearlong leadership program for water issues, has used the atlas.

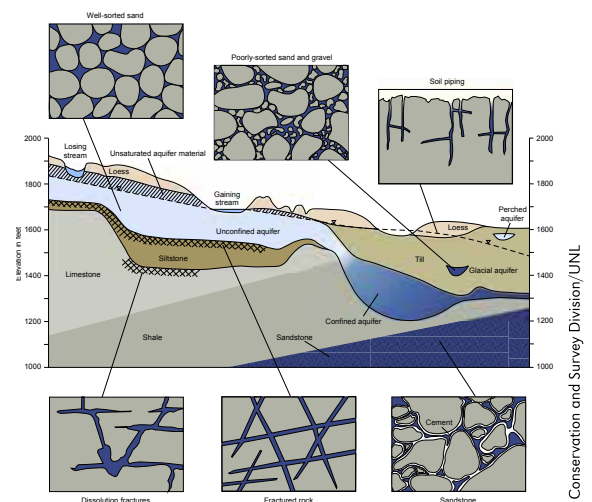
The \$15 atlas may be purchased from the Nebraska Maps and More store in Hardin Hall.

In addition to the 2013 third edition, the 1986 and 1998 editions were published by the Conservation and Survey Division, now part of the School of Natural Resources and the Institute of Agriculture and Natural Resources.

Korus said neighboring states of Iowa, Colorado and Kansas also produce and have updated groundwater atlases.

Jesse Korus, 402-472-7561, [jkorus3@unl.edu](mailto:jkorus3@unl.edu)

– Cheryl Alberts



A page from the groundwater atlas.



## It's fenugreek to them

Fenugreek, an annual legume plant, is grown almost exclusively in India and neighboring countries for spice and for medicinal uses, but two scientists at the University of Nebraska Panhandle Research and Extension Center at Scottsbluff are studying it, with the aim of developing new varieties adapted to the High Plains and determining best production practices for high-value, medicinal crop fenugreek with anti-diabetic properties.

The project consists of small research plots at the center, but Alexander Pavlista, crop physiologist, and Dipak Santra, alternative crops breeding specialist, plan to bring in other scientists – from the UNL Food Science and Technology Department, and eventually the University of Nebraska Medical Center.

Eventually it could lead to an unprecedented collaboration to study potential medicines all the way from growing them to making medicine out of them – or, in Pavlista's words, "from farm to pharmacy."

## Broadband success stories

Comfy Feet of Hartington, Neb., has grown from a one-person operation in the back of a restaurant to an online operation with a 40,000 square foot warehouse, all thanks to broadband technology. Comfy Feet is one of 19 success stories featured on the Nebraska Broadband Initiative website, [broadband.nebraska.gov/videos](http://broadband.nebraska.gov/videos).



"The videos are intended to demonstrate that there are companies throughout the state that are already seeing the benefit of broadband technology," said Rod Armstrong, the vice president of strategic partnerships at AIM. "It's happening now." The Nebraska Broadband Initiative is a partnership of the University of Nebraska-Lincoln and several state government agencies.



## Land lease calculator

UNL Extension's new Land Lease Calculator App helps producers collect information to help determine what might be charged for agricultural land leases. Users enter data into the app and it produces an estimated cost for the lease. Funded by the Nebraska Soybean Board, the app is available for \$1.99 in the Apple iTunes Store as well as on Google Play.

The app helps landowners estimate how much their land is worth.

"It also works very well for those who are looking to rent land because it gives them an idea of how much they might be willing to pay," said Wayne Ohnesorg.



Brett Hampton

## Understanding biodiversity

Research under way in UNL's School of Natural Resources is helping to identify and map biodiversity in an effort to improve ecosystems. Dimensions of Biodiversity, an initiative jointly funded by the National Science Foundation and NASA, has provided nearly \$2 million in funding to several universities for the project.

UNL's share, about \$716,000, will go toward comparison and calibration of instruments, development of data systems and use of the remote sensing aircraft housed at the Center for Advanced Land Management Information Technologies (CALMIT).

The project is exploring variations in the spectrum of light reflected from vegetation to provide clues to the properties of plants. It builds on CALMIT's well-established expertise in remote sensing. Experiments and measurements will be conducted at the Agricultural Research and Development Center in Mead, Neb., in addition to other natural and managed ecosystems in Minnesota and Wisconsin.

"We have the potential to make a real difference in understanding biodiversity," Art Zyguelbaum, SNR associate research professor said. "This is good for science and for our environment."



## Wheat breeding research

Wheat breeding and cropping systems research is entering a level of innovation not seen since the early days of plant genetics, thanks to a \$3 million gift to establish the Stumpf Family Research and Development Fund. The gift includes 640 acres of land in Perkins County, where IANR wheat research and education will be conducted. The gift honors Nebraska's heritage and the Marvin Stumpf III family of Grant. The Perkins County location will accelerate development and application of new plant science technologies in the semi-arid High Plains region of Nebraska. The state grows between 65 and 75 million bushels of wheat annually.

Site preparation and construction of a new building is expected to begin this summer.



## High Plains Ag Lab

A dedication ceremony is planned June 19 for the new High Plains Agricultural Laboratory office and laboratory near Sidney. The dedication of the 2,800-square-foot building coincides with the HPAL spring crops field day. Ground was broken in August 2013 for the new facility, which includes an improved area for processing grain and forage samples. Funds for the new \$500,000 building were raised by the NU Foundation and a committee chaired by producer Keith Rexroth of Sidney, whose father was part of a local development group instrumental in starting the HPAL.

The old 1940s building was part of the federal Sioux Army Ordnance Depot given to the university in 1970, and will be used for storage and lab space. The 2,400-acre HPAL conducts dryland crop and pasture research in the high-elevation, semiarid High Plains region.

## Easing arthritis pain

Arthritis can be a debilitating disease for farmers and ranchers, reducing mobility and physical strength.

To help prevent arthritis, the Nebraska AgrAbility Project has created a brochure describing a series of daily stretches to help joint health.

To view the brochure and other information about arthritis, go to:

[agrability.org/Resources/arthritis/index.cfm](http://agrability.org/Resources/arthritis/index.cfm)



Annette Wood/flexispigphotography

## Vet techy

Students in the veterinary technology program at the Nebraska College of Technical Agriculture at Curtis are studying at one of the nation's top 10 large animal vet tech programs. The ranking came in December from industry reviewer *VetTechColleges.com*. It said NCTA's accreditation from the American Veterinary Medical Association since 1973 makes it one of the nation's oldest for continuous accreditation. Each year about 55 NCTA first- and second-year vet tech students work toward their associate of applied science degree. They gain experience in a surgical operating theater, laboratories, six X-ray bays, and a new animal housing and vet teaching clinic/hospital. [ncta.unl.edu](http://ncta.unl.edu)

## The beef cube

North central Nebraska beef producers can save on feed costs accounting for 60 percent of beef herd expenses. Beginning in 2004, UNL Extension educators teamed with the Farmers and Ranchers Co-op at Ainsworth to develop a range cube supplement.

Today's cube is made of 70-80 percent distillers grain meal, an ethanol co-product that provides a lower-cost protein and energy source for cattle. Area producers buy about 47,000 tons of cubes each year and save \$21 per ton over traditional supplements, or an average of \$1 million annually.



Illustration Gary Gooding

# New hires on board

ANR's strategic investment in agriculture and natural resources includes hiring new faculty members. They will fill positions critical to the global challenges of the future, including expanded and more efficient food production, and improved water and natural resources management.

Since March 2013, 31 new hires have been made in areas of science literacy, stress biology, computational sciences, healthy humans, and healthy systems for agricultural production and natural resources.

IANR has been steadily ramping up hiring over the last couple of years and expects to embark on another wave of hiring in about nine months. This follows several years of university budget cuts and holds on hiring.

"It's a calculated, strategic move that's going to pay off in the long run," said Ronnie Green, IANR Harlan vice chancellor

The initiative fits with the University of Nebraska–Lincoln's goal of faculty growth and increased student enrollment.

The first 31 new faculty are:

Community Leadership Development  
**Lindsay Hastings**

Assistant Professor, Agricultural Leadership,  
Education, and Communication  
Director, Nebraska Human Resources Institute



Micrometeorologist  
**Andy Suyker**

Associate Professor  
School of Natural Resources

Advanced Machinery Systems Engineer  
**Santosh Pitla**

Assistant Professor, Biological Systems Engineering



Cropping Systems Agronomist  
**Patricio Grassini**

Assistant Professor  
Agronomy and Horticulture

Rangeland Ecologist  
**Dirac Twidwell**

Assistant Professor  
Agronomy and Horticulture



Cropping Systems Agronomist  
**Roger Elmore**

Professor  
Agronomy and Horticulture

Behavioral Economist  
**Simanti Banerjee** (starts Aug. 1)

Assistant Professor  
Agricultural Economics



Life Sciences Education  
**Joe Dauer**

Assistant Professor  
School of Natural Resources

Science Literacy Coordinator

**Cory Forbes**

Associate Professor,  
School of Natural Resources



Plant Virologist

**Hernan Garcia-Ruiz** (starts July 1)

Assistant Professor, Plant Pathology,  
and Nebraska Center for Virology

Science Literacy Specialist

**Jenny Melander**

Assistant Professor  
Biological Systems Engineering



Animal Stress Physiologist

**Dustin Yates**

Assistant Professor, Animal Science

Plant Arthropod Interactions

**Joe Louis**

Assistant Professor,  
Entomology and Biochemistry



Functional Genomics

**Jessica Petersen**

Assistant Professor, Animal Science

Plant Molecular Physiologist

**Rebecca Roston** (starts July 1)

Assistant Professor, Biochemistry



Animal Breeding Genomics

**Ron Lewis**

Professor, Animal Science

Plant Molecular Physiologist

**Daniel Schachtman**

Professor  
Agronomy and Horticulture



Theoretical Quantitative Geneticist

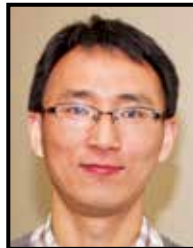
**Gota Morota** (starts Aug. 1)

Assistant Professor, Animal Science

Advanced Sensing Systems Scientist/Engineer

**Yufeng Ge**

Assistant Professor  
Biological Systems Engineering



Agroecosystems Ecologist

**Julie Peterson**

Assistant Professor, Entomology

Plant Biotic Stress Biologist

**Lirong Zeng** (starts July 1)

Assistant Professor  
Plant Pathology



Quantitative Ecologist

**Sydney Everhart** (starts Aug. 18)

Assistant Professor, Plant Pathology

Computational Sciences  
**James Schnable**  
Assistant Professor  
Agronomy and Horticulture



Lipid Metabolism and Health  
**Soonkyu Chung**  
Assistant Professor, Nutrition and Health Sciences

Computational Sciences  
**Tomáš Helikar**  
Assistant Professor, Biochemistry



Beef Systems Specialist  
**Mary Drewnoski**  
Assistant Professor, Animal Science

Behavioral Economics and Health Disparities  
**Christopher Gustafson**  
Assistant Professor, Agricultural Economics



Forage/Crop Residue Specialist  
**Daren Redfearn** (starts June 16)  
Associate Professor, Agronomy and Horticulture

Childhood Health Behaviors Extension Specialist  
**Dipti Dev**  
Assistant Professor, Child, Youth and Family Studies



Food Safety Risk Assessment  
**Bing Wang**  
Assistant Professor, Food Science and Technology



Food Lipid Chemistry and Functionality  
**Ozan Nazim Ciftci**  
Assistant Professor, Food Science and Technology



## Network helps new faculty

ANR's Faculty Success Network is designed to swiftly acclimate new faculty to IANR and UNL through robust interaction with administrators and each other.

The network will help new faculty quickly understand IANR's culture, expectations and standards of professional citizenship. Networks will engage faculty with similar interests in research, teaching and/or extension.

New faculty will have a professional relationship with a unit head/chair/ director to assist in individual, career, and organizational development within IANR. They'll also be mentored by a faculty member and learn strategies to balance personal and professional life.

– Cheryl Alberts



# Lectures spell out global challenge

From the father of India’s green revolution to current and former agricultural policy makers in the United States, the Heuermann Lectures have captured a wide range of opinions and experiences in trying to answer perhaps the most important question of this century:

How will we feed a world population expected to grow from 7 billion to 9 billion by 2050?

It is a question of pressing interest around the world, including Nebraska, where agriculture is king.

Through 16 lectures and three academic years, the series has laid out the challenges and opportunities clearly and forcefully, said Ronnie Green, vice president of the University of Nebraska and Harlan vice chancellor of the Institute of Agriculture and Natural Resources, which sponsors the lectures.

“This is part of what a land-grant university is charged with doing – engaging our faculty, students and citizens intellectually in the great issues of the day,” Green said.

“Although the backgrounds of our speakers have varied – scientists from many disciplines, politicians, environmentalists, policy makers and more – all have acknowledged there are no easy answers to the challenges ahead,” Green added. “But they believe human beings who have been up to so many challenges before can solve this one too.”

The lecture series has been funded since its beginning in 2011 by Keith and Norma Heuermann of Phillips, Neb. The Heuermanns are long-time university supporters with a strong commitment to Nebraska’s production agriculture, natural resources, rural areas and people.

“Dr. Green approached me about some funding for his idea of these lectures,” Keith Heuermann said. The idea was intriguing.

“It seemed these type of lectures from such renowned people would be of substantial interest to University of Nebraska staff, students and general public,” Heuermann added. “To me personally, they have stimulated my interest in knowledge in many of the different topics.”

Green said the success of the lecture series has been a team effort led by Judy Nelson, communications specialist who has coordinated it since its inception.

The Heuermann Lectures focus on providing security – and here security means enough to sustain the world – in the areas of food, natural resources, and renewable energy for people, as well as on securing the sustainability of rural communities where the vital work of producing food and renewable energy occurs.

Lectures are archived at [heuermannlectures.unl.edu](http://heuermannlectures.unl.edu).



Keith and Norma Heuermann

“This is part of what a land-grant university is charged with doing – engaging our faculty, students and citizens intellectually in the great issues of the day.”

– Ronnie Green

– Daniel R. Moser

# Brotherly pursuit

**S**ometimes, the Hunnicutts can't help reflecting on the changes their family has seen in farming on their land near Giltner.

"I'm going over fields I know great-granddad was plowing with horses. Now I'm going over it with a 300 horsepower John Deere that's being told where to drive by satellites up in the sky," said Zach Hunnicutt. "It would be fun to hear what he would say.

"And it's really exciting to imagine what my grandkids will be doing out there," he added.

Zach and brother Brandon and their father, Daryl, are current stewards of a diversified operation that includes corn, soybeans and popcorn. Although their farming ancestors might be surprised at the current technology, they wouldn't be surprised their family's on top of it.

"Our family history is we've always been pretty open to new technology," said Zach, who graduated from the College of Agricultural Sciences and Natural Resources in 2004 with an agricultural economics degree. "We've always tried to be early innovators, early adopters."

That includes dad Daryl. "He was the one who actually suggested we get smart phones" as management tools.

It's not technology for technology's sake, though, Brandon said. "We'll try a lot of different things but we don't want to spend money unwisely," he said. "We're looking for the newest technology that will make us the most profit and allow



Photos courtesy of Zach Hunnicutt

us to use the water, the land, the resources, the best way possible."

Early GPS advances provided a "way to drive a little straighter and plant things a little better," Zach recalls. "Now we can know pretty intimately what's happening on every acre of the field."

For example, soil moisture monitors in every field – some of which can be monitored remotely by phone – allow for more efficient irrigation. Future advances will help farmers better monitor nutrient levels and microbial activity, Zach predicted.

Above: Brandon and Zach Hunnicutt.  
Below: Planting popcorn on the Hunnicutts' farm.

Brandon, who graduated from CASNR in 1998 with an agribusiness degree, noted that he's able to load a variety of management information onto his iPad and can consult it throughout the year.

"We're in some pretty exciting times for agriculture," Zach said. "Demand for food is growing so much. Agriculture really has a bright future."

– Daniel R. Moser



## A brick for CASNR memories

“We’re looking for the newest technology that will make us the most profit and allow us to use the water, the land, the resources, the best way possible.”

– Brandon Hunnicutt



Saturday, September 27, 2014  
Nebraska vs. Illinois

Saturday, November 1, 2014  
Nebraska vs. Purdue

Saturday, November 22, 2014  
Nebraska vs. Minnesota



The University of Nebraska-Lincoln is an equal opportunity educator and employer.

**T**he College of Agricultural Sciences and Natural Resources (CASNR) has been and continues to be influential in the lives of countless individuals. Those of us who have called East Campus “home” at one time or another have started our careers here, developed relationships here and were inspired to achieve more than we thought possible by the tremendous faculty.

CASNR has left a legacy with each of us by giving us the skills we needed to be successful. You now have an opportunity to leave your own legacy at CASNR by participating in the CASNR Alumni Brick Program. By purchasing a brick, you will leave a permanent legacy on the University of Nebraska-Lincoln East Campus and will also help make college more affordable for future students.

Your brick can be engraved with your name, that of a favorite professor, family member or friend – anyone who you would like honored at CASNR. Funds raised from the purchase of bricks will be used to create an endowment for scholarships that will be

awarded by the CASNR Alumni Association to incoming CASNR freshmen.



Nick Mannes

Engraved bricks will be placed on East Campus, north of Agricultural Hall, where they will be enjoyed by all who walk through campus for generations to come. Bricks ordered by July 1, 2014 will be included in our inaugural installation ceremony scheduled to take place in the fall of 2014. Bricks ordered after July 1, 2014 will be included in the fall 2015 installation ceremony.

To request an order form or for more information about the CASNR Alumni Brick Program, please go to [nufoundation.org/casnrbuyabrick](http://nufoundation.org/casnrbuyabrick) or contact Jill Brown at 402-472-3224, [jbrown14@unl.edu](mailto:jbrown14@unl.edu); Meg Kester at 402-472-7909, [mkester2@unl.edu](mailto:mkester2@unl.edu); or Ann Bruntz at 402-458-1176, [abruntz@nufoundation.org](mailto:abruntz@nufoundation.org).

*Brent L. Plugge*

Brent Plugge  
CASNR Alumni Association President

# Meet three proud CASNR grads.

Two are getting their degrees this spring and one is working on her master's.



**Nicole D'Angelo**, first-year graduate student.

**Degree:** Graduated last May in Animal Science with equine focus; working on master's in Agricultural Leadership, Education and Communication

**Hometown:** San Jose, Calif.

D'Angelo has her sights set on a career in teaching - perhaps agricultural education in high school, or maybe animal science in college. She's a big-city kid who started college in California, but then started looking for a strong agricultural university, initially thinking pre-veterinary medicine was her goal. A friend recommended UNL, and though she was nervous, it's been a great fit.

"I was totally out of my realm, but I knew I loved it. I absolutely love Nebraska. I will stay in the Midwest if I can," D'Angelo said.

For a horse enthusiast, she landed a dream internship working with Budweiser's famous Clydesdales. She got to tour much of the western United States with the horses, caring for them in 65-hour workweeks. In addition, she got a taste of how a large corporation works, spending three weeks at Budweiser facilities in Fort Collins, Colo.

When you're with the Budweiser Clydesdales, D'Angelo said, "everybody talks to you."

She's putting that experience to good use now in her graduate assistantship as a career specialist with the College of Agricultural Sciences and Natural Resources. She travels to high schools around the state to "get

kids excited about careers in agriculture."

She's starting to work schools in Lincoln and Omaha now, where she thinks her experience as an urban dweller who found happiness at an ag school will serve her well.



**Emily Ibach**, senior.

**Degree:** Agricultural Economics, with double minor in Leadership and Communications and Entrepreneurship (Engler Agribusiness Entrepreneurship Program)

**Hometown:** Sumner

Emily is using her background, college class work and internship experiences to find a unique employment twist to her Ag Economics degree. She is hoping to work in agricultural public relations, communications or marketing.

Inspired by her government relations/issues management internship with Monsanto in Washington, D.C., last summer and her industry relations internship with DuPont Pioneer in Des Moines, Iowa, the previous summer, Emily is excited

about telling agriculture's story to external audiences.

"Working to communicate complex agricultural issues to customers and consumers opened my eyes to a passion within," says Ibach. She said her CASNR education will serve as a solid foundation to her career.

"Through a public relations/marketing position I am excited to help the agriculture industry communicate to audiences that may have little or no agricultural understanding," Ibach added.

Proud of her rural Nebraska roots, Ibach was involved in 4-H and FFA. She hopes to be involved in the family farm and ranch operation someday. Emily will be graduating this May with her two brothers, Evan and Alec, who make up the balance of the Ibach triplets.



**Sid Kment**, senior.

**Degree:** Agronomy

**Hometown:** Beaver Crossing

Kment is a walking, talking advertisement for College

of Agricultural Sciences and Natural Resources Career Fairs. After all, the one he went to his freshman year led directly to the job he will take after graduation this May.

Kment, of Beaver Crossing, met a representative from Syngenta, got an internship there after his freshman year, followed up with two more summers with the company and now will begin work full-time for the company in Waterloo after he graduates with a degree in agronomy. In his new job, he expects to work closely with a district manager, lining up detasseling crews, scouting fields and more.

Kment's parents don't farm, but other relatives do, so he had plenty of agricultural experience growing up. "Also, I was huge into FFA in high school. That definitely had an impact on me."

Kment also plans to pursue his master's degree, perhaps enter the doctor of plant health program at UNL.

"Syngenta strongly emphasized they would like me to continue my education while I'm working there," he said.

"That career fair my freshman year, I'm so glad I went to it," he added.

- Daniel R. Moser

COLLEGE OF AGRICULTURAL SCIENCES AND NATURAL RESOURCES

UNIVERSITY OF Nebraska Lincoln

FOR MORE INFORMATION, CONTACT:

**JULIE OBERMEYER**  
Career Development & Corporate Relations Director  
303 Nebraska East Union  
(402) 472-8273 | jobermeyer@unl.edu

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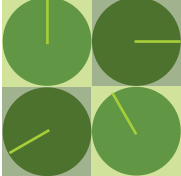



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A special

# Extension Centennial EDITION\*

140,000	Youth enrolled in 4-H. About 1 in 3 of those age-eligible youth	
\$30 million	Amount profitability was increased by extension beef programming	
6,700	Early childhood professionals and families engaged in at least two hours of The Learning Child programming. Combined, they care for more than 30,600 children.	
25.6 million	Number of acres of cropland impacted by cropping systems programming	
14,000	Youth participating in nutrition education using School Enrichment Kits, available in 51 counties.	
\$571,234	<b>Public value of Master Gardener volunteers' work</b>	
2 million	Views of Backyard Farmer on YouTube in its history	

\*all numbers are from 2013 unless otherwise specified

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