A Tribute to the Land-Grant Legacy

TECHNOLOGY AIDSTeaching & Learning

SPECIAL PULL-OUT SECTION: SDSU EXTENSION DIRECTORY
“This bill proposes to establish at least one college in every State upon a sure and perpetual foundation, accessible to all, but especially to the sons of toil, where all of needful science for the practical avocations of life shall be taught, where neither the higher graces of classical studies nor that military drill our country now so greatly appreciates will be entirely ignored, and where agriculture, the foundation of all present and future prosperity, may look for troops of earnest friends, studying its familiar and recondite economies, and at last elevating it to that higher level where it may fearlessly invoke comparison with the most advanced standards of the world.”

Representative Justin Morrill, 1862

It is quite remarkable to me that I now find myself as the Dean of the College I entered so many years ago.

And as the summer of 2012 comes to an end, a new group of young people will enter this great university. Sons and daughters from across South Dakota and our entire nation will enter our classrooms, and make temporary homes in dorms with strangers for roommates who will likely become their lifelong friends. A new generation of faculty will challenge and stretch them. They will study dairy science, and business, agronomy and animal science and learn about emerging fields of precision agriculture and genomics.

“Diligence will be required, as opaque barriers can arise from areas in our economy, culture, and society…our actions and policies will need to be thoughtful and intentional.”

Barry Dunn

And upon graduation, in a world that hungers for food and creative problem solving, opportunities will abound. And Justin Morrill’s dream will have come true for yet another generation of the sons and daughters of toil.

My hope is that we follow Justin Morrill’s lead, and continue to challenge ourselves to maintain opportunities for access to higher education at SDSU for the sons and daughters of all. Diligence will be required, as opaque barriers can arise from areas in our economy, culture, and society, often unintended, but barriers nonetheless.

Our actions and policies will need to be thoughtful and intentional, as the demographics of our state and region becomes more diverse. But what a wonderful courageous role model we have to follow in the statesman Justin Morrill.

Barry H. Dunn, Ph.D.
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Please notify the College of Agriculture & Biological Sciences if your address has changed.

College of Agriculture & Biological Sciences,
South Dakota State University
1010 N. Campus Drive, Box 2207,
Brookings, SD 57007
Phone: 605-688-4148
Fax: 605-688-6320
Email: SDSU.agbio@sdstate.edu

South Dakota State University, South Dakota counties, and USDA cooperating. South Dakota State University adheres to AA/EEO guidelines in offering educational programs and services.

On the Cover:
In 1859, Justin Smith Morrill, a representative from Vermont, had the vision for the public land-grant university. Finally in 1862, amidst the Civil War, President Abraham Lincoln signed the Morrill Act into law. Today, we mark the 150th anniversary of this monumental legislation; read the story on page 2.

CONTENTS

2 150 YEARS AND COUNTING
2012 Marks A Significant Milestone For Land-Grant Universities

4 SUMMER COLLEGE NEWS

6 READY, SET, GROW!
Gardening Programs Offer Bevy Of Benefits To Communities

8 SDSU EXTENSION STAFF DIRECTORY
Pull-Out And Save For Future Reference

13 BUGS BEWARE!
SDSU Assembles Talented Team Of Entomologists

14 HIGH-TECH TEACHING
Curriculums Now Integrate iPads, Social Media & Peer Mentoring

16 A LESSON IN CHINESE
SDSU Contingent Experiences World’s Largest Marketplace

18 HERE AND THERE

20 ADAPTING WITH APPS
Technological Advancements Offer Opportunities For Farming’s Future

21 A MESSAGE FROM THE SDSU FOUNDATION

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Public higher education changed forever July 2, 1862. That’s the day President Abraham Lincoln signed the Morrill Act into law, creating the framework for a system of land-grant universities that is still thriving today.

The country’s keen interest in furthering higher education can be seen in the circumstances surrounding the signing of the Morrill Act. The nation was embroiled in a civil war. The week Lincoln signed the Morrill Act, the Union and the Confederacy fought three of the bloodiest battles of the war. Despite all that going on, Congress and the president still had the foresight to change public higher education forever.

Colorful History
Representative Justin Smith Morrill of Vermont first shepherded his legislation through Congress in 1859, only to see it vetoed by President James Buchanan.

The circumstances were different in 1862. Southern states had left the Union, and they were the most serious opponents of the Morrill Act. Southerners clung to the classical model of education that was meant for the well-to-do and aristocratic. They also had a healthy suspicion of any act that allowed the federal government a role in education.

The passage of the Morrill Act was the culmination of years of distrust and disillusionment with an education system meant for the elite, teaching a curriculum of Latin and Greek languages, and classic European literature.

Morrill Act supporters sought a more democratic system of education, open to everyone and teaching subjects that would help farmers produce more and provide training in the skills needed to build a nation.

With the southern states out of the Union and out of the way, the Morrill Act breezed through Congress by hefty majorities in both houses.

Morrill’s legislation allowed each state that remained in the Union 30,000 acres of public land for each member it had in Congress. The endowment from the sale of the land would finance a college that emphasized agriculture, the mechanic arts, and military tactics without excluding literary or scientific studies.

The First Morrill Act, signed by President Abraham Lincoln, donated public lands to the states, the sale of which is for the:

“...endowment, support, and maintenance of at least one college where the leading object shall be, without excluding other scientific and classical studies and including military tactics, to teach branches of learning as are related to agriculture and the mechanic arts, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions of life.”

The size of the grant sparked opposition from some western interests who feared all their land would be lost. In total, the Morrill Act of 1862 granted states just more than 17.4 million acres, an area larger than the size of present-day West Virginia.

These land-grants would foster a sea of change in education, making it as egalitarian as it was practical. Its implementation would provide the leaders and workers needed to rebuild a nation torn apart by the Civil War and then help that reunited nation achieve its Manifest Destiny.

SDSU Established
Barry Dunn, dean of the College of Agriculture and Biological Sciences doesn’t mince words when he’s talking about the Morrill Act: “All public higher education owes itself to the Morrill Act.”

“The impact on opening the doors for the common man to obtain an education is one of the pinnacles of history,” he adds.

South Dakotans were eager for the kind of education delineated in the Morrill Act. So eager, that they got started on their land-grant seven years prior to statehood.
“South Dakota State is older than the state itself,” Dunn says. In 1881, Brookings lawyer James Scobey set out for the territorial Legislature in Yankton with two goals: secure a plum government appointment for his law partner and see to it that Brookings would be the home of the penitentiary. He failed on both counts. In what might be seen as accepting a consolation prize, Scobey secured for Brookings the rights for a college in the southern half of Dakota Territory. Scobey Hall at SDSU is named in his honor.

The value of the Morrill Act was enhanced on March 2, 1887, by the passage of the Hatch Act that established agricultural experiment stations in connection with land-grant institutions to conduct research and produce the findings for the public. "It opened the doors for the scientific methods of discovery to be applied to agriculture," Dunn says. That method allows scientists to test a hypothesis and publish their results. According to Dunn, prior to the Hatch Act, all farmers could rely on was their powers of observation. "All they could do is say, 'That plant is taller than that plant.'" "The scientific breakthroughs in this land-grant and every other land-grant are the cornerstone of agriculture," Dunn says.

On July 2, 2012, SDSU marked the 150th anniversary of the Morrill Act and the 125th anniversary of the Hatch Act with a program at Sylvan Theatre on campus.

Contributed by Dana Hess, SDSU University Relations

HISTORICAL HIGHLIGHTS FROM THE PAST 150 YEARS

1862 Congress passed two measures to help spur the economic growth and expansion of the western territories. One was the Homestead Act; the other the Morrill Act, which established the land-grant university system, making it possible for the new western states to create colleges for their citizens. These institutions were mandated to teach agriculture and mechanic arts.

1881 An "agricultural college" is established at Brookings by an act of the Dakota Territorial Legislature, signed February 21. In August, the sum of $600 is paid for an 80-acre tract of land at the northeast edge of town.

1883 A contract for $19,750 is let for the construction of Old Central, the first building on the "Agricultural College" campus.

1887 The Hatch Act was passed by Congress, mandating a scientific research mission for land-grant colleges. Agricultural Experiment Stations were to conduct research and diffuse information on concerns of the home or agriculture throughout the United States.

1890 The second Morrill Act is passed, which extended land-grant provisions to the 16 southern states. Part of this funding was used for institutions for black students, leading to the creation of 17 historically black land-grant colleges.

1899 The first research field station in the Northern Plains was South Dakota's 117-acre Central Crops and Soils Research Station at Highmore. It was the first research station in the United States to test durum wheat, smooth bromegrass, Russian olive trees, and yellow-blossomed alfalfa.

1909 The first range research station in the United States was established at Cottonwood, South Dakota.

1914 The Smith-Lever Act was passed. It established the Extension mission for the land-grant colleges, and provided federal support for educational programs. Extension programs were to enhance the application of useful and practical information beyond the campus through cooperative efforts with states and local communities.

1915 The South Dakota Legislature enacted legislation that created the South Dakota Cooperative Extension Service. The law required the Board of Regents of Education to "organize and conduct agricultural extension work as provided by said act of Congress in connection with other agricultural extension work." carried on by South Dakota State University.

1925 The U.S. Congress passes the Purnell Act which provides for economics and sociological research to be carried out by agricultural experiment stations.

1964 South Dakota State College becomes a "university." The Division of Agriculture becomes the College of Agriculture and Biological Sciences.

1993 A piece of SDSU's history is saved; part of the oldest building is preserved in its newest. "Dakota 1883," the triangular entrance pediment from Old Central, is placed in the atrium of the North Plains Biostress Laboratory as construction nears completion. The pediment had been in storage for 32 years since Old Central was torn down in 1961.

1994 Federal legislation passed provided land-grant status to designated tribal colleges, of which there are four in South Dakota.
MCCRARY GARDENS EDUCATION AND VISITOR CENTER NOW OPEN

Construction on the 9,350-square McCrory Gardens Education and Visitor Center was completed this spring. The $4.2 million privately funded facility will serve an educational role with its classrooms, lecture hall, and outdoor laboratory. It also will play an important role as a community-centered location for events and gatherings.

The Center includes environmentally friendly components such as geothermal heating and cooling, rain gardens and several natural products used in its construction.

The entrance to the Education and Visitor Center is on 22nd Avenue, the east side of the gardens. It houses two meeting rooms, a great hall, a help desk, and gift shop.

For more information visit www.sdstate.edu/ps/mccrory/.

SDSU EXTENSION OFFERS NEW DESIGNATION FOR REAL ESTATE AGENTS

“Advisor for Country Real Estate,” or ACRE, is the new designation real estate agents who market small acreages and other rural properties can earn through trainings offered by SDSU Extension.

To be eligible for the ACRE-SD designation, real estate agents must be licensed with the SD Real Estate Commission, complete Levels 1 and 2 of the continuing educational course “Promoting Resource Stewardship & Planning in Real Estate Transactions,” pass a written exam designed by SDSU Extension, NRCS and County Weed and Pest professionals, and pay an annual fee.

Real estate agents earning the ACRE-SD designation will be awarded a certificate from SDSU Extension, receive a complete acreage resource kit, be mentioned in other promotional materials, and receive continuous technical advisement from SDSU Extension.

For more information about upcoming real estate trainings, contact SDSU Extension small acreage field specialist Mindy Hubert at the Rapid City Regional Extension Center at (605)394-1722 or email mindy.hubert@sdstate.edu.

SDSU WELL-REPRESENTED AT COLLEGE NATIONAL FINALS RODEO

The SDSU Men’s Rodeo team finished 10th out of 55 teams earning points at this year’s College National Finals Rodeo (CNFR) held June 10-16 in Casper, WY. SDSU’s Women’s Rodeo team finished a respectable 15th out of 38 teams that earned points.

SDSU student Justin Zwiefel from Burt, IA, finished 3rd overall in steer wrestling and was 6th in the men’s all-around. At CNFR he also competed in tie down and team roping.

FACULTY NEWS

Don Marshall is serving as interim department head in the Department of Animal Science while a search committee begins the process of selecting a new department head. Clint Rusk left the position in July to accept a similar role at Oklahoma State University. Doug McFarland is continuing as the assistant department head.
South Dakota State University took part in the National Collegiate Soil Judging Contest hosted by West Virginia University at Morgantown, W.Va., in late March. Approximately 80 teams from across the nation start out the year in competition. Of the twenty-one teams qualifying for the national contest, SDSU placed 10th.

Pictured, the SDSU Soil Judging team, includes, front row, from left, pedology professor Doug Malo (coach), Brianna Wegner, Faribault, MN; Tyann Slepikas, Huron, SD; and Emily Helms, Creighton, SD. Second row, from left, Angela Kutzbach, Round Lake, MN; Laura Schwengel, Eau Claire, WI; Shaina Sabel, Andover, MN; and Jesse Cameron, Northfield, MN. Back row, from left, Colin Tobin, Wessington Springs, SD; James Schroepfer, Brookings, SD; Aaron Rogers, Huron, SD; and Mathew Mehlhat, Menno, SD. Not pictured is Michael Stapleton, Parker, SD.

Soil judging provides practical experience in evaluating the physical and chemical properties of soils important to making land-use decisions. Soil forming factors, including site characteristics, soil classification, land-use interpretations and soil morphology are all key components in the judging process.

Eluned Jones has been named to head the Economics Department at South Dakota State University. She comes to SDSU from Texas A&M University where she was professor of agribusiness and food industry economics. In her nine years at the Texas school, she served as chair of the Intercollegiate Faculty of Agribusiness; director of the Master of Agribusiness Degree Program; member of the department’s administrative team; and she was on the Faculty Senate Executive Committee.

Her research program addresses how upstream supply chain producers can capture value-added revenues. Her innovative research priorities led to her appointment at the national level as an adviser to numerous task forces for grains and oilseeds industries. She has 86 research publications to her credit and has had 79 research presentations.

Jones earned her bachelor’s degree in 1977 in horticultural crops and business management from the University of Bath in the United Kingdom. She obtained a master’s degree in horticulture in 1979 from North Carolina State University and a doctorate in 1987 in agricultural economics from Texas A&M University.

She takes over as department head from Evert Van der Sluis, who continues in his role as professor of economics. Serving on an interim basis as department head when Van der Sluis stepped down was David Hilderbrand.
Gardeners will attest that nothing beats a homegrown tomato – or any homegrown produce for that matter. And, that’s certainly part of the reason that Master Gardener, community garden and farmers market programs have flourished.

As a testament, several communities across South Dakota are working with SDSU Extension and focusing their efforts on gardening and locally grown produce. But there’s more to these programs than just the delectable fruits and vegetables that are harvested.

Marla Reede, who was on the board that formed the Lemmon Area Farmers Market last year and is currently working to establish a community garden for Lemmon residents, explains it this way: “I feel this helps our community by establishing a sense of unity among fellow gardeners and growers while also spreading these healthy, home grown products around.”

In Wagner, Amy Boom has worked with SDSU Extension through the Wagner Horizons Project over the past three years. She says, “Community gardens create friendships and build social capital. We have found in Wagner that social capital is the most important asset our community possesses.”

Wagner launched its community garden in May and held its first farmers market June 1, with the market to be held every Friday throughout the summer. Chat nights among gardeners are planned at the garden throughout the summer, and a grant has been applied for to have an EBT (Food Stamp) machine at the farmers market so that all income levels can have access to the fresh, local produce.

Jeff Stewart, who is working alongside Boom to make the Wagner Farmers Market a success, says the reward is in seeing locally produced, healthy food sold back into the community.
Youth gardening projects and teaching kids about the importance of eating fruits and vegetables are part of SDSU Extension’s current efforts as well.

This spring, vegetable seed packets were offered by SDSU Extension to assist educational gardens across the state. Eligible projects included gardens for schools, learning centers, 4-H clubs or other non-profit groups that include an educational component as part of the garden.

Seed packets were donated from a number of individuals across the region. SDSU Extension coordinated the seed bank effort.

Additionally, to help with implementing educational garden-related curriculums, SDSU Extension along with the South Dakota Discovery Center and Team Nutrition are hosting two-day trainings for educators throughout the summer. The trainings focus on implementing “Harvest of the Month” and “Garden to Table: School Gardens” programs.

Harvest of the Month features a quick presentation explaining to kids the history, peak seasons, vitamins and minerals and how to choose produce at the store – as well as sampling of different fruits and vegetables.

Garden to Table: School Gardens provides information for teachers and others who are interested in establishing a school garden. Garden-based learning provides a great opportunity to enhancing science and mathematics as well as many other subject areas. It provides a platform for nutrition education and encourages increased fruit and vegetable consumption.

The trainings are being held at SDSU Regional Extension Centers throughout the state.

Additionally, a “Youth in the Garden” webinar series is being offered throughout the growing season via iGrow.org. The webinars are designed for school teachers, afterschool and summer garden program leaders to provide education information as well as a format for participants to share ideas and learn from one another.

Two webinars each month are being offered. They are an hour long and typically have two presentation topics running 15 to 20 minutes each with about 20 minutes for a discussion session within the learning community.

To view the schedule and join each webinar visit http://igrow.org/events. Participants are encouraged to click on log in within 30 minutes of the specified time.

Recipe For Success

Chris Zdorovtsov, SDSU Extension community development field specialist, believes the gardening and farmers market effort can be a recipe for success for rural communities because it increases access to fresh fruits and vegetables, and the money for those products is staying in the local community.

“This can help create some sustainability for the economy in rural communities,” she states.

To that end, SDSU Extension has been a dedicated partner helping communities across the state achieve their gardening and farmers market goals.

A long-term example of this is the Master Gardener training program that Extension has offered since 1984. To date, more than 1,300 South Dakotans have graduated from the program – participants must complete 60 hours of classwork and projects and farmers market are very important to our communities. We are able to provide healthy food to our community members at affordable prices and the convenience of buying local. In addition, we are able to teach sustainable gardening techniques with the intent of having more gardeners participate in our farmers markets as well as being able to provide for their own family needs.”

Pine Ridge has offered the gardening program for three years and is in the second year of their farmers market. Hernandez says feedback has been positive and he is optimistic for the future. He says, “Our goal is to saturate the reservation with vegetables and address our health disparities such as diabetes and heart disease. Currently, we are limited to the availability of fresh and affordable produce.”

GETTING KIDS EXCITED ABOUT FRUITS & VEGGIES, TOO

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Harvest of the Month features a quick presentation explaining to kids the history, peak seasons, vitamins.

Pictured: Students at Lowell MST Elementary hunt for insects during a summer EcoCamp held at the school’s garden.
volunteer 50 hours before being certified as a Master Gardener. Rhoda Burrows, SDSU Extension horticulture specialist and Master Gardener coordinator, says, “Master Gardener volunteers are a key element in providing horticulture information to South Dakotans. They are a very enthusiastic and dedicated set of volunteers who benefit from having training similar to a University-level horticulture course, and are excited to share that knowledge with others.”

Zdorovtsov says that often Master Gardeners become mentors who provide expertise for community gardens, school gardening programs and farmers markets in communities.

Not Possible Without Extension
Would these bountiful gardening successes be possible without Extension? These community leaders don’t believe so.

When asked how her community has utilized SDSU Extension in the creation of their community garden and farmers market, Wagner’s Amy Boom says Extension has been an invaluable resource. Lemmon’s Marla Reede adds, “It has been incredibly helpful having SDSU Extension to get our community garden and farmers market projects started.”

She concludes, “I hope to see these projects continue to grow and to include more and more people from the area. I would also love to see our area youth take an interest in working with the community garden; it is such a rewarding hobby.”

At right, community gardens provide a bountiful harvest, while also providing learning opportunities for people of all ages and backgrounds.

GOT QUESTIONS? GET ANSWERS.
SDSU Extension offers several resources to South Dakotans looking for answers to their horticulture and tree questions. Here’s a glimpse at what’s available:

• The “Gardens” tab at iGrow.org provides 24/7 access to SDSU Extension information and resources, including an “Ask an Expert” section where questions can be submitted and individuals receive a response in most cases within 48 hours from local and regional horticulture experts.

• AnswerLine provides a toll-free connection to Extension staff dedicated to finding answers and directing consumers to research-based resources. Contact AnswerLine at 1-888-393-6336.

• Diagnostic services are also provided by the SDSU Plant Diagnostic Clinic, which accepts many different types of samples for disease, insect and other problem diagnoses. Find more information at www.sdstate.edu/ps/plant-clinic/.

• Archives of Garden Line, which was produced for more than 30 years by SDSU’s Cooperative Extension Service and broadcast via South Dakota Public Broadcasting, are now available on SDPB 3, the Create Channel. Budget cuts in 2011 led to the cancellation of new Garden Line programs. The archives provide a rich source of horticultural information that is still pertinent for today’s lawns, trees and gardens. Previous episodes of Garden Line and a wealth of related information is also available online at http://gardenline.sdstate.edu

• For SDSU horticulture publications and fact sheets, visit www.sdstate.edu/sdces/store/index.cfm
SDSU Extension Program Directors

> **Agriculture and Natural Resources**
  Rosie Nold, Ph: (605)688-4940
  Rosemarie.Nold@sdstate.edu
  Program Assistant: Mary Modica

> **4-H Youth Development**
  Peter Nielson, Ph: (605)688-4167
  Peter.Nielson@sdstate.edu
  Program Assistant: Penny Anderson

> **Food and Families**
  Suzanne Stluka, Ph: (605)688-4038
  Suzanne.Stluka@sdstate.edu
  Program Assistant: Debbie Bortnem

> **Community Development**
  David Olson, Ph: (605)688-5614
  David.Olson@sdstate.edu
  Program Assistant: Debbie Bortnem

> **Native American**
  Shawn Burke, Ph: (605)394-2236
  Shawn.Burke@sdstate.edu
  Program Assistant: Cindy Lanham

SDSU Extension Administrative Staff

> **Assistant Director Finance & Accountability**
  Lynne O’Neill, Ph: (605)688-4742
  Lynne.Oneill@sdstate.edu

> **Communications and Marketing Director**
  Emery Tschetter, Ph: (605)688-4643
  Emery.Tschetter@sdstate.edu

> **Coordinator iGrow Technology**
  Lindsay Gerard, Ph: (605)688-5195
  Lindsay.Gerard@sdstate.edu

> **West River Ag Center Director**
  Dan Oedekoven, Ph: (605)394-2236
  Daniel.Oedekoven@sdstate.edu

> **Grant Proposal Specialist**
  Kathleen Campbell, Ph: (605)688-6353
  kathleen.campbell@sdstate.edu

> **Senior Accountant – Grants**
  Shirley Jensen, Ph: (605)688-5907
  Shirley.Jensen@sdstate.edu

Dean and Director of SDSU Extension, Barry Dunn
Ph: (605)688-4148
Barry.Dunn@sdstate.edu
Program Assistant: Martha Aragon

SDSU Extension Associate Director, Karla Trautman
Ph: (605)688-4792
Karla.Trautman@sdstate.edu
Program Assistant: Elizabeth Christianson

College of Agriculture & Biological Sciences Extension Departments

**Agricultural and Biosystems Engineering**
Department Head
> Van Kelley
Ph: (605)688-5143, Van.Kelley@sdstate.edu

State Specialists
> **Air Quality & Waste Management**: Erin Cortus
Ph: (605)688-5144, Erin.Cortus@sdstate.edu

> **Water Management**: Christopher Hay
Ph: (605)688-5610, Christopher.Hay@sdstate.edu

> **Structures & Environment**: Steve Pohl
Ph: (605)688-5662, Stephen.Pohl@sdstate.edu

> **Climatologist**: Dennis Tody
Ph: (605)688-5678, Dennis.Tody@sdstate.edu

**Animal Science**
Department Head (Interim)
> Don Marshall
Ph: (605)688-5133, Donald.Marshall@sdstate.edu

State Specialists
> **Beef**: Ken Olson
Ph: (605)394-2236, Kenneth.Olson@sdstate.edu
**Beef**: Julie Walker
Ph: (605)688-5458, Julie.Walker@sdstate.edu

> **Cow/Calf Management & Production**: Elaine Grings
Ph: (605)688-5455, Elaine.Grings@sdstate.edu

> **Beef Reproductive Management**: George Perry
Ph: (605)688-5456, George.Perry@sdstate.edu

> **Meats**: Keith Underwood
Ph: (605)688-5439, Keith.Underwood@sdstate.edu

> **Feedlot**: Vacant

> **Sheep**: Jeff Held
Ph: (605)688-5433, Jeffrey.Held@sdstate.edu

> **Swine**: Bob Thaler
Ph: (605)688-5435, Robert.Thaler@sdstate.edu

> **Equine**: Rebecca Bott
Ph: (605)688-5412, Rebecca.Bott@sdstate.edu

**Dairy Science**
Department Head
> Vikram Mistry
Ph: (605)688-4116, Vikram.Mistry@sdstate.edu

State Specialist
> Alvaro Garcia
Ph: (605)688-5488, Alvaro.Garcia@sdstate.edu
College of Agriculture & Biological Sciences Extension Departments, continued

**Economics**

*Department Head*
- Eluned Jones
  - Ph: (605)688-4141, Eluned.Jones@sdstate.edu

*State Specialists*
- **Risk & Business Livestock Management**: Matt Diersen
  - Ph: (605)688-4864, Matthew.Diersen@sdstate.edu
- **Farm Financial Management**: Burton Pflueger
  - Ph: (605)688-4863, Burton.Pflueger@sdstate.edu
- **Small Business**: George Langelett
  - Ph: (605)688-4865, George.Langelett@sdstate.edu
- **Rural Business Management**: Larry Swain
  - Ph: (605)688-4877, Larry.Swain@sdstate.edu
- **Farm Management-Production**: Jerry Warmann
  - Ph: (605)688-4866, Gerald.Warmann@sdstate.edu
- **Grain Marketing**: Vacant

**Natural Resource Management**

*Department Head*
- David Willis
  - Ph: (605)688-6122, David.Willis@sdstate.edu

*State Specialist*
- **Range Management**: Roger Gates
  - Ph: (605)394-2236, Roger.Gates@sdstate.edu

**Plant Science**

*Department Head (Interim)*
- Thomas Cheesbrough
  - Ph: (605)688-5123, Thomas.Cheesbrough@sdstate.edu

*State Specialists*
- **Forestry**: John Ball
  - Ph: (605)688-4737, John.Ball@sdstate.edu
- **Horticulture**: Rhoda Burrows
  - Ph: (605)394-2236, Rhoda.Burrows@sdstate.edu
- **Integrated Pest Management (IPM) Coordinator**: Darrell Denke
  - Ph: (605)688-4595, Darrell.Denke@sdstate.edu

**Veterinary and Biomedical Sciences**

*Department Head*
- David Zeman
  - Ph: (605)688-5172, David.Zeman@sdstate.edu

*State Specialists*
- **Veterinarian**: Russ Daly
  - Ph: (605)688-6589, Russell.Daly@sdstate.edu
- **Pathologist**: Larry Holler
  - Ph: (605)688-5798, Larry.Holler@sdstate.edu
- **Pathologist**: Dale Miskimins
  - Ph: (605)688-5679, Dale.Miskimins@sdstate.edu

**College of Education & Human Sciences Extension Departments**

**South Dakota State University**

College of Education & Human Sciences
Box 2275A, Brookings, SD 57007
www.sdstate.edu/ehs/

**Dean, Jill Thorngren**
- Ph: (605)688-6181, Jill.Thorngren@sdstate.edu
  - Program Assistant: Jan Moen

**Consumer Sciences**

*Assistant Dean & Department Head*
- Jane Hegland
  - Ph: (605)688-5196, Jane.Hegland@sdstate.edu

*State Specialist*
- **Family Resource Management**: Carrie Johnson
  - Ph: (605)688-4035, Carrie.Johnson@sdstate.edu

**Teaching, Learning & Leadership**

*Department Head*
- Andy Stremmel
  - Ph: (605)688-5039, Andrew.Stremmel@sdstate.edu

**Counseling & Human Development**

*Department Head*
- Jay Trenhaile
  - Ph: (605)688-4190, Jay.Trenhaile@sdstate.edu

*State Specialists*
- **Family Life, Parenting, Child Care**: Ann Michelle Daniels
  - Ph: (605)688-4036, AnnMichelle.Daniels@sdstate.edu
- **CYFAR Prevention Coordinator**: Jessica Kirkham
  - Ph: (605)688-6037, Jessica.Kirkham@sdstate.edu
- **Gerontology**: Renee Oscarson
  - Ph: (605)688-5954, Renee.Oscarson@sdstate.edu
- **Adolescent Mentorship**: Amber Letcher
  - Ph: (605)688-4321, Amber.Letcher@sdstate.edu
- **4-H Youth Development**: Vacant

**Health & Nutritional Sciences**

*Department Head*
- Matthew Vukovich
  - Ph: (605)688-4668, Matthew.Vukovich@sdstate.edu

*State Specialists*
- **Food Safety**: Joan Hegerfeld-Baker
  - Ph: (605)688-6233, Joan.Hegerfeld-Baker@sdstate.edu
- **Nutrition**: Teri Kemmer
  - Ph: (605)688-4046, Teri.Kemmer@sdstate.edu
- **Extension Associate**: Becky Jensen
  - Ph: (605)688-6409, Becky.Jensen@sdstate.edu
Expanded Food & Nutrition Education Program (EFNEP) and Food & Nutrition Program (FNP)

Program Coordinator: Suzanne Stuka
Ph: (605)688-4038, Suzanne.Stuka@sdstate.edu

Nutrition Network/Team Nutrition Extension Associate:
Karlys Wells, Ph: (605)688-4039, Karlys.Wells@sdstate.edu

EFNEP & FNP Extension Assistant: Kimberly Wilson-Sweebe
Ph: (605)688-4440, Kimberly.Wilson-Sweebe@sdstate.edu

Nutrition Assistants

Beadle County: Angela Kempf
Ph: (605)353-8440, Angela.Kempf@sdstate.edu

Cheyenne River Reservation: Kathy Walters
Ph: (605)964-4955, Kathy.Walters@sdstate.edu

Codington County: Darbee Fryer
Ph: (605)882-6300, Darbee.Fryer@sdstate.edu

Corson County: Rebecca Siroshton
Ph: (605)273-4288, Rebecca.Siroshton@sdstate.edu

Rapid City Regional Extension Center
1530 Samco Road, Rapid City, SD 57702
Ph: (605)394-1722, Fax: (605)394-1729
Administrative Staff: Paulette Morse
Field Specialists:
> Adele Harty: Livestock
> Dave Ollila: Sheep
> Mindy Hubert: Small Acreage
> John Rickertsen: Agronomy
> Jonathan Nixon: Entomology
> Sharon Guthmiller: Food Safety
> Mary Roduner: Consumer Horticulture
> Peggy Schlechter: Community Development

Sioux Falls Regional Extension Center
2001 E. 8th St., Sioux Falls, SD 57103
Ph: (605)782-3290, Fax: (605)782-3294
Administrative Staff: Heidi Roers
Field Specialists:
> B. Lynn Gordon: Livestock
> Kurt Reitsma: Precision Agriculture
> Connie Strunk: Plant Pathology
> Donna Bittiker: Family Resource Management
> LaVonne Meyer: Food Safety
> Heather Gessner: Livestock Business Management
> Larry Wagner: Agronomy Crops
> Geoffrey Njue: Specialty Field Crops
> Megan Sexton: Nutrition
> Ashley Gelderman: Swine

Watertown Regional Extension Center
C codington County Resource Center
1910 W. Kemp Ave., Watertown, SD 57201
Ph: (605)882-5140, Fax: (605)882-5145
Administrative Staff: Janice Rounds
Field Specialists:
> Warren Rusche: Livestock
> Tracey Renelt: Dairy
> Paul Johnson: Agronomy Crops
> Sandra Namken: Aging
> Deb Sundem: Nutrition
> Audrey Rider: 4-H Youth Leadership
> Don Guthmiller: Crops Business Management
* Visit www.iGrow.org for individual field specialist email listings.
4-H Youth Program Advisors

- **Awakening, Buffalo, Jerauld, and Sanborn Counties:** Audra Scheel
- **Beadle County:** John Madison
- **Bennett County:** Beth Lyons
- **Bon Homme, Clay, and Yankton Counties:** Will Kennedy
- **Brookings County:** Sonia Mack
- **Brown County:** Becca Wolff
- **Brule/Lyman County:** Misty Welter
- **Butte and Lawrence Counties:** Elizabeth (Betsy) Burtzlaff
- **Campbell, Edmunds, McPherson, and Walworth Counties:** Jeff Mueller
- **Charles Mix and Douglas Counties:** Stephanie Chambliss
- **Cheyenne River, Corson, Dewey, and Ziebach Counties:** Leah Holmes
- **Clark and Spink Counties:** Kim McGraw
- **Codington County:** Jodi Loehrer
- **Custer and Fall River Counties:** Bradley Keizer
- **Davidson and Hanson Counties:** Alice Nickelson
- **Day and Marshall Counties:** Jennifer Ringkob
- **Deuel and Grant Counties:** John Keimig
- **Faulk, Hand, Hyde, and Potter Counties:** Flyn Hogg
- **Gregory and Tripp Counties:** Megan Peterson
- **Haakon, Jackson, Jones, and Mellette Counties:** Carrie Weller
- **Hamlin and Kingsbury Counties:** Aren Field
- **Harding and Perkins Counties:** Ida Schmidt
- **Hughes, Stanley, and Sully Counties:** Mark Rowen
- **Hutchinson and Turner Counties:** Deanna Gall
- **Lake and Moody Counties:** Amanda Stade
- **Lincoln County:** Amber Lounsbery
- **McCook County:** Alicia Reif
- **Meade County:** Jennifer Voigt
- **Miner County:** Maria Feldhaus
- **Minnehaha County:** Eric Saathoff
- **Pennington County:** Tiffany Meyer
- **Roberts County:** Tracey Lehrke
- **Union County:** Rachel Borine
- **Pine Ridge Reservation:** Keith Ferguson
- **Rosebud Reservation:** Kathi Her Many Horses

*Funded through federal sources*
Strengthening the interaction of research, education and outreach is happening at a rapid pace in the new model of SDSU Extension. One such example can be found in SDSU’s entomology efforts. “We’ve moved from a single state specialist serving as the expert to a team approach,” explains Rosie Nold, who serves as Agriculture and Natural Resources Program Director for SDSU Extension.

That expanded approach now includes five positions to fulfill Extension entomology duties across the state. They include: Ada Szczepaniec, Assistant Professor and state Extension entomology specialist; Kelley Tilmon, Associate Professor with a dual assignment for soybean entomology research and Extension; Buyung Hadi who serves as the state’s pesticide education and urban entomology coordinator; Jonathan Nixon, Extension entomology field specialist stationed at the Regional Extension Center in Rapid City; and another Extension entomology field specialist who will soon be hired at the Regional Extension Center in Sioux Falls.

Nold says the new format for SDSU Extension provides for greater expertise in specialized areas, while allowing improved relevance for all parts of the state on subjects where geographic differences in climate or topography have an effect on the topics. “There is simply too much information – or in this case too many bugs – for one generalist to keep up with all the changes,” she explains. “Having people on both sides of the state also allows us to focus better on regional insect problems in addition to statewide issues.”

Better Integration

Increased integration between Extension and research is another benefit of the new alignments to SDSU Extension.

For instance, as an Extension field specialist, Nixon will not only conduct research, but he will also be right there to educate producers, find out more from the producers and learn what additional research may be relevant. Nixon can then incorporate that information into continued research efforts with the aim of conducting projects and producing results that can quickly be applied by producers.

The SDSU Extension team is also working to integrate technology communication with growers. Pest management articles are regularly posted on SDSU Extension’s www.iGrow.org website and other methods of assisting growers are being explored. Hadi and Tilmon have collaborated to produce a mobile app for soybean insect identification and management. A new SDSU Extension Entomology page on the social networking site Facebook has also been recently established to facilitate flow of information and open communication with the producers and general public in South Dakota.

Nold reports that this new approach by SDSU Extension is being implemented across other sectors – from plant pathology and climatology to animal science and natural resources. “Our aim is to help provide the most relevant, unbiased research-based answers possible,” she says.

ENTOMOLOGY EFFORTS UNDERWAY

SDSU’s entomology experts have several projects underway to better manage insect issues within the state. Some of these include:

• Producing a weekly SDSU Extension Newsletter. Ada Szczepaniec serves as editor for this project which was initiated in April. Several Extension staff contribute to the newsletter which covers topics including entomology, diseases, weeds, weather and planting.

• Kelley Tilmon serves as project director for a multistate research and Extension project on soybean aphids. It is funded by the North Central Soybean Research Program and involves faculty in 12 states.

• A study evaluating the performance of aphid-resistant soybean varieties and how they can be used as part of an integrated pest management approach.

• Testing insecticidal seed treatments for their efficacy and value in soybean production.

• Ada Szczepaniec is establishing a research program focused on mechanisms of pest outbreaks in field crops and how incorporating integrated pest management decreases incidence of outbreaks of economically important arthropod pests.

• Jonathan Nixon and Szczepaniec are working to set up a state-wide monitoring system for several key pests of crops in South Dakota.
Today’s teaching trends are moving into a dynamic world of active learning that is much more than text books and PowerPoint,” explains Volker Brozel, Department head of Biology and Microbiology at SDSU. “It’s pretty clear that the average millenial student isn’t keen on the idea of being talked at for 50 minutes. They want to be engaged and contribute to the lecture.”

In response to these changes, curriculums and teaching formats are evolving as well. As an example, SDSU’s Department of Biology and Microbiology recently updated their curriculum; integrating iPad technology, social media and a peer-mentor program.

Brozel believes the changes will better serve students and provide the active learning to help them achieve the grades and experience necessary to pursue pre-professional degrees or careers in biology, microbiology and other science areas.

Proven Methods
Research shows that integrating technology in pedagogically sound ways can increase students’ engagement and ability to learn, says Greg Heiberger, an Advisor and Instructor of Pre-Health Professional Programs.

“For today’s students, technology has always been a part of their learning process. Our use of active learning through technology is linked to increased student engagement, more interaction with faculty, higher grades and increased retention,” Heiberger explains.

To create active classrooms, last fall instructors introduced iPads into freshman Biology labs. Coupled with AirPlay technology, students could easily share information with the entire class. AirPlay is wireless technology that projects the screen from student’s iPads to a large projector in the front of the classroom.

SDSU is one of the first universities to utilize iPads and AirPlay to create active classrooms. At only $450 a tablet, the wireless technology not only has educational benefits, but is affordable and portable – making it easy to convert traditional classrooms into active classrooms.

“We’re harnessing student’s energy and desire to be engaged in the learning process,” says Brozel, who explains that active classrooms at other universities are hard-wired, and the upfront investment for one classroom is many times greater than his department’s investment in this mobile active classroom.

For Katherine Kondratuk, who enrolled as a freshman microbiology/pre-med student at SDSU last fall, the hands-on learning provided by the iPads and AirPlay were integral to helping her understand a complex concept in her Biology 151 lab.

She and the other students in her lab section used their iPads to map out the processes that go into cell replication. They then shared their maps with the group using AirPlay. “It helped me visualize something that is very abstract,” Kondratuk says.
“For today’s students, technology has always been a part of the learning process. Active learning is linked to increased student engagement, more interaction with faculty, higher grades and increased retention.”

Greg Heiberger, SDSU Department of Biology and Microbiology

Mentoring & Twitter, Too

But the addition of iPads isn’t the only adjustment being made to accommodate students’ learning. SDSU’s Department of Biology and Microbiology has also implemented a peer mentoring program and formed a Twitter account to help students and faculty stay connected and informed.

“When students feel connected to the university, its faculty and each other, research shows they stay in school, are successful and graduate,” says Heiberger, who introduced the Twitter account as part of a controlled experimental study designed to increase engagement, grades and student retention. The Twitter format also allows students and professors to be informed about campus activities and participate in discussions about recent lectures.

Heiberger cites the study that showed students who used Twitter had twice the engagement scores, .5 increase in their GPA and 17% increase in retention.

As another means to facilitate a smooth transition for underclassman, two years ago Heiberger and assistant professor Kendra Hill developed a student mentor program within the Biology and Microbiology Department.

“There can be a disconnect between students and professors,” Hill explains. “They are thirsty for knowledge and sometimes they respond to information better when it comes from an upper classmen instead of a professor.”

Each week peer mentors meet with Hill and Heiberger for training and to discuss topics they will cover during their in-class meetings with their mentee group. Mentors meet with their mentee’s one-on-one each month and with their group of 5 to 6 freshmen two times a week during First Year Seminar, a general education requirement for all first-year biology and microbiology students.

Mentors discuss everything from study habits and how to prepare for certain tests, to campus activities and handling social pressures. Hill and Heiberger, dedicate several hours each week to making the peer mentor program successful.

Hill states, “The healthcare field is very competitive. Everything you do in college goes on your records. And, these students have so many years of school ahead of them that they need to stay on track.”

While iPads, AirPlay and peer mentoring have only been part of the curriculum for two years, Heiberger says all signs point to a more active, engaged and successful transition for first year biology students at SDSU.

“Key indicators validate that we’ve created a community, and students like being a part of it,” Heiberger concludes.
With 1.3 billion people, China represents the number one market for U.S. agricultural goods – and that market is projected to continue growing. By 2025, China is anticipated to have 225 cities each with a population of at least 1 million people.

To experience the global opportunities that exist for U.S. agriculture firsthand, a group of 28 SDSU students journeyed to China March 3-16. The contingent was led by SDSU animal science professor and Extension swine specialist Bob Thaler and SDSU alumni Jared and Katie Knock from Willow Lake, SD.

Plans for the three-credit, international travel course – ABS 482-582 – began last summer, with students enrolling last fall. Thaler explains that the focus for the course is on exposing students to agriculture on an international scale – and specifically China because of the booming market potential. The course is open to all majors and will now be offered annually.

Bullish Outlook

For Jon Kleinjan, a PhD candidate in plant genetics, the visit to China gave him a more bullish outlook for U.S. agriculture. The Bruce, SD, native says, “I have considered the good times in agriculture the past few years to be a temporary bubble soon to burst. However, seeing the sheer amount of demand in China and hearing Chinese livestock producers say ‘Send us as much grain as you can,’ I have realized that if this agricultural bubble does burst, it will probably be a soft landing.”

David Becker, a Hinton, IA, native and animal science major who graduated in May, says his take-home lesson from the experience was recognizing the fact that the U.S. and China are huge players in the agricultural economy. Becker says, "I think the U.S. needs to ensure they have a strong relationship with China so we can work together to be successful in the future.”

Personally, Becker intends to use his global experiences to help him in better marketing commodities when he returns to his family’s feedlot and farming operation.

Cultural Contrasts

Another lesson that stands out from the trip was the contrast between cutting edge and antiquated conditions among China’s people. Maria Skoglund, who graduated with a degree in agricultural economics in May, explains, Beijing was a strange mix of glass-covered skyscrapers, yet millions of families – usually of 5 – lived in two bedroom homes and shared the public restroom down the street.

At left, top: Scenes from China included SDSU graduate student Jon Kleinjan observing their cropland; a wholesale vegetable market; and a 40,000 head feedlot with all of the animals tethered.

At right, inset: SDSU student Maria Skoglund visits with Chinese students; the SDSU contingent of 28 students included a visit to China’s Forbidden City among their agricultural travels.
The Canova, SD, native was also surprised by the differences in meat products. She says, “U.S. consumers are willing to pay for premium cuts of beef, while most beef consumed in China is thinly sliced and boiled. Because of this, typical steak cuts are not viewed as more valuable by the Chinese.” She adds, “This difference helped explain the differences we saw in cattle production, as they are raised for a different purpose.”

“Also surprising and overwhelming is the sheer number of people in China,” adds Kleinjan. “It is hard to fathom the numbers until you actually see the choked streets of Chinese cities and the clusters of farmhouses and settlements seemingly everywhere in rural China. There is simply nowhere you can go to be alone.”

**Greater Understanding**

Of her experiences abroad, Emily Jungemann, from Wolsey, SD, says, “I gained a greater understanding of how agriculture worldwide is connected. Visiting a Pioneer seed office in Beijing and realizing the connection to the seed that we plant in South Dakota made this sink in more for me.”

She adds, “I also gained a better understanding of how much China wants to improve their systems and the opportunity the United States has in helping them achieve that goal.”

Jungemann, who studied dairy production and graduated from SDSU in May now intends to attend veterinary school at Iowa State University in the fall. She concludes, “With my future goal of being a large animal veterinarian, I can see being in contact with beef and dairy producers in China to help improve their supply for the increasing demand.”

Kleinjan also came away with a greater appreciation for other cultures and a deeper appreciation for living in the U.S. He is grateful for the experience and says, “After seeing the welcoming attitudes of the Chinese people, I am going to strive to make students from other countries feel more welcome here at SDSU.”

*Editor’s Note: The SDSU trip to China included visits to beef, dairy, hog and fish operations as well as a slaughter plant, grain port and agricultural college. Students also had the opportunity to visit Hong Kong, Three Gorges Dam and historical landmarks such as The Great Wall and Forbidden City.*
PLANS PROCEED FOR COW-CALF UNIT

Plans to relocate SDSU’s Cow-Calf Unit to 640 acres near Volga, SD, have been in the works for the past couple years. The move would allow the facility to grow its research, teaching and Extension functions for students, researchers and stakeholders.

A March 2 fire at the on-campus cow/calf barn has now necessitated the move even more. Rather than rebuild the charred facility, a $500,000 insurance payment will be put toward construction of a facility at the new Cow-Calf Unit site ten miles north of Brookings.

The new multi-purpose facility is planned to include indoor calving and working facilities, a wet lab, a maternity facility, classrooms, offices and a feeding barn. The project is estimated to cost $4 million.

Cody Wright, SDSU professor of animal science, says the new site will offer expanded research and education opportunities for the state’s cattle industry.

Private donations to help finance the new cow-calf facility are being sought. A third annual fundraising auction to benefit the expansion is also being planned for Thursday, Aug. 23 at Dakotafest in Mitchell. At last year’s auction, more than $76,000 was raised.

To contribute to the Cow-Calf Unit fund or the auction at Dakotafest, contact SDSU animal science professor Cody Wright at Cody.Wright@SDSTATE.EDU or (605)688-5448.

SDSU EXTENSION LAUNCHES SHEEPSD

A new three-year course called sheepSD has been launched by SDSU Extension. South Dakota producers interested in entering and expanding the state’s sheep industry were given the opportunity to apply to the program in May and June. The official announcement of selected participants will be made Sept. 29 at the South Dakota Sheep Grower’s Convention at the Golden Hills Resort in Lead, SD.

The program is modeled after SDSU Extension’s Beginning Farmer/Rancher Program called beefSD, and has adopted the American Sheep Industry Association goals to grow the industry to a point of economic sustainability for all levels of the sheep industry.

The sheepSD program will:
• Provide mentorship for beginning sheep producers from successful, established ranchers.
• Develop production and management skills for producer efficiency, profitability and sustainability.
• Establish perpetual learning communities of sheep producers that will continue to seek knowledge and skills toward becoming progressive and prosperous ranchers.
• Offer perspective of the global sheep industry and participate in marketing of industry products.

For more information contact Dave Ollila, SDSU Extension sheep field specialist (605) 394-1722, or Jeff Held, SDSU State sheep specialist (605) 690-7033.

HOBO DAY CELEBRATES CENTENNIAL

A “100 Years of Hobo Day” celebration will be held during Hobo Day 2012. The occasion will be officially noted Oct. 27 surrounding the Jackrabbits’ football game at 2 p.m. against Youngstown State at Coughlin-Alumni Stadium.

SDSU’s Hobo Day has grown to be the largest single-day student celebration in the state.

For Jackrabbit football fans, the fall roster of home games also includes:
• Cereal Bowl, Sept. 15 at 2 p.m. vs. University of California-Davis
• Beef Bowl, Sept. 29 at 6 p.m. vs. Missouri State
• Hall of Fame Game, Military Appreciation Day, Oct. 13 at 6 p.m. vs. Western Illinois
• Final Home Game, Nov. 17 at 2 p.m. vs. University of South Dakota

For ticket information visit www.gojacks.com.
SKILL-A-THON, PREMIER EXHIBITOR PROGRAMS ADDED TO SD STATE FAIR

An exciting culmination to the summer 4-H season is the annual SD State Fair in Huron. This year’s event will be Aug. 30-Sept. 3 and will include a variety of static exhibits along with a flurry of judging, public speaking, performing arts, special foods and livestock activities for 4-H youth.

New this year is the addition of “skill-a-thon” contests for any interested 4-H and FFA youth. The skill-a-thon program highlights youth’s knowledge in livestock projects as they demonstrate their understanding and practical application of management practices in the areas of beef, sheep, and swine. The contest will include beginner, junior and senior age divisions, and youth do not need to exhibit a project animal to compete in the skill-a-thon.

Several industry representatives from producers and veterinarians to feed salesmen and agricultural businessmen help develop and facilitate the livestock skill-a-thon contest. This interaction between youth and the facilitators also allows youth to network within the livestock industry and develop relationships for future learning opportunities to grow their own livestock programs.

Also new for 2012, outstanding 4-H youth in the beef, sheep, and swine project areas will be recognized through the inaugural Premier Exhibitor program at the South Dakota State Fair. Scores from the skill-a-thon, an industry interview, a production quiz, and showmanship placings will be used to determine a Premier Exhibitor for each of the three species. Top individuals will be awarded prizes sponsored by agriculture businesses and producers.

Additional State Fair 4-H highlights include: performances by the 4-H Performing Arts Troupe on Sept 1-3; a 4-H dance Sept. 1-2; a 4-H benefit auction, Sept. 2; and the 4-H Leaders’ Association Barbecue at 5 p.m. Sept. 2.

For more information about the skill-a-thon and Premier Exhibitor programs contact youth livestock field specialist Megan Nielson at (605)995-7378 or Megan.Nielson@sdstate.edu. For more State Fair information visit www.sdstatefair.com.

WEEKLY CROP PROGRESS, CONDITIONS FEATURED ON IGROW

South Dakota crop progress and condition index reports are now available weekly on iGrow.org, the website offered by SDSU Extension.

Crops business management field specialist Don Guthmiller compiles the weekly information by working with the crop and forage planting and growth data provided by USDA National Ag Statistics Service (NASS). The charts and other pertinent information are presented in easy-to-read graphs via a power point presentation available on iGrow.

Guthmiller says those involved in South Dakota’s agriculture industry can use the weekly crop progress and condition index graphics report as a management and marketing tool. “It gives us an indication of growing conditions of crops, forage, range and pasture across the state – these conditions do impact markets so everyone involved in the markets needs to be aware,” he says.

Find the weekly crop progress and condition index report on iGrow.org under the Agronomy link and click on ‘Profit Tips.’ Guthmiller is located at the Watertown Regional Extension Center and can be contacted by phone at 605-882-5140 or at donald.guthmiller@sdstate.edu.
“There’s an app for that” has become a common catchphrase in today’s society. App is an abbreviation for application, which is a piece of software that can run on your computer, phone or other electronic device.

Apps are designed to do everything from providing or calculating information to offering entertainment through interactive games.

For the agricultural industry, SDSU’s College of Agriculture and Biological Sciences and SDSU Extension have identified a recurring need for ag-related apps – and they are working to develop relevant apps for farmers and ranchers.

“As we look at the horizon, we see opportunities for apps that could aid with field scouting and precision ag as well as apps specific to livestock and record keeping,” explains Emery Tschetter, director of marketing and communications for the College of Agriculture and Biological Sciences.

Tschetter explains that SDSU has several apps they are currently evaluating and some will be released this summer. As one example, research and beta-testing is already being conducted by SDSU for an app that would evaluate stand count when crops emerge in the spring.

Tschetter says this app might also be used for crop insurance purposes to estimate stand count if the crop is damaged from a hail or wind storm.

Like other apps, the SDSU ag-related apps will be made available from the Apple App Store for iPhone users and the Android Market for other users.

Tschetter forecasts an exciting future for agriculture with the development and implementation of a wide variety of apps, and SDSU Extension will play an integral role in bringing this technology to the state’s ag producers.

Learn More At Dakotafest
Adapting new technology such as apps to your farming operation will be a key focus at this year’s 17th Annual Dakotafest, which will be held August 21-23, 2012 at the Schlaffman Farm near Mitchell, SD.

SDSU is teaming with IDEAg Interconnectivity for the programs at Dakotafest. Each day forums featuring SDSU faculty and staff will be offered.

The sessions will be free and focus on technology and interconnectivity on the farm. “The goal is to create awareness for the ag technology available and how to utilize it,” explains Tschetter.

Throughout the day, Dakotafest attendees will also have the opportunity to browse the SDSU tent and visit with professors, researchers and Extension specialists to learn more about the ag technology available.

Each year the Dakotafest event gives great visibility to SDSU and offers the opportunity for SDSU faculty to share its wealth of knowledge on agricultural research, Extension outreach, and the variety of curriculums offered to students.

For more information about Dakotafest visit http://farmshows.com/DFST/.
This place is even better than I thought…

Long before I accepted a position with the SDSU Foundation as Development Director for the College of Agriculture and Biological Sciences, I considered myself a passionate supporter of all things SDSU.

I have enormous pride in this place and its people. The students, faculty, staff, coaches and administrators have always been second to none – in my admittedly biased opinion. Now, having worked here for nearly six months, I’ll let you in on a little secret: This place is even better than I thought.

In my introductory meetings with the College of AgBio’s department heads, I marveled at their passion and desire for providing students with the very best opportunities possible. They are global thinkers who understand that the research done here will impact our world for generations to come. Yet they haven’t forgotten the importance of that face-to-face, personalized counsel they provide. I am energized by these leaders and comforted knowing how they approach their work every day.

I am equally impressed with the students. While focused on the task at hand of earning a degree, they also possess a keen long-range view of the boundless opportunities that await them after leaving campus.

If you consider yourself a supporter of SDSU and the College of AgBio but haven’t been back to Brookings for awhile, please consider a visit to witness all the great things happening here. I’d love the opportunity to show you what we’ve done and what we’re working on for the future. I’m betting you’ll leave thinking this place is even better than you thought, too.

MIKE BARBER ’97
You’ll find this tree guide so useful, it’ll never have time to join the other books in the pile.

- Written by SDSU professor and Extension Forestry Specialist John Ball, who is considered one of the Midwest’s foremost authorities on trees. He also serves as Forestry Health Specialist with the South Dakota Department of Agriculture.

- Featuring more than 270 tree species, including fruit, nut, evergreens and ornamental trees, as well as windbreak and native trees.

- Information is provided in a reader-friendly format and includes hardiness zones, soil requirements, growth rates, tree height, and the form of each tree at maturity, as well as valuable information on cultivar and rootstocks and interesting facts about each species.

- The book contains more than 500 pages with hundreds of full color photographs plus black and white illustrations. Easy-to-follow keys for identifying trees by their leaves and needles are provided.

- Available for $59.95

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Call 1-877-227-0015
Or order online at www.iGrow.org