

October 2018

RANGE & PASTURE *Journal*

~ Providing Stewardship Strategies For Northern Plains Grasslands ~

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and the Nebraska Grazing Lands Coalition**

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NEBRASKA Grazing Lands Coalition

Lynn Myers honored with 2018 Nebraska Grazing Lands Coalition Lifetime Achievement Award

On June 15, 2018, the Nebraska Grazing Lands Coalition (NGLC), Nebraska Extension and the Nebraska Environmental Trust hosted the 2018 Summer Grazing Tour in the northern Panhandle of Nebraska near Hay Springs. The event brought approximately 130 grazers, ranchers and government agency personnel together to learn more about successful grazing management practices in an area characterized by great diversity including the cool season grasses of the Pine Ridge and the Sandhills warm season native range. Attendees witnessed that proper grazing of forested areas after wildfire, native range, warm and cool season grasses and cover crops provides increased income for farm and ranch businesses, wildlife and bird habitat, vegetation diversity, increased water quality and quantity and improved soil health over time. The evening program featured a celebration of Lynn Myer's contribution to Nebraska's grazing community over the years. NGLC recognized Lynn Myers for achievements and contributions to Nebraska's grazing

community by honoring him with the 2018 annual NGLC Lifetime Achievement Award.

Tippetts-Myers Ranch, located south of Ashby and north of Lewellen in the Nebraska Sandhills, was started as a homestead by Polly Tippetts in 1909; today, the ranch has evolved to house the 5th, 6th and 7th generations of the family. Current owners/ managers, Lynn and Marlene Myers (pictured), manage a commercial cow/calf herd consisting of Hereford and Hereford/Angus cattle using carefully selected genetics to make the cow herd fit the environment, have easy fleshing ability, and produce high quality beef.

The Tippetts-Myers Ranch has utilized a three-year deferred rotational grazing management program for nearly 35 years to maximize Sandhills warm season grass production with a sustainable system in a semi-arid environment. The system started in 1985 and has been flexible enough to fit various weather conditions resulting in increased diversity, vigor, and quality of native grasses.



Lynn and Marlene Myers honored with the Lifetime Achievement Award.

“Ranchers practice good stewardship because they are the original environmentalists — people need to realize that ranchers take good care of the ground, because we live here.”

— Lynn and Marlene Myers

Lynn was one of the charter Board members of the NGLC. His early efforts resulted in the Cowboy Logic Stewardship Program which is a mentoring program enabling experienced grazers to share their knowledge with less experienced grazers. Lynn recognized the need to create opportunities for the next generation of grazers and led

the charge in the involvement of NGLC in regional Generational Transition Workshops stimulating greater thought process for the need for effective estate planning. Lynn also represents the western High Plains and Sandhills region on the Board of Directors for the national level Grazing Lands Coalition (NatGLC).

Traveling Road Show starts Nov. 12 in Nebraska

Mark your calendars for the 2018 Nebraska Grazing Lands Coalition (NGLC)—Nebraska Extension joint Traveling Road Show appearing at eight locations across Nebraska Nov. 12-15. This year's speaker is Dr. Jason Rowntree, associate professor of Animal Science at Michigan State University.

Jason is the faculty coordinator for Lake City and UPREC AgBioResearch and Extension Centers which is also the first academic farm to become an accredited hub for Holistic Management working with the Savory Institute. He has obtained more than \$2 million in funding to study how grazing livestock can

improve land and mitigate climate change by capturing carbon and providing other ecosystem services. Specifically Dr. Rowntree has three primary areas of research and outreach interest: 1) improving energy efficiency at the farm level through properly managed grazing and integrated cropping sys-

tems; 2) understanding the impact of grazing systems on GHG flux and 3) development of pasture-based local beef production systems. His laboratory is also beginning to conduct more research on the impacts of management on healthfulness of beef. He is currently developing a genetic

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Photo by Steve and Bobbi Olson

WE ARE “GRAZING LAND LOVERS” THROUGH AND THROUGH dedicated to the enhancement of grassland by creating public awareness and improvement of the grazing lands in Nebraska. NGLC's focus is to provide voluntary technical assistance and educational opportunities on grazing land management. Healthy Nebraska grazing lands translate directly into forage for livestock, habitat for wildlife, economic benefits for landowners and rural communities, and clean water for much of the Great Plains.

We offer consultation and educational programs to provide training on the value of grassland stewardship and mentoring programs that allow grassland management to be handed down to the next generation of farmers and ranchers. Call us now to find out how you can join others on our quest to preserve Nebraska's grasslands. Contact the NGLC to participate in our Rangeland Monitoring Program (RMP).

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The Nebraska Grazing Lands Coalition (NGLC) is a part of a national effort to enhance the resource stewardship and financial success of grazing land-dependent operations. Objectives of the 14-member NGLC board, made up of mostly ranchers, are to strengthen partnerships, promote volunteer assistance and participation, respect private property rights, encourage diversification to achieve and promote education, training and public awareness of the 23 million acres of grazing lands in Nebraska.

Specific projects include co-sponsoring statewide grazing conferences to pursue common interest with other grazing groups, hosting a carbon sequestration workshop to explain what it is and how ranchers may benefit, and monitoring and lobbying legislation on grazing issues.

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SDGC celebrates 20 years

Annual meeting December 12

The South Dakota Grassland Coalition is marking a special milestone – 20 years since being founded. To celebrate, the annual meeting will be held Wednesday, Dec. 12 in Chamberlain. Past SDGC board members will be recognized and share their memories and experiences over the past two decades. The keynote

speaker for the event will be North Dakota rancher Jerry Doan, who operates a multi-generation ranch near Bismarck.

As the SDGC moves into a new decade, it has changed its organizational structure to a 501(c)3 non-profit. Previously, the Coalition was a 501(c)6 non-profit. The primary difference between a 501(c)3 and a 501(c)6 is that the actions of the non-profit are to help the

general public (501(c)3) versus benefitting only its members (501(c)6). Sandy Smart explains: “While the old model has worked for us without problems, it does limit the opportunity for other organizations to donate to the Coalition’s work. For example, many charitable organizations or foundations only donate to 501(c)3’s because they can receive a tax deduction. A donation to a

501(c)6 is seen to be only helping out its members. Thus, the Coalition sees a huge opportunity to reach out to environmental minded foundations to further our cause of protecting and enhancing our grasslands. We see this as a public benefit, especially if you think of the ecosystem services that grasslands provide such as healthy soils, clean water, habitat for wildlife, and aesthetic views.”

Watch for more information about the annual meeting and 2019 events at www.sdgrass.org.

National conference on grazing lands is December 2-5 in Reno

Event will have more than 50 presenters, including several from Nebraska and South Dakota.

The 7th National Conference on Grazing Lands, hosted by the National Grazing Lands Coalition (NatGLC), will be held Dec. 2-5, 2018 at the Peppermill Resort in Reno, Nev.

Conference organizers expect several hundred ranchers, professors, land managers, researchers, public officials, conservationists and students to attend this national conference and participate in an exchange of ideas and information on the latest grazing land issues.

“Grazing lands exist in every state in this country and their value to agri-

culture, wildlife and the environment cannot be understated,” says Chad Ellis, chair of the National Grazing Lands Coalition. “That’s why this conference is so important. It brings the brightest minds in grazing land management together for a conversation about the best ways to conserve a vital resource that covers nearly half of this country.”

Featured speakers include two renowned grazing experts, Jim Gerrish and Fred Provenza. Gerrish is a grazing lands producer and consultant dedicated to helping farmers and ranchers more effectively manage their grazing lands for economic and environmental sustainability. Provenza is a professor emeritus at Utah State University who produced ground-breaking research over a more than 30-year career that laid the foun-

dations for what is now known as behavior-based landscape management.

Attendees will also hear from agricultural producers who will share their on-the-ground innovations and best practices for managing grazing lands in an environmentally sustainable and economical manner.

Several South Dakota and Nebraska producers will be in attendance and on the agenda, including Lynn Myers, Meredith-Cable, Ryan Sexson, Vern Terrell, Lyle Perman and Pat Guptill. Speakers will include large scale operators from Texas and Nevada to small, grass-fed operators from eastern states.

U.S. Army Staff Sergeant Shilo Harris will round out the conference on a high note with his inspirational story. Harris will speak on overcoming adversity in life. He will



also be available to sign copies of his book, “Steel Will.”

The conference also includes a trade show with vendors from varied segments of the agricultural industry, including booths and representatives from allied industries to government conservation agencies. The agenda allows plenty of time for visiting with friends and vendors at the tradeshow.

Registration for the event is \$475, which includes two lunches and refreshment breaks, as well as a digital copy of the conference proceedings of all speakers. To register online and obtain more information about the conference, visit www.grazinglands.org.

On the Cover:

Photo by Codi Vallery-Mills

A little oasis in the western prairies of South Dakota was shared with Leopold Conservation Award tour goers at the Cammack Ranch this past summer.

“A unified voice for managing South Dakota’s grass resource”

The Coalition’s goal is to provide local leadership and guidance in a cooperative effort, and provide information and technical assistance to grassland managers.

By focusing the collective power of resource management agencies, producer organizations, educational institutions, professional societies, environmental organizations and private grassland managers, much can be accomplished.

To that end, the Coalition is a major partner in the Grassland Management and Planning Project. For more detailed information on this project, visit sdconservation.org and click on Grassland.

To become a member, clip and mail the form below with your payment.

SD GRASSLAND COALITION MEMBERSHIP - \$30/yr or \$55/2 yrs.

Address _____
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Upcoming Events

Dec. 12, 2018
20th Anniversary/
Annual SDGLC Meeting,
Chamberlain, SD

January/February 2019
Holistic Management Road Show,
locations TBD

For information contact Judge Jessop • (605)895-2301
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What is Biochar?

By Heather Nobert, Nebraska Forest Service

Interest in biochar over the last several years has grown substantially in Nebraska. With established markets in Europe, Australia, New Zealand, and parts of Southeast Asia, each year brings an uptick of producers and end-users. So what is biochar, anyway?

Biochar is created from organic matter and stored in the soil as a means of removing carbon dioxide from the atmosphere. It is similar to charcoal in both its production and composition; however, it's not used for heating or cooking. Furthermore, biochar

is an umbrella term for a variety of products rather than a single item.

The resource concerns that biochar addresses are two-fold. First, the production of biochar requires the utilization of organic waste streams. Eastern redcedar is just one of many waste wood streams that could be utilized for biochar. Ash trees that are being removed as a result of the 2016 emerald ash borer (EAB) discovery are another. Invasive species removals, forestry thinning residues, and wood waste from storm damage are all opportunities for the production of biochar.

Secondly, biochar can provide soil health benefits, improve water quality and quantity, and sequester carbon. Biochar can increase the retention of water, nutrients, and agrochemicals for use by crops and plants. Evidence shows that more nutrients stay in the soil and are thus not leached into groundwater causing pollution. The production of biochar converts the carbon in wood into a stable form of carbon that is resistant to decomposition. Biochar discovered in the Amazon was carbon dated to 2,000 years indicating that it has the potential to sequester carbon from the atmosphere indefinitely.

Because biochar can be made on a variety of scales,

a homeowner could make biochar for use in their garden, or a municipality could produce biochar for use in urban landscaping projects. The process of creating biochar is through pyrolysis, or burning material at high temperatures in the absence or near absence of oxygen. Excluding oxygen can be as simple as putting a lid on an outdoor fire pit or as complex as a fully automated combustion chamber.

In Nebraska, biochar is being used in a variety of ways. It is currently used on trials to improve soil health and tree growth in compacted urban soils in Omaha. It has also been used for a green roof at the University of Nebraska-Lincoln's Recreation



and Wellness Center, as well as in a variety of agricultural crop trials as a soil amendment across the state.

Together with the Kansas Forest Service and private industry, the Nebraska Forest Service has launched the Great Plains Biochar Initiative. We offer

speaking engagements, technical assistance, and financial assistance to those interested in using or making biochar. To learn more about biochar and the initiative, visit nfs.unl.edu/great-plains-biochar-initiative or find the Great Plains Biochar Initiative on Facebook.

Understanding grazing preferences of horses

Horses, as grazers, are different than every other livestock species. Notoriously known for being selective, horses can quickly turn a uniform pasture into a patchwork quilt that often results in overgrazing in some areas and non-utilization in others. Their selection habits are often difficult to explain.

University of Minnesota extension horse specialist Krishona Martinson and her co-workers have invested significant time and resources in researching horse preferences for various classes of forage species. A recent summary of that work highlighted these findings:

Perennial cool-season grasses:

- Horse preference is important to realize more uniform grazing of pastures, improved forage utilization, and a reduction in pasture maintenance (clipping or mowing).

- In pure stands, the grass species that offered the best balance of plant persistence, yield, nutrient value, and horse preference were orchardgrass, meadow fescue, endophyte-free tall fescue, and Kentucky bluegrass.

- Of the grass mixtures evaluated, horses preferred a stand of endophyte-free tall fescue, perennial ryegrass, Kentucky bluegrass, and timothy. However, over time, these pastures evolved to mostly tall fescue and Kentucky bluegrass.

- Horses had less preference for any pasture mix with 30 percent or more orchardgrass.

Annual cool-season grasses:

- Based on horse preference, yield, and forage nutritive value, annual ryegrass was shown to be a good choice for horse owners looking for supplemental forage or to extend the grazing season.

- Cereal forages (both annual and winter annual) were also evaluated but did not perform as well under horse grass grazing as annual ryegrass.

Annual warm-season grasses:

- In these evaluations, teff grass was shown to be a viable option to supple-

ment horse forage needs during the summer slump for cool-season grasses. If used, the researchers suggested testing the crop for nitrate concentrations before grazing and monitoring the calcium to phosphorus ratio to ensure adequate calcium consumption.

- Siberian and Japanese millet did not survive for an entire growing season under horse grazing.

- Sudangrass, which was also tested, offers the potential for prussic acid poisoning, cystitis syndrome, and abortions in horses.

- All of the warm-season grasses evaluated had high levels of nitrates, but no toxicity symptoms were observed in the horses. The researchers surmised that this was probably because



the animals only grazed for short periods of time and were offered other forage sources.

Forage legumes:

- Pure stands of alfalfa, red clover, and white clover were evaluated. Horses preferred the clovers over alfalfa, but alfalfa produced greater yields.

- Pure legume pastures offered a high level of nutrition and may be an option for horses with

elevated energy needs. This might include broodmares, working, and performance horses. Such nutrient-dense pastures might lower the need for grain supplementation.

- If maintenance-level horses are put on pure legume pastures, closely monitor the animals to ensure they don't gain excessive body weight.

— University of Minnesota

Watch "Our Amazing Grasslands" videos on YouTube

The S.D. Grassland Coalition partnered with several organizations to enhance the grassland planner with a release of a video each month during 2018 promoting healthy soils, grasslands, and ecosystems. The year is almost over but you can still see the videos on USDA NRCS South Dakota YouTube.

Featured so far in the Our Amazing Grassland series are:

- 777 Bison Ranch
- Livermont Ranch
- Lockner Ranch
- Anderson Ranch
- Hamann Ranch
- Schell Ranch

- Grim Ranch
- Schooley Ranch
- Michlaski Ranch
- Jorgensen Partnership

The Grassland Stewardship Communications Project Partners with the S.D. Grassland Coalition are: The Nature Conservancy, Pheasants Forever, American Bird Conservancy, World Wildlife Fund, Audubon Dakota, Ducks Unlimited, Partners for Fish and Wildlife, S.D. Game, Fish and Parks, S.D. Soil Health Coalition, USDA Natural Resources Conservation Service and S.D. Grassland Coalition.



Our Amazing Grasslands

Data show pasture, rangeland shifted to smaller operations

The trend, at least for cropland farms has been to get big or get out. But for cattle operations, the trend has been the opposite, according to research from USDA's Economic Research Service.

Beef cowherds typically graze on pasture and rangeland, which showed no consolidation in the research period. Other livestock, such as sheep, goats, and horses, may also graze on pasture and range—but cattle are the major users of what amounts to nearly half of all U.S. farmland. Hence, cattle grazing, and the pasture and range that they graze on, are an important exception to the strong trend toward consolidation in agriculture.

Pasture and rangeland accounted for 45% of all U.S. farmland in 2012, while cropland accounted for 43%. While cropland consolidated into larger farms between 1987 and 2012, pasture and range-

land did not, but instead shifted away from the largest farms and ranches and toward smaller operations.

In 1987, farms and ranches with at least 10,000 acres of pasture and rangeland operated more than half (51%) of all pasture and rangeland, while those with less than 1,000 acres held 15%. By 2012, the share operated by the largest acreage class had fallen to 44%, while farms and ranches with less than 1,000 acres of pasture and rangeland operated 22%.

U.S. farmland shows very little consolidation since the 1980s. However, that seeming stability reflects two diverging underlying trends: considerable consolidation in cropland and in crop and livestock production, set against shifts of pasture and rangeland toward smaller operations.

Consolidation in livestock production follows a different pattern than

that in crops. When it has occurred, it has not unfolded at a steady and persistent rate over time. Instead, livestock consolidation proceeded with periods of sharp change in the size of operations, followed by stability.

Some shifts have been dramatic. For example, the midpoint milk cow herd in 1987 was at 80 cows—half of U.S. milk cows were in herds of at least 80 cows, and half were in herds with no more than 80. By 2012, the midpoint had increased more than tenfold, to 900 cows. Similar dramatic increases occurred in egg layers and in hogs and pigs, as each industry underwent striking changes in organization and farm size.

One important sector shows little consolidation. The midpoint beef cow herd was at 89 cows in 1987, a bit larger than the midpoint milk cow herd. By 2012, the midpoint beef herd had increased, but only modestly, to 110 cows.

— USDA Economic Research Service

Grassland schools held in South Dakota

This past summer landowners had multiple opportunities to learn more about grassland management in South Dakota.

In July a Grassland Management School was

held in Watertown. Then in September two back-to-back Grazing Schools were held in Chamberlain.

All three grazing events were well received.



The South Dakota Grazing School trailer is hard to miss.



The Grassland Management School offered a chance to learn about native prairie and crop land management.



A summer Grassland Management School was held near Watertown, S.D.



Pat Guptill helps instruct during the Grazing School in Chamberlain.



The Grazing Schools are always well attended.



Pete Bauman with SDSU Extension served as one of the instructors for the Grassland Management School.

Learn on the go with podcasts



By Aaron Berger, Nebraska Extension Educator

Progressive ranchers and farmers committed to lifelong learning often find podcasts as a way to expand their knowledge base while using time effectively.

For a majority of people involved in production agriculture, a significant amount of time is spent behind the wheel of a vehicle or piece of equipment. This “drive time” can be an opportunity to listen to podcasts through using smartphone technology. Whether you have an iPhone, or your phone

runs on Android, there is a podcast app that will allow you to subscribe and listen to podcasts. The iPhones come with a podcast player built in, plus there are others available in the app store. Similarly, a quick search of the Google Play store will return many highly rated Android phone podcast players available for free or minimal cost. There is a video available that walks through how to install a podcast app on a phone using Android or how to use the iPhone podcast player. To view the videos see <https://go.unl.edu/androidpodcast> or <https://go.unl.edu/iphonepodcast>.

Once a podcast app is installed on your phone, you can search for the content you are interested in or the name of the

podcast you are looking for and subscribe. Once a podcast is subscribed to, whenever a new podcast is released, it will automatically show up in your podcast subscriptions. For example, the BeefWatch podcast is the audio companion to the monthly BeefWatch electronic newsletter. Throughout the month, interviews with newsletter article authors are released that provide additional information and insights into the topic that was discussed in the newsletter. There are monthly “Producer Perspectives” as well as bonus podcast interviews that may be of interest as well.

The BeefWatch podcast isn't the only beef focused podcast available. Here are a few other university or cattle market and news

related podcasts that you might consider taking a listen to.

- Nebraska Extension Almanac Radio
- BCI Cattle Chat – Kansas State University
- Cattle Current Market Update with Wes Ishmael – Daily morning snapshot of the cattle market.
- Beef Buzz with Ron Hays – Radio Oklahoma Network

If you are looking to expand your knowledge base, consider listening to podcasts from perspectives outside of the beef industry. Principles and experiences from other business arenas can provide ideas and insights that could provide a breakthrough in thinking for your operation. Many people in production agriculture find it challenging to find time to invest in continuing educa-

tion to grow their knowledge and skills. Being able to use time behind the wheel as an educational opportunity through listening to podcasts is one way to accomplish this.

To listen to BeefWatch podcasts go to: <https://itunes.apple.com/us/podcast/unl-beefwatch/id964198047> or paste <http://feeds.feedburner.com/unlbeefwatch> into your podcast app.

Nominations sought for the 2019 Environmental Stewardship Award

Award recognizes producers whose management benefits both the environment and the bottom line.

Now is the time to think about nominating a cattle producer for the Environmental Stewardship Award presented by the National Cattlemen's Foundation. Applications

for the 2019 Environmental Stewardship Award are due March 8, 2019. Any individual, group or organization is eligible to nominate one individual/business who raises or feeds cattle. Individuals and families may not nominate themselves, but can be involved in the preparation of the application.

The Environmental Steward Award recognizes producers whose management benefits both

the environment and the bottom line. The program is funded by Corteva Agriscience, Agriculture Division of DowDuPont, USDA Natural Resources Conservation Service, McDonald's and the U.S. Fish and Wildlife Service.

For more information go to EnvironmentalStewardship.org or call Jill DeLucero with the National Cattlemen's Foundation at 303-850-3321.

7th National Conference on Grazing Lands
December 2-5, 2018
 Peppermill Resort in Reno, Nev.

Speakers include:
 Jim Gerrish
 Fred Provenza

Feature Speaker
 Shilo Harris, a staff sergeant with the U.S. Army. Author of the book *Steel Will*, his message will inspire others to overcome adversity.

To register for the conference & see updates as more information & speakers are announced, watch the NatGLC website www.grazinglands.org

New technology revolutionizes rangeland monitoring

Providing trends in rangeland resources from 1984 to present at the ranch, county, and watershed scales.

America's vast western grazing lands produce food for the nation, recreation revenues for local communities, and habitat for wildlife. Producers often manage large swaths of rangelands, making it a challenge to track how vegetation has fared over time.

To meet this challenge, the Rangeland Analysis Platform (RAP) provides the first-ever vegetation cover maps for rangelands from the Great Plains to the Pacific Ocean.

Created by the University of Montana in partnership with USDA and U.S. Department of Interior (DOI), this easy-to-use technology provides trends in rangeland resources from 1984 to present at the ranch, county, and watershed scales.

Shane Green, a range management specialist with NRCS in Utah, said this app will better equip

him to work with ranchers on planning and implementing conservation practices on rangelands. "It provides the context for landscape planning that's been lacking in the rangeland profession."

The RAP revolutionizes monitoring because it provides a view of rangeland resources at an unprecedented blend of time, space, and scale. This is accomplished through field data, satellite imagery, and the cloud-based computing power of Google Earth Engine.

"By working with Google, we harnessed decades of

satellite imagery, trained it with on-the-ground field data, and put it at the fingertips of practitioners," said Brady Allred, the app's creator and professor of rangeland ecology at the University of Montana.

The app relies on over 30,000 field plots collected by NRCS' National Resources Inventory and the Bureau of Land Management's Assessment, Inventory, and Monitoring datasets. The maps and charts produced by RAP, coupled with site-specific knowledge, provide a powerful tool for improving grazing land resources.

Green added: "Tracking changes in vegetation across entire ranches for the past 30 years gives me a new perspective of what is happening. I no longer have to rely on small sporadic snapshots."

Spanning the entire west, the RAP encompasses regional differences. For example, the app can identify where to reduce woody encroachment in the Great Plains, evaluate effectiveness of cheatgrass treatments in the Great Basin, and help people visualize the impacts of drought across the Southwest.

"Alongside information collected on the ground, the platform's aerial view of vegetation through time opens new doors for conservation and scientific monitoring," said Jeremy Maestas, an ecologist with NRCS. "This app empowers ranchers and resource managers to plan actions that improve rangelands."

This new technology helps NRCS meet its goals for partnering with private landowners to conserve rangelands. Since 2010, NRCS Working Lands for Wildlife has helped over 2,000 ranchers restore and protect more than 7.5 million acres of grazing lands.

The app is available for free at rangelands.app

GrazeNebraska: Quality cattle and quality pastures go hand-in-hand on this Neb. ranch

Rotational grazing has been important

By Kindra Gordon

Bartlett, Neb. ranchers Kris and Sheila Luoma take pride in raising high quality cattle. They are especially focused on raising and marketing replacement females, and utilize artificial insemination and embryo transfer to access elite genetics from Maine Anjou and Simmental sires for their commercial Angus cowherd.

But, this husband-wife team also recognizes that the cattle are only half of the equation contributing to a successful ranching operation. Proper grazing management accounts for the other part of their success.

Sheila shares that rotational grazing has been important to many aspects of their ranch. "It's easier

to monitor cattle health because we see them more often. The cattle are also used to being around people and being handled, so they have good dispositions," she explains.

Regarding pastures, she notes that rotational grazing has improved pasture utilization. And, they've been better able to weather drought years. "In 2012, we didn't have to sell any cows because our pastures were in good condition, and we were able to graze Conservation Reserve Program (CRP) land," she tells. The Luoma's are able to rest their pastures and extend their grazing season by utilizing CRP land for grazing. Some is land they own; some is CRP land they graze that is owned by neighbors.

"We've noticed, and other CRP landowners comment, how much the plant diversity is improved once it has been grazed," Sheila notes.

Caring for land and livestock has been a rewarding life path for Luoma. She grew up on a farm, showed cattle in 4-H, and attended college at the University of Nebraska-Lincoln. Initially, she considered a career in teaching. She explains, "It was an era when not too many women were in agriculture." But she followed her interests and first earned a degree in general agriculture, then later in range management. She landed a position with the Natural Resources Conservation Service (formerly Soil Conservation Service), and worked with Nebraska land owners teaching them about range management over the next 31 years – 17 of which were in the Burwell NRCS office. In 2011, Sheila retired – and began ranching with her husband, and doing business as a range consultant.

Throughout her NRCS career, Sheila always kept

livestock with her brother and her dad near Spalding, Neb. Along the way, Sheila met her husband Kris, and today, she and Kris continue to run cattle with her brother George Valasek, whose farm is about 30 miles from the Luoma's. The majority of their herd calves from March through May. But Sheila and Kris also maintain a small herd that calves in August and September, which they utilize to raise ET (embryo transfer) calves for other people. Their feeder steer calves are marketed via video auction; their replacement females are primarily sold private treaty.

While she enjoys applying her range management and conservation knowledge to their own operation, Sheila also continues to share her skills with other landowners. As a certified range consultant through the Society



(Left to right) Sheila and Kris Luoma focus on raising quality cattle near Bartlett, Neb. While elite genetics are important to that effort, they say grazing management is also essential to the equation.

for Range Management, she works with private landowners on their Conservation Stewardship Program contracts. She is also a board member for the Nebraska Grazing Lands Coalition. Of this organization, she values the opportunity to network with others and gain new perspectives. "I think it's important to get out and see new ideas, but it also gives you some appreciation for what you may have

in your own operation," she says.

All total, Sheila encourages landowners to take time to recognize and understand the ecosystem. She notes, "Your management affects plant communities and the grass and livestock that are produced...it all goes hand-in-hand."

Learn more about the conservation efforts of other landowners across Nebraska at www.nebraskagrazinglands.org.

Traveling road show

Continued from page 2

beef cattle base using Red Angus to provide grass finishing genetics to the upper Midwest. In the first five years they have marketed over 400 head of beef cattle into grass finishing markets. As an affiliate of the Center for Regional Food Systems, he strives to increase local food systems that strengthen local communities. In this role, he also recently developed a local beef model on Michigan State University campus that sources 60% of the total needed beef from campus sources. Jason is the scientific advisor and an accredited Holistic Management Educator for the Savory Institute and is an advisor of Standard Soil, a start-up corporation that aims to meet the nation's growing demand for grass-finished beef while restoring the ecosystems they man-

age. He is past chair of the Grassfed Exchange, a leading U.S. grass-fed beef educational organization. Jason and his wife Cara have three children. They have a small 10 acre farm that allows for his family to raise grass finished beef, pastured poultry and eggs for their friends and church family. As a family they homeschool and are passionate about the outdoors spending their time fly fishing and hunting in beautiful northern Michigan.

Cost \$15 which covers the cost of the meal. NGLC will pick up the cost of all student registrations. Must pre-register by November 9 to reserve a meal. Call the Extension office corresponding to your choice of location. Registrations will be taken until full.

Road Show Schedule

Monday, November 12
10 AM – 2 PM (Central time)

Lifelong Learning Center, Nebraska Community College, Norfolk, Neb.

Contact Ben Beckman, Nebraska Extension in Cedar County, 402-254-6821

5 PM – 9 PM (Central time)

Loup County Ag Society Community Center, Taylor, Neb.

Contact Steve Niemeyer, Nebraska Extension in GLW Counties, 308-346-4200

Tuesday, November 13
10 AM – 2 PM (Central time)

Cherry County 4-H Building, Valentine, Neb.

Contact Jace Stott, Nebraska Extension in BKR and Cherry Counties, 402-387-2213

5 PM – 9 PM (Mountain time)

Chadron State College, Student Center, Chadron, Neb.

Contact Jack Arterburn, Nebraska Extension in Sioux, Box Butte, Dawes



Dr. Jason Rowntree will be in Nebraska this November for the Traveling Road Show.

and Sheridan Counties, 308-327-2312

Wednesday, November 14
9:30 AM – 1:30 PM (Mountain time)

Veterans Memorial Hall, Arthur, Neb.

Contact Randy Saner, Nebraska Extension in Keith County, 308-284-6051

Nebraska Extension in Lincoln County, 308-532-2683

5 PM – 9 PM (Central time)

Road Show topics will include:

- Changes from a conventional cow-calf research facility to a lower input grazing and grass finishing operation
- Impacts of grazing management on the land
- Impact of grass finishing strategies on cattle, forage and carcass performance
- Changes in industry attitudes towards beef grass finishing
- Future considerations and direction of grazing management and the market place

Nebraska Ag Industry Education Center, NCTA, Curtis, Neb.

Contact Erin Laborie, Nebraska Extension in Frontier County, 308-367-4424 or 888-367-4424

Thursday, November 15
10 AM – 2 PM (Central time)

Sutton Community Senior Center, Sutton, Neb.

Contact Brad Schick, Nebraska Extension in Clay County, 402-762-3644

5 PM – 9 PM (Central time)

Great Plains Room, Nebraska East Union on UNL East Campus, Lincoln

Contact UNL Center for Grasslands Studies, 402-472-4101

For more information, contact Ron Bolze, Coordinator, NGLC, 402-321-0067 (cell) or ron@nebraskagrazinglands.org.

Managing free-choice mineral intake

By Dr. Clifton L. Willms, Hubbard Feeds Beef Nutritionist

The “corner post” of any cow nutrition program should be a year-round mineral program. Every rancher knows that to build a good fence, you must have a good corner post. In the same way, building a sound beef cow nutrition program starts with a sound mineral program.

Supplemental minerals are beneficial because they are involved in several biological functions, so it is important to ensure proper intake to get the maximum benefit. If the cow eats too little, her

performance may suffer. If she eats too much, extra cost will be incurred.

Mineral intake must be managed, even when offered free-choice. Many factors enter into determining the amount and frequency of free-choice minerals consumed by a cow, such as environmental conditions, pasture topography, grazing patterns, location of shade, number and placement of watering stations, and soil fertility. Too often, mineral feeders are conveniently placed near the gate, rather than considering ideal placement based on cattle behavior and traffic patterns.

1. A mineral feeder should be provided for every 15 to 20 head.

- Feeders that are at ground level will encourage mineral intake.

- Minerals fed in a feeder where the tub is off the ground (12 to 24 inches) will lower intake.

2. The location and number of feeding stations must be adjusted to control intake.

- Moving a feeder as little as 50 yards can sometimes make a huge difference in intake.

- Adjust for low intake (and encourage increased intake):

- Place feeders closer to shade, water or loafing areas.

- Place feeders closer to the cow path or trail.

- Remove or reduce salt.

- Place in mineral tubs set on the ground.

- Place additional mineral feeders in new locations.

- Adjust for excessive intake (and encourage decreased intake):

- Place feeders farther from water, shade or loafing area.

- Move feeders away from the cow path or trail.

- Mix additional white salt with the mineral.

- Place feeders up off the ground.

3. Pastures with creeks running through them may include several watering locations, so an increase in the number of feeding stations is recommended to encourage consistent intake.

4. If cows are overconsuming, additional salt can be added to control intake. Use only white salt to prevent interference with the trace mineral profile of the product. When added salt is needed for controlling or reducing mineral intake, it is always advisable to mix salt with the mineral rather than feeding mineral and loose salt side by side. If fed separately, some cows will tend to eat only salt and others will eat only mineral. This

will become readily evident if you are feeding a mineral with fly control. Less-than-satisfactory fly control will result because some cows do not get their dose of fly control since they are eating only salt.

5. Record when and how much mineral is put out by pasture to know what the cows are consuming. Make filling mineral feeders a consistent chore and schedule time for it in the workday.

You’ve made a good investment when you commit to feeding minerals to beef cows on a year-round basis. Managing proper intake ensures that you get the highest return on animal performance for your investment.

Diverse environment appeals to prairie chickens

By Gayle Smith

The better job ranchers do managing their grazing land, the better the habitat for wild game birds like the Lesser prairie chicken, according to a research assistant with the Kansas Cooperative Fish and Wildlife Research Unit. John Kraft told ranchers during the Nebraska Grazing Conference that lesser prairie chickens have variable habitat needs, but prefer large, continuous grasslands or native prairie over the CRP and ditch lands preferred by their counterparts, like grouse and pheasants.

“They select different habitats based on whether they are nesting or already have chicks,” Kraft says. In the spring, they prefer bare ground with a mixture of shrubs and sage-type vegetation. “They like spots on top of hills that are open so the males can display and be seen well,” he explains. When the birds are nesting, they are looking for areas with the most amount of cover because they don’t want to be seen at all. Once the chicks hatch, they are looking for a medium range of habitat and open ground, so the chicks can move around easier.

The diversity of habitat needed by the birds concerns Kraft because contemporary grazing man-

agement strategies lean towards smaller pastures, shorter grazing periods, and higher stocking densities. These strategies are becoming more popular among ranchers who want to more uniformly graze their grasslands. “As grazing strategies strive for uniformity in grazing pressure, habitat heterogeneity and biodiversity is sacrificed,” Kraft explains to producers. “Although some wildlife species reap benefits of homogenous or uniform grazing disturbance, the costs to species more reliant on variable vegetation structure are significant,” he says.

Creating more and better habitat for the prairie chicken can be accomplished through landscape heterogeneity, Kraft explains. “Most commonly, patch-burn grazing has been the management regime of choice for creating landscape and pasture heterogeneity beneficial to grassland wildlife,” Kraft says while admitting the technique lacks popularity among ranchers. Patch burn grazing is created by controlled burning of a part of the pasture and directing grazing pressure to a smaller part of the pasture to create highly used areas and lower used areas, he explains. “Studies have shown recently burned patches have higher forage quality than

areas burned three years ago,” he notes.

Since the practice is unpopular, an alternative may be utilizing better grazing management practices. Kraft proposes developing pasture heterogeneity through livestock grazing management strategies like pasture deferment, pasture size, and stocking density. Utilizing patch grazing, along with placing water and mineral in strategic locations, and managing grazing pressure in multiple pastures can allow producers to better manage wild birds like the prairie chicken.

Kraft believes producers can use forage quality to drive grazing distribution. He believes producers tend to stock smaller pastures with more livestock, while larger pastures are typically understocked. “If they could stock these pastures so the most pressure is concentrated on high quality forages, it would leave other areas that don’t have a lot of use,” he says.

Studies have shown that modest grazing utilization creates the most habitat for the prairie chicken, Kraft shares. “The optimum lesser prairie chicken habitat is what they will use the most. I think it follows the basis of take half, leave half,” he explains.

The prairie chickens place nests in the most robust habitat, Kraft continues. “There is a low probability of nest placement when the availability of forage drops below 20 percent. However, 20 percent forage utilization creates a more desirable nesting habitat. Twenty percent isn’t as plausible as 40-45 percent to a beef producer, but it can create

a full variant of habitat structure using these variables,” he explains.

The birds could be trying to select from both habitats at one time. One pasture might offer better nesting habitat, like switchgrass that hasn’t been grazed, next to good brooding habitat that has been grazed more. It is a matter of nest success ver-

sus bird survival,” Kraft explains.

“At higher stocking density, you won’t get the increase in heterogeneity, which is driven by grazing selectivity,” he says. “But, as pasture size increases, there is a higher probability of grazing habitat because we have a tendency to stock larger pastures lighter. With any increase in grazing pressure, we will see a dropoff in nesting habitat,” he adds.

Grazing Guide

A calendar listing of pasture and range events

2018

Nov. 7-8 Soil Health Summit, Bismarck, ND

Nov. 12 NGLC- NE EXT Traveling Road Show featuring Jason Rowntree, 10 AM – 2 PM (Central time), Lifelong Learning Center, NE Community College, Norfolk, NE. Contact Ben Beckman, Nebraska Extension in Cedar County, 402-254-6821.

5 PM – 9 PM (Central time) Loup County Ag Society Community Center, Taylor, NE. Contact Steve Niemeier, Nebraska Extension in GLW Counties, 308-346-4200.

Nov. 13 NGLC- NE EXT Traveling Road Show featuring Jason Rowntree, 10 AM – 2 PM (Central time), Cherry County 4-H Building, Valentine, NE. Contact Jace Stott, Nebraska Extension in BKR and Cherry Counties, 402-387-2213

5 PM – 9 PM (Mountain time) Chadron State College, Student Center, Chadron, NE. Contact Jack Arterburn, Nebraska Extension in Sioux, Box Butte, Dawes and Sheridan Counties, 308-327-2312

Nov. 14 NGLC- NE EXT Traveling Road Show featuring Jason

Rowntree, 9:30 AM – 1:30 PM (Mountain time), Veterans Memorial Hall, Arthur, NE. Contact Randy Saner, Nebraska Extension in Keith County, 308-284-6051, Nebraska Extension in Lincoln County, 308-532-2683

5 PM – 9 PM (Central time) Nebraska Ag Industry Education Center, NCTA, Curtis, NE. Contact Erin Laborie, Nebraska Extension in Frontier County 308-367-4424 or 888-367-4424

Nov. 15 NGLC- NE EXT Traveling Road Show featuring Jason Rowntree, 10 AM – 2 PM (Central time), Sutton Community Senior Center, Sutton, NE. Contact Brad Schick, Nebraska Extension in Clay County, 402-762-3644

5 PM – 9 PM (Central time) Great Plains Room, Nebraska East Union on UNL East Campus, Lincoln. Contact UNL Center for Grasslands Studies, 402-472-4101.

Nov. 28 Leopold Award Presentation, in conjunction with the South Dakota Cattlemen’s Convention. Huron, SD.

Dec. 2-5 7th National Grazing Lands Conference, Reno, NV

December 12 South Dakota Grassland Coa-

lition 20 Year Event, Chamberlain, SD. Contact Judge Jessop at (605) 280-0127 or judge.jessop@sdconservation.net for more information.

2019

Jan. 20-26 Ranching for Profit, Rapid City, SD

Jan. 21-26 Holistic Management Training with Ralph Tate, Central Community College in Hastings, Nebraska. Call Bob Shields at 308-379-1361 or email bob.shields01@gmail.com.

Jan. 22-23 South Dakota Soil Health Coalition Annual Meeting, SDSU Campus, Brookings, Contact Cindy Zenk at (605) 280-4190 or sdsoilhealth@gmail.com for more information.

Feb. 10-14 Society of Range Management Annual Meeting, Gateway to the Prairie, Minneapolis, Minnesota. Find out more at annualmeeting.rangelands.org.

Aug. 12-14 Nebraska Grazing Conference, Kearney, Neb.

2020

Oct. 25-30 International Grassland Congress (IGC) & International Rangeland Congress, Nairobi, Kenya

SARE podcasts feature farmers’ conversations

A new podcast series from SARE is titled “Our Farms, Our Future” and is designed to bring together the sustainable agriculture community for thought-provoking conversations about the state of agriculture. With each episode, different perspectives within the sustainable ag community are shared including topics such as building resilient farming

systems, farm profitability, and fostering community through local food systems. You can subscribe to the podcast on iTunes or Stitcher. Episodes are being released twice a month. Find them online at www.sare.org/Events/Our-Farms-Our-Future-Conference/Our-Farms-Our-Future-Podcast-Series.

New website links crop residue users

With support from SARE, Nebraska researcher, Rick Rasby, is examining the effects of corn residue grazing. The research team has created a Crop Residue Exchange website to allow crop producers to list available crop residue, and cattle producers to find available crop residue. <https://croppresidueexchange.unl.edu>.

Have a Range & Pasture Event you would like others to know about? Send information to editorial@cattlebusinessweekly.com.

Identifying the hill climbers and bottom dwellers

Researchers are generating genetic data and tools to help cattlemen improve grazing distribution

By Megan Silveira, Angus editorial intern

"Cattle are not like lawnmowers." While Derek Bailey's opening statement during his presentation, "Development of Grazing Distribution Phenotypes," during the Beef Improvement Federation Research Symposium and Convention in Loveland, Colo., might have drawn a few chuckles, cattlemen cannot deny the truth in his statement. The conference was held in mid-June 2018.

The lives of cattlemen would undoubtedly be made easier if cattle were like lawnmowers, consuming everything in an area in an even, consistent manner. Unfortunately, this is not reality, he said.

Bailey said in the western region of the United States, where cattle are raised on rangeland, grazing distribution has recently become a hot topic. Cattle are selective grazers, choosing to graze areas with higher biomass

and greater nutrients while avoiding areas with toxins, steep slopes and areas at greater distance from water.

By avoiding certain areas, Bailey explained, livestock miss potential nutrients available from the land. Approximately one-third of many rangelands have grazeable areas that are not used.

"Grazing distribution has value," Bailey said. "If you can get cattle to travel from water, you have more grazing opportunities."

Bailey has been studying cattle in order to see where cows graze and why. He said grazing distribution is a "difficult and expensive trait to measure." Data on the topic is difficult to condense, as it is so vast. He has narrowed the focus of his studies to terrain instead of diet to better understand grazing distribution.

He said terrain use is multi-dimensional. For his studies, Bailey integrated terrain attributes, normalizing slope, elevation and distance to water in the data he collected so the value for the average cow would equal 100. Bailey created two indices, a rough index including slope and elevation and a rolling index including

slope, elevation and distance to water.

Bailey found cattle often fall into one of two categories in regard to grazing distribution. Cows will either be "bottom dwellers" that choose to eat grass available on flat ground or "hill climbers" willing to explore the rolling hills to find their next meal.

Bailey said he could find no phenotypical relationship between performance and terrain use in these females. He was, however, interested in the fact that even when these two groups of cattle were separated — eliminating the possibility that dominant cattle pushed others out of their desired area — they kept their particular grazing habit.

"I think there's a heritable component to it," Bailey said. While the age-old question of "nature or nurture" has not yet been solved in regard to grazing distribution, Bailey said this will be a focus for their upcoming studies. "Even though it's a complex trait, I think there's still some potential," Bailey said. "Instead of trying to mess with all the hassle, if we could create a genomic EPD, that could change everything."

Bailey's surveys have led him to believe ranch-

ers are willing to pay for tests tracking animals' grazing movements to use this data to their advantage. While the knowledge ranchers and researchers possess about grazing distribution is constantly growing, Bailey said he believes this trait has the ability to revolutionize the cattle industry.

Genetic research underway

Milt Thomas, professor at Colorado State University, explored "Genomic Approaches to Improve Grazing Distribution" during the Emerging Technologies breakout session June 21, 2018, at the Beef Improvement Federation Research Symposium and Convention in Loveland, Colo.

"A lot of the things we need our cattle to do are not easy to measure," Thomas said. "It's just the nature of the beef industry." Thomas said grazing distribution is one of those traits difficult to track. The behavioral-type trait varies greatly from animal to animal, and it is a measurement crucial to the success of cow-calf operations. One of the things Thomas said makes grazing distribution difficult to track is that it is a polygenic trait — multiple

genes and alleles control the way a single cow grazes.

"There's not one single magic gene or magic marker that will tell us why a cow climbs hills to graze or stays on flat ground," Thomas explained. There are a few, however, that appear to be important.

In research focused on five genes, Thomas said he has found "markers" on chromosomes helping him to identify whether cattle are "bottom dwellers" or "hill climbers."

Thomas said he has been paying particularly close attention to GRM5 — a specific gene affecting grazing distribution. Thomas said this gene controls appetite in an animal, their locomotion, motivation and spatial memory. While Thomas said he does not yet know how this gene plays into grazing distribution, it has a significant role in where cattle go to graze.

For the five main genes Thomas has been studying, he said, they have found markers for 10 specific genotypes. He hopes to discover if these genotypes can help ranchers predict how cattle will graze.

The main goal Thomas has for his grazing distribution studies is to learn

how to find and breed cattle that harvest forage the most efficiently. With all this new genomic information, Thomas sees a breeding value for grazing distribution in the future.

Thomas said by finding genotypes and combining them with what cattlemen already know about phenotypes, an expected progeny difference (EPD) for grazing distribution might be eventually created. While this potential EPD could help ranchers make breeding decisions, it does pose a few challenges. It will not be able to be tracked like other EPDs. Thomas is, however, hopeful that with more research, the EPD will become a reality for ranchers.

Despite admitting he does not yet have the answers to a lot of questions about genomics' role in grazing distribution, Thomas said he is eager for the future. Since this is the "age of genetics," Thomas firmly said genomic tools and data will play a large role in helping ranchers better understand grazing distribution.

This article is reprinted with permission from www.BIFconference.com, Angus Media's online coverage site of the 2018 Beef Improvement Federation Research Symposium and Annual Meeting.

Grazing management software now available

Maia Technology, an Australian company has released a new, free grazing management software known as MaiaGrazingLITE. The cloud-based software is described as a precision agriculture tool with a grazing focus and blended into a farm management program. The technology works on a computer desktop or as an app version.

The program allows users to track their herd, input pasture entries, track grazing yields by pasture, map pastures, buy and sell livestock, record daily farm management info, and manage livestock inventory.

A subscription based version of the program, MaiaGrazingPRO, offers even more functions, including analysis. Learn more at www.maia grazing.com.

Go holistic in Hastings

Course offered in Jan. 2019

Ralph Tate, Certified Educator, will be providing Holistic Management Training January 21 - 26, 2019 at Central Community College in Hastings, Neb. This is a week-long immersion in orientation, financial planning and grazing planning; an opportunity to learn how to revolutionize your oper-

ation and enhance your lifestyle.

Tate has been a Holistic Management Certified Educator since 2010 and has developed the grazing planning software being sold worldwide through Holistic Management International.

Time will be spent understanding the fundamentals of Holistic Management, with time scheduled to review and revise

your holistic goal (worksheet included). There will also be focus on financial planning (software included), helping you develop a financial plan that works for you. The final two days will focus on grazing planning (software included), helping you develop a grazing plan for your operation that you will be able to put into practice in 2019. These are designed to be fun and interactive sessions, so nobody gets left out and everyone gets their questions answered. This

week is a perfect opportunity to re-energize the most important resource on your farm/ranch — You!

Registration costs will vary with the number registered once a minimum of 8 individuals are registered. Family has a special place in Holistic Management, so there is a special discount for spouses and other family members. Call Bob Shields at 308-379-1361 or email bob.shields01@gmail.com to register.

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Ehlert is New SDSU Extension Range Specialist

Krista Ehlert will be serving South Dakotans as the new SDSU Extension Range Specialist.

"Krista's research experience will serve as valuable background when helping South Dakota's livestock producers control invasive plant species and maximize rangeland production," said Alvaro Garcia, SDSU Extension Agriculture and Natural Resources Program Director & Professor.

In her role as an Assistant Professor and SDSU Extension Range Special-

ist, Ehlert will work with other faculty and SDSU Extension staff to develop and execute programming that will contribute to sustainability of rangelands and contiguous ecosystems throughout South Dakota and beyond. Ehlert will work with stakeholders throughout the state to improve conservation and natural resource management.

"Ninety percent of South Dakota was once rangeland. Today, it's down to 40 to 60 percent. We are losing a key part of what

makes South Dakota, South Dakota," Ehlert explained. "I want to help find ways to increase sustainability of rangeland in South Dakota. One out of every five jobs in the state is in the agriculture industry. When you talk about rangeland management, it is integral to the state's agriculture industry."

Krista Ehlert attributes her passion for range management to graduate research she worked on while pursuing a Master's and Ph.D. at Montana State University, which

focused on ecologically based invasive plant management.

She added that while pursuing advanced degrees, her graduate mentors instilled in her an appreciation for the impact that can be made through Extension programming.

Before joining SDSU, Ehlert was a postdoctoral fellow at Trinity College in Connecticut where she taught undergraduates and conducted research.

To contact Ehlert, e-mail her at Krista.Ehlert@sdstate.edu.

Visit these organizations online:

Nebraska Grazing Lands Coalition - www.nebraskagrazinglands.org
South Dakota Grassland Coalition - www.sdgrass.org