



THE BROOKINGS REGISTER • FRIDAY, JANUARY 31, 2020



Amino acid supplement improves cow health, milk composition

Within the first week of giving birth, a high-yield dairy cow can increase milk production to as much as 100 pounds per day, according to assistant professor Johan Osorio of South Dakota State University's Department of Dairy and Food Science.

"This dramatic change causes stress – we are walking a thin line between healthy and unhealthy, particularly in cows that can deliver a high milk production."

His research focuses on how methionine, an essential amino acid, can improve the health of cows making the transition into lactation. "Providing a good amount of methionine during that transition period can minimize stress," said Osorio, who came to SDSU in 2016 after doing postdoctoral research at Oregon State University. However, his research goes deeper than that.

"We are breaking it down to the molecular level," Osorio said. His dissertation research showed that the methionine supplement interacts with the genome, affecting more than 2,600 genes. At SDSU, he is exploring these nutrigenomic interactions through U.S. Department of Agriculture Hatch Act funding from the South Dakota Agricultural Experiment Station.

What he discovers may make it possible to

See **BACTERIA**, page 3



Courtesy photo

Supplementing a cow's diet with methionine, an essential amino acid, for 30 days after calving can improve feed intake and milk quality, according to a study conducted by assistant professor Johan Osorio. He is now analyzing how the supplement does this at a molecular level. What he learns may make it possible to customize the fat and protein makeup of milk to meet consumers' needs.



SFRL  **SIOUX FALLS REGIONAL LIVESTOCK**
Jct. I-29 & Hwy 18, Canton, SD • Exit 62

SALE SCHEDULE

Monday: 9:00AM Feeder Cattle/Slaughter Cows & Bulls
In January, Feeder Cattle Sale starts at 8:00AM

Wednesday: 8:30AM Sheep & Goats

Wednesday: 11:00AM Fed Cattle/Slaughter Cows & Bulls

Friday: 11:00AM Bred Cows & Cow/Calf Pairs (in season)

Duane Rus 712-470-1149 • Jason Spykerboer 712-348-0477
David Minor 605-695-5824 • Tom Donohue 605-360-8312
David Frankman 605-941-0384 • Daryl Wolf 605-941-0383
Kyle Koedam 712-541-4657 • Mike Koedam 712-470-0198
Ted Souvignier 605-660-3962

For sale results or early listings, check our our website or call
605-372-8000 • www.sfrlinc.com

LOCALLY OWNED BY PEOPLE YOU KNOW & TRUST

WE'VE GOT YOU COVERED!

Your farm is your purpose and your passion. As an independent agency, we offer coverage from a variety of quality insurance providers. See us for farm coverage ranging from small farms to large operations.

- Home
- Auto
- Farm
- Commercial Ag
- Liability
- Life
- Health
- Equipment



Mark Hendricks
w: 605.696.2237
c: 605.695.1532



Roger Larson
w: 605.696.2239
c: 605.809.6318

REQUEST A QUOTE TODAY!

LOCATED AT:
FIRST BANK & TRUST
520 6TH STREET
BROOKINGS, SD 57006

The insurance product is not a deposit or other obligation of, or guaranteed by, the bank or any affiliate of the bank and is not insured by the FDIC or any other agency in the US, the bank or any affiliate of the bank.



SDSU photo

Using an epifluorescence microscope, doctoral student Roshin Mohan, left, and assistant professor Johan Osorio examine bovine mammary epithelial cells to which varying levels of methionine have been added. The greater the ratio of fluorescence intensity between two fluorescent proteins, the greater the changes caused to the DNA structure by methionine, which can have profound implications in gene expression and, in turn, influence the dairy cow physiology.

AMINO ACID: Cells respond

Continued from page 2

customize the fat and protein makeup of milk to meet consumers' needs.

Easing stress of transition

"A lot of metabolic adaptations occur in dairy cows during the days leading to calving and during the start of the lactation," Osorio said. During this stressful time, cows are likely to eat less, which negatively affects their metabolism and immune system and can leave them vulnerable to disease.

His work showed that feed intake and milk quality improved in cows receiving a methionine supplement during the 30 days after calving. "The milk had more fat and protein," he said. "There was also some indication of better resistance to mastitis."

When Osorio examined gene markers in the cows' liver, he found the methionine supplement changes the way in which 2,633 genes in the liver are expressed, either increasing or decreasing the production of specific proteins. Those changes improve liver function, thereby reducing inflammation and stress.

Analyzing protein changes

Osorio and his two doctoral students are using bovine mammary epithelial cells as a model to examine the molecular changes that methionine triggers which, in turn, affect milk production and improve the animal's overall health. The researchers examine RNA, a single-stranded molecule that transcribes or code, the information for amino acids that are the building blocks to produce

a protein. When animals consume a methionine supplement, the production of specific types of proteins can be turned on or off.

To track those changes, Osorio uses a system developed at the Massachusetts Institute of Technology in which two key proteins are tagged with different fluorescent colors. That then allows the researchers to microscopically track what's happening when varying levels of methionine are added to the cell cultures.

"If we increase the methionine in the media, the cells respond," he explained. "We are building a model in the lab that we can then test on the farm." Initial testing confirmed that increasing the levels of methionine can impact the signaling of the proteins, but since the effect is not dose-dependent, other factors are likely at work.

"We are able to control the carbon dioxide, temperature and humidity of the cell during our experiment and can take photos at regular intervals to track protein activity in real-time in the cells," he explained. Now the researchers are using software to gather quantitative data from each cell based on the fluorescent intensity. The next step will be to analyze blood samples from an animal study in which cows were given varying levels of methionine.

"If you go deep down, you might find key regulatory mechanisms that can be enhanced," he said. "That is part of the excitement, not knowing what you are going to find."

– From SDSU Marketing & Communications



FROST FEST Farmers Market

Sat. February 15th
10 am–2 pm

@ SD Agricultural Heritage Museum
Free and open to the public

-  Food & Drink
-  Fiber Works
-  Arts & Crafts
-  CSA Information



SOUTH DAKOTA
*Agricultural
Heritage*
MUSEUM

977 11th Street
Brookings, SD
www.agmuseum.com
605-688-6226

Ag department's pesticide complaint process explained

By **DANA HESS**
Community News Service

PIERRE – The improper application of farm pesticides can lead to civil, criminal or administrative penalties. That process was explained Jan. 23 to the House Agriculture and Natural Resources Committee.

Rep. Thomas Brunner, R-Nisland, requested an explanation when South Dakota Agriculture Secretary Kim Vanneman presented her annual overview of the department to the committee. Taya Runyan, director of the Office of Ag Policy, explained the process.

Anyone who observes the improper application of a pesticide or notices damage can fill out one of the department's incident reports, Runyan said. At that point an investigator is assigned to visit the area and take soil, plant and water samples.

The investigator will also

check for the proper licensing and records of the applicator.

"We make sure that those applicators are accountable," Runyan said.

Investigators check weather data, take witness statements and check on other area pesticide applications, Runyan said.

"We can't be out observing every application across the state," Runyan said, so investigators check on applications when they're in the area.

The samples are sent to a lab and a determination is made about whether or not the pesticide was applied correctly. Civil penalties can run as much as \$5,000. Some cases warrant criminal penalties or the department may issue an administrative penalty that suspends or revokes an applicator's license.

The department is offering improved training for aerial applicators, Runyan said, concentrating on flight safety and drift minimization.

Ag secretary, lawmakers seek next generation of farmers

By **DANA HESS**
Community News Service

PIERRE – Passing South Dakota's farms on to a new generation won't be easy. That was evident Jan. 23 as South Dakota Agriculture Secretary Kim Vanneman discussed her goals with the House Agriculture and Natural Resources Committee.

Vanneman told the committee that one of her goals as secretary was to plan for the next generation of farmers. Working toward that goal would include a series of meetings with young people to tell them about careers in agriculture, Vanneman said.

Rep. Bob Glanzer, R-Huron, told the secretary that bankers are concerned about the future of farms in his area where some farmers have no future generation waiting to take over.

"This seems like a big, big obstacle to me," said Glanzer, a former ag loan officer. "Where do you see that next generation coming from?"

Facilitating the transfer of assets from the farm owner to a buyer is not within the scope of the Agriculture Department's duties, Vanneman said.

"It does need to happen," Vanneman said.

"We're seeing fewer and fewer young people coming back to the farm."


Rep. James Wangsness, R-Miller, asked if the department has considered a mentor program to match retiring farmers with the next generation. Wangsness said that while he was attending South Dakota State University, many of his classmates would have liked to go back to their family farms, but often those operations were too small.

Vanneman said there have been discussions within the department about a mentor program, but she wondered how involved farmers would want the department to get in a transfer of property.

They might not like "us being in the middle," Vanneman said. "It's part of what we're talking about."


The state of farming in South Dakota was noted in a slide Vanneman presented during her annual overview of the department for the agriculture committee. Before lenders foreclose on a farm, they must file for mediation with the agriculture department. Since 2015, there has been a steady increase in mediation requests.

"This is an indicator of where we are," Vanneman said.




Martin
Oil Company




Premium Diesel Fuel
Unleaded Gasoline and Ethanol Blends
Mobil Lube Oil and Grease
Chevron Lube Oil and Grease
Diesel Exhaust Fluid



Mobil 106 1st Street S • Brookings SD
605-692-2424 • martinoil2424@gmail.com




Farming is enough of a challenge...
Your farm **accounting** shouldn't be!

WE OFFER:
Bookkeeping • Estate & Trust Planning
Tax Preparation & Management
Specializing in Complex Farming Operations
Retirement & Succession Planning

Our experienced and knowledgeable staff, along with our integration of secure technology, sets VRS in the forefront of providing clients the highest level of efficiency and reliability.

Big Firm Services, Small Firm Attention.



CERTIFIED PUBLIC ACCOUNTANTS & CONSULTANTS
Professional Corporation

726 22nd Avenue S • Brookings • 692.8425 • BrookingsCPA.com



Grow with the best.

Kevin Witte, Agent
2312 6th Street
Brookings, SD 57006
Bus: 605-692-8383
kevinwitte.net

I can help you protect your farm and auto.
Get to a better State®.
Get State Farm.
CALL ME TODAY.



State Farm Mutual Automobile Insurance Company, State Farm Indemnity Company, Bloomington, IL
State Farm Fire and Casualty Company, State Farm General Insurance Company, Bloomington, IL
State Farm Florida Insurance Company, Winter Haven, FL
State Farm Lloyd's, Dallas, TX

1201773

Premium payment deadlines near for producers who received ‘top-up payments’

WASHINGTON, D.C. – The U.S. Department of Agriculture’s Risk Management Agency (RMA) is reminding producers who received a prevented planting “top-up” payment last fall that they are required to purchase Federal crop insurance for the next two crop years. The deadlines (Sales Closing Dates) to purchase these crop insurance policies are Jan. 31, Feb. 15, Feb. 28, and March 15, 2020, depending on a producer’s policy.

“We encourage crop insurance agents to help us spread the word to their customers,” said RMA Administrator Martin Barbre said. “We want to make sure producers pay their premiums on time, so they don’t become ineligible to buy crop insurance.”

Producers who have trou-

ble making their premium payment should contact their crop insurance agent to set up a written payment agreement to avoid being made ineligible to purchase Federal crop insurance and having to pay back the “top-up” payment.

Producers who had a payable prevented planting indemnity related to flooding, excess moisture or causes other than drought in 2019 automatically received a “top-up” payment from their Approved Insurance Providers in fall 2019. As of Jan. 20, RMA has paid roughly \$4.29 billion in claims related to prevented planting for the 2019 crop year, and \$4 billion of those total prevented planting claims were associated with flood and excess moisture causes of loss.

RMA also reminds pro-

ducers to pay their crop insurance premium by January 31. To help farmers and ranchers affected by extreme weather last year, USDA deferred accrual of interest for 2019 crop year insurance premiums from Sept. 30, 2019, to Jan. 31, 2020. For producers who fail to meet the deadline, interest – calculated from the date of the first premium billing notice – will attach on Feb. 1.

For more information on the two-year Crop Insurance Purchasing Requirement, see RMA’s Prevented Planting Disaster Payments FAQs online at <https://www.rma.usda.gov/en/News-Room/Frequently-Asked-Questions/Prevented-Planting-Disaster-Payments>.

– From the USDA

SDSU Extension releases 2020 South Dakota Pest Management Guides

BROOKINGS – The 2020 South Dakota Pest Management Guides are now available for free on the SDSU Extension website. The guides provide recommendations for controlling weeds, insects and diseases.

Pest Management Guides include:

- Alfalfa & Oilseeds (alfalfa, canola, flax, safflower, and sunflowers) (<https://extension.sdstate.edu/sites/default/files/2020-01/P-00008.pdf>)
- Corn (<https://extension.sdstate.edu/sites/default/files/2020-01/P-00009.pdf>)
- Soybeans (<https://extension.sdstate.edu/sites/default/files/2020-01/P-00010.pdf>)
- Wheat (including barley, rye, oats, durum, millet and triticale) (<https://extension.sdstate.edu/sites/default/files/2020-01/P-00011.pdf>)

These guides have been completely updated for 2020.

There are several new products that have new names and corresponding changes have been made to the labels such as rates for the chemicals, rotation restrictions, additive rates and products.

The guides are available for download at <https://extension.sdstate.edu/south-dakota-pest-management-guides>.

The guides are provided free of charge through SDSU Extension thanks to funding from the South Dakota Department of Agriculture, the South Dakota Agricultural Experiment Station at SDSU and the South Dakota Soybean Checkoff.

For more information, contact Philip Rozeboom, SDSU Extension IPM Coordinator, at philip.rozeboom@sdstate.edu or at 688-4377.

– From SDSU Extension

Uniquely Nimble, Locally Impactful.

- » Years of Ag and Dairy Experience
- » Personal Care and Understanding
- » Local Decision Making

PAUL O’NEIL,
Ag Banker



BANKING | INSURANCE | MORTGAGE | TRUST



DACOTAH BANK
Here for you.™



Brookings | 1441 6th Street | (605) 692-8600



dacotahbank.com

MEMBER FDIC Insurance and Trust not FDIC insured.



**PRO-TEC
ROOFING &
SHEET METAL,
INC.**

724 Oakwood Rd
Watertown, SD 57201

605-882-4060

www.protecroofingsd.com

FREE ESTIMATES

Every Battery for Every Need



107 Opportunity Drive, Arlington, SD

605.983.5884

Hours: M-F 8am-5:30pm

Get all your battery questions answered at interstatebatteries.com

Held retires after serving sheep industry for 30 years

BROOKINGS – For more than 30 years, SDSU Extension sheep specialist and animal science professor Jeffrey Held has served as a dedicated advocate for the lamb and wool industry and an essential educator in the College of Agriculture, Food and Environmental Sciences at South Dakota State University.

“Jeff has been an incredible land grant ambassador to the university, the state of South Dakota, the region and our nation,” said SDSU President Barry Dunn.

Throughout his career, Held has mentored countless students, producers and industry associates as a colleague, teacher, scholar, advisor and friend. For the past 15 years, he has taught sheep and wool production courses in the Department of Animal Science. Additionally, for the past eight years, he supervised the SDSU Sheep Research and Teaching Unit which maintains a closed ewe flock of 250 commercial Polypay and 125 purebred Hampshire ewes. At the unit, Held has hosted a variety of outreach programs including a field day in conjunction with the South Dakota Sheep Growers convention education program in fall 2018 and an open house during lambing season in February 2019.

“Dr. Held is recognized as a national leader in lamb and wool production and has provided me with a wealth of knowledge regarding South Dakota agriculture and producers,” said Joe Cassady, head of the Department of Animal Science at SDSU. “He has served as a teacher and mentor to many faculty and staff members within the Department of Animal Science.”



SDSU photo

From left are Animal Science Department Head Joe Cassady, Jeff Held, CAFES Dean John Killefer, and SDSU President Barry Dunn.

In his role as an SDSU Extension sheep specialist, Held’s main responsibilities included providing industry support, assisting producers across South Dakota, making flock management recommendations and hosting a variety of county and state meetings and outreach programs. Additionally, he started the South Dakota Sheep Shearing Program that trains and educates producers on the proper techniques for harvesting, packaging and grading wool. Since the program’s start in 1990, Held has hosted more than 34 trainings.

Alongside his fellow SDSU Extension colleagues, Held helped create the All American Sheep Day Program held at the

Black Hills Stock Show where farmers and ranchers can learn about and discuss topics related to flock health, wool and lamb products and observe and interact in a series of demonstrations and activities.

Held’s primary research focus was on ruminant nutrition and developing innovative diet formulation strategies using co-product feed ingredients including soybean hulls, dried distillers grains with solubles and corn stover. As a result, he quickly became a well-known resource for producers and has since trained many graduate students in the area of sheep nutrition.

With his extensive expertise, Held was invited to be an author

and reviewer for the American Sheep Industry Association’s Sheep Production Handbook. Held’s additional recognition and awards include: several nominations for the College of Agriculture, Food and Environmental Sciences Teacher of the Year, an induction into the Pipestone Lamb and Wool Hall of Fame, the South Dakota Sheep Growers Association Shepherd Award and the South Dakota Extension Specialists Association Distinguished Service Award.

Furthermore, Held hosted the South Dakota Sheep Shearing Training Program, coordinated the Dakota Performance Ram Test, initiated the SDSU Registered Hampshire Sale,

served as the AKSARBEN Lamb Carcass Superintendent, worked with the South Dakota State 4-H Sheep Show for 30 years and initiated and organized the SDSU Lamb Bonanza for 28 years.

Lamb Bonanza is a collaborative event hosted at a SDSU basketball game by SDSU Athletics, the South Dakota Sheep Growers Association and the Department of Animal Science. Each year, the South Dakota Sheep Growers Association serves leg of lamb sandwiches and lamb meatballs prior to the game and six custom yellow and blue lamb pelts featuring the SDSU letters are auctioned during halftime. Funds raised from the pelt auction have been used to provide student scholarships and support educational programs.

“Many of the individuals I have worked with have been working together for a long time and we all have a strong desire to serve the producers throughout the state,” said Held. “We worked hard to provide resources to help producers make better production decisions.”

His time spent educating students and producers have earned him the new title of professor emeritus of animal science, effective Jan. 21. Upon his retirement, Held plans to continue his involvement with the South Dakota Sheep Growers Association, take advantage of local, regional and national opportunities and spend more time with his wife and family.

– From SDSU College of Agriculture, Food and Environmental Sciences

• Auto • Life • Home • Health
• Farm • Business
• Financial Services

State FarmTM
Get to a better State.[®]
Get State Farm.

692-5200
1024 Sixth Street, Brookings
www.paulkruseinsurance.com
paul@paulkruseinsurance.com

Paul Kruse
I would like to help you with your insurance and financial service needs.

Northern[®]
PLAINS APPRAISAL, LLC.
The highest value is our commitment to you.

Brian J. Gatzke
ARA, MBA
SD 818CG, MN AP-20324482

P.O. Box 63 • Brookings, SD 57006-0063
605.691.2119 cell • 605.610.0948 Fax
Brian.Gatzke@northernplainsappraisal.com
www.northernplainsappraisal.com

WE APPRAISE:
RURAL PROPERTY • IRS • YELLOW BOOK • OFFICES • STORAGE WAREHOUSE
FARMS • LIVESTOCK C.A.F.O. – DAIRY & BEEF • ESTATES • DONATIONS • TRUSTS

SDSU researchers focus on nitrogen-fixing bacteria

BROOKINGS – South Dakota State University faculty from four departments are working on improving the ability of nitrogen-fixing bacteria to colonize soybean roots through the South Dakota Biofilm Science and Engineering Center. This research seeks to leverage these bacteria to reduce the need for chemical fertilizer and, thereby, increase the sustainability of agriculture.



Sen Subramanian



Zhengrong (Jimmy) Gu

The new collaborative research center is part of a five-year, \$20 million National Science Foundation Research Infrastructure Improvement Track-1 grant awarded this fall to the South Dakota Established Program to Stimulate Competitive Research and the South Dakota Board of Regents. Faculty from 11 South Dakota universities and colleges are involved in the biofilms research center.

Of the \$10 million in funding designated for the research center, SDSU is receiving

\$3.4 million. From SDSU, eight faculty members, two postdoctoral researchers and approximately 10 graduate students will be involved in the project. In addition, Shana Harming, SDSU's Wokini Initiative program director, will lead tribal outreach efforts with professor Ben Saylor, director of the Center for the Advancement of Math and Science Education at Black Hills State University.

"In a natural environment, nitrogen-fixing bacteria must compete with thousands of other bacteria to colonize the soybean roots," explained associate professor Sen Subramanian, whose research spans the departments of biology and microbiology and agronomy, horticulture and plant science. He will lead the SDSU team along with associate professor Zhengrong (Jimmy) Gu of the Department of Agricultural and Biosystems Engineering.

When soybean seeds are inoculated with nitrogen-fixing bacteria, only 50 percent of the soybean plant nodules are occupied by the inoculant strains, Subramanian pointed out. "Our major focus is to make these inoculant strains more competitive in colonizing plants."

Professor Volker Brozel and assistant professor Nicholas Butzin of the Department of Biology and Microbiology will provide expertise in bacteriology to examine the interface between the plants

See **BACTERIA**, page 9



SDSU photo

Through the new South Dakota Biofilm Science and Engineering Center, eight SDSU faculty members will work on improving the ability of nitrogen-fixing bacteria to colonize soybean roots. The research seeks to reduce the need for chemical fertilizer and, thereby, increase the sustainability of agriculture.




AG DRAINAGE • EXCAVATING • POST FRAME BUILDINGS

<p style="text-align: center;">260 Industrial Drive Volga, SD 605.627.9281 meyerservicesinc.com</p>	<p style="text-align: center;">David Meyer 605.350.3255 david@meyerservicesinc.com</p> <p style="text-align: center;">Jordan Warne 605.203.0855 jordan@meyerservicesinc.com</p>	
---	---	---

Business & Services Directory



Agronomy Plant 605-997-3638
Convenience Store 605-997-3752
Main Office 605-997-3788
Flandreau, SD



Committed to Your Success.
310 Main Avenue, Sinai • 826-4151
csbarlington.com
MEMBER FDIC

Commercial • Residential • Farm
Trenching • Underground Fault Locating



Josh Spilde - Owner
Arlington, SD 57212
O: 605.983.3979 | C: 605.530.1694



302 East Ash St
Arlington
983-5074

Kingbrook Rural Water System
is an Equal Opportunity and
Provider Employer.



Elkton

Agronomy/Energy/Grain/Feed
109 E 1st Street
Office: 605-542-2371
Agronomy: 605-542-2035
Elevator: 605-542-2211
www.chsbrandon.com

THOMPSON CONCRETE CONSTRUCTION

Specializing in all types of flat work, including sidewalks, driveways, patios, garage floors, steps, parking and feed lots, colored and stamped concrete.

FREE ESTIMATES
Sheldon Thompson
605.690.2912

Home Owners • Farm & Ranch
Auto • Liability • High Risk Auto



DeSmet Farm Mutual
Insurance Company of SD

Dan Hansen, Agent • Kassy Olson, Agent

P.O. Box 7 • Nunda, SD 57050
586.4180 (office) • 480.2718 (cell)

Your complete farm and
home supply cooperative.



Truly Cooperative

Toronto Station 794-4861
Agronomy Dept. 794-2531
Hendricks Station 507-275-3599
Clear Lake Station 874-2428



Richland State Bank

602 1st Street • Bruce
(800) 339-1474
(605) 627-5671



www.richlandstate.org

Member
FDIC

BACTERIA: Genetic response

Continued from page 7

and the microbial communities.

Understanding biofilm formation

“The overarching theme of the research is to understand the fundamental interaction between the microbes, which form communities known as biofilms, and the surfaces to which they adhere,” said South Dakota School of Mines and Technology professor of chemical and biological engineering Robb Winter, who will lead the new biofilms research center. The S.D. Mines team will play a primary role in investigating sulfate-reducing bacteria that corrode metals.

“We want to inhibit the harmful microbes and promote the beneficial ones using thin, single-layered 2D materials. These are crystalline materials that are 1 atom in thickness,” Winter explained.

“The crux of both projects is how surface properties affect bacteria attachment and biofilm formation,” said Subramanian, who will use the 2D material as a substrate to which the nitrogen-fixing bacteria can attach.

Gu, whose expertise is in graphene – one of the most well-known 2D materials, will formulate the substrates using new fabrication equipment. A new sub-micron 3D printer will allow the SDSU researchers to build specialized microfluidic chambers to observe the nitrogen-fix-

ing bacteria colonizing the soybean roots. The Department of Agricultural and Biosystems Engineering will also be hiring a new faculty member with expertise in microfluidics to work on the project.

Analyzing genetics of attachment

Another key aspect focuses on understanding the genetics associated with microbe attachment. “We want to understand the genetic responses of these microbes as they attach to the surface and form biofilms,” Winter said.

This part will generate a vast amount of information on the genetics side utilizing and supporting SDSU’s Genomics Sequencing Center. Analysis of this data to identify meaningful relationships requires the use of machine learning. The University of South Dakota team, led by assistant professor Carol Lushbough, a computer scientist, will spearhead this portion of the research.

“We need to work across disciplines and, in this case, across institutions to solve the complicated problems that we face today and into the future,” said Winter.

“We are working at the interface between engineering and biology to understand the rules of life,” Subramanian concluded.

– From SDSU Marketing & Communications

When it comes to **BUILDINGS**, **REAVES** has you covered.



Make it Last. Make it **REAVES**.

- Custom dimensions - any length or width
- Fully engineered wood buildings
- Multiple foundation options
- Quality doors for added convenience & durability
- Custom insulation packages & ventilation as required
- Steel or other finish packages available
- Construction that leads to thermal efficiency, less leakage & corrosion
- Snow loads designed to meet or exceed local building codes

To Learn More, Contact Us:

Bryan Boelens, Southern MN, Northwest IA 605-359-7796

Judd Heinzmann, Southeast SD 605-359-8593

Cory Gronewold, Southeast SD 605-261-1390

Allen Yanke, Western IA & Eastern NE 712-423-8500

Steven Baker, Pierre, SD, Western SD, SC & SW ND 605-280-5846

Shane Spooner, Watertown, SD, NE SD, WC MN & SE ND 605-868-3808

Todd Morton, Spencer, IA, North Central & Central Iowa 712-260-8944

Adam Houg, Jasper, MN, Southwest & South Central MN 605-759-6575

www.reavesbuildings.com

800-658-3572



WE HAVE YOUR BACK
EVEN WHEN MOTHER NATURE DOESN'T.

Member FDIC 800.843.1552 | 605.696.2265 | WWW.BANKEASY.COM

SO, WE SPEAK AG.

Operating a farm or ranch requires flexibility, business savvy and dedication to a challenging profession. This is why First Bank & Trust is your perfect banking partner. We offer all the products and services you need, along with a deep understanding of the industry's changing needs. Around here, farming is as much a part of us as it is a part of you.

For more information, talk to our business and ag banking professionals or visit us at BANKEASY.com.



New elk hunting season proposed to reduce feed loss, property damage on S.D. prairies

By **NICK LOWREY**
South Dakota News Watch

North American elk are returning to the prairies of western South Dakota after more than 100 years of absence, a migration seen as a win for wildlife conservation but which has farmers and ranchers bothered by feed losses and property damage.

The herding of Rocky Mountain elk as far east as Jones and Stanley counties has led to calls for a new hunting season on the prairie to reduce elk numbers and the damage they are causing.

Landowners on the prairies north of Philip and west of Pierre say elk – one of the largest herbivores native to North America – are increasingly grazing in their fields and pastures and are damaging fences and eating food meant for their livestock. Previously, elk mainly resided only in the Black Hills region 175 miles or more to the west.

Spending by the Game, Fish & Parks Department Wildlife Damage Program on elk-related complaints jumped by nearly \$100,000 in 2019. Wildlife damage specialists also covered 7,000 more miles to assist landowners with elk damage in 2019 than in 2018.

Partially in response to landowner complaints and in the wake of more elk sightings, GFP officials have proposed that the game and parks commission approve creation of a massive new elk hunting unit.

“We know there’s elk in there, and we’re actually talking about opening that up for hunting at some point,” GFP Secretary Kelly Hepler told News Watch in an interview.

Under the proposal, a total of 10 “any elk” hunting licenses would be made available for use in the new hunting unit. The unit would cover all of South Dakota west of the Missouri River that doesn’t already have an elk hunting season or isn’t managed by one of the state’s tribal nations.

Tom Kirschenmann, wildlife division chief for GFP, said the new unit would be something of an experiment.

The experiment is needed because the department doesn’t actually know much about elk populations outside the Black Hills. In that region, elk are counted every three to four years using aircraft flying low and slow over the mountains. The effort produces a reliable population estimate, biologists say. Current estimates put the number of elk in the Black Hills around 7,200 animals, well within the population range sought by the GFP.

Out on the prairie, aerial surveys would be too expensive because there is too much ground to cover. Instead, GFP biologists have relied on landowners reporting elk sightings or damage.

If the new West River elk hunting



Nick Lowrey/South Dakota News Watch

South Dakota farmers and ranchers are increasingly seeing elk on the prairies east of the Black Hills. The South Dakota Game, Fish & Parks Department has proposed creating a massive new elk hunting unit for nearly all of the western half of the state to reduce numbers and damage caused by the large animals.

unit is approved during the next GFP Commission meeting scheduled for March 5 and 6 in Pierre, it would be in place for the next two hunting seasons. Information on where elk are killed, when they’re killed and whether landowners still have problems after elk hunting occurs would be used to inform decisions on whether more targeted hunting will be needed, Kirschenmann said.

Eager to help

Hunters will likely be eager to help out. Last year, South Dakota residents sent in more than 17,000 applications for the roughly 1,500 elk hunting licenses issued by the state. Most of those licenses were issued for the Black Hills, where there is plenty of public land for hunting.

Outside the Black Hills, the vast majority of land is privately owned and getting access to that land can be a challenge, said Chris Hesla, executive director of the South Dakota Wildlife Federation, a nonprofit that advocates for wildlife and public hunting access.

“The easiest way to control wildlife damage is through hunting,” he said. “We need to look at getting more access so we can harvest enough animals.”

Landowners, though, are worried that 10 hunting licenses won’t be enough to affect what they say is a steadily growing population of large, wild animals that are competing with their cattle for food

and decimating crops.

Eric Jennings, a cattle rancher near Spearfish who is president of the South Dakota Cattlemen’s Association, said elk populations in western South Dakota have grown faster than GFP has so far been able to respond.

“I have been advocating for them to do more for years,” Jennings said. “It’s just an issue that needs to be addressed.”

Ty Eisenbraun, who raises cattle near the Cheyenne River in northeast Pennington County is one of the landowners dealing with an elk problem. He said elk have shown up on his property every fall since 2012, and that at first he was happy to see the animals. But now that he has counted more than 100 elk at a time in his alfalfa fields, he sees them as a problem.

“I kind of enjoy them. I can step out of my house and hear elk bugling,” Eisenbraun said. “They’re cool, but they’re kind of destructive, too.”

Native to South Dakota

Elk are native to South Dakota. Historical records show elk were hunted on both sides of the Missouri River in the Dakota Territory through much of the 19th century. Over-hunting before the creation of modern conservation practices eliminated elk from both Dakotas before 1900.

In 1916, elk were reintroduced into what would become Custer State Park and Wind Cave National Park in the Black Hills. The idea was to keep the animals contained to the parks so they wouldn’t compete with area ranchers’ cattle. After 1980, elk management priorities changed and the GFP began trying to expand the Black Hills elk herd to provide more hunting opportunities. Now, the state manages a herd of between 6,000 and 8,000 animals, depending on weather and range conditions.

Yet elk are naturally transient. As the Black Hills elk herd has grown, more of the animals are moving out and away from the mountains into areas dominated by cattle ranching and farm fields.

Farmers and ranchers in South Dakota have always had to deal with wildlife, such as deer and antelope, eating food meant for their cattle or sheep and eating grain in their fields before harvest. Elk, though, are a little different. They can weigh up to 700 pounds and tend to graze more like cattle.

Unlike cattle, elk will run through fences or knock them over while attempting to jump them. Fence damage has been the biggest problem for Eisenbraun. This year, he’s had to replace more than a mile of fence because elk keep knocking it over. Fences are critical to ranchers because they keep their valuable livestock where they are meant to be, and can be expensive and time-consuming

to fix.

“I can go out and fix a stretch of fence and within a few days, they’ll have destroyed it again,” Eisenbraun said.

Fence damage and some raids on his winter feed supply pushed Eisenbraun to start speaking with wildlife damage control specialists within GFP.

There are several things GFP can do to directly help ranchers such as Eisenbraun.

The department, through its wildlife damage program, will help pay for a strong cable to be strung across the top of a fence, which will help prevent elk from knocking the fence over.

To protect stored hay, GFP staff will provide exclusionary panels and help build a protected stack yard. To divert elk away from pastures and hay fields, GFP sometimes will pay up to \$6,000 worth of food plots aimed at reducing damage to alfalfa and other crops.

“We want to be a good partner to these landowners,” said Keith Fisk, wildlife damage program administrator.

In the United States, wildlife is publicly owned. Private landowners don’t have any more rights to the wildlife on their property than anyone else. Landowners can control access to their land, but they cannot stop wild animals from leaving their land, they cannot sell wildlife and they cannot just shoot problem wildlife without getting permission from the agency that manages it.

Because 85% of South Dakota land area is privately owned, and because most of the state’s wildlife live on private land, GFP has to work closely with landowners, especially when wild animals are damaging someone’s livelihood, Fisk said.

In 2019, GFP spent just shy of \$300,000 working with farmers and ranchers to reduce and prevent elk damage to their property, up from slightly more than \$200,000 spent in 2018.

In all, GFP spent a little more than \$3.5 million on wildlife damage control in 2019, including nearly \$1 million spent on deer damage complaints alone. Nearly all of the money the department spent on wildlife damage control comes from the sale of hunting and fishing licenses.

“We want to work with landowners,” Fisk said. “There’s a ton of value to having those critters on the landscape.”

Eisenbraun hasn’t taken advantage of wildlife damage assistance just yet. For now, he’s hoping a new hunting unit will help when the elk return to his land next fall.

This story was reported by South Dakota News Watch, a nonprofit news organization. Find more in-depth reporting at www.sdnewswatch.org.

S.D. Mesonet works to improve snow, soil moisture data availability

BROOKINGS – A newly updated weather station near Brookings is the first of over 500 stations across the five states of Nebraska, North Dakota, Montana, Wyoming and South Dakota to be upgraded or installed to conduct enhanced soil moisture and snow monitoring as part of a cooperative effort with the U.S. Army Corps of Engineers led by U.S. Sen. Mike Rounds.

The station gives the South Dakota Mesonet at South Dakota State University, a network of automated weather stations that provide high-definition weather coverage, the ability to provide crucial data about Upper Missouri River Basin plains snowpack and soil moisture to those who may be facing a flood risk.

“Stations like this will address the need for soil moisture monitoring and will provide snow modelers and river forecasters with what they need to make improved products to inform about better reservoir management,” said Nathan Edwards, South Dakota Mesonet director.

Frozen and saturated soil and significant snowpack on the Upper Missouri River Basin plains were major con-



Courtesy photo

The South Dakota Mesonet weather station on the SDSU campus in Brookings is the first of 500 stations upgraded to conduct enhanced soil moisture and snow monitoring to provide crucial data about snowpack levels and flood risk.

tributors to flooding in 2011 and 2019. As a way to help citizens prepare for future flooding challenges, Rounds worked to get the Water Resources Reform and Development Act of 2014 passed to require the U.S. Army Corps

of Engineers to work with the South Dakota Mesonet and other existing networks to monitor soil moisture and snowpack in the Upper Missouri River Basin Plains.

“We’ve helped spearhead this effort since the beginning in 2012, starting with a review of what data was missing and needed. While mountain snowpack is well-monitored, the lack of plains data related to soil moisture and snowpack contributed to the inability to get an accurate runoff forecast,” Edwards said.

The South Dakota Mesonet is making the updated station’s data available via National Oceanic and Atmospheric Administration’s (NOAA) ingest system to their river forecasters and snow modelers.

According to Edwards, the Mesonet station’s precipitation, snow, wind, temperature, humidity, solar radiation and snow depth data will improve their snow modeling capabilities. Soil monitoring capabilities will include soil moisture and soil temperatures at five different depths and will improve river forecasts.

The South Dakota Mesonet has been




involved in the monitoring effort since 2012, providing instrumentation recommendations, an instrumentation test bed during the winter of 2019, and ongoing consultation with the U.S. Army Corps of Engineers. The South Dakota Mesonet anticipates an agreement with the U.S. Army Corps of Engineers to deliver this type of data at this station and others in the years to come.

About South Dakota Mesonet at SDSU

Operated by South Dakota State University in partnership with local station sponsors and South Dakota State University Agricultural Experiment Station, the South Dakota Mesonet is the state’s weather network with real-time weather and soil reports. Data collected by Mesonet stations is utilized by the agriculture, natural resources, emergency management, water resources, research and the general public. All Mesonet information is available at <http://mesonet.sdstate.edu/>.

– From SDSU College of Agriculture, Food and Environmental Sciences


“Your Waste System Specialists”


As your **liquid & dry manure specialists**, we offer a complete line of manure handling equipment to meet just about every need.

We always have a large selection of **new & good clean used equipment** on hand.

- Liquid manure tanks
- Manure scraper systems
- Manure pumps
- Drag hose systems
- Pit additives
- Dry box spreaders (commercial or farm duty)



SALES • PARTS • SERVICE



McLanahan BAZOOKA FARMSTAR 3000 M.A. Mower/Generator WASTE AWAY UH NUHN

3115 320th St. • Hull, Iowa 51239
3516 9th Ave. SW • Watertown, SD 57201

(866) 918-2081 Find us on Facebook f

www.automatedwastesystems.com
aws@premieronline.net



LOCATIONS & SERVICES

Brookings Elevator Office 692-6216
Aurora Elevator..... 693-3304
Toronto Elevator 794-2231

Our Aurora Agronomy Location
693-5548

Brookings Feed Store.....692-6194
Brookings Propane Shop...692-6216
Volga Service Station627-9401

Farmer Owned & Proud
AGFIRST FARMERS COOPERATIVE
agfirstfarmers.com

VanderWal re-elected as vice president of AFBF

Delegates to the American Farm Bureau Federation's (AFBF) 2020 Annual Convention re-elected Scott VanderWal of Volga as vice president of AFBF for another two-year term.



Scott VanderWal

VanderWal is the president of South Dakota Farm Bureau (SDFB) and a third-generation corn and soybean farmer and cattle feeder.

Zippy Duvall of Georgia was also re-elected president of AFBF. Duvall and VanderWal were first elected in 2016.

Nick and Bekah Ihnen of Tulare placed among the Top 10 contestants in the Young Farmer and Rancher (YF&R) Excellence in Agriculture Competition at the annual event that was held in Austin, Texas.

The Excellence in Agriculture

competition recognizes young farmers and ranchers who do not derive the majority of their income from an agricultural operation, but who actively contribute and grow through their involvement in agriculture, their leadership ability and participation in Farm Bureau and other organizations.

Competing in the YF&R Discussion Meet Competition from South Dakota was Matt Smith of Hitchcock.

Voting delegates who represented SDFB at the policy session included Jeffery Gatzke of Hitchcock; Jerry Runia, Estelline; and Cindy Foster of Fulton.

Over 6,000 Farm Bureau members from across the country attended the annual convention. President Donald Trump spoke at the event. This was Trump's third appearance at the AFBF Annual Convention.

More information on South Dakota Farm Bureau can be found at www.sdfbf.org.

– From SDFB

Strengthening the Heartland

Free seminars help South Dakotans learn about opioids, prevent misuse

Nearly 2,500 adolescents and adults in rural communities across South Dakota are better prepared to prevent opioid misuse, thanks to free educational seminars provided through SDSU Extension's Strengthening the Heartland Program.

"The goal is prevention," said SDSU Extension 4-H Youth Development Specialist Amber Letcher, an associate professor in the South Dakota State University Department of Counseling and Human Development.

"We are strengthening the heartland against opioid misuse," said assistant professor Kristine Ramsay-Seaner, clinical experiences coordinator for counseling and human development.

They are coordinating the program in South Dakota, which is made possible with more than \$300,000 in funding from

U.S. Department of Agriculture National Institute of Food and Agriculture and \$500,000 from the Substance Abuse and Mental Health Services Administration.

Since winter 2018, the teen/youth programming, "This is (Not) About Drugs," has reached nearly 2,000 students in 20 schools in eastern South Dakota. To do this, faculty are working with NDSU Extension. Adjunct assistant professor of pharmacy Chamika Hawkins-Taylor, now at Xavier University of Louisiana, and two graduate students also work on the project.

The presentation emphasizes ways of

See **OPIOIDS**, page 13



Amber Letcher



Kristine Ramsay-Seaner

Commercial & Agricultural

ENERGY EFFICIENCY PROGRAMS

WATER HEATING
80 Gallon: 23.25" x 71.5" | 115 Gallon: 27" x 73"

ELECTRIC HEAT REBATE
RETROFIT LED LIGHTING REBATE
ENERGY & WEATHERIZATION AUDITS
IRRIGATION REBATE
ELECTRIC VEHICLE CHARGER REBATE

SIoux VALLEY ENERGY
A Tractor Supply Company Cooperative

COLMAN | BRANDON | PIPESTONE
1-800-234-1960
WWW.SIOUXVALLEYENERGY.COM

SIoux VALLEY ENERGY IS AN EQUAL OPPORTUNITY PROVIDER AND EMPLOYER

WE BUY GRAIN
SELL SEED, FERTILIZER
AND DO CUSTOM APPLICATION

ECG
ESTELLINE COOP GRAIN

ESTELLINEGRAIN.COM
ELEVATOR/FEED 605.873.2288 | AGRONOMY 605.873.2111

OPIOIDS: Seminars funded by grants, goal is prevention

Continued from page 12

dealing with stress, other than drugs, Letcher said. "It focuses on making good choices." In January, the programming will reach Philip, Bison and Murdo.

In addition, 460 parents, teachers, employees, employers and service providers in 28 communities gained knowledge about opioids through the adult programming.

"This is a one-touch program that takes roughly an hour to present, which has allowed us to reach a lot of communities," Ramsay-Seaner said. "Our goal is to provide as much free knowledge and resources as possible."

The faculty have trained 10 professionals, many of whom have prevention backgrounds, to present the free seminars and are looking for more presenters particularly West River and in Pierre and Aberdeen. Presenters receive \$100 plus mileage for each session through grant funding.

"We would not be where we are if we did not have such motivated presenters who say, 'yes, I am willing to be there,'" Ramsay-Seaner said.

Lack of statistics due to community size

In the last five years, the Centers for Disease Control and Prevention has not reported statistical data for the majority of South Dakota counties. "When you try to get national data, South Dakota and North Dakota are gray boxes," Letcher said.

"Our rural communities are so small that a reported overdose can become identifiable data, so the CDC will not collect it," Ramsay-Seaner said. However, Letcher pointed out, "We know the problem exists,



Courtesy photo

Through SDSU Extension's Strengthening the Heartland Program, Nicole Schwing describes how opioids affect the brain at a free seminar on the SDSU campus for college students.

anecdotally."

As part of the project, the team mailed surveys to 1,000 rural households in each state to get a sense of their attitudes toward prescription opioids. Some of the 350 South Dakotans who replied told "deeply moving stories" about how opioids had affected them or their families, Letcher said. "People were filling the back pages (of the survey)."

"One thing that became clear is there are both a lot of fear and questions about opioid prescriptions," Ramsay-Seaner said. "One person shared a story about someone who had been given opioids after an injury/surgery and refused to take them. That set back recovery and resulted in the loss of a job. Our message is about helping people understand the safe use of opioids."

Helping families find services

Responding to the opioid crisis is particularly challenging in the Dakotas, where 90% of counties are classified as mental health shortage areas, Letcher noted.

Families assume they can simply take their family member to a treatment center and get the help they need, but that may not be the case, because

there is not a one-size-fits-all treatment approach., Ramsay-Seaner said. First, the person must be assessed. Some facilities are at capacity so have waiting lists. Other times, the treatment that a family member needs is not available at a nearby facility. To assist individuals in understanding the system, an upcoming webinar will focus on navigating the useful tools created by the State Opioid Response team.

"These families are at a crisis point when they need this information," Letcher said. The Strengthening the Heartland website (<https://www.sdstate.edu/strengthening-heartland>) provides a wealth of information for families and professionals. This includes webinars on subjects such as recognizing addiction and the history of opioids that are available on YouTube.

"We are trying to bridge the gap between what professionals in the field know and the services and information that people who are actually dealing with addiction need," Ramsay-Seaner said.

Though the researchers feel that the educational programming is making a difference, they also agree that there is a lot of work yet to do. Recently, they received contract funding from the S.D. Department of Social Services to offer programming in urban areas, such as Sioux Falls and Rapid City.

"Our hope is to continue providing programming and resources under the umbrella of rural health and wellness," Letcher said. "It's all about rural empowerment – the strength of the state and the people who love living here," Ramsay-Seaner said.

– From SDSU Marketing & Communications

DAKOTA AG-PRO

"As a service driven business, we do our best to help our customers succeed."

GoldenHarvest Soybeans

- › Soybean Traits Offered: Roundup Ready 2 Yield, LibertyLink, Roundup Ready 2 Xtend
- › Enogen Corn: Improve Profit Potential for Dairy or Feedlot!
- › Certified Seed Treater: Cruisermaxx Vibrance
- › Additional Seed Provided: Cover Crops, CRP Mixture, Wheat, Barley, Oats, Alfalfa and more!

Seed Delivery, Seed Tenders and Trailers Available › Cash Discounts and 0% Financing*

Contact Brent Hendricks, 605-695-5545 or Mark Jorenby, 605-690-6455
dakagpro@outlook.com › Office/Warehouse: 20307 478th Ave., White, SD

*With John Deere Financial/Robo AgriFinance

Estelline Community Oil Company

Diesel Fuel • Gasoline • Transport Fuels • Propane
 Seed • Fertilizer • Chemical • Bulk Oils
 Custom Application • Agronomy Services

SERVICE STATION

Estelline Main Office 605.873.2375
 Fertilizer/Chemical 605.873.2579
 Seed 605.873.7333
 Castlewood 605.793.2661

Minnesota farmer, distributor raises beef to improve soil

BY NORA G. HERTEL
St. Cloud Times

CLEARWATER, Minn. (AP) – Cattle perked up and started to moo as Matt Maier fired up his tractor to bring over a fresh roll of baleage for his herd.

One frisky cow leaped behind the bale, nipping at the fermented hay before Maier rolled it out.

Maier raises grass-fed beef, and in the Central Minnesota winter he lays out grass that was harvested on warmer days.

The cattle stay outside all year and move from pasture to pasture improving the soil, local ecosystem and the environment as a whole. They're working to help sequester carbon and combat climate change.

Maier raises 300 cattle in Clearwater. And he owns Thousand Hills, a Becker-based, grass-fed beef distributor and marketer that requires its farmers to use regenerative practices that benefit the land.

He calls himself and other Thousand Hills farmers "regenerative renegades."

Regenerative agriculture made headlines last spring when General Mills announced plans to source from 1 million acres of farmland using regenerative practices, which include keeping soil covered and minimizing soil disturbances, diversifying crops, integrating livestock and keeping a living root in the ground.

General Mills wants to reach that million-acre goal by 2030.

Maier wants to reach 1 million acres for Thousand Hills by 2022 because, he said, "I'm competitive," the St. Cloud Times reported.

Maier has seen his regenerative practices change the land. Native grasses like blue stem returned on



Dave Schwarz/St. Cloud Times via AP

In this Jan. 7 photo, Thousand Hills owner Matt Maier watches as cows eat hay at his farm near Clearwater, Minnesota. Maier raises grass-fed beef, and in the central Minnesota winter he lays out grass that was harvested on warmer days. The cattle stay outside all year and move from pasture to pasture improving the soil, local ecosystem and the environment as a whole. They're working to help sequester carbon and combat climate change.

their own from old seeds in the soil. Water in a Mississippi River tributary became more clear. A bald eagle took up residence, along with myriad other wildlife.

"It never gets old," Maier said. "Every day I'm out here, it's beautiful."

And, most importantly, the soil has changed.

He watched one of his pastures absorb 7 inches of rain in two days

while other fields flooded, Maier said. Regenerative practices focus on soil health and that makes the soil more stable and more absorbent.

"What we're really trying to do is regenerate our soils," Maier said. "That's our biggest mission."

What's so special about soil?

In fall 2017 Minnesota launched an Office of Soil Health. And one year ago, Anna Cates started as the state's

first dedicated soil specialist.

"Working on soil can be a win-win-win for a lot of parties," Cates said.

Improving soil health can make fields more efficient for farmers and it can improve groundwater quality, which is something the public wants, she said. Plus it's natural: Plants know how to work in soils, soils know how to support plants.

See **REGENERATIVE**, page 13

SOUTH DAKOTA SOYBEAN PROCESSORS

MAKE MORE PROFIT!

Premiums Paid for Non-GMO Soybeans
Up to \$1.30 - \$1.70 over cash market
Deliveries to our St. Lawrence, SD plant or Arlington, SD

Join our Non-GMO Certified Grower Network for Additional Premiums!

FOR INFORMATION,
call Kari or Logan at 1-888-737-7888 or visit sdsbp.com

Brookings-Deuel Rural Water

47602 SD Hwy 28, Toronto, SD
605.794.4201
bdruralwater.com

REGENERATIVE: Sees as wave of the future for agriculture

Continued from page 14

Regenerative agriculture and practices to improve soil also appeal to people, because they focus on the positive – regeneration of the land, Cates said.

Maier launched his farm after researching ways to improve food systems, he said. He kept returning to grass-fed beef as the single best way he found to do that.

He returned to his hometown of Clearwater around 2000 after living and working in the Twin Cities. He started his herd; then he met the founder of Thousand Hills and they became partners. Five years later Maier took ownership of the company.

It now spans 600,000 acres across 50 farms and ranches, Maier said. “We’re seeing double-digit growth every year.”

The beef is processed in Cannon Falls and distributed through Thousand Hill’s headquarters in Becker. It’s also home to RealTime Solutions, a food data and marketing agency Maier spun off from a firm he founded and sold. His daughter Melissa Larsen works on regenerative strategy there.

A farmer and an entrepreneur

Maier grew up on a farm nestled

among the 132 pastures he uses today. He graduated from Tech High School and St. Cloud State University with a business degree.

He lives on a different plot now and he stayed away for years to work in marketing and business.

While in college, he worked a landscaping job and had a troubling interaction with a chemical lawn treatment.

Maier became disoriented midway through a day of spraying and had to wait out a wave of brain fog, as he described it. He began to research the chemicals he used and learned he should be wearing a mask and rubber protective clothes, rather than shorts. So he quit and developed his own formula of organic fertilizer.

“That kind of stuck with me,” Maier said while driving between his pastures. He felt agricultural fields were getting the same treatment as those lawns, with “cheap, salty nitrogen and carcinogens.”

He’s not alone in that worry. Last year a jury ordered the maker of the widely-used weedkiller Roundup to pay \$80 million to a man who claimed the product caused his cancer. The case is under appeal, and the U.S. government sided with the company.

After he graduated, Maier managed the Red Baron pizza brand for Schwan’s. He then moved to the metro

area and started a marketing agency for food companies until he sold it around 2000 and moved back home.

Maier’s work with Thousand Hills combines his upbringing on a farm with pasture-raised hogs and sheep and his work in food marketing.

Is it the wave of the future?

Thousand Hills is what Jane Jewett calls a supply-chain partner for the farmers that sell under its brand. Jewett raises beef cattle and she’s associate director of the Minnesota Institute for Sustainable Agriculture.

“I think they’re the wave of the future for regenerative and sustainable-oriented farms to gain access to consumers,” Jewett said. “There’s a limit to how many direct-market customers a farmer can have.”

She has seen an increase in the number of farmers using regenerative practices in Minnesota, but it’s still a small group.

In the beef market, 10% are grass-fed, Maier said. And not all are raised with practices that focus on land stewardship.

Tyler Carlson has considered selling beef through Thousand Hills but sells direct to customers instead. He runs Early Boots Farm near Sauk Centre with his wife and has about 30 cattle. He’s also a board member with

the Central Minnesota chapter of the Sustainable Farming Association.

He probably spends as much time marketing and selling as he does raising his products, Carlson said. “We probably need middlemen to reach greater scale.”

In the national market, Thousand Hills is a small company competing against titans, said Larsen, Maier’s daughter and a regenerative strategist.

The company pays 40 cents a pound to farmers above the conventional market price, and Thousand Hills wants to support rural communities, Maier said.

“None of that works unless consumers vote with their dollars,” Larson added.

Maier sees regenerative agriculture as the wave of the future. And General Mills’ buy-in reinforces that, because it’s an advanced food and consumer marketing company, Maier said.

“When they say regenerative is the future, I know they have the insights to back that up,” he said.

Plus the survival of the human species might depend on those stewardship practices, Maier said. “I see lots of signs this is the future whether we’re forced to do it or whether we choose to do it.”



TIPPING OUR CAPS TO FARMERS EVERYWHERE

Thank a farmer this spring for helping ensure we can all eat tomorrow. We’re proud to provide many local farmers with the coverage they need to keep growing. **Trust in Tomorrow.®**

Dakota Farm Mutual Insurance
402 1st St. S. ; Brandt, SD 57218
Ph.(605)876-2941; Fax (605)876-3391
email: farmmutl@itctel.com
www.dakotafarmmutual.com



“Trust in Tomorrow.” and “A Grinnell Mutual Member” are registered trademarks of Grinnell Mutual Reinsurance Company. © Grinnell Mutual Reinsurance Company, 2020.

DELUX • NECO • LOWERY • BROWNIE • SUKUP • MFS • YORK • WESTEEL • SPRINGLAND



STORMOR STEEL Co.

GRAIN BIN SALES & SERVICE

Family owned business for more than 50 years!

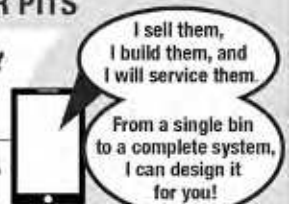
FULL CRANE SERVICE

CONTINUOUS FLOW DRYERS • FARM BINS • LEGS & TOWERS
COMMERCIAL BINS • DRIVE OVER PITS

Order NOW for the savings of the year!

Call for a free quote

CHARLIE EVEN | 605.886.8633 or 605.881.3543
SHANE DAHL | 605-880-5601



Pre-Season SAVINGS\$!



2019 Kubota B2650HSD
4WD, cold weather cab, hyd transmission
Call for Price!



2019 Kubota RTVX 1100
24.8 HP diesel engine, hydrostatic transmission,
power steering
Call for Price!



2017 New Holland Workmaster 70
250 Hours, 2WD, 1 hyd remote, 540PTO
\$23,000



2016 Case IH Farmall 75C
100 Hours, 2 hyd remotes, 540 PTO
\$41,000



2014 New Holland H7150
16', rubber rollers, sickle head
\$17,000



2014 New Holland T8.350
314 Hours, 4WD, 540/1000 PTO
\$180,000



2013 Teagle Tomahawk 8550
Dual Chop Kit, Corn/Straw Deluxe
\$26,000



2013 CLAAS Jaguar 980
2900 engine hrs, 2200 drum hrs
\$235,000



2012 Capello Quasar 16
16 row, 22" spacing, headsight
\$58,000



2011 Kinze 1050
Sof-tracks, electronic scale
\$72,000



2011 New Holland CR9080
1989 engine hrs, 1544 sep hrs, 4WD
\$190,000



2011 New Holland BR7090
Corn stalk special, roller wind guard, net & twine
\$19,000



2008 New Holland FR9060
2298 engine hrs, 1690 sep hrs, heads included
\$170,000



2016 New Holland L220
4870hrs, cab, A/C, heat 2 speed.
\$24,000



2012 Grasshopper 725DT6
557hrs, 72" powerfold deck
\$11,200



Farmers Implement & Irrigation

BROOKINGS LOCATION
3023 E Hwy 14 Bypass
Brookings, SD 57006
(605) 692-6153

WATERTOWN LOCATION
914 43rd Street SE
Watertown, SD 57201
(605) 878-0262

