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Grassroots

VOLUME 25 ISSUE 5

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Range 101: Fall Grazing A Cautionary Tale by Sean Kelly and Sandy Smart

It's been a "tail of two rivers" this year. Normally, western South Dakota is much drier than eastern South Dakota. This year it's been the opposite. For example, the figure below from the SD Mesonet (<u>https://climate.sdstate.edu/tools/et/</u>) shows the accumulated precipitation (green) since April for Volga and Union Center and the 30-year normal (straight line). As of September, Volga is almost 10 inches below normal and Union Center is normal. If and hopefully "maybe" when we receive fall moisture, we tend to see pastures "green" up. It is very tempting to graze this new green grass since



pastures were dry most of the summer. However, caution should be taken to not overgraze this green-up because the cool-season grasses are initiating new shoots. During the fall green-up, cool-season grasses are storing their energy reserves to ensure health through the dormant season and vigor next spring when the growing season starts again. In addition, many of these fall initiated shoots will overwinter and begin growing again next year. If these shoots are overgrazed, the growing point can be removed and it will not continue to grow next season.

Native cool-season grasses should not be grazed shorter than four to six inches in plant height. Also, by leaving sufficient plant height into the dormant season, the soil surface will be protected from erosion, and snow capture during the winter is optimized.

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Coalition Hires SD Grasslands Initiative Director by Laura Kahler



The Grasslands are synonymous with South Dakota. They are important to the livelihood of those involved in agriculture and agritourism, are enjoyed by those hunting or hiking in the habitat it creates for wildlife, and serve many overlooked roles in keeping our soil healthy and water clean. Because of this, many groups in South Dakota already exist to support the continued existence and health of South Dakota's native landscape.

There isn't a lack of dedicated organizations and agencies in the state, but a piece that has been lacking is the coordination of these groups efforts. To address this, the South Dakota Grassland Coalition worked with several partnering agencies, organizations and as-

sociations, and were awarded a cooperative agreement with NRCS. Through this cooperative agreement, the initial steering committee hired myself as the South Dakota Grasslands Initiative Director. I will be working with the ten founding steering committee members as we reach out to new partners, and improve communications and collaborations between those who are affected by, and have an effect on, grasslands.

We are in the initial stages of launching the South Dakota Grasslands Initiative, and we invite you to get involved. The first of our quarterly meetings will take place on Monday, October 23rd at 1 pm central/noon mountain via zoom. This will be an opportunity for groups to share key activities they are doing, to share ways that others can support them, and begin looking for ways to collaborate. If you'd like to sign up to be on our communications list, please fill out this form.

We are also looking to connect with new partners, and hear from their membership on what they feel is important for supporting grasslands in South Dakota. If you are a part of a group that would be willing to participate, please reach out to me at <u>Laura.grass@sdconservation.net</u>. We would love to come visit with boards and memberships to share more about our project, and learn from others.

As I've spent the first month in my role as South Dakota Grasslands Initiative Director, I have enjoyed learning more about the many programs and educational events that exist for landowners, and I am looking forward to being involved with a project that will help get this information to the landowners so they can elect what route is the best for their land stewardship vision. My husband and I raise cattle & sheep, along with a few other hobby critters, in Tripp County. From this, I know first hand the joy in seeing our land improve and finding new native species on our ground. But with that, I also know the importance of assuring managing and utilizing the grass is profitable. The other piece of my background that I look forward to bringing to this position is agriculture education. My bachelors and master degrees are both from SDSU for this, and I have spent time teaching in the classroom followed by working with SDSU Extension. Through the South Dakota Grasslands Initiative, we are looking for creative ways to connect with all South Dakotans of all ages to educate them on the functional significance of grasslands. If this is a passion are of yours, I encourage you to fill out the <u>interest form</u> and indicate that you'd like to work in this area.

While the South Dakota Grasslands Initiative is still in its early stage, we are excited by the many directions this may go based on the feedback and ideas we hear from the partnering contributors. Keep an eye on the SD Grassland Coalition Newsletter for ideas!

GRASSROOTS

How to Use a Drone on the Ranch by Garnet Perman

New technology is ever evolving. How to incorporate it into a ranching operation takes a bit of time and ingenuity. Several producers shared their perspective for this article.

The drawbacks to drone usage are significant. They include cost per usage, user friendliness, distance covered and battery issues. A basic drone with a camera costs \$400-\$1500 depending on brand and the features available. Dan Rassussen's Holystone was \$300 3-4 years ago. They are still in that range. He'd spend more the next time and get one with a stability feature. He uses his mainly for videos to promote the Grassland Coalition. Jody Brown has a DJI Mavic Pro. It came with four batteries and a sturdy case. It retails for about \$1200. He noted that Joe Dickie, the videographer behind the USDA NRCS Amazing Grasslands videos uses the mini version of the same model.



A view from a drone of the SDSU Cottonwood Field Station (Photo by S. Smart).

Nick Jorgensen of Jorgensen Land and Cattle near Ideal thinks using a drone has possibilities but theirs has seen limited use for anything other than promotional videos and social media. Their operation employs more people than most ranches which would require more training in using the drone. "You need to be comfortable with technology," Jorgensen said. Most drones work with an app on a cell phone. He grew up playing video games which carried over well to operating a drone.

Jorgensen noted that a drone's whirring and whizzing will initially scare cattle, so they would have to get used to it in order to use it to move cows, but that's certainly a possibility. Drones are useful for surveying country that is difficult to access any other way. Looking for cattle in rough terrain is one example. Brown counted bales one winter when the snow was too deep to drive out. He's also used one just to look where the cows are and what the grass looks like, but not on a regular basis.

Under favorable conditions a battery lasts about half an hour and has a range of two miles. Wind shortens battery life and therefore range which limits use on the prairie. Jorgensen noted that they move at about 55 mph and can cover country quickly. They can take a picture of a water tank quicker than it takes to drive out to look at it. Brown has programmed his to check multiple water tanks on one flight.

Some drones have a "Find Your Drone" feature which is nice in case they come farther away than anticipated. Rasmussen said finding a downed drone is a bit like hunting pheasants—"Don't take your eye off it, or you'll lose it."

These three producers agreed that drones can be used as a tool for finding cattle in rough terrain, possibly moving them, and photographing grazing patterns among others. They also agree that the technology isn't quite where it could be to make a drone a really effective ranch tool.

Drones are excellent for making a video to demonstrate certain tasks or social media use. It could be a way to enable youngsters to be engaged in the operation.

People should be aware that any commercial use of drone footage requires Remote Pilot Certification from the FAA and costs about \$175. They are supposed to be registered for free for personal use. The FAA Drone Zone is where to go for more information.

Garnet Perman is a freelance writer and ranches with her husband, Lyle, near Lowry, SD.

ALERT - Another Threat to South Dakota Rangelands by Rod Voss



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Yellow bluestem or King Ranch bluestem (*Bothriochloa ischaemum* var. *songarica*). (Photo by Rod Voss, 2023)

A new threat to South Dakota rangelands has been found on South Dakota Highway 37 near Mitchell. Yellow bluestem is a plant reportedly brought to the United States from southern Europe and Asia in the early 1900's as a forage grass and for erosion control. Not to be confused with the native bluestems which include big bluestem, little bluestem, and sand bluestem, this new invader is less palatable and will choke out other desirable native and introduced species. Yellow bluestem spreads by root and seed, and practices chemical warfare through its allelopathic nature which inhibits other species from either germinating or perhaps limiting establishment of desirable seedlings. This warm season grass starts growth in

summer as temperatures warm and is difficult to distinguish from other grass species during the growing season. The plant is most readily recognizable in mid to late August and into early fall when it establishes a seed head that appears silvery to reddish purple and then later appears fluffy yellowish to whitish with maturity and not unlike a turkey foot which is also a characteristic of the native big bluestem.

Should you suspect yellow bluestem, getting a positive identification is important. Do not transport the plant but contact local state or federal agencies that may be able to help with identification. Once a positive identification is made, contacting SDSU extension specialist for control methods is appropriate.

The Green Side Up by Pete Bauman

GRASSROOTS

Assessing the value of plant diversity in pastures is worth the effort

Native and exotic plants have many values that label them as 'good' or 'bad'. For instance, the native common milkweed was historically important to indigenous cultures for food and medical purposes, but most farmers devalued the plant as an invasive competitor in cropland and pastures. Today, society places high value on this perennial flower as monarch butterfly populations are inextricably linked to milkweed. Monarchs rely on milkweed for all phases of life. Concurrently, common milkweed has been re-discovered as a forage plant and is often selected by cattle, with a crude protein content that exceeds a typical cow's basic needs. What if other

The Green Side Up Continued on Page 6

Creating Healthy Pastures Part 1 by Dan Rasmussen

Season long grazing a pasture is in effect over grazing the plants that are re-bit after they start growing again. To avoid re-biting fresh regrowth, pastures are rotated so the plants have an adequate recovery time.

Consider the line graph below showing season long grazing on the left and faster pasture rotation on the right. We all fall somewhere on this line.



As shown on the above graph, resting plants increases soil health therefore increasing plant health. By rotating the cattle through pastures the plants are allowed to recover and leave dormant plant matter on the ground for the soil bugs to consume. This process creates organic matter in the soil. Over time, a properly managed rotationally grazed pasture will increase organic matter compared to a season long grazed pasture.

The "sweet spot" for each ranch is somewhere on that line based on the available resources. Once you learn to observe how the land responds to your grazing plan, the plan can be adjusted to increase soil health. Nature will move to a healthier state if we play by her rules. This will mean adjusting management. Holistic Resource Management (HRM) teaches land managers how to change the ranch management culture in order to play by nature's rules and increase rangeland production. Each ranch is unique; but some of the common changes are moving calving dates to the summer, winter grazing more-feeding hay less and move cattle more often instead of making your own hay. If you are season long grazing, getting started on a pasture rotation is the first step. Build one or two fences and watch the results.

In conclusion, rotational grazing over time creates healthy soil. This may require a change in the ranch management model and even a change in the ranch culture. Making healthy soil a priority will pay for years to come. The Grassland Coalition Grazing Schools teach land managers how to create healthy pastures. Go to sdgrass.org for more information.

Look for: "Creating Healthy Pastures Part 2" in the next edition of Grassroots.

Dan is a third-generation cattle rancher living in south central South Dakota. Dan served on the board of the Grassland Coalition for 18 years and is currently manages the Grazing School Follow-Up Ranch Consulting Program for the Coalition.

The Green side up Continued by Pete Bauman

broadleaf plants had similar positive values? Most of our native flowering plants (forbs) have tremendous value, and it is time we re-visit this fact in this era of conversion and rampant herbicide spraying of our native rangelands.

In 2004, Kathy Voth 'perfected' a technique for training livestock to eat weeds by capitalizing on the fact that positive nutrition is recognized very quickly by the cow's brain even if the forage does not initially taste good. Kathy then provided an evaluation of South Dakota's state and county level noxious weeds for potential palatability to cattle. Based on her experience and a review of the known literature, she provided guidance regarding whether livestock could be trained to eat these problematic South Dakota plants. But, were these plants actually 'good' forage that we could assess with more data?

Most livestock producers view native goldenrod as a non-nutritious weed that competes with grass. Goldenrod is a persistent plant that increases with heavy grazing pressure. Once established, even the best grazing regimes tend not to substantially decrease goldenrod populations. Using Kathy Voth's methods, we found that goldenrod has a relatively high crude protein content (15%) while the upper part of the plant and the bud are about 24% - as good or better than most alfalfa. We also discovered that old cows in our control herd were already nipping the upper portions of the plant at a rate of about 50% without any 'help' from us. Dr. Sandy Smart at SDSU discovered that goldenrod tends to 'share' things such as water and minerals with the surrounding plant community, bringing these resources up from the soil profile and potentially improving the production of the surrounding grasses and other plants. Goldenrod has proven value for pollinators, livestock, and as an indicator of rangeland health. It's not something cattle will eat exclusively, but it does have purpose.

In 2022 and 2023 we collected and tested a handful of common native and exotic grasses and forbs for parameters including crude protein, fiber content, energy, quality, minerals, and other factors. Based on observations, it appears that high crude protein is not the only factor in forage selection suggesting that other variables such as digestibility, palatability, or a combination of factors are important at certain times of the year. In 2021 and 2022 the Xerces Society and NRCS collected data on 75 species of rangeland forbs across seven states. Their findings indicate that most native broadleaf plants contain crude protein and digestible nutrient contents above the baseline needs of a lactating cow, but cows do not select all plants all the time.

So, what factors are the primary drivers of diet selection among pollinator plants? We hope to answer that question with the collection of more plants over time and space in the coming years. If we can paint a more complete picture of these factors, we might be able to advance our understanding of targeted grazing of certain species. This knowledge would be valuable to producers and land managers desiring to better understand their plant community composition and livestock nutrition needs. Stay tuned. The November issue of this newsletter will continue the discussion on what the 'value' of a plant is.



SOUTH DAKOTA STATE UNIVERSITY EXTENSION

PAGE

Sime Sime Society for Range Management RN E R - News from the SD Section of the Society for Range Management 2023 SD SRM Annual Meeting by Tyler Swan

SRM

SOUTH DAKOTA SOCIETY FOR RANGE MANAGEMENT

October 16th, 2023 Custer, SD Cost: \$50 (includes tour and banquet)

Meeting Agenda: October 16th 8:15 Registration (Comfort Inn & Suites) 8:45 Drive to Hermosa 9:30 Grazing Tours 12:30 Lunch on your own 1:30 Depart for Custer 3:00 Strategic Planning Forum 4:00 SRM Business Meeting 5:30 Social event 6:30 Banquet/Awards/High School Youth Forum 7:30 Crazy Auction







EVENT INFORMATION

LODGING

A block of rooms has been reserved at the Comfort Inn & Suites (339 W Mt Rushmore Rd, Custer, SD 57730) for the nights of October 15th and 16th. Call the hotel directly (605–673–3221) to reserve under South Dakota SRM Group. Blook room rate is \$99/night + tax. Room block expires on September 20th, 2023.

TOUR INFORMATION

The two tour stops are located just six miles west of Highway 79 (south of Hermosa) on Highway 40. The Adrian Ranch manages both their grass and timber resources alongside custom grazing their property to meet their goals. The Lakota Springs Ranch has reclaimed lowland areas and operates a mixture of pasture and cropland that is utilized by wildlife during and after the growing season, respectively. Lunch to follow on your own.

REGISTRATION

All attendees are asked to RSVP for food count. Be sure to fill out the number of individuals attending on the form below. To RSVP for the tour or the SRM evening events, call or email Tyler Swan. Payment at the door will be accepted for preregistrants via check, cash, or credit card. Meetings at 3pm and after will be at the Crazy Horse Memorial -12151 Avenue of the Chiefs, Crazy Horse, SD 57730

Registration form and checks (payable to SD SRM) can be mailed to:

Jeff Vander Wilt 25823 E Enemy Creek Loop Mitchell, SD 57301 Registration and payment can also be made online at: www.sdrangelands.com



Calendar of Events

Event	Date	Location	Contact Person	Phone/email
SD SRM Annual Meeting	Oct 16	Custer	Tyler Swan	605-210-0484
SD Cattlemen's Convention	Nov 28-29	Watertown	Taya Runyan	trunyan@sdcattlemen.org

Please remit any comments, suggestions, or topics deemed necessary for further review to: Sandy Smart, SDSU Box 2207D, Brookings, SD 57007, alexander.smart@sdstate.edu, (605) 688-4940