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VOLUME 24 ISSUE 2

MARCH 2022

Range 101: Plant Identification By Sandy Smart



The 'trail boss' (pictured left), by Charles M. Russell, is the logo of the Society for Range Management (SRM). This famous painting depicts the cowboy watching over cattle as they are being driven up a valley. It is easy to look at the cowboy and imagine his job is to oversee the cattle drive. Another, interesting viewpoint could be that the trail boss is also on the look out for good grass to find for the herd. One of the foundations in range management is to know the various rangeland plants. As a good 'trail boss' you need to know how plants respond to grazing? If they are palatable for livestock? Or, if they could potentially be harmful to livestock?

Plant identification is one of the first things we teach to young people and in South Dakota we have been doing this through Rangeland Days for 37 years. Rangeland Days is a annual two-day event, sponsored by the South Dakota Section of SRM, open to 8 year-olds through high school students. Students learn to identify 122 common range plants from grasses and grasslikes, forbs, shrubs, and trees. They are required to learn their life span (annual, biennial, or perennial), season of growth (cool-season or warm-season), origin (native, introduced, or invader), and ecological resource rating (desirable for prairie grouse food or cover, and cattle food).

We set up practice plant lines, marking individual plants with a flag (pictured right), to show the common plants in various stages of growth. Since the annual contest is held in mid-June, many warm-season grasses have not yet flowered. Thus, it is really important to teach students how to use vegetative characteristics rather than relying on what the seed heads looks like to identify plants. If you want a challenge, attend the National Land and Range Judging Contest in Oklahoma City. The people that set up this contest often remove parts of the plant, mimicking a grazed plant, to make it more difficult to identify. Thus you really need to know your plants to win this contest. Once students build this foundation, they are ready to judge South Dakota rangelands for livestock and wildlife values. This SDSU Extension publication is available online at: https://openprairie.sdstate.edu/extension_circ/480/. It is hard to manage something you know little about. Knowing how to identify rangeland plants is the first step in practicing good rangeland management.



A young Rangeland Days contestant on the plant ID line. (Photo by S. Smart, 2015).

The Green Side Up by Pete Bauman



**SOUTH DAKOTA STATE
UNIVERSITY EXTENSION**

How will fire affect my plant community ?

UPDATE ON 2022 LANDOWNER PRESCRIBED FIRE WORKSHOPS. Landowner workshop dates are April 27th & 28th at the SDSU Extension Office at Mitchell Tech and June 2nd & 3rd at the SDSU Oak Lake Field Station near Astoria. Contact Jan Rounds at the SDSU Extension office in Watertown for both locations. Janice.rounds@sdstate.edu or 605-882-5140. Registrants will receive more information and details as the burn school dates approach.

This month our discussion shifts to the impact that fire can have on the plant community. I'm going to focus primarily on the impact to fire on desirable and undesirable grasses and flowering plants, saving the topic of woody species for another day.

There are a few general truths about fire as a grassland management tool that are not well understood. Understanding these things better will help the grassland manager make more informed decisions.

The first issue can be the common belief that either all fire is good or that all fire is bad. The truth is that fire is simply a chemical/physical reaction in the form of combustion that has ecological, social, and economic impacts. Fire is neither inherently good nor evil. Fire cannot 'create' new plants, rather it can only stimulate or hinder those plants which are already present in the system.

One of my biggest frustrations occurs when an unplanned wildfire event occurs and property is damaged or forage or habitat are lost suddenly or unexpectedly. In these instances emotions can drive the perception of fire's impact on the plant community. The pro-fire community often implies that all fire is good because it is an ecological process and the grass will grow back. It is true that the grass does grow back, but the physical damage to property, temporary loss of forage, threat to life, or an unexpected change in the plant community can be real consequences of an unplanned wildfire event.

But, it is also important not to allow emotion to lead to assumptions that the negative impacts of unplanned wildfire events are inherently part of all fires. The truth is quite the opposite. Through planning, a prescribed fire by definition mitigates the negatives while specifically accomplishing goals. Primary goals are often centered on the plant community, either by targeting enhancement of certain species or by hindering others, or both. For example, enhancement of native grasses while discouraging exotic grasses is achievable with proper fire timing and intensity. Secondary goals, such as using the post-fire plants for grazing, seed production, or wildlife habitat can then be pursued. Whether planned goals are achieved or not depends on correct use of the fire tool in regard to timing, intensity, frequency, and duration (I'll expand on these factors in my next article in the May issue).

Returning to our question of 'how will fire affect my plant community?' is dependent on the composition of the current plant community, both above and below ground. A virgin native grassland pasture that has an intact plant community and a healthy seed bank will often respond vigorously and vibrantly to a planned burn. These communities and soils are incredibly resilient to fire at any time and will rebound if given the opportunity for post-burn recovery. Where exotic plants do occur, burn timing, intensity, and duration become more important as the fire can either suppress or stimulate various components of the plant community.

2021 Friend of the Prairie Award by Judge Jessop

Jeff Zimprich and Tim Olson were named recipients of the South Dakota Grassland Coalition's 2021 Friend of the Prairie Award.

Originally from Brandon, SD, Jeff Zimprich started his conservation career in Montana as a student trainee for the then Soil Conservation Service while attending the University of Montana in 1983. Upon graduating, Zimprich served as a soil conservationist and district conservationist in three Montana field offices.

He transferred to Iowa in 1988 and worked in two area offices and the Des Moines state office, and later as the assistant state conservationist for field operations in southwestern Iowa. Zimprich served several details at NRCS National Headquarters and was acting state conservationist of Illinois before returning to his home state of South Dakota to be the state conservationist. Jeff served South Dakota NRCS just shy of eight years. Jeff is enjoying retirement with his family and applying soil health practices to his farm near Brandon, SD.

Tim Olson up near Cooperstown and attended Hamilton College - both in rural central New York. Family vacation travel and a transcontinental bicycle trip fueled a desire to move west to earn a Master's degree at Montana State University. He moved to Pierre in 1988 and after a short stint with DWNr (later DENR and now DANR), was hired by SD GF&P where he stayed for the rest of his 33-year career. Tim worked in SD GF&P's Environmental Review Program for about 11 years advocating for appropriate consideration of the State's water, wetlands and associated habitat resources by local, state and federal agencies charged with regulating/approving various development and infrastructure projects. For the last 20 years he was a biologist and senior biologist in SD GF&P's Private Lands Habitat Program.

Olson served as the program coordinator and team leader for up to four other program biologists stationed in field offices across the state. Partnering with individual landowners and producers to restore, enhance and better manage wetland and grassland habitats was a program priority.

Fostering and maintaining relationships between SD GF&P, the agricultural community, other state and federal resource agencies, as well as many non-governmental conservation organizations was also an important part of his responsibilities at GF&P. Time spent at Grassland Coalition board meetings and at many Coalition education and outreach events over the years was critical in that effort. Since retiring last May Tim is spending much more time enjoying outdoor opportunities with family and friends.

Congratulations!



Jeff Zimprich (Photo by J. Jessop, 2022).



Tim Olson (Photo by J. Jessop, 2022).

Succession Planning by Garnet Perman

We recently attended the ND Grazing Lands Coalition Succession Planning Workshop. This event was sponsored by the National Grazing Lands Coalition and the ND Grazing Lands Coalition. Marissa Nehlsen's Freedom Financial Group (www.freedomfinancialminot.com) and Starion Bank were sponsors and participants along with Alfredo Delgado, a communications specialist with Brain Masters Life Coaching. One of the highlights was a panel of producers who shared their stories which helped illustrate the scope of issues to be addressed.

Bill Barby (past chair of Kansas Grazing Lands) and his wife, Debbie are in the process of transitioning the ranch that's been in their family for 50 year to non-family heirs. Their situation is more common than one might think. Only 30% of family farms/ranches survive to the second generation. Twelve percent make it to the third and only 3% survive to the fourth generation. Bill would have been content to ranch forever, but serious health events made him realize that he needed to wind down the daily work. When their children decided against taking over the B Bar B, Bill and Debbie wanted to see the regenerative practices they've worked so tirelessly to implement continued. Rather than sell to the highest bidder, they decided to look for a non-family heir to work into the operation. They wrote down traits of the person they wanted to work with and how that transition might look. They started their search with members of the Ranching for Profit Executive Link program. Candidates they thought were promising didn't work out. It took most of a year to find a young family looking for the type of opportunity they were offering. In what Bill describes as a "God thing" they are now working with a young family according to a plan both parties agree on.

The planning process is involved and requires frequent quality communication. Bill commented that he's also working on figuring out what to retire to which is as important as all the legal and financial plans. He also made the observation that this arrangement takes the pressure of continuing the family ranch off his children, as they felt guilty about the decision.

Vern Terrell (past chair of the Nebraska Grazing Lands Coalition) talked about their family ranch that involved him, his brother and their sons. The untimely death of his 30 something nephew was a hard blow that eventually led Terrell's brother to leave the operation. Figuring out how to keep the ranch together with his family bearing the financial burden was challenging.

Brian Alexander (Ranching Reboot Podcast and 2019 Kansas Leopold Conservation Award winner) and Aaron Subart, a young producer from North Dakota both ranch with their fathers but are at different stages in life. In his early 20's, Subart described the opportunities his father provided that made him want to choose ranching as an adult. Simple things like letting him help with chores, or giving him ownership of a cow are things he is doing with his own little boy now. Alexander focused on the importance of communication between all parties and taking the time to keep plans current, especially in our changing and challenging times.

Thirty years in the insurance business gave Lyle Perman, Lowry SD, an opportunity to witness how many families handled transition and wealth management and influenced the transition plan on his own ranch. Too often dad was in his 80's, still making the decisions and not sharing his reasons. Bad communication and an inability to relinquish control left a legacy of hurt feelings and financial burdens. "Let the young guy take over!" he said.

Succession Planning Continued Page 5

Succession Planning Continued by Garnet Perman

Other good take-aways from the event included:

- Start with the end game in mind. Knowing what you want to have happen makes decision making today easier.
- Does your financial and business team understand regenerative ag? Understanding your motivation and goals will aid them in coming up with a plan that does what you want it to do. To that end have you considered having a sit down planning session with your lender, attorney, insurance agent and accountant all present? Teams work together.
- ALL ducks need to be in a row in order for a succession plan to succeed. These include transition plans, updated estate management, strategic tax planning, and risk and wealth management.
- Where and how are your documents stored? Who has access to them? Can they be easily retrieved in an emergency? These include your power of attorney, living will, insurance and financial account numbers, lenders and their institutions, and legal documents. Having a copy of everything in an easy to grab metal file box might be a good first step.
- Communication between all involved parties is essential. The more people involved, the more necessary a facilitator or mediator might be to enable good communication. Jerry and Renae Doan brought all three of their sons back to Blackleg Ranch at Sterling, ND, building a very diversified operation with spouses actively participating in the business ventures. They are working through a succession plan with a third party mediator from the Freedom Financial Group. Jerry noted, "The process is really hard, but what good is it if you spend Christmas alone?"
- Recording wills, setting up trusts or limited liability companies or hiring a facilitator all cost money. An investment of several thousand dollars now is minor to the cost in taxes and legal fees later which can run into the tens and hundreds of thousands of dollars. The current average cost of setting up a succession plan is between \$3-5,000.

Where are you at with your transition plan? What needs to be done? Who will help you? When will you talk to them? Make the appointment today!

There was a succession planning workshop during the National GLC meeting that featured Barby, Doan and others. It is available for viewing on the National GLC website. The NDGLC hopes to have their event online at a future date.



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

Watering Cattle - Combine Herds for Range Health and Drought Management

by Dan Rasmussen

The current drought of 2021-2022 is in progress. Most ranches have started implementing their drought plans by selling off less desirable classes of cattle. Based on NOAA's monthly long range forecasts, we are to expect above normal heat and below normal moisture April through August. Most stock dams in western South Dakota are dry or very low. For the cattle that remain on the pastures water is a big problem.

Generally speaking, one of the quickest ways to improve rangeland is to combine herds and move fast enough to leave adequate forage for soil health. Combining herds provides longer rest periods for the plants. This is essential for soil health especially in western South Dakota.

For this to be successful, often a water system is needed that can handle larger herds than has been normal for the ranch. Large water storage tanks are a good way to start solving this problem. The well fills the storage tank during the night so there is a supply of water for the cattle during the heat of the day.

Below are two examples for water storage:



Troy Oldert pictured with his 2,300 gallon Barber Industries storage/drinker tank, Owanka, SD (left) and 21,000 gallon salvaged Frac Tank, sold by Spring Creek Colony, Leola, SD (right).

Designing a livestock water system to adapt to today's dry conditions will be a challenge to ranchers throughout the drought. For more info on designing livestock water systems contact Judge Jessop, Grassland Coalition Coordinator, at 605 280-0127.

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 the education coordinator and manages the Grazing School Follow-Up Consulting for the Coalition.



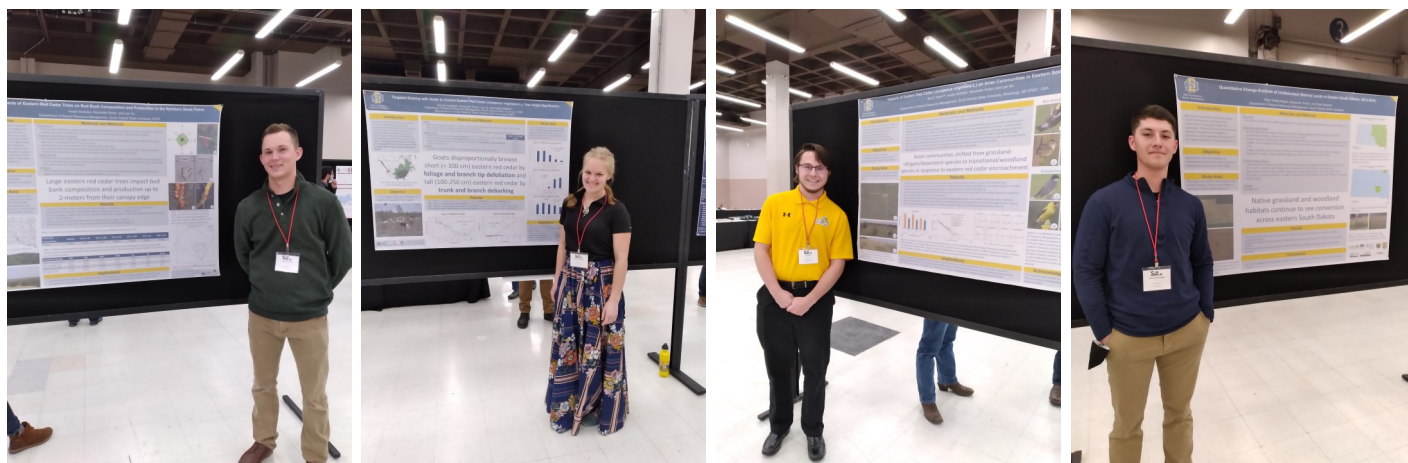
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- News from the SD Section of the Society for Range Management
SD Section Annual Meeting by Sandy Smart

Research presentations by SDSU at the Society for Range Management's 75th annual meeting held in Albuquerque, NM Feb 6-10.

This year several faculty, graduate students, and an undergraduate student presented research findings at the SRM meeting held in Albuquerque, NM. My students included Austin Domeier, Alanna Hartsfield, Jay Holm, and Riley Wollschlager. Logan Vandermark, graduate student under Jameson Brennan, also presented. Here is a list of their presentations.

- Domeier, A., A. Smart, and L. Xu. 2022. Impacts of mature female eastern red cedar (*Juniperus virginiana* L.) trees on bud bank composition in the mixed-grass prairie of the northern Great Plains.
- Hartsfield, A., A. Smart, L. Xu, and K. Froelich. 2022. Targeted grazing with goats to control eastern red cedar (*Juniperus virginiana* L.): Tree height significance.
- Holm, J.D., A. Domeier, A. Smart, and L. Xu. 2022. Impacts of eastern red cedar (*Juniperus virginiana* L.) on avian communities in eastern South Dakota.
- Smart, A., N. Litterer, and L. Xu. 2022. Eastern red cedar (*Juniperus virginiana* L.) tree growth dynamics in South Dakota.
- Vandermark, L., J. Brennan, K. Ehler, and H. Menendez III. 2022. Comparing daily distance traveled between cattle grazing in continuous and virtual fence rotation.
- Wollschlager, R., A. Smart, and P. Bauman. 2022. Quantitative change analysis of undisturbed (native) lands in eastern South Dakota: 2012-2018.



SDSU graduate students Austin Domeier (upper left) and Alanna Hartsfield (upper middle left), undergraduate student Jay Holm (upper middle right), and graduate student Riley Wollschlager (upper right) at the SRM Poster Session in Albuquerque, NM Feb. 7th (Photo by Sandy Smart). To the right, Logan Vandermark explains his poster to Dr. Pat Johnson and Dr. Jamie Brennan. Jamie is Logan's current student and Jamie was Pat's last student, making three generations of researchers from SDSU in one photo (Photo by H. Menendez III).





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Calendar of Events

Event	Date	Location	Contact Person	Phone/email
2022 Grassfed Exchange	May 18-20	Ft. Worth, TX	Pete Bauman	Peter.bauman@sdstate.edu
Landowner Fire Workshop	April 27-28	Mitchell, SD	Pete Bauman	Peter.bauman@sdstate.edu
	June 2-3	Astoria, SD		
Bird Tour	June 3-4	Highmore, SD	Judge Jessop	605-280-0127
Rangeland and Soil Days	June 14-15	Murdo, SD	Valerie Feddersen	605-530-2020
West River Grazing School	June 21-23	Wall, SD	Dan Rasmussen	the33ranch@gmail.com
Young Producers Ranching for Profit School	July 12-15	Huron, SD	Dan Rasmussen	the33ranch@gmail.com
East River Grazing School	July 26-28	Marvin, SD	Pete Bauman	Peter.bauman@sdstate.edu

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

