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VOLUME 25 ISSUE 4

JULY 2023

Holistic Ranch Management Helps With Economic and Climate Resilience by Sandy Smart

We hear a lot about climate change and global warming in the news. The warming trajectory provided by the Intergovernmental Panel on Climate Change (IPCC) can give you a feeling of helplessness. Agriculture sometimes is portrayed poorly in the news, however managed land and the supporting agricultural activities only accounted for 13-21% of global total anthropogenic greenhouse gas emissions according to the 2023 IPCC Working Group III Report. In addition, managed and natural terrestrial ecosystems (i.e. grasslands, forests, and rangelands) were a net carbon sink, sequestering a third of anthropogenic CO₂ emissions. Keeping the “greenside up” on our grasslands and rangelands is probably the best mitigation strategy farmers and ranchers in South Dakota can do.

Holistic ranch management, has for a long time, offered ways to think about ranching as part of an ecological system. Thus, inputs such as time, energy, and money can be evaluated as a whole, comparing benefits and tradeoffs simultaneously, to provide a more comprehensive decision-making system rather than impulsive, consumer/production oriented thinking that permeates our culture. One strategy to help you get into this mindset is to put a high value on diversity. Diversity can be incorporated on multiple scales and systems. For example, range managers have always valued plant diversity because it increases forage quantity and quality for livestock production, reducing the need for expensive supplements. Enterprise diversity (more than one business operation) can generate multiple income streams from shared resources. Thus, the business can insulate itself from economic and climatic disruptions. If one sector of farm income is disrupted, the others are there to even it out.

I visited with Brett Nix and Jim Faulstich, Chair and vice-Chair of the South Dakota Grassland Coalition, respectively, about their experiences of diversifying their ranches. Brett Nix stressed his strategy was to diversify his livestock business. His cow-calf herd is the centerpiece, however the ranch includes three other sub-enterprises as key components: bred heifers kept as stockers, steers kept as stockers, and fat cows. This diversity within the cow-calf enterprise benefits the ranch operation by letting them be flexible to manage through obstacles like drought and variable markets. Brett also has planted farmland back to grassland with a diverse mixture of grasses and forbs. This provides forage for grazing, haying every 3rd or 4th year, and bale grazing in the winter. Brett’s stocking rate is actually double the county average because of the diverse forage resources and their ability to quickly adjust to changing forage conditions with their stockers and fat cows. Thus, they are more resilient when drought or

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Holistic Ranch Management Continued by Sandy Smart

grasshoppers reduce forage. Hence, rarely do the Nix's need to destock the main cow herd. The bred heifers, steers, and fat cows allow greater flexibility to capture market highs and when grass is plentiful they can graze longer into the summer grazing season.

Brett stressed that thinking holistically has helped him trim expenses and manage the ranch in a more ecologically friendly manner. Thus, the Nix's are less reliant on chemicals, iron, and fossil fuels than they were in the past. How much more "green" can you get?

Jim Faulstich has several enterprises and likes the flexibility to "get in and out of quickly". Jim, in addition

to running a cow-calf operation, has four other enterprises: custom grazed yearlings, pheasant hunting, archery deer hunting, and crop and hay production. The custom grazed yearlings gives Jim drought management flexibility in addition to useful harvesting of invading grasses like smooth brome grass, Kentucky bluegrass, and crested wheatgrass. If drought strikes, Jim can give his grazer two weeks notice to come load them up.

Jim's two hunting enterprises uses the pastures, cropland, and Conservation Reserve Program (CRP) land. Hunting requires providing suitable cover for upland game birds and deer. This requires a lighter stocking rate, but it has the advantage of not requiring to de-stock the cow herd during droughts. Also, providing extra cover benefits the cow-herd during rough winter weather periods. Jim sees that if he "takes care of the natural resources, making it a priority rather than focusing just on production, he is able to manage the ranch in a more ecologically friendly manner that goes with mother nature rather than fighting against her". Finally, fee Hunting provides reliable income versus fluctuating commodity markets. Sometimes bad weather can dampen a week or two but, because the season is spread out over the entire fall it usually isn't a complete bust.

Jim also grows crops on his farm ground that was previously converted before his time. Cash crops, crop aftermath, cover crops, and hayland all can provide income streams and feed resources for the cow-herd. It also integrates well with hunting by providing winter feed for pheasants and deer. Jim really likes the late-season cover crops and crop aftermath for winter grazing. He finds that he doesn't feed as much hay as he used to. "During the wet years it is important to put up hay and have it on hand for bad winters like last year", Jim said. "Also, we graze the hayfields during drought years because it is not economical to cut hay and we still get some benefit".

Brett and Jim are just two examples of many great ranchers who have benefited from holistic ranch management thinking and value diversity to help their operations be more economic and climate resilient.



Jim Faulstich discussing the value of native warm-season grasses on ranch tour. (Photo by S. Smart, 2010).

Adding Diversity to the Bottom Line by Garnet Perman

Layering enterprises is one way to maximize all the resources of a given operation to benefit both economic and ecological bottom lines. After attending a Ranching for Profit school in 2016, Dugan Bad Warrior of Dupree started looking for different ways to take advantage of his grass resource. He started asking himself, “How can I do that?” instead of telling himself “I can’t do that.”

Grouping cattle by age and/or purpose has helped him economically while also protecting the resource. Currently Herd A is young cows 3-6 years of age. Herd B has cows age 7- broken mouth and Herd C is replacement heifers. In the past he has utilized custom grazed herds and older herds, 7-9 years old and 10+.

In an area of the state where drought is common having a drought plan and following through on it makes a big difference. His plan for reducing the number of cattle in a dry year includes determining which group of cattle leaves when trigger dates are met. The first to go are custom grazed cattle—the contract includes this scenario. The second group of cattle is the replacement heifers with the thought that it is better to keep cows that have raised calves instead of young unproven cows. Third to go is the oldest cows and a very last resort would be to sell or find other pasture for the young cows. Last year’s drought necessitated some destocking. Bad Warrior said implementing the drought plan dinged his pocketbook short-term but he has more options this year because his grass is healthy. For example, he can do some custom grazing rather than restock at high prices.

Bad Warrior tries to spend Monday mornings in the office going over grazing plans and finances, paying attention to how gross margins mesh with his cost of operation. “Make sure the ranch works economically or it will never cash flow”, he said. He’ll run all his numbers every quarter or sooner if a big change in markets or some sort of black swan event occurs. One of his goals is to diversify as much as possible. Enterprises he’s considered include buying short-term bred cows and multispecies grazing with sheep.

Running yearlings have been part of Dan Rasmussen’s enterprise structure for years. Whether the pasture contains your own yearlings, custom grazing or running yearlings for a contract, Rasmussen’s first recommendation is do a resource inventory to determine whether or not there is enough grass for this enterprise to make sense in the first place. The Natural Resource Conservation Service has tables for different parts of the state to help determine how much forage to leave standing to keep the soil covered and be resilient and productive. In western SD, that number may average 1,250 lbs/acre. Once the herd has taken the forage down to that amount, they need to move.

Some of the pluses of grazing yearlings include a ready market all summer long, and ease of stocking or destocking depending on range conditions. Yearlings move easily (Rasmussen moves his with a drone) and can be contained with one strand of high tensile wire or trained to electric polywire. They adapt well to intensive grazing plans, enhancing soil health.

Some of the downsides include the need for a detailed contract if custom grazing. An article and some sample contracts can be found at <https://extension.sdstate.edu/sites/default/files/2020-06/P-00174.pdf>. A mineral consultant that can prescribe a mix that fits your ranch and a good working relationship with a vet are part of being prepared to deal with health problems that can pop up.

The flexibility yearlings provide make them an attractive option for many operations. Decisions regarding yearlings need to be based on goals and financial considerations. For example, current prices make keeping newly weaned calves pricey because keeping them is like buying them at market price.

The Grazing School addresses many of the issues that come with adding diversity to the ranch and also offers a follow up program with a consultant that focuses on healthy soils.

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

Grazing School Workshops: Concerns in Grazing Management Part II

by Dan Rasmussen

In March, the Grassland Coalition put on a series of four Grazing School Workshops across the state of South Dakota. Participants were encouraged to present their grazing concerns to the group for discussion. These concerns were then addressed by local ranchers and agency personnel.

The following are some of the grazing management concerns people brought to the workshops and answers from the ranchers and agency staff:

Question: Does intensive grazing work on native prairie?

Answer: Yes. Over time, soil health will increase. Native plant communities will become more diverse. Native plants that disappeared during season long grazing management will return under short duration grazing management.

Question: Cactus is a problem on my west river pastures. Will intensive grazing make cactus go away?

Answer: Under even a simple pasture rotation cactus will be reduced significantly. As the soil becomes healthier it will hold more water for longer periods of time. Cactus is vulnerable to molds and root competition from vigorous neighboring plants. Expect cactus to decrease significantly in a pasture rotation

Question: I have 4 herds of cattle on my ranch. Will combining herds help my pastures?

Answer: Combining herds from 4 herds to one, in a pasture rotation allows for longer recovery of plants being grazed. This can result in higher plant populations and healthier soil, leading eventually to a higher stocking rate.

The Grazing Schools are designed to help land managers implement improved grazing planning. Each 3 day school is led by experienced land managers and agency professionals.

**Summit July 25-27
Chamberlain Sept. 12-14**

Find more info at: www.sdgrass.org

Quote: "One secret to low cost cow/calf production is:
`Never do for a cow what nature enabled the cow to do for herself'". Neil Bien- 2023 Leopold award winner.

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.

SDACD Round Table Meetings by Angela Ehlers

Like almost every other workforce, the resource conservation field has more jobs than available workers and workers move jobs often. If you've visited your conservation field office since it re-opened to the public, it's likely you are meeting new folks every few months. It's great to have new faces but it also poses some challenges. One major challenge is knowing who your partners are.

The SD Association of Conservation Districts recognized the challenge so invited staff of conservation partners to "get to know each other" round tables at their spring area meetings. Each partner organization was requested to share their answers to three questions: a) what is your organization's mission or purpose; b) how does your organization contribute to the conservation movement; and c) what could others do to support your organization's mission? They were also challenged to use as few acronyms as possible - not an easy task if you deal with government programs! Participating in the seven round tables were South Dakota's conservation districts and representatives of SD Department of Agriculture & Natural Resources; USDA-Natural Resources Conservation Service; USDI-Fish & Wildlife Service Partners for Wildlife; SD Department of Game, Fish, & Parks; Pheasants Forever; Ducks Unlimited; SD Soil Health Coalition; SD Grassland Coalition; and water development districts.

I was impressed by the level of conversation that occurred during the round tables. During our previous area meetings, our audience has been more subdued and not interactive. This year, folks asked questions, offered opinions, and even stayed after meeting conclusion to follow up conversations with specific individuals.

We too often talk about partners in the abstract but now we've met each other and know more about each other. That should lead to better communication and service to our mutual clients - the people who are interested in applying conservation practices.



Angela Ehlers serves as the Executive Director of the SD Association of Conservation Districts.



South Dakota's
Conservation Districts

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- News from the SD Section of the Society for Range Management 2023 Rangeland & Soils Days by Emily Rohrer

The 39th Annual Rangeland Days and 18th Annual Soils Days were held in Watertown June 14 & 15 at the Codington Extension Building. The event was hosted by the Codington County Conservation District. The first day of the event was for learning all about plants and soil. Rangeland Days participants were students from ages 8-18. The students were divided up by age group into four different categories: New Rangers (8-10 years), Wranglers (11-13 years), Scouts (14-18 years), and Go-getters (14-18 years). Scouts and Go-getters were distinguished by whether or not they had previous judging experience. The students learned how to identify different types of plants as well as define characteristics of those plants including lifespan, origin, and seasonality. Older students spend time learning if plants are good for grouse food or cover and cattle food. The older students also evaluated small areas to determine the sites' ability to provide habitat for beef cattle and prairie grouse.

The Soils Days participants took the day to learn about all about soils including how to determine soil texture, depth, suitability for different uses, slope, and more! The soils judges evaluate a specific soils pit for erosion, depth, permeability, run-off, and limiting factors. They also take the information about the soils and determine how well that site would be for a homesite (called the Homesite evaluation). They determine whether or not that site/soil would be good for foundations, lawns and landscaping, septic tanks, and sewage lagoons.

After a day in the field, some participants gave presentations and talks about different range management topics. Some students also developed displays on various range topics. Students were judged based on the content and presentation styles. The following students took top honors for talks and displays.

- 1st Place New Ranger Talk – Haven Heber, Wessington Springs
- 1st Place New Ranger Display – Harley Heber, Wessington Springs
- 1st Place Wrangler Talk & Display– Katy Scott, Spearfish
- 1st Place Wrangler Plant Mounts – Wyatt Lambert, Spink Co 4-H
- 1st Place Go-Getter Display & Talk – Bobbi Eide, Gettysburg, SD

The second day of the event was contest day! Go-getter teams were divided into two categories: FFA Division and 4-H Division. Soils teams were also divided between FFA and 4-H. Top 4-H teams qualify for the National Land and Range Judging Competition in Oklahoma City the following May. Top judges for each category and division were:

- 1st Place New Ranger Judging – Haven Heber, Wessington Springs
- 1st Place Wrangler Judging – Jesse Schoon, Sunshine Bible Academy
- 1st Place Scout Judging – Darla Barnes, Perkins 4-H
- 1st Place Go-Getter FFA Individual Judging – Treyvon Czmowski, Webster FFA
- 1st Place Go-Getter FFA Team – Webster FFA, Jaidryn Rice, Norah Zubke, Treyvon Czmowski, Blaise McGregor



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- News from the SD Section of the Society for Range Management
2023 Rangeland & Soils Days Continued by Emily Rohrer

1st Place Go-Getter 4-H Individual Judging – Caleb Weyh, Day County 4-H
1st Place Go-Getter 4-H Judging Team: Haakon/Bennett Co 4-H – Tara Schofield, Colden Kramer, Ashley Shriver, Emily Zickrick, Sarah Huston (Coach Reed Johnson)

Soils Judging results were as follows:

- 1st Place 4-H Soils Individual – Karin Sweeter, Lennox 4-H
- 1st Place 4-H Soils Judging Team – Tyler Strasser, Skyler Plucker, Callie Hammerstrom, Karin Sweeter, Lennox 4-H
- 1st Place 4-H Soils Individual – Brynlee Kriens, Dell Rapids FFA
- 1st Place FFA Soils Judging Team – Brynlee Kriens, Haley Rydell, Orran O’Meara, Dell Rapids FFA.

Finally – participants that did all three competitions of the event (gave a talk, did a display, and competed in the judging competition) were in the running for the “Top Hand” award. The following were the top hand award winners for each age group:

- New Ranger Top Hand – Vada Enfield, Sanborn 4-H
- Wrangler Top Hand – Katy Scott, Spearfish, SD
- Go-getter Top Hand – Caleb Weyh, Webster, SD

A special thanks goes out to the hosts: the Codington County Conservation District, those that helped setup and tear down, as well as the event organizers!

The 40th Annual Rangeland Days and 19th Annual Soils Days is tentatively scheduled for the week of June 10th – so save the date for next year!



1st Place 4-H Soils Judging – (left to right) Lennox 4-H: Tyler Strasser, Callie Hammerstrom, Karin Sweeter, Skyler Plucker, Krista Ehlert (SDSU Extension). Photo by Emily Rohrer.

1st Place Go-Getter 4-H Judging Team – (left to right) Haakon/Bennett County 4-H: Tara Schofield, Colden Kramer, Ashley Shriver, Emily Zickrick, Sarah Huston (kneeling), Krista Ehlert (SDSU Extension) (Team coached by Reed Johnson), Photo by Emily Rohrer.



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Calendar of Events

Event	Date	Location	Contact Person	Phone/email
Grazing School	July 25-27	Summit	Judge Jessop	605-280-0127
Leopold Tour	Aug 3	Philip	Judge Jessop	605-280-0127
Eastern Redcedar Prescribed Burn Tours	Aug 2, 9, 30	Bonesteel, Herrick, Academy	Sean Kelly	605-842-1267
Prescribed Fire Effects/Grassland Restoration Field Day	Aug 2, 4	Zimprich's place, SDSU Oak Lake Stn	Joe Blastick	605-880-6541
Pasture Walk	Aug 12, 17	Quinn, Dupree	Dan Rasmussen	605-685-3315
Grazing School	Sept 12-14	Chamberlain/Oacoma	Judge Jessop	605-280-0127

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

