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# Grassroots

VOLUME 23 ISSUE 1

JANUARY 2021

## Range 101: Goal Setting By Sandy Smart

As we begin a new year, I thought it appropriate to write about goal planning. Each year, I start my Ranch Management Planning course by reviewing the holistic goal concept developed by Allan Savory in his book "Holistic Management: A New Framework for Decision Making". Spending time thinking about the "whole" is very important to orient oneself and a ranching operation to the things that influence every decision that needs to be made. Understanding that you don't operate a ranch in a vacuum is important in developing a holistic goal. We first define the "whole" into three major categories: decision makers, resource base, and money. The categories are smaller wholes in themselves overlapping and connecting everything together. The decision makers are people that have influence on the day-to-day operations of the ranch or have a vested financial interest in the operation. These people create the holistic goal. It is a good idea to involve hired labor in forming of the holistic goal because they have special insight since they conduct routine tasks on the ranch. Also, you want people to be "on-board" when you implement necessary changes to the operation. The resource base is the physical things we normally think about on a ranch such as land, livestock, and equipment. However, you should expand this to include people as well. Extension agents, bankers, veterinarians, government agency people, etc. can be an excellent resource of knowledge to help you be successful. Finally, there is money. We need money to reinvest in the business and support our lifestyle. The important thing to remember is the source of money and the time value it has. It can work either for you or against you. You just need to use it wisely.

After defining the whole, you can form the holistic goal. Savory describes three areas of the holistic goal: quality of life, behaviors and systems, and visions. The quality of life can be described by value statements about family, work, free time, spiritual, physical, and emotional well being. Behaviors and systems are what (not how) statements which will support your quality of life. For example, if you value open, good communication you have to create systems where you can practice an open, safe, non-judgmental environment. Last is the visions. You should think of statements that value the succession of your family business to the next generation, the environmental land ethic, and the importance it has in your community.

The holistic goal acts like a filter to help you make decisions and point you in the right direction. It grounds you and helps you avoid impulsiveness and miss steps you might regret. It also is not carved in stone. It should be a living document, reviewed and revised regularly. This time of year is perfect to review, revise, and use your holistic goal. The Coalition will be sponsoring Holistic Management workshops this winter/spring, so keep a look out for these learning opportunities. An online YouTube webinar by HMI is a really good place to start <https://www.youtube.com/watch?v=qLW1uSY-EO0>.

## The Green Side Up by Pete Bauman



As the US Department of Agriculture (USDA) continues to work cooperatively with conservation groups and landowners the Conservation Reserve Program (CRP) continues to improve and is now more practical for working ranches, land health, and wildlife.

Today's CRP programs focus on the use of high-value native grasses and flowering plants instead of the low-value exotic species that were historically used. Today, almost all CRP programs offer practical options for use under a 'working lands' model that includes frequent physical management via grazing, haying, or fire alternated with appropriate rest periods. Management actions are 'allowed' within the context of an overall plan. As an example, an old CRP field that was planted to smooth brome grass in the 1980s ultimately became a stagnant environment that offered little wildlife value over time. In contrast today's CRP options incorporate native plants that provide wildlife food and cover while allowing grazing to occur at appropriate intervals. Grazing will recycle nutrients, stimulate plant growth, improve soil health, and open the stand so that young animals, such as grassland birds, can move around and forage on the insects that are attracted to the site while still having adequate escape cover and safety in close proximity. In essence, old CRP could 'hold' wildlife. New CRP programs are designed to both help 'hold' *and* 'grow' wildlife.

CRP management plans are cooperatively designed by the landowner and USDA Natural Resources Conservation Service (NRCS) staff or by Pheasants Forever Farm Bill Biologists stationed at NRCS offices. CRP is essentially a rental contract between the landowner and the USDA Farm Service Agency (FSA), where FSA pays the landowner for 'use' of the field but where the management is guided by NRCS planning.

Most CRP programs offer contract options for 10 or 15 years and require the land has a proven cropping history. There are some exceptions such as the fairly new CRP program called 'Grassland CRP', where existing native or planted grass that does not have a cropping history may be eligible. Under grassland CRP the landowner receives a rental payment and can still graze or lease the pasture or grassland if they choose, but an NRCS approved grazing plan is required.

For more information on all CRP programs, contact your local USDA service center and ask to speak with the Pheasants Forever Farm Bill Biologist for your area. This is an important first step, as these individuals will help you assess your situation and will work to identify which CRP programs might be right for you and how you can improve your chances for acceptance. The next step is to contact FSA (often in the same building as NRCS) and request to make an application to one or more CRP programs. Ultimately, if your bid is accepted, you will then shift back to working with NRCS or Pheasants Forever staff to develop a management plan.

There are many options for assistance in long-term planning for grasslands, including SDSU Extension Range Management Field Specialists, SD Game Fish and Parks private lands staff, US Fish and Wildlife Service Partners Program staff, Pheasants Forever Farm Bill Biologists, and NRCS Range Management and Soils staff. Reach out to any of these organizations for guidance on establishing and maintaining healthy grasslands. Finally, the SD Grassland and Soil Health Coalitions coordinate education and training for grassland management in cooperation with the agencies listed above. Consider attending future grassland workshops, grazing and soils schools, and pasture walks as part of your grassland transition plan.

# Soil Conservation Districts: Out of the Dust Local Leadership Leading the Way to Healthy Natural Resources by Angela Ehlers



Arising from one of the nation's worst environmental and economic disasters, South Dakota's conservation districts serve as testament to the success of local people working together to solve natural resource problems.

The Black Blizzards of the 1930's caused more than 100 million acres of cropland to lose most or all of its topsoil. Ninety percent of the crops surviving drought were later destroyed by grasshoppers in an 11,000 square mile area which included South Dakota. In response to the crisis, South Dakota passed legislation in 1937 that allowed the people to create conservation districts, a local government whose mission is to carry out activities that will help get conservation on the ground.

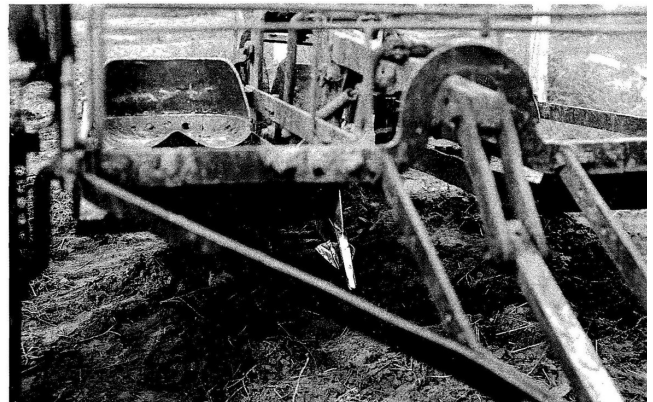
Then, as now, the first conservation district officials knew their mission takes two key items: 1) a group effort bringing together private, local, state and federal partners and 2) a focus on the local natural resource needs. That, in a nutshell, is the function of a conservation district.

Each of SD's 69 conservation districts is governed by five supervisors elected at the general election on a non-partisan basis for four-year terms. They cannot levy taxes nor do they have the right of eminent domain so they primarily raise operational funds as profit from work performed. Their offices are often co-located with USDA-Natural Resources Conservation Service offices through shared resources agreements. The only eligibility requirement of a conservation district supervisor is to be a registered voter of the conservation district.

Conservation districts strongly believe in partnerships and were some of the earliest supporters of the SD Grassland Coalition and SD Soil Health Coalition. The Coalitions partner often with one or more conservation district in activities such as ranchers' workshops or soil health days. As another example of that support, the SD Association of Conservation Districts continues to provide staffing services to each Coalition.

Another major focus of the conservation districts is the next generation. Who among us does not want to pass on our land/home in better condition? Our children and their children must have the education, tools and resources to prepare them to assume the responsibility of caring for our world. Conservation districts support Envirothon, water festivals, scholarships, teacher workshops, outdoor classrooms, contests, field trips, land judging, FFA, 4-H, internships, summer camps, and the list goes on.

It still all starts with the power of one - one individual who commits to improving their land, their water, their economic stability and works with his or her conservation district and their partners to implement conservation practices. We play a critical role in helping producers plant shelter belts and cropland back to grassland. Contact your conservation district if you are interested in ordering trees or renting a grassland drill. One by one, it makes a difference today and every day to come.



Tree planter (top photo) made in Huron, SD ca. 1938 by the Soil Conservation Service could plant a 1,000 trees per hour. Shelter belt planted in 1939 pictured here in 1956 (bottom photo). Photos courtesy of the NRCS Flickr page.

## Grass Finishing Genetics by Garnet Perman

The first bull catalog arrived in our mailbox shortly after Jan. 1, so it's time to think about that aspect of beef production. Industry forecasters predict that demand for grass finished beef will increase over the next few years. The choices for cattle genetics are nearly unlimited, but what sort of genetics should one seek for a grass finishing program? Several producers shared what they've learned by experience.

Dan Rasmussen is first of all a grass proponent saying, "Every cow on grass protects grasslands no matter how they are finished." Grass finishing fits his goal of utilizing the resources on his ranch while importing as little feed as possible. He has been selling into an established grass finished market for 15 years with some in state sales through Breadroot Coop as well as word of mouth. He looks for an animal that is efficient on grass in a harsh climate and still provides a good carcass. He's found that older Angus genetics such as the Shoshone line work for him. A smaller size cow with low milk that easily puts on back fat suits his program. Low milk may slow calf growth initially but the genetics are there to grow after weaning. Rasmussen likes getting feedback on carcass quality from customers. "Grass finishing isn't about a grid. It's about returning customers," he said.

Larry Wagner has finished cattle on grass for several years. He aims to produce non GMO beef with an eye to soil health. It took him 6-7 years to build a herd that works for his situation. He looks for cows with a large rumen capacity because of the amount of biomass they need to ingest in order to maintain condition while raising a calf. Today he uses frame score 3-4 Irish Black cows crossed with a Hereford bull. Irish blacks trace back to a Revolution Angus cow and a beef Friesian bull. Phenotypically they look short and squatty like the British breeds of 50 years ago. He sells some breeding stock, both cows and bulls. He supplements hay with field peas in the winter for energy and protein. Vetch instead of alfalfa is planted into hay ground for the nitrogen content. Consumers often ask about spray and fossil fuel fertilizer. They don't want either. Wagner markets his grass finished product at farmer's markets and has built up a word of mouth clientele.

Roy Thompson, a young rancher from Akaska, SD learned about the relationship between healthy soils, healthy grass and human health while searching for a better way to deal with Crohn's disease. The results prompted him to change his livestock program to reflect that health connection. In the transition he kept his existing Black baldy x Black Angus genetics, but pays more attention to marbling and ribeye measurements as well as the age at which they start their finishing diet when buying bulls. His animals finish in the fall on cover crops which he thinks enhances flavor. Hardier grasses like winter wheat, triticale, rye and legumes enable cows to graze on something green as long as possible. Winter feed is 3:1 prairie hay to non GMO alfalfa. They launched their on-line marketing, Triple T Brand two years ago and are able to ship out of state.

"Where did my food come from? How was it raised?" are questions that Larry Wagner thinks aren't going away. One of the problems of producing for a niche market on the Northern Plains is the distance between producer and interested consumer. Making the connection usually falls on the producer. Last spring's pandemic caused meat shortage prompted consumers to seek out producers. Such consumer-producer relationships offer an excellent opportunity to educate others about the important role of good grass management.

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

## The Culture of Whole Ranch Management by Dan Rasmussen

Zane Grey, the western author of the last century, created a wonderful picture of ranching and the cowboy life. His characters became heroes for many of his readers. As Grey did a great job speaking to the ranching culture, he did not attempt to speak to the culture of ranch management. There is a big difference between the two. It's helpful to understand both cultures can exist together.

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A young family, John and Lynn, began leasing the neighbors pastures five years ago. They knew from the beginning the land had been overgrazed for decades, but were glad to have a contiguous lease to their small acreage. However they were not prepared for 3,000 acres of trouble.

Both John and Lynn grew up on ranches in South Dakota. Their fathers followed a traditional season-long grazing management. Wet years provided plenty of grass while on drier years the pastures were grazed short. John's Dad told him one day that there was less grass during the dry years now compared to 40 years ago. They calved in March and fed a lot of hay. John's Dad once showed him a picture of a man on horseback wearing a Stetson and sheepskin coat riding through a snowstorm and moving a mother cow with a very young calf, we can assume to the barn for shelter. He confided with John that this man in the picture was his hero.

John and Lynn wanted to learn how to fix the land on their new lease. Both started attending local pasture walks and grazing management schools. After attending a whole ranch planning school they both realized in order to accomplish their goals they were going to have to change the culture on the ranch. The first step was to develop both a grazing plan and a drought plan. The grazing plan added cross fences and water tanks, so the cows would calve on green grass and be more productive. Also, they moved the calving date to May. They started the summer season in a different pasture each year. John and Lynn didn't need as much hay since they were grazing most of the winter and the cows gained weight in April and May for summer calving.

With their new ranch management culture the land began to heal. It took decades to "ruin" the land so it was going to be a slow process healing it. But they watched as the soil became healthier. Rainwater began to soak in instead of run off. After several years they added a small yearling herd to the rotation. Their land became a magnet for wildlife. The deer, grouse and pheasant population flourished and John started leasing out hunting rights.

In the middle of all this John and Lynn's parents watched their kids try new things. Skeptical at first they saw these abused pastures heal and begin to really produce grass. Five years into the deal John's Dad asked him to help him set up a pasture rotation on his place. After watching his own land improve, he told John the cowboy in the snowstorm was still his hero, but he preferred calving on green grass over snow. The next year Lynn's parents wanted help setting up a grazing plan with cross fencing and water development.

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Changing the ranch management culture starts with focusing on four basics elements: Land, Production, Finances, Family. Each element is as important as the next. Healthy land absorbs and holds water, provides more financial returns long term, contributes to more productive livestock which in turn contributes to a stable family business.

This approach to ranch management may not reflect what many of us grew up with. However, it does represent a common sense approach to successful land management. If Zane Grey were a Whole Ranch Planning advocate, he might very well have romanticized the picture of a happy family living on productive land.

*Dan Rasmussen is a third-generation cattle rancher living in south central South Dakota. Dan served on the board of the South Dakota Grassland Coalition for 18 years and is currently the education coordinator for the Grassland Coalition.*

## Selecting a Calving Season Based on Matching Nutritional Needs and Resources

by Ken Olson and Adele Harty

Choosing the calving season is a complex and highly individual decision for each beef cattle producer. This leads to a wide range of calving seasons across the Northern Plains. Various factors affect this decision, with a few of these being facilities, resources, other enterprises, time commitments and finances. This article will focus on nutritional resources.

### Forage Supply and Demand

A primary consideration in pasture-based cow-calf operations is choosing a calving season that will best match the forage supply to forage demand. In general, forage production and quality is high in the spring with the peak occurring in early summer and then supply and quality decline through the remainder of the year as forage matures (Figure 1). The question becomes: Do we match this peak in nutrient supply to the peak in demand by the cows or by the calves?

Matching the nutrient supply from the forage with nutrient requirements of the calf tends toward late winter to early spring calving. This is because calves that are older and more functional ruminants will be more capable than younger calves at utilizing grazed forage at its peak nutrient quality in early summer.

This would mean that the peak for the energy the calf must have from grass in Figure 2 would coincide with the peak herbage supply in Figure 1. When matching the calf nutrient supply with the forage, the intent is to wean older, heavier calves. However, there are disadvantages that need consideration. The major one is that it can be difficult to manage cow body condition score during late pregnancy and early lactation when calving occurs months before green grass will be available. If cows lose body condition during this period, reproductive performance will probably be reduced. Extensive use of harvested feeds will likely be required to maintain cow body condition, increasing annual cow costs. Another disadvantage is increased morbidity and mortality of newborn calves due to cold, wet wintry weather. Cows in lower body condition produce poorer colostrum and calves are cold-stressed, both of which increase potential for scours and other calf ailments.

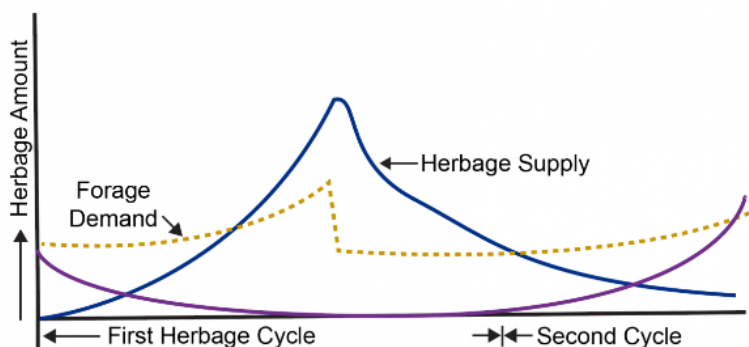


Figure 1. Matching nutrient supply from forage with nutrient requirements. Courtesy:

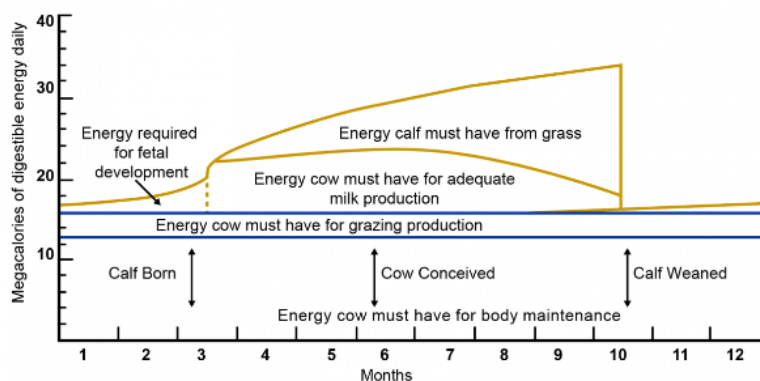


Figure 2. Seasonal energy requirements of the beef cow and calf. Courtesy: Maddox. 1965. Texas Ag. Ext. Bull. 1044

Calving Season Continued on Page 7

## Calving Season continued by Ken Olson and Adele Harty

Matching nutrient supply from the forage with nutrient requirements of the cow tends toward late spring calving. This would mean that the peak for the cow, which occurs approximately 2 months after calving in Figure 2 would coincide with the peak herbage supply in Figure 1. The advantage is that this matches peak nutrient demand of the lactating female with peak nutrient quality of grazed forage. The major disadvantage is that calves would be younger and lighter at weaning. It may be necessary to change weaning management and calf marketing strategies or timing to account for lighter weight calves.

### Season Selection and Performance

USDA ARS scientists at the Ft. Keogh Research Station near Miles City, Montana conducted a study to compare cattle performance and economic response to February, April, and June calving seasons. February- and April-born calves had similar birth weights, while June-born calves were heavier at birth. This suggests better cow nutrition during late gestation for summer-born calves. These birth weights in June were in the normal range and did not cause an increase in dystocia. Weaning weights at a common weaning age (190 days) were reduced as calving season was delayed from February to June, but the difference between February and April-born calves was less than might be expected (485, 472, and 440 lb for February, April, and June, respectively). Another important response was that death rate in February calves was 6% but it was only 2% for April- and June-born calves. The cows were fed to maintain similar BCS, with the response of interest being the amount of feed required to meet this goal. As expected, the amount of feed required was greater for earlier calving. Despite feeding these higher levels, cows that calved in February and April still lost body condition in late pregnancy, while June-calving cows did not. Pregnancy rate did not differ among calving season groups.

Using the amounts of harvested feed reported in the Miles City study for cows in each calving season and applying current (fall 2020) South Dakota feed prices to those amounts of feeds, the savings in feed cost because of later calving was about \$110 per cow per year (harvested feed costs were \$185, \$180, and \$70 for February, April and June calving cows, respectively). Additionally, we calculated gross income per cow from calf sales based on the differences in weaning weights and calf crop percentage in the Miles City study using prices from market reports during the 2020 fall calf run at the Fort Pierre Livestock Auction. Gross income averaged \$20 more per cow in the April and June calving seasons than the February calving season (gross income per cow was \$614, \$632, and \$637 for February, April and June calving seasons, respectively). This was due primarily to the higher death loss in the February-born calves. If one considers that harvested feeds are the highest variable cost of a cow-calf enterprise, we can calculate that gross income over harvested feed costs favors later calving (net return over harvested feed costs was \$429, \$452, and \$567 for February, April and June calving cows, respectively). Realize that this example should be adjusted for the unique characteristics of each individual operation based on cost and availability of feeds and income potential in chosen market outlets.

### The Bottom Line

The obvious conclusion to draw is that late-spring calving has advantages over winter or early-spring calving. First, the perceived improvement in pounds of weaned calves from earlier calving is not likely to be as great as is often assumed. Second, late winter feed costs for lactating cows are dramatically higher than for dry, pregnant cows, increasing feed costs to support a winter-calving cow herd. Adjusting the calving season is one of many alternatives to manage nutritional requirements and feed demand by a cow herd. However, just because late-spring calving fits forage supply with nutrient demand doesn't mean that it is the best option for your system. As stated at the beginning, other factors affecting the operation need to be considered before a system-altering decision such as changing calving dates can be made.

*This article was reprinted from SDSU Extension <https://extension.sdstate.edu/>*

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## Calendar of Events

Event	Date	Location	Contact Person	Phone
HRM Workshop	Feb 3-5	Faith	Dan Rasmussen	605-685-3315

Please remit any comments, suggestions, or topics deemed necessary for further review to: Sandy Smart, SDSU Box 2140B, Brookings, SD 57007, [alexander.smart@sdstate.edu](mailto:alexander.smart@sdstate.edu), (605) 688-5503

