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# Grassroots

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## New Board Member Spotlight by Mike McKernan

**Mike McKernan** was born and raised in the Milbank, Twin Brooks, SD area. He graduated from Milbank HS in 1976 and attended SDSU for 1 ½ yrs.

Mike grew up in the country but both his parents worked in town. His mother's parents farmed and milked cows, and had beef cows, pigs and chickens. Mike has aunts and uncles on both sides that farmed as well. Growing up he spent a lot of time at Grandpa's on the farm. After he left college Mike worked for area farmers and spent a couple years working at a feedlot near Milbank. Mike worked for his Grandpa and an uncle milking cows and farming. He did relief milking for other dairymen when they wanted some time off. When Mike was in grade school he got his first pony and has had horses ever since. Mike helped a lot of area farmers with their cattle.



Mike McKernan, Twin Brooks, SD.

In 1984 Mike started working for Don Huls taking care of his cattle and pastures near Summit, SD. When Mike started, Don had about 70 cows on 400 acres. Today Don has at about 300 cows and heifers on 2,300 acres. In the late 1990s, early 2000s Mike got interested in the wildflowers that grew in the pastures. He started learning about them and it progressed to learning about the grasses and how everything worked together. In 1992, Mike bought his first place; 80 acres of grass pasture. As he was learning about the grasses and the flowers, Mike started learning about the different grazing practices. Don was very helpful in helping Mike learn these things. He started sending him to different grazing workshops and seminars. Mike was able to convince Don to quit spraying his pastures for weeds and go to a natural control method. In 2007, Mike attended the SD Grazing School in Oacoma. He enjoyed the school and went back for a refresher in 2013. Over the years Mike has had a chance to see and listen to some of the "Gurus" of grazing and grass management. Mike has heard Jim Gerrish more than once and has read some of his books. Other books he has read were written by Dan Daggett, Jim Howell as well as others. In 2012, Don got a NRCS EQUIP grant to put in a grazing system on his pastures.

**New Board Member Spotlight Continued on page 2**

## New Board Members Continued by Sandy Smart

Don and Mike put in about 3 miles of crossfence, changed from 4 pastures to 18 paddocks, added some dugout dams for water and fenced them out, put in solar powered watering systems to water the cattle, and implemented a grazing plan. Mike really likes working with cattle on grass; watching and trying to figure out why this happens, how can he make this better or what he did wrong. It has been very interesting and enjoyable learning how the whole ecosystem works. Mike does not like using chemicals and poisoning his land. He feels that we have been trying to kill our grass and land for too long, maybe not intentionally but it has been happening. "We need to preserve our grasslands and do what we can to keep them healthy or make them healthier. If we can start with having healthy soils and grasslands we can have healthier livestock and people."

Mike believes in the mission of the SD Grassland Coalition and wants to help promote it. He feels by being a member of the SDGC he can keep learning and teach other people about grasslands and how to conserve them. Mike hopes we can get more people to join the coalition. By networking with other likeminded people in the coalition, it will be easier to find answers to problems and bouncing ideas off each other will help avoid some problems or wrecks that could arise.

**Pat Guptill** was born and raised south of Interior, SD on a grass and alfalfa seed ranch. His parents sold seed and had a few cows. Pat learned to look at grass and pay attention to the health of grass and soil. His Dad taught him to think outside the box.

Pat and Mary Lou have been married for 27 years and have 5 children (Tate, Troy, Josie, Paul, Tia). Mary Lou's father Howard Fortune was instrumental in helping them buy their first place near Quinn, SD. They slowly took over 4,400 acres (some CRP, mostly farmland). He and Mary had a big decision in front of them: either buy equipment to farm or do the ranch thing. Both didn't really want to farm. At first they hired someone to farm but in the end were not pleased with the way the soil was taken care of. So they decided to put it back into grass. This was done by buying whatever seed they could find: alfalfa, intermediate wheatgrass, crested wheatgrass, and western wheatgrass. In 1995, they bought an additional 2,500 acres of farmland and in three short years (1995-1998) planted it back to grass. Luckily they had really good growing years during that time to get things established.



**Pat Guptill, Quinn, SD.**

Pat credits his working for other people to blend different management styles for his success in managing grass and cattle. He has also gained a lot of knowledge from reading Grassland Farmer Magazine and learning from speakers like Wayne Berry from North Dakota. Pat also gives credit to going to seminars by Allan Savory, Dave Pratt, and Ian Mitchell. He and Mary Lou once spent 2 hours with Greg Judy, mob grazing expert from Missouri.

**New Board Member Spotlight Continued on page 3**

## New Board Member Spotlight Continued by Sandy Smart

When asked about why he has a passion for South Dakota grasslands, Pat said “Western South Dakota should still be in grass, the good Lord put grass here for a reason”. Pat said we need to harvest our grass but we need to make it better. I asked why did you become a SDGC board member? Pat jokingly replied “Shot gun behind me”. Seriously, he said that it has been a long process. Pat said “I hope to bring some valuable insight to educate other people. We need to figure out how to better educate people, whatever capacity”.

Pat said that it is important to be a SDGC member. “Seminars put on, grazing schools, and knowledge that are put are really helping to educate the landowners. Grassland Coalition is really helping.” Pat said.

**Josh Lefers** was raised on a dairy farm near Corsica, SD. The farm was recognized as a Century Farm in 2005. Josh’s dad switched from dairy to beef and crops when Josh left for college to attend SDSU in 2004 to pursue a Wildlife and Fisheries degree. Hunting and fishing was a big part of growing up for Josh. The Corsica area had high pheasant numbers in the 1990s and fishing was very good. In 2008, Josh finished school and returned home. Josh has been married to Sarah for 6 years and they have 3 children (Lily-5, Briana-3, and Rebekah-18 months).



Josh Lefers, Corsica, SD.

Josh works for a large hog confinement operation that raises replacement gilts. On the side, Josh and his family run a cow-calf operation. He rents pasture and cropland in Aurora and Douglas Counties. During the summer Josh rotates cattle twice a week using temporary fencing and aboveground waterline. The pastures are about 10 miles from his place. In the winter Josh brings his cattle to his dad’s place where he grazes cornstalks. Josh tries to graze as many days as possible. Last year he fed hay for only 40 days in late spring to keep the cattle from compacting the crop fields.

Josh said originally he viewed pasture management from the wildlife angle, making sure there was a balance between cattle production and wildlife habitat. Recently, he has come to see that soil health is the foundation of grassland management. In 2011, Josh saw a video by Gabe Brown who talked about soil health and how the ecological principles begin with soil. It really struck a chord with him. Now he views wildlife as an indicator of the system. He values wildlife from an aesthetic viewpoint as well.

I asked Josh to explain his passion for South Dakota grasslands. Josh said “It’s hard to describe without being biased. Well managed grasslands are the best form of use to provide clean water, clean air, carbon sequestration. Well managed grasslands don’t have a downside”. “We need to learn how we can manage them well to add profit and enjoy their benefits”, Josh said.

I asked Josh why he wanted to become a SDGC board member? Josh said “I felt that there was value of having some younger representation on the board. To help younger people see the opportunities from a perspective of someone just starting out compared with the well-established rancher.”

Finally, I asked Josh why is it important to be a SDGC member? Josh said “The Coalition is a voice for grass managers. Grassland managers need to continue to be profitable and contribute environmental benefits to our state.”

# Sustainable Agriculture by Sandy Smart

What is sustainable agriculture? This is a question I have been wrestling with for over the last 15 years of my professional career. The word “sustainable” has a subjective meaning for different people. This is likely in part because the idea of sustainability has some measure of time associated with it. So what is sustainable, a lifetime, many lifetimes, etc.? Sometimes unintended consequences are unforeseen or not measured, and we think what we are doing is sustainable when it actually may not be in the long run. So what is sustainable agriculture? For a system to be sustainable it must be: 1) profitable, 2) environmentally friendly, and 3) socially relevant. The first two concepts are probably obvious but the third one needs further clarification. Social relevancy implies agriculture must fit with what society at large desires and provide a meaningful quality of life for those involved in its production and distribution. One handicap we have in production agriculture is that fewer people are involved in growing food compared to past years. Farm and ranch families currently make up only 2% of the U.S. population (American Farm Bureau Federation 2014). As our nation grew and became more prosperous, less and less were involved in agriculture. Some of our current struggles to be socially relevant are actually opportunities for people to get into agriculture. Urban agriculture and local foods are exciting new industries that are providing opportunities for young people to get involved in production agriculture.

Some people think differently about sustainable agriculture. Their thoughts are aligned with the collective human wisdom passed down to us in sayings such as “we want to leave this land in better shape than we found it” or “we don’t own the land but rather are borrowing it from our children and grandchildren”. How do we do this? People talking about sustainable agriculture connect the dots and see that we should work closely with nature. Their train of thought goes something like this: if the processes that created the earth 4+ billion years ago have been working in concert to create nature as we see it today, why not manage these processes in such a way to allow Mother Nature do her work on agricultural lands?

These dots came together for me when we had several outstanding speakers this past fall at SDSU. Those in attendance certainly remember Allan Savory speaking about Holistic Management (HM) in September. Then in October we had Will Allen (Growing Power Inc.) speak about urban agriculture at SDSU, followed by Gabe Brown (soil health) at the Annual SDGC meeting in December, and Ray Archuleta (soil health) at SDSU also in December. All four speakers framed a challenging thought process to manage agricultural land that involves greater use of renewable resources and less reliance on fossil fuels and their derivatives.

Allan Savory’s concept of the triple bottom line in the goal setting portion of HM is a great framework for sustainable agriculture. Savory framed the holistic context in three goals: 1) quality of life, 2) forms of production, and 3) future resource base. These three goals mirror the definition of sustainable agriculture in the first paragraph of this article. If you have ever taken a HM class you will understand this very easily. These goals become a filter in which the producer can test his/her decisions to move them in the direction of holistic thinking. For more information on HM you can view the Savory Institute’s website (<http://www.savoryinstitute.com/>) or print off reading materials from the Holistic Management International’s website (<http://holisticmanagement.org/>).

**Sustainable Agriculture Continued on Page 5**



# Sustainable Agriculture Continued by Sandy Smart

Will Allen, is the CEO of Growing Power Inc. (<http://www.growingpower.org/>), a Milwaukee-based organization building sustainable food systems in urban settings. Will Allen's book "The Good Food Revolution" was chosen by SDSU to be the 2014 "common read" for all entering freshmen. His book is an inspiring tale of his growing up as an African American farmer in rural Maryland, a professional basketball player, a successful sales manager for Proctor & Gamble, and finally a struggling urban farmer in Milwaukee. Will's innovative ideas of growing healthy food for people living in the inner city of Milwaukee is truly inspiring. He spoke at SDSU in October and discussed how the techniques of composting, vermiculture, and using high tunnels and cold frames in the city have truly been a blessing for young people needing wages and provide nutritious food to those living in a "food desert". Will Allen's fundamental focus is good, healthy soil, and it doesn't work without it.

Gabe Brown is a familiar name to most of us because of his close proximity (Bismarck, ND) and his speaking engagements over the last few years. Gabe is truly a leader and innovator when it comes to no-till agriculture using cover crops. The USDA Agricultural Research Service located in Mandan has studied his soil and has scientifically documented his improvements in biological activity and organic matter. We first heard Gabe Brown in 2007 when the SDGC had a bus tour at Bill Slovek's. That day cannot be easily forgotten as the thermometer read 117°F while riding in Bill's truck. The excitement and thought-provoking ideas that Gabe brought that day proved to the SDGC that he was on to something. Last December, Gabe spoke at our annual meeting and the excitement and knowledge he brought about soil health is starting to catch fire. The ideas of integrating cover crops and livestock are key elements to make this work. These ideas will help producers in the Northern Great Plains enhance their soil health and livelihoods by increasing diversity in crop rotations and income streams with livestock.

Finally, Ray Archuleta with the NRCS spoke right before Christmas in several locations in South Dakota. In attending the Brookings meeting I was very impressed with Ray's approach to communicating the important message of soil health. Ray used visual demonstrations to show how no-till and cover crops improve aggregate stability. These visuals demonstrated how soil aggregates minimize erosion and increase water infiltration. Ray continued his talk by giving many examples from producers, across the country who use cover crops and no-till methods to improve their soils. Ray is a very engaging speaker and you could tell he was having an impact on the producers in attendance.

Why are we speaking about this subject anyway? Last fall the leadership of the College of Agriculture and Biological Sciences at SDSU asked if I wanted to take on a new role at SDSU as the state coordinator of the Sustainable Agriculture Research and Education (SARE) program sponsored by the USDA. This program provides education, outreach, and research opportunities to better understand how we can move towards a more sustainable form of production agriculture in the U.S. As of January 2015, I started this new role, while continuing to teach Range Science courses at SDSU and help the SDGC as coordinator alongside Judge Jessop.

My role as state coordinator for SARE will help develop innovative agricultural practices to produce and distribute food, fuel and fiber sustainably. Sustainability is broadly defined by SARE as PROFIT over the long-term, STEWARDSHIP of our nation's land, air, and water, and QUALITY OF LIFE for farmers, ranchers and their communities.

## Sustainable Ag Continued by Sandy Smart

My role as coordinator for SARE is as a “connector” to provide training and educational opportunities for extension field staff, spread the word of SARE’s mission, and help faculty, Extension staff, and producers apply for grants offered by SARE. My goal over the next two years is to focus on 5 broad initiatives: Carbon-Energy-Climate, Livestock-Crop Integration, Local Foods, Beginning Farmers and Ranchers, and Developing Learning Communities.

The new frontiers of soil health are exciting. The NRCS has created “Voices for Soil Health” a group of producers passionate about spreading the word of soil health and a Soil Health Initiative in which they will hire 20 soil health specialists across the county. The SDGC board created a new soil health subcommittee and will help the NRCS with several workshops in 2015. We will be meeting with some Extension folks to start the plans for a new learning community to focus on soil health. A series on soil health articles will be provided in the upcoming 2015 newsletters. These concepts are also brought into the classroom from my position as instructor for young minds to ponder.

Personally, this is an exciting time as we begin to “awaken” to the concepts that are being brought to us from people like Allan Savory, Will Allen, Gabe Brown, and Ray Archuleta. We need to champion “home grown” experts in South Dakota regarding soil health. SDSU Extension, SDGC, NRCS, and many partners are on the springboard to make this a reality and become mainstream.

*Sandy Smart is a Rangeland Management Extension Specialist and Professor in the Department of Natural Resource Management at SDSU. He coordinates the USDA-SARE program for South Dakota.*



## Friend of the Prairie Award

To recognize individuals for their conservation efforts, the South Dakota Grassland Coalition has established the "Friend of the Prairie" award. This award recognizes those working in public roles to ensure stewardship of the state's natural resources through sustainable and profitable management. The awardees are given a framed display featuring the pasque flower and western wheatgrass, the state flower and grass of South Dakota. In 2014, SDGC recognized U.S. Representative Kristi Noem and U.S. Senators John Thune and Tim Johnson (pictured below).



## Bale Grazing: The Lazy Cattleman's Way to Increase Forage Production by Garnet Perman

Bale grazing builds soil health while easing the work of feeding cattle in the winter. Dennis Hoyle (Roscoe, SD), Dallas Anderson (Eureka, SD), and Doug Sieck (Selby, SD) shared their experiences. Sieck was skeptical to begin with. He started out small four or five years ago and now bale grazing is a big part of his winter feeding program. He sets up a checkerboard with polywire in the area to be grazed and puts out about five days' worth of bales in each "square" (see photo). Dallas Anderson has bale grazed crop land and hay ground. He sectioned off areas with polywire that held enough bales for about 5 days. Hoyle set bales in 10 rows of 14 each in a 15 acre corner of an old CRP field and sectioned the row to be grazed off with polywire.



Cows bale grazing (photo by Doug Sieck).

Questions to answer in setting up bale grazing include wind protection, access to water and how to contain the cattle. While Sieck noted that aircraft cable is used in North Dakota, as respecting an electric wire on snow covered ground can be an issue. Hoyle found this to be true. After the cows got out a couple of times, he let them graze the entire unit at will and was pleased with the result. Where to place the bales depends on what the goals are. Crop, hay ground and pasture can all be candidates. Anderson said that while the litter from the very center of the bales placed on crop land can be thick enough to keep the seed from going in the next spring, the production a little farther out makes up for the skips. A year or two later, once the litter breaks down, that skipped area can be very productive. "It definitely helps the land. You can bring it out in a bag at a high price or you can let the cows help," said Anderson.

Sieck has bale grazed an old calving pasture and different hayfields. He thinks his best results have been on land with tame grasses like crested wheat, brome and an alfalfa/wheatgrass mix. "Old hay fields have a lot of potential because so many nutrients have been exported," he said. He also noted that the remaining circle is like a donut, a bit bare in the middle, but with extra production around the edge. He was surprised that he could see all the circles from his first bale grazing area on Google Earth. The benefits are many. Putting out a week or more of feed vs. feeding every day saves fuel and wear and tear on equipment. One labor and fuel saving hint is to leave the bales where they dropped if grazing hay fields. All three men said the wasted hay was less than expected. What is left acts first as bedding, and then adds organic matter to the soil as it breaks down. Sieck observed that the snow and hay residue packed together in a bale "ring" (approximately 25 ft across) are the last areas to melt in the spring, allowing the nutrients to slowly enter the soil. Churned up mud in the spring has not been a problem according to Sieck. In fact, alfalfa responds well to that kind of hoof impact.

Sieck framed this group of figures regarding the fertilization effect of bale grazing just to remind himself that buying hay is OK: Each ton of hay contains 40-50 pounds of nitrogen, 12-14 pounds of potash and 40-50 pounds of potassium plus organic matter. The dollar equivalent of NPK in a ton of hay is about \$40. The impact on soil health is noteworthy. At each bale site there is animal impact, nutrient cycling, densely packed nutrients and organic matter, enhanced infiltration. The resulting increase in production lasts for several years. Healthier soils and healthier plant populations with minimal labor and financial input are a plus in any grazing or cropping operation.

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



Sandy Smart  
Box 2170, ASC 219, SDSU  
Brookings, SD 57007

## Calendar of Events

Event	Date	Location	Contact Person	Phone
Northern Plains Sustainable Ag Conference	Jan 23-24	Aberdeen	Sandy Smart	605-688-4017
Ag Fest	Jan 26	Pierre	Judge Jessop	605-280-0127
Farmer-Rancher Short Course	Feb 8-10	Brookings	Angela Ehlers	605-222-4599
Soil Health Meeting (RSVP by Feb 17th required)	Feb 19	Mitchell	NRCS in Mitchell	605-996-1564 ext 3
Beef Day @ Capitol	March 6	Pierre	Judge Jessop	605-280-0127
2015 Ag Day Washington Pavilion	March 20-21	Pierre	Sandy Smart	605-688-4017

Please remit any comments, suggestions, or topics deemed necessary for further review to: Sandy Smart, SDSU Box 2170, Brookings, SD 57007, [alexander.smart@sdstate.edu](mailto:alexander.smart@sdstate.edu), (605) 688-4017