

NPFA UPDATE

WINTER '23

A QUARTERLY NEWSLETTER FROM THE
NORTHERN PLAINS FORAGE ASSOCIATION

WHO ARE WE?

NPFA is a grassroots association open to forage growers, buyers, industry partners, and anyone with an interest in forages. We are creating a networking and education group focused on annual forages/cover crops, alfalfa, silage, grazing systems, and more!

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WHERE TO FIND US



@npforage

Email: npforage@gmail.com

Membership Sign-Up:

<https://sdstate.questionpro.com/NPFA>



HOW'S YOUR FORAGE FEEDING

By Justin Fruechte, Renovo Seeds and NPFA Board Member

We talk a lot about alternative feed sources and their opportunity in rotations. Since they are considered alternatives and not mainstream it's likely rare that we are extremely familiar with their perfect harvest, storage and feeding methods. Ensuring those feed sources are fulfilling the palatability and nutritional requirements for the right class of livestock is important. Let's look at some of the feedstuffs you may have on hand and how to properly utilize them.

If you dry baled long stem grasses such as millet, sudangrass, triticale, or oats there are some opportunities to make this feed better. These plants can be high yielding and have decent feed quality, but their heavy stalks make them coarser to feed and ultimately less palatable. So, where is the right placement for these in our rations? Generally, the larger the livestock, the better they eat coarse products. So your cow herd should be the class you feed these forages, and they conveniently fit their nutritional needs in mid to late gestation. Ideally, these roughages would still be processed through a hay grinder or bale processor to minimize waste even further. And, if you are adding these into a calf ration you'll need to decrease stalk/particle size for full consumption.

A YEAR ENDS AND DUES RENEWAL BEGINS!

As the temperatures cool down and field work comes to a close, we hope you can find time for some peace and fun with family and friends this season. As a friendly reminder, please consider renewing your membership by paying your dues at

- PayPal-
https://www.paypal.com/donate/?hosted_button_id=R8TMYK397MZF1 (please consider the 'include fees' option)
- Venmo-
<https://www.venmo.com/u/npforage> (please consider adding \$1.53 to your dues to help cover fees on regular memberships)
- Check- Make out to "Northern Plains Forage Association" and mail to: Northern Plains Forage Assn. c/o Sara Bauder, 41814 298th St. Tyndall, SD 57066

“HOWS YOUR FORAGE FEEDING” CONT'D



The wet feed piles you may have put up this year likely include corn or sorghum silage, earlage, oatlage or pea/oatlage, or haylage from any other cereal grain. All of these wet forages will increase palatability and ultimately intake of a ration. Also, since they are harvested with the grain they'll boost energy values as fed. Obviously, the higher the grain content, the better that particular silage will work for increasing gain on your livestock. This is where a proper ration and nutrient analysis will ensure that you are feeding the correct amount for your class of livestock. Once your ration is developed it's up to you to properly manage that forage pile to eliminate spoilage and minimize waste.

Feed that was wrapped wet into baleage deserves the most attention for management. Many producers have found it convenient to utilize this technique for forages that won't cure properly. Alfalfa, rye, millets, and cover crop forage blends are commonly harvested and stored this way. The moisture content ranges from 40-60% on these bales which drastically can change their inclusion into a ration and their management of feeding. When feeding whole baleage bales ad libitum, make sure the bales can be consumed in less than 3-4 days. Heating and spoilage happen faster on bales with higher moisture, larger stem sizes, and warmer temperatures. Limiting those factors and reducing time uncovered can ensure a very high-quality palatable product.

Though the winter-feeding months can seem monotonous, it's a great opportunity to think about how the product you are feeding was managed from the time you planted it to the time it was harvested. Feeding strategies should change with your forage inventory, and you should determine your forage plan with the agronomic and livestock opportunities on your farm.

NPFA BOARD MEMBERS

- President: David Elliot, Drumgoon Dairy, Lake Norden, SD
- Vice President: Jeff Jackson, Croplan Alfalfa and Forage Specialist/ forage producer
- Secretary: Open Position
- Treasurer: Mark Rogen, Boadwine Farms, Baltic, SD
- Mike Bettel, Dellait Forage Consultant & Dairy Nutritionist
- Justin Fruechte, Renovo Seed, Director of Sales/ forage producer
- Paul Hahn, CHS Agronomy Sales Representative
- Dallas Henry, forage producer, Highmore, SD
- Al Lenhart, KWS Cereals Regional Sales Rep/forage producer
- David Skaggs, Agrovive Biologicals, Dairy Product Manager
- Patrick Toomey, USDA NRCS MN Range Management Specialist



RANGE ROUNDUP: PRECISION AGRICULTURE RANGE PROJECT WITH PRODUCER PARTICIPATION

Written collaboratively by members of the SDSU Extension Range Team: Jamie Brennan, Krista Ehlert, Josh Leffler, Hossein Moradi, and Sandy Smart.

A group of scientists from SDSU are starting a new precision agriculture range project using remote sensing, machine learning, ground-collected vegetation samples, and web app development to build a user-friendly phone or computer website application to measure forage quality and quantity in near real-time. In addition, the project will have the ability to make predictions using forecasted climate data for drought preparation. The scientists include Doctors [Jamie Brennan](#) (project leader), [Krista Ehlert](#), Josh Leffler, Hossein Moradi and [Sandy Smart](#). Our team has collected preliminary data from the SDSU Cottonwood Field Station near Philip and at the SDSU Cow-Calf Unit in Brookings (Figure 1). Hand clipped samples were collected every two weeks in the summer of 2020 at both sites. According to our modeling efforts, we were able to verify that we could estimate forage quality (Acid Detergent Fiber, ADF; Neutral Detergent Fiber, NDF; Crude protein, CP) and forage quantity (Dry Matter Weight) quite effectively (predicted vs actual in each graph in Figure 1).

The next step is to expand our data collection efforts across South Dakota. We chose four intensive data collection sites (hubs) and will collect hand-clipped samples every two weeks during the growing season from five areas and two different plant community types. Around each hub we would like to find two additional ranches for a total of eight "satellite" ranches to help expand our model prediction efforts by feeding real ground-truth data once a month during the growing season (see Figure 2). All sites exist along the gradient from over 600 mm (23.6 inches) to fewer than 400 mm (15.7 inches) of annual precipitation from east to west in South Dakota.

The uniqueness of our approach is that we intend to develop customized prediction models based on individual rancher-derived data for that specific rancher – instead of relying on a universal model with data that may not adequately represent your location. In addition, we are very fortunate to have long-term data to help us develop growing season forage quantity predictions. Figure 3 shows the greenness index (NDVI) for three very different years (drought, average, and wet). Note that NDVI in 2002 started out with a flatter path compared with 2009 and 2019. This kind of graph allows us to make predictions of forage quantity depending on the steepness of the NDVI curve.

The research and Extension team is excited about the impact that this tool will have when fully developed and tested. Please reach out to [Krista Ehlert](#), SDSU Extension Range Specialist, krista.ehlert@sdstate.edu, if you are interested in becoming a satellite ranch.

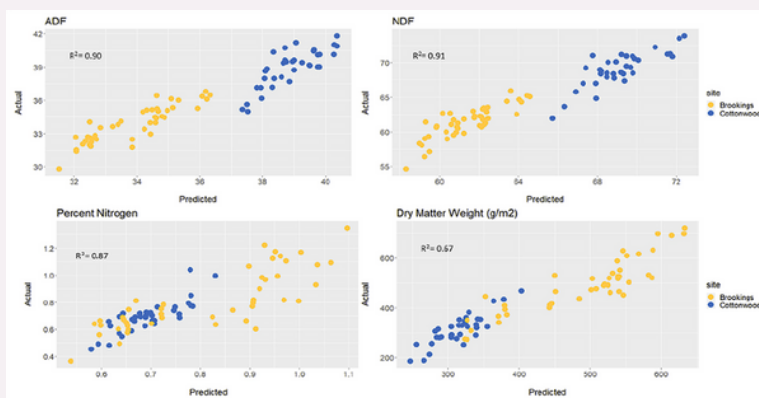


Figure 1. Forage quality and quantity predictions using a Random Forest algorithm for two sites in South Dakota using metrics derived from Google Earth Engine and Planet Imagery APIs.

MEET THE BOARD Mike Bettle

I grew up on a small dairy farm in the English Midlands, in the county of Leicestershire. I graduated with a degree in Animal Science, from The University of Leeds, in the north of England, in 1976. After a short spell working back on the family farm, I worked for one of the major UK feed manufacturers as their research farms manager. I then went on to spend 3 years in Nigeria, in West Africa, helping to set up poultry farms and feedmills around that country. After returning to England, I set up my own animal feed/nutrition business, which I brought to the USA in 1991. I have worked as an independent dairy nutritionist for much of that time, which has led to a close interest in improving forage quality. Initially this was through developing inoculants to improve quality and speed up the preservation process when putting up silages. More recently I have become involved in trying to improve forage quality through improved growing and harvesting practices. I was starting to get involved in the regenerative ag movement when the idea of the Northern Plains Forage Association was first muted, so I volunteered as one of the inaugural directors, with the idea of bringing my knowledge as a ruminant nutritionist to the table and to help network the forage grower with the consumer, so their needs can be better addressed.



“RANGE ROUNDUP: PRECISION AGRICULTURE RANGE PROJECT WITH PRODUCER PARTICIPATION” CONT'D

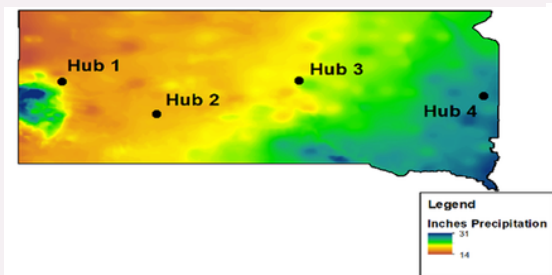


Figure 2. Location of the four hub study sites in South Dakota. Two of the sites (Brookings and Cottonwood) are SDSU research facilities; the other two are working ranches run by producers. Source: PRISM mean annual precipitation 1981-2010.

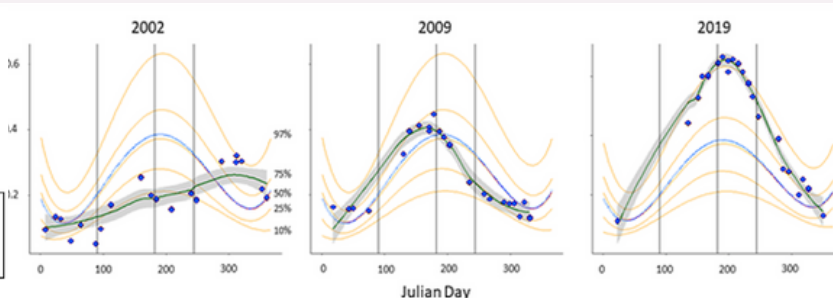


Figure 3. NDVI (normalized difference vegetation index) – or a measure of greenness – for three different years: 2002 (drought), 2009 (average), 2019 (wet). Julian day 1 corresponds to January 1st.

FERTILIZER UPDATE

By Paul Hahn, CHS Agronomy Sales Rep and NPFA Board Member

- **UAN** continues to be at a premium but look for it to drop to follow the UREA market and the commodity markets. Look for it to soften going into Q1 as no one is giving much pricing right now.
- **UREA** has already softened and continues to soften and will go into Q1
- **MAP/DAP**- Market continues to be flat and looks to continue to stay flat going into Q1
- **Anhydrous Ammonia**- Look for this market to continue to be flat going into Q1.
- **Herbicides**- Look for pricing and availability to be good on most herbicides going into 2024.
- **Insecticides and fungicides** could get short but the big players feel they are in a better position this year than last year.

FROM THE BOARD

Greetings to all from Jeff Jackson -Northern Plains Forage Association, Vice President. Coming off our very first Annual Meeting on Dec. 1, 2023 in Brandon, SD I am very grateful for all of the interest and support we have received. We were very fortunate to have great weather which led to great attendance from a very broad geography and very diverse mix of enterprises and experience. As I reflect on our first large group experience....I am VERY EXCITED about the future of our group. Being one of the first promoters of this group that discussed how we should help people network and learn, my heart is full.

Being able to offer a very diverse set of topics and learning opportunities is an important principle of our organization. Alfalfa-grasses-cover crops-alternative forages all in one day was a tremendous offering. So, I think that was a huge success.

Networking and being a conduit for more people of different experience levels, geographies, disciplines and crops was another principle that we strive to offer our members. We hit the nail on the head with this one as well. South Dakota, North Dakota, Nebraska, Minnesota and Iowa were all represented at the meeting and really exemplifies that idea we wanted to name this group the Northern Plains Forage Association to have an “all inclusive” feel and engage people from afar. This year we were limited on “NETWORKING” time, but I can guarantee we will plan for more of those opportunities as we expand our program. I was blessed with being the MC of the event and had to be “that guy” to bring everyone back to their seats following our break and keep the show on the road. It was a hefty task as the crowd was very engaged into deep discussions and I could tell they wanted more “NETWORKING” time and I was limiting their conversations. WHAT A BLESSING... to say the least. Mission accomplished. We had a great turn out, great topics, great networking, great participation from the crowd, great speakers and an overall very positive experience.

A heart felt “THANK YOU” goes out to all that were involved!! The Northern Plains Forage Association looks forward to future collaboration, education and networking to help you all have “QUALITY, SUSTAINABLE, PROFITABLE FORAGE PRODUCTION”.

Sincerely,

Jeff Jackson- Vice President, Northern Plains Forage Association

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MEET OUR 2023 ASSOCIATE MEMBERS

Being a new, grassroots organization, we have relied heavily on sponsorships, goodwill, volunteers, and associate members. We would like to specifically recognize our associate members who have gone above and beyond to support the Northern Plains Forage Association in its infancy! If you would like to see your business or operation listed here- contact us!



A big thank you to our associate members, regular members and supporters as we reflect on our first official year as an organization. Our first annual meeting was held on 12/1 at the Brandon, SD Holiday Inn Express. Dr. Dan Undersander spoke on alfalfa leaf loss as our keynote, Rebecca Kern-Lunbery (Ward Labs), Justin Fruechte (Renovo Seed), Brady Wulf (MN producer), and Dr. Peter Sexton (SDSU SE Research Farm) also offered interactive talks. We hosted over 75 people and were very encouraged by the large group interaction with speakers, networking, and positive feedback from attendees. Thanks to those that attended, sponsored, or joined/renewed their memberships!



UPCOMING REGIONAL FORAGE-RELATED EVENTS

- [Midwest Forage Association Wisconsin Dells Symposium](#)- Feb. 19-21, Wisconsin Dells
- [Central Plains Dairy Expo](#)- March 19-21, Sioux Falls, SD

*This is the best list available at time of publication- if you would like a forage-related event listed here, please contact Sara Bauder at sara.bauder@sdstate.edu.