

Central Grasslands Forum



NDSU Central Grasslands Research Extension Center
Streeter, ND 58483 701-424-3606

NDSU NORTH DAKOTA
STATE UNIVERSITY

Winter 2017

Volume 4, Issue 1

A Walk Through the Pasture

Kevin Sedivec, Interim Director, CGREC



On Oct. 3, 2016, I started a new venture and a new chapter for the Central Grasslands Research Extension Center (CGREC). I am greatly honored to have this opportunity to help the center grow and address the needs of our ranchers, natural resource land managers, conservationists, wildlife enthusiasts and any citizen of North Dakota who has an interest in grasslands and grassland management.



The CGREC is one of seven Research Extension Centers found in the North Dakota Agricultural Experiment Station system. However, it is unique in that our primary purpose is to address the needs of ranchers and land managers in the Coteau (Prairie Pothole Region) on grassland and forage management.

Although studies have changed through the years, our mission has not. The CGREC will research innovative grassland management practices that address the needs of today and answer the questions of tomorrow. These studies will include:

- Grassland management to enhance livestock production, increase plant community health, improve forage quality and reduce invasive plant populations
- Late-season grazing options that include alternative forage systems and types while increasing the profitability of the ranch
- Herd management of a cow-calf operation to improve livestock performance and reproductive efficiency, herd health and herd stewardship
- Enhancing plant community health to increase pollinator populations, bird diversity and wildlife habitat

I truly believe the future is bright for the CGREC. We will continue to provide valuable information in the *Central Grasslands Forum* with the guidance of our editor, Janet Patton. If you ever have a question, or have new research ideas or Extension programs you think would be valuable to our North Dakota ranchers and grassland managers, please feel free to contact me at 701-799-4689, email me at kevin.sedivec@ndsu.edu or message us on our Facebook page, NDSU Central Grasslands Research Extension Center.

Until our next walk through the pasture, stay warm and have a happy New Year.



Photos by Rick Bohn

IN THIS ISSUE

A WALK THROUGH THE PASTURE	1
BALE GRAZING AND SUPPLEMENTATION	2
SOIL HEALTH: CONTINUAL PLANT/ROOT	3
RESEARCH ON CATTLE REPRODUCTION	4
COUNTY CORNER: VETERINARY FEED DIRECTIVE	4
DID SOMEONE SAY "KNEPHLA SOUP"?!	5

NDSU EXTENSION
SERVICE

Bale Grazing: Supplementing Poor Quality Hay

Michael Undi, Animal Scientist, CGREC



Extending the grazing season by bale grazing cattle in winter can reduce the winter feed costs of a cow-calf operation. However, the quality of hay fed to cattle during bale grazing can be quite variable, and poor quality hay can compromise cattle performance.

At CGREC, we are studying methods that can be used to supplement cows that are bale grazing poor quality hay. Methods include feeding poor quality hay in combination with good quality hay, supplemented with dried distillers grains with solubles or treating poor quality hay with a liquid supplement. We selected these methods based on their potential to maintain or improve cattle performance, minimize labor and fuel costs, and improve soil health.

Also, we are examining whether these methods of supplementation are appropriate for fall and winter bale grazing. This study will be conducted on a 26-acre field at the CGREC and will run for four years.

So far, we have collected soil samples to establish baseline nutrient levels and we will collect soil samples every spring. In addition, we will monitor nutrient levels around grazed bales and at certain distances from grazed bales.

The animal portion of this study got under way this fall with 80 cows that were weighed and body condition-scored prior to turnout. The blizzards in December did not disrupt the study, but the cattle were removed from the pasture on Jan. 4th due to deep snow covering fences and a water tank.

For further details, I can be contacted at 701-424-3606 or michael.undi@ndsu.edu.



Soil Health: Continual Live Plant/Root

Jay Fuhrer, Soil Health Specialist, Natural Resources Conservation Service, Bismarck



This is the fourth of five articles on building soil health.

The foundation of soil health consists of five principles: soil armor, minimizing soil disturbance, plant diversity, continual live plant/root and livestock integration. This article will discuss the fourth principle, continual live plant/root.

Our perennial grasslands consist of cool-season grasses, warm-season grasses and flowering forbs. Consequently, a variety of plants are present. Some are able to grow during the cool spring and fall weather, and others in the summer heat. This continual live-plant cover releases carbon exudates through the roots to feed the soil food web during the entire growing season.

Our cropland systems typically grow cool- or warm-season annual cash crops, with a dormant period before planting and/or after harvest but still within the growing season. Cover crops are able to fill in the dormant period and provide the missing live-root exudate. Cover crops may be incorporated into a cropping system as annuals, biennials or perennials.

Starting on a small-acre scale will allow farmers and ranchers to find the best fit for their operation.



This photo shows an eight-way cover crop combination seeded after spring wheat harvest at the Menoken Farm, benefiting numerous resource concerns.

The cover was seeded immediately after harvest on Aug. 5. The photo was taken on Sept. 28.

NRCS

Cover crops can address a number of resource concerns:

- Harvest CO₂ and sunlight, providing the carbon exudates to the soil food web
- Build soil aggregates and pore spaces that improve soil infiltration
- Cover the soil, thus controlling wind and water erosion, soil temperature and rainfall compaction
- Catch and release inorganic nutrients, improving water quality
- Contribute to salinity management
- Provide pollinator food and habitat
- Improve weed suppression
- Provide wildlife food, habitat and space
- Allow livestock integration
- Add to crop diversity
- Accelerate or slow decomposition based on the cover crop combination's carbon : nitrogen ratio

Cattle Reproduction Research at CGREC

Carl Dahlen, NDSU Extension Beef Cattle Specialist



Since the spring of 2011, cows and heifers at the Central Grasslands REC have been synchronized and artificially inseminated (AI bred) using a program called the 7-day Co-Synch + CIDR protocol. It requires females be handled three times during a 10-day period.

Cows receive a controlled internal drug-releasing insert (CIDR) and an injection of gonadotrophin-releasing hormone (GnRH), followed in seven days by CIDR removal and an injection of prostaglandin F2 α . That is followed in 60 to 66 hours (54 hours for heifers) by GnRH and fixed-time AI. Pregnancy rates from this single AI breeding have ranged from 48 to 65 percent, depending on the year.



Each year, the breeding is part of a research effort focused on improving the reproductive efficiency of beef herds. Estrus detection patches are placed on the tailhead of cows at the time of CIDR removal and evaluated at the time of AI; if patches are “activated,” or rubbed to expose color, the cow has been in heat.

This study found that an improved pregnancy rate is possible when AI breeding is delayed by 15 to 20 hours in cows that are not in heat at the time of normal AI breeding (i.e. cows in heat bred at 60 to 66 hours; cows not in heat bred 15 to 20 hours later). An additional effort found that GnRH was not needed at the time of AI if cows had been in heat, but it was essential for cows that had not been in heat.

Other efforts have evaluated the impacts of pre-breeding vaccines, management around the time of breeding and administration of injectable trace mineral supplements.

Coming up for the 2017 breeding season: All breeding females will serve as recipients for an embryo transfer study.



Photos by Carl Dahlen

County Corner:

Katie Wirt, NDSU Extension Agriculture and Natural Resources Agent, Grant County



Have you heard about the veterinary feed directive (VFD)? Well, if you use medicated livestock feed, you might want to know about it.

What is a Veterinary Feed Directive?

Producers have been administering medicated feed safely and effectively to prevent and treat diseases in their livestock for years. As of Jan. 1, 2017, new regulations require livestock producers who use certain medicated feeds to obtain a VFD from their veterinarian to purchase those feeds.

Gerald Stokka, NDSU Extension veterinarian and livestock stewardship specialist, told me that a VFD is simply a permission slip from a vet, and it should not be burdensome to producers.

If you haven't already, develop a strong relationship with your veterinarian. This will help the vet understand your operation when the time comes that you need a VFD.

(continued on page 5)

(continued from page 4)



How Will the VFD Affect Livestock Producers?

Producers who use VFD drugs to treat or prevent disease in their livestock need to obtain a VFD order to feed those drugs.

Ranchers are allowed to use the VFD drug only as determined by the veterinarian and only for the length of time defined by the veterinarian.

Where Do You Get a VFD Order?

The VFD must be written by a licensed veterinarian who has a veterinarian-client-patient relationship with you. Does that mean you have to go to the vet's office to get a VFD? Absolutely not! You can get a VFD from your veterinarian by fax or other electronic means (texting is not allowed).

Also, a veterinarian does not have to give you a VFD just because you request one. The veterinarian is required to have a working relationship with you and be familiar with your livestock. Veterinarians may require a visit before writing you a VFD or they may refuse to give you a VFD.

Where Do You Use a VFD Order?

A hardcopy VFD order can be used at any location that sells the ordered VFD drug. The customer must present the VFD order to store personnel at the time of purchase.

An electronic VFD order can be used only at the location where the veterinarian sent the order. That does not mean you don't have a choice. You may request that the veterinarian send the order to the store of your choice.

You might wonder if you can fill half the order at one location and half at another location. Generally this is not acceptable.

Additional Resources:

NDSU publication "Understanding the Veterinary Feed Directive": www.ag.ndsu.edu/publications/landing-pages/livestock/veterinary-feed-directive-v-1719

A short list of drugs transitioning from over-the-counter (OTC) to VFD status: www.fda.gov/AnimalVeterinary/DevelopmentApprovalProcess/ucm482107.htm

A short list of water-soluble drugs transitioning from OTC to VFD status: www.fda.gov/AnimalVeterinary/DevelopmentApprovalProcess/ucm482106.htm

Learn more about the veterinarian-client-patient relationship: www.fda.gov/AnimalVeterinary/ResourcesforYou/ucm380135.htm#Valid_Veterinarian-Client-Patient_Relationship

Knephla Soup

Sandi Dewald, Administrative Secretary, CGREC

Knephla

2 cups flour
1/2 tsp baking powder
2 eggs, beaten
Warm milk to make a stiff dough

Mix the flour and baking powder together. Add eggs and milk and mix well.

Cut dough into pieces and roll between hands until they are finger-size, then cut these into small pieces. (I use a cutting board and extra flour and cut with a knife, then gently shake off excess flour before boiling).

Put the cut knephla in a large pot of boiling water that has about 1/4 tsp salt and 2 Tbsp margarine added to it. Gently boil about eight minutes. (You may want to do a couple of batches.) Drain and rinse. Set aside until soup broth is finished. (I make my knephla ahead and freeze until I make the soup.)



Knephla Soup Broth

2 cups potatoes, diced
1 cup carrots, diced
1 cup celery, diced
7 peppercorns
5 chicken bouillon cubes

Cook with 1 quart of water in a large kettle.

In a small frying pan, sauté:
1 stick butter
1/4 medium onion, chopped

Add to broth. Then add:
1 cup heavy cream
1 cup milk
1 1/4 tsp salt

Add cooked knephla, keeping in mind they will swell a bit, so you may have to add a little more milk. Simmer until knephla float.

NDSU Central Grasslands Research Extension Center*
Department 7070
P.O. Box 6050
Fargo ND 58108-6050

Non Profit Org.
U.S. Postage
PAID
Permit 818
Fargo ND



*Street address:
4824 48th Ave. S.E., Streeter, ND 58483

www.ag.ndsu.edu/CentralGrasslandsREC
Editor: Janet Patton

Photos by Rick Bohn, CGREC

In this Issue:

A Walk Through the Pasture: The Future of CGREC
Bale Grazing and Supplementation
Soil Health and Continual Plant/Root

Cattle Reproduction Research
County Corner: Veterinary Feed Directive
Knephla Soup!



North Dakota State University does not discriminate on the basis of age, color, disability, gender expression/identity, genetic information, marital status, national origin, public assistance status, race, religion, sex, sexual orientation, or status as a U.S. veteran. Direct inquiries to: Vice Provost for Faculty and Equity, Old Main 201, 701-231-7708 or Title IX/ADA Coordinator, Old Main 102, 701-231-6409. This publication will be made available in alternative formats for people with disabilities upon request, 701-231-7881.