LEM NEWS

Livestock Environmental Management Newsletter

Volume 5, Issue 2. May 2016.

Steam rises from freshly turned compost. A mechanical turner yields a uniform product in less time, but turning compost with a bucket is economical.

Composting Animal Manures

The benefits of composting vary depending on management and production situations:

- ☑ Using compost as a fertilizer reaps the benefits of improved fertility, water-holding capacity, bulk density and healthy biological properties.
- ☑ Livestock owners who compose benefit from odor and fly egg reduction as well as a decreased volume of product to spread.
- ☑ Weed seed reduction may be a benefit both situations prefer.

(Continued on page 4)

The 2016 North American Manure Expo will be held in London, OH on Aug. 3-4.

It was 64 degrees F on Monday when I took my lunch break. The sun was shining, the birds were singing and I had an overwhelming urge to go home and start filling our newly constructed raised-bed gardens with a planting soil mixture. Of course, that mixture is going to include compost from the farm.

Composted animal manures play an important role, not only in backyard gardening, but also in large-scale fields as well. You can read about the benefits of composting in this issue of LEM News.

We have a lot planned for this summer, including the Land Use Conference, the North American Manure Expo, Nutrient Management Day and ND Range Management School. We urge you to keep safety at the forefront of your thoughts as you are busy with work and play this summer. As always, if you have any comments, questions, or concerns about manure management you can contact me at mary.berg@ndsu.edu or 701-652-2951.

Here's to plenty of sunshine, just enough rain, and not much wind! — *MB*

In This Issue

Editing and layout: Linda Schuster, Carrington REC.

Spring Safety on the Farm or Ranch

Emily Goff, Agent-in-Training, Eddy, Foster, and Wells County Extension.

As the machinery starts moving this spring, safety concerns for those operating inside and outside the equipment should be renewed. Every operation has different rules, however, the most things are open communication and an awareness of your surroundings. Both children and adults need to have conversations about general safety around overhead power lines, moving machinery, and working around livestock.

Machinery has changed dramatically over the past 100 years, upgrading from horse and plow to bigger, faster and stronger tractors, combines, sprayers and planters. With all these improvements, though, one thing has not changed: the operator.

Overhead power lines

An important, but often overlooked safety topic is overhead power line safety. Overhead power lines are uninsulated, making them extremely dangerous. Electricity always searches a path to the ground. If you or your equipment is within reach of the electric current and touching the ground, electricity will surge through your equipment and you.

One way to prevent electrical incidents is to use a spotter at a safe distance from overhead lines. Machinery and operators must remain at least ten feet from power lines, but tall equipment such as grain augers or loader buckets have a great risk of entering that ten foot radius. If there is an accident, the spotter will be able to call for help.

If your machinery does come in contact with an overhead power line, don't panic! Remain in your cab (unless your life is in danger due to fire), and call the power company to inform them of your situation. If you must to leave the cab due to a life threatening situation, keep your arms and hands close to your body, climb down the steps of the cab, and then "bunny hop" or shuffle away from the machine, thus minimizing exposure to your extremities.

Machinery blind spots

A yard filled with machinery can become an obstacle course – especially during planting or harvest season. Often times, operator's thoughts are occupied and may not be on who is in the yard. Communicating with your family and visitors about safe zones and machinery blind spots will help solve problems. Establish ground rules such as "children come into the house when the tractor is in the yard," or "the grass is a safe spot." Whatever it may be, openly communicating will help everyone be on the same page and ultimately prevent accidents from happening.

Livestock blind spots

Like machinery, livestock have blind spots. While "predator" animals have eyes located on the front of their head, "prey" animals (like livestock) have eyes located on the sides of their head. This means that livestock see more side-to-side, but lack the ability to see directly in front or behind. If livestock don't recognize that you are near, their "fight-or-flight" instinct results in a kick, bite, or panic as they try get away. When working around animals, talk in a soft, calm voice so they know where you are at all times. Animals seem more alert around unfamiliar people or during calving and breeding season. If you are unfamiliar with livestock or they are not familiar with you, it is best to give them their space. — *Emily Goff*

EQUINE ENCOUNTERS

May 25: Ward County

June 6: Cass County

June 7: Stark County

June 8: Morton County

LOCAL PRESENTATIONS including

Deworming Protocols & Vaccination Programs (local veterinarians)
Equine Nutrient Management (Mary Berg)
Horse Pasture Management & Identifying and Controlling Those Pesky Weeds (Kevin Sedivec)
Biosecurity (local Extension agents) and/or Reproductive Considerations (local Extension agents)

Pre-registration would be appreciated for meal planning. Contact your local Extension Office for each session.

NDSU | EXTENSION SERVICE

NDSU Carrington Research Extension Center

Schedule (local)

5:30 p.m. Registration & Supper
$5 per person at the door
Youth are welcome!
6:00 p.m. Program

Contacts

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Kelcey.Hoffmann@ndsu.edu

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Kurt Froelich
Stark/Billings County Extension Agent
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Ward County Extension Agent
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Paige.F.Brummund@ndsu.edu

Mary Berg
Livestock Environmental Mgmt
NDSU Carrington REC
Carrington office 701.652.2951
Bismarck office 701.328.7240
Mary.Berg@ndsu.edu

Aug. 23 is NM Day at CREC

Nutrient management will be featured in a daylong program at the NDSU Carrington Research Extension Center on Tuesday, Aug. 23. The nutrient management day event will run from 10 a.m. to 3:30 p.m.

Manure from the Center's 700-head feedlot and cow herd is spread on the center's fields annually, with the Center's 28-year cropping systems project using composted manure as fertilizer in an eight-crop, three-tillage, four-fertility treatment, four-year rotation. The results from the last several growing seasons show that the net income from composted beef manure is equal to or higher than from commercial fertilizer.

As part of the nutrient management day, Berg and her team will talk about manure-sampling techniques and the importance of knowing the nutrient content of manure before using it as fertilizer.

Continuing education credits for Certified Crop Advisers will be requested. For more information, contact Berg at (701) 652-2951 or mary.berg@ndsu.edu.

Spreader calibration and uniform spreading are keys to successful manure and compost application.

Composting Manure

(Continued from page 1)

Compost is a mixture of organic residues that have been piled, mixed, moistened and undergone thermophilic (heat) decomposition.

Proper site selection is the first step to creating successful compost. When selecting a site for composting, it is important to keep in mind the potential to pollute via runoff or leachate.

Manure for compost is typically piled in a windrow (long row), with dimensions dependent on equipment and available space.

The carbon-to-nitrogen ratio must be between 20:1 to 40:1 (carbon:nitrogen) for best results. A typical North Dakota bedded-pack beef manure has an appropriate C:N ratio for composting. Manure also contains the appropriate microorganisms responsible for helping convert manure to compost.

To create an environment conducive for microbial action, maintain a 50% moisture level in the windrow and keep the process aerobic ("with oxygen"). Maintain the oxygen level by turning the pile every 10-14 days, or when the internal temperature exceeds 160 F or drops below 110 F.

When a temperature of 130 F can no longer be attained, composting is complete, a process that may take five to seven turns. The compost pile must now cure (mature) until it reaches ambient temperature (surrounding environment temperature).

This usable compost should be analyzed for nutrient content before application. There are several laboratories that will analyze compost and many of them will send containers and lab-specific instructions. For most-accurate test results, take grab samples from several places on the piled compost and combine them into one composite sample.

Compost should be treated like a fertilizer, with spreader calibration before application. For more on spreader calibration refer to NDSU Extension publication "Manure Spreader Calibration for Nutrient Management Planning" (NM-1418). — *Mary Berg*

Reference: NDSU Extension publication "Composting Animal Manures: A guide to the process and management of anima manure compost" (NM-1478). 2010. Augustin, C., and S. Rahman.

Pond Management

NORTH DAKOTA DEPARTMENT of HEALTH

Commentary from the CAFO Corral

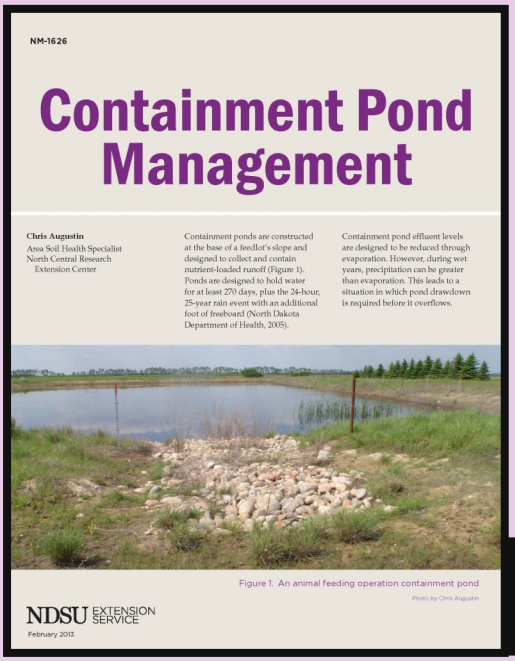
With winter behind us, it's time to think about pond management for the upcoming year. It's easy to forget about runoff ponds with mild winters and less snowfall than usual. Currently, there is less spring runoff across most of the state, but keep in mind that the potential for a large runoff event this spring, summer or fall is still present. As we have seen in recent years, periods of sustained wet weather can lead to pond management issues.

Monitoring pond levels and land-applying effluent before a pond is full prevents the containment pond from overfilling.

If your runoff pond does fill up, it is best to wait to pump it until the water can be applied to dry cropland, hay land or pasture. Runoff water can often be applied up to the infiltration rate of the soil. When possible, a sample of the runoff water should be tested prior to application. Contact your local extension agent for a list of laboratories that can analyze manure samples.

If your runoff pond is in immediate danger of overflowing, it is still preferable to control the overflow by pumping, siphoning, or using a designed spillway, as an uncontrolled overflow can damage the pond structure. If pumping a runoff pond is needed to prevent an immediate overflow, steps can still be taken to minimize the impact, including:

1. Don't pump from the very top or bottom of the pond; pull water from the middle.
2. Direct the discharge to an area where it will have the least environmental impact, preferably away from any defined drainage.
3. Spread the runoff water out over as much area as possible, preferably on grass or hay land with vegetation.


NM-1626

Containment Pond Management

Chris Augustin
Area Soil Health Specialist
North Central Research Extension Center

Containment ponds are constructed at the base of a feedlot's slope and designed to collect and contain nutrient-loaded runoff (Figure 1). Ponds are designed to hold water for at least 270 days, plus the 24-hour, 25-year rain event with an additional foot of freeboard (North Dakota Department of Health, 2005).

Containment pond effluent levels are designed to be reduced through evaporation. However, during wet years, precipitation can be greater than evaporation. This leads to a situation in which pond drawdown is required before it overflows.

Figure 1. An animal feeding operation containment pond

Photo by Chris Augustin

NDSU EXTENSION SERVICE

February 2013

Operation and maintenance plans need to be followed to prevent liquid manure storage ponds from overflowing; such discharges can cause severe environmental impacts.

In the event of an overflow or damage from excessive runoff, notify the North Dakota Department of Health, Division of Water Quality, at 701.328.5210. Keep track of the volume and duration of overflow. (The flow rate over a dike can be estimated if you know the depth and width of the overflow.)

If you have any questions or concerns, please call the number above or contact us at www.ndhealth.gov/WQ. — *Jeremy Lang, ND Department of Health, Water Quality Division.*

NDSU Extension Publication NM 1626 is a guide to proper containment pond management as an important part of any nutrient management plan. This resource, along with other publications, is available online at https://www.ag.ndsu.edu/publications

Monitor Livestock Water Quality

Spring rains have been received enthusiastically by farmers and ranchers following a fall and winter of below average precipitation. Despite the relief provided by the recent spring rains, water quality in ponds and dugouts may be compromised due to concentrated levels of salts, minerals and bacteria. It is recommended that livestock producers test water quality prior to livestock turnout.

Poor water quality can negatively impact livestock health. At a minimum, it can result in decreased water consumption, reducing feed intake and gains. However, elevated levels of some salts and bacteria can result in severe illness and even death.

Water sources should be tested for total dissolved solids (TDS), sulfates and nitrates. TDS measures salts: TDS levels should be less than 5,000 ppm for most classes of grazing livestock. Elevated levels of TDS may not be harmful to livestock health. However, due to our geology in ND, water with high TDS often also has high sulfate levels.

Sulfate recommendations are less than 500 ppm for calves and less than 1,000 ppm for adult cattle. High levels of sulfate can reduce copper availability in the diet. Elevated levels of sulfates may cause loose stool; whereas, very high levels of sulfate can induce central nervous system (CNS) problems and polioencephelomalacia (PEM), a brain disorder found in cattle.

Nitrate in itself is not toxic to animals, but at elevated levels it causes nitrate poisoning. Water sources receive runoff from fields and confined feeding locations that contain elevated levels of nitrogen are at risk of contamination.

Blue-green algae bloom.
Photo courtesy of the Walsh County Soil Conservation District.

Stock dams and dugouts are commonly used to supply water to grazing livestock. *Photo courtesy of Gerald Stokka.*

Water with elevated nutrient levels are also at a higher risk for blue-green algae blooms in periods of hot, dry weather. Some species of blue-green algae (cyanobacteria) contain toxins that can be deadly when consumed by livestock and wildlife.

It is important to monitor water quality throughout the grazing season, as it changes in response to climate and environmental conditions. It is especially important to keep a close eye on water quality during drought, when using a shallow water source, or with water sources that have a history of water quality issues.

Many commercial laboratories and the NDSU-Veterinary Diagnostic Lab provide testing for livestock water quality and other specialized tests. The cost of a basic water quality test is approximately $25. Contact an NDSU extension office for a list of commercial laboratories in the state. If concerned about livestock disease caused by contaminated drinking water, contact your local veterinarian, the NDSU extension veterinarian, or the NDSU Veterinary Diagnostic Laboratory for a specialist. *—Miranda A. Meehan, Extension Livestock Environmental Stewardship Specialist*

More information on livestock water quality can be found in the following extension publications:

Livestock Water Requirements – AS1763

Livestock Water Quality – AS1764

Nitrate Poisoning of Livestock – V839

Cyanobacteria Poisoning (Blue-green Algae) – V1136

Fifth Annual North Dakota Angus University Feed-out Begins in June

The project gives producers information on feedlot performance, quality grade and potential retained ownership profitability.

North Dakota State University's Carrington Research Extension Center is partnering with the North Dakota Angus Association to sponsor the fifth annual North Dakota Angus University (NDAU) calf feed-out program this summer and fall.

Cattle producers interested in gaining a better understanding of how Angus-sired cattle perform in the feedlot, quality grade or the potential profitability through retained ownership can consign steers to the feed-out project at the center.

Enrolling cattle in the NDSU Angus University demonstrates the profitability of summer feedlot finishing in ND instead of transporting to out-of-state feedlots.

Producers consigned 138 head of steers to the fourth annual NDAU project, held in the summer and fall of 2015.

"In addition to the valuable information producers received regarding the feedlot performance of their cattle, the steers were used in a feedlot research trial," says Chanda Engel, livestock research specialist at the center. "But no treatments are imposed that would reduce the performance of the animals."

In the 2015 feed-out program, cattle:

- Averaged 101 days on feed
- Gained an average of 4.80 pounds per head per day
- Had an as-fed feed efficiency of 6.26 pounds of feed per pound of live weight gain (5.51 pounds of dry-matter feed for a pound of live weight gain)

Animals that are consigned should be steers with at least 50 percent Angus genetics and a desired target weight of 800 and 900 pounds at the time they are placed in the program. Producers wishing to consign steers that are lighter than 800 pounds should contact Engel to discuss potential options.

Participants in the NDAU will receive periodic progress reports on their calves' performance, as well as a final report on the overall performance, efficiency and carcass traits for their calves.

Producers who consign cattle pay the feeding costs based on the average cost of gain, veterinary costs and a modest yardage charge. The center carries these costs until the cattle are marketed. After the cattle are marketed, the center deducts all applicable fees from the sale price without an interest charge.

Consigned cattle should be delivered to the center's feedlot during the first week of June.

To consign a group of cattle or for more information, contact Engel at 701-652-2951 or chanda.engel@ndsu.edu; or call Mike Wendel, North Dakota Angus Association program liaison, at 701-710-0425. — *Chanda Engel*

Coming Events

May 25	NDSU Extension Service **Equine Encounter/Ward County**. More information on page 3.
June 6	NDSU Extension Service **Equine Encounter/Cass County**. More information on page 3.
June 7	NDSU Extension Service **Equine Encounter/Stark County**. More information on page 3.
June 8	NDSU Extension Service **Equine Encounter/Morton County**. More information on page 3.
June 16	Carrington REC **Crop Management Field School**. Field training using demonstrations and research trials on crop, crop pest and soils management. CEU's for Certified Crop Advisers. More information, including registration details, is available at www.ag.ndsu.edu/CarringtonREC
June 21	**ND Stockmen's Association Feedlot Tour**. For more information, watch www.ndstockmen.org
June 28-29	North Central Region Water Network **Land Use & Management Practices to Enhance Water Quality Training**. United Tribes Technical College, Bismarck, ND. Technical in-service training and program curriculum on land use of riparian ecosystems and manure and nutrient management for Extension Specialists, Extension Agents and Educators. Additional information attached to this newsletter and at .http://northcentralwater.org/professional-development-for-extension-professionals-and-educators-on-land-use-and-management-practice-to-enhance-water-quality-2/ (Chrome preferred.)
July 19	Carrington REC **Field Day**. For more information, watch www.ag.ndsu.edu/CarringtonREC
Aug 3-4	North American Manure Expo, London, OH. For more information, see http://www.manureexpo.org/ .
Aug 23	Carrington REC **Nutrient Management Day**. Full day workshop consisting of presentations, demonstrations, and field crop trials. Composting manure and mortalities, manure spreader calibration and using manure as a fertilizer. For more information, watch www.ag.ndsu.edu/LEM
Aug 30-Sept 1	ND Society for Range Management **ND Range Management School** at the Western ND 4-H Camp, Washburn, ND. Principles of grazing management and how to integrate them into your livestock operation. Ranch tours and presentations from livestock producers. CEU's for SRM "Certified Professional in Rangeland Management" program. Additional information attached to this newsletter.

Center Points: Easy as 1-2-3...

The Carrington REC has a weekly blog with updates on what's happening now and information on coming events. Read online at www.ag.ndsu.edu/CarringtonREC or subscribe to receive a weekly reminder and quick link.

NDSU Center Points Carrington Research Extension Center

Subscribing is as easy as 1-2-3:

1. **Send an e-mail to Listserv@listserv.nodak.edu**
2. **Leave the subject line of the email blank**
3. **In the body (not the subject line) of the e-mail enter the following:**
   SUB NDSU-CARRINGTONREC-CENTERPOINTS yourfirstname yourlastname

OR: Simply send a regular email to Mary.Berg@ndsu.

Contact Us —

NDSU Carrington REC

663 Hwy 281 NE | PO Box 219 | Carrington, ND 58421

Phone 701-652-2951 | Mary.Berg@ndsu.edu

Visit us on the web at www.ag.ndsu.edu/CarringtonREC

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NDSU EXTENSION SERVICE

"To create learning partnerships that help youth and adults enhance their lives and communities."

NORTH CENTRAL REGION WATER NETWORK

NDSU EXTENSION SERVICE

SDSU Extension

N EXTENSION

Land Use & Management Practices to Enhance Water Quality Training-Agenda

United Tribes Technical College Bismarck, ND

TUESDAY, JUNE 28, 2016

8:00 a.m.	Registration
8:30 a.m.	Welcome and Housekeeping
8:45 a.m.	North Dakota Livestock Nutrients
9:00 a.m.	Nutrient Management
9:30 a.m.	Manure Value
10:00 a.m.	Break
10:15 a.m.	Manure Brokering
10:45 a.m.	Regulation Panel
11:15 a.m.	Emergency Spill Response
11:45 a.m.	Morning Wrap-Up
12:00 p.m.	Lunch
1:00 p.m.	Travel to Menoken Farm
1:20 p.m.	Manure Composting
2:20 p.m.	Manure Spreader Calibration
3:00 p.m.	Break
3:15 p.m.	Mortality Composting
3:45 p.m.	Cost-share Opportunities
4:15 p.m.	Wrap Up and Travel back to UTTC

REGISTER TODAY!

Contact Miranda Meehan
Phone: 701-231-7683
Email: miranda.meehan@ndsu.edu

Contact Mary Berg
Phone: 701-652-2951
Email: mary.berg@ndsu.edu

Limited to 50 Participants

NORTH CENTRAL REGION WATER NETWORK

NDSU EXTENSION SERVICE

SDSU Extension

N EXTENSION

Land Use & Management Practices to Enhance Water Quality Training-Agenda

United Tribes Technical College Bismarck,

WEDNESDAY, JUNE 29, 2016

8:00 a.m.	Welcome and Introductions
8:15 a.m.	Land use trends in the northern Great Plains
8:45 a.m.	How streams work: stream morphology and hydrogeology
9:30 a.m.	Riparian vegetation
10:15 a.m.	Break
10:30 a.m.	Land use impacts on riparian health
11:00 a.m.	Managing agroecosystems to improve riparian health
11:30 a.m.	Grazing management recommendations to improve riparian health
12:00 p.m.	Lunch
1:00 p.m.	Travel to field
1:20 p.m.	Water flow patterns
1:30 p.m.	Riparian assessments
3:30 p.m.	Riparian Management
5:00 p.m.	Wrap Up and Travel back to UTTC

REGISTER TODAY!

Contact Miranda Meehan
Phone: 701-231-7683
Email: miranda.meehan@ndsu.edu

Contact Mary Berg
Phone: 701-652-2951
Email: mary.berg@ndsu.edu

Limited to 50 Participants

North Dakota Range Management School

Agenda

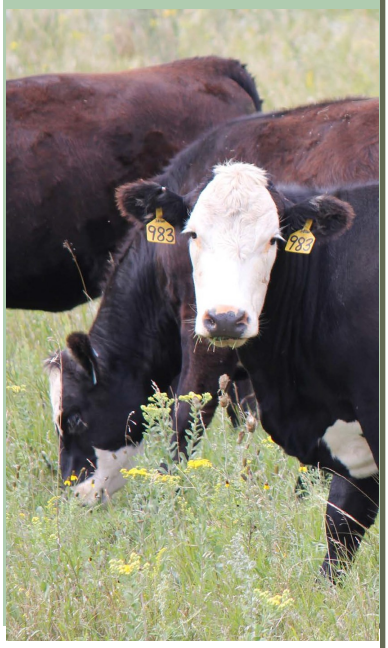
ND 4-H Camp in Washburn, ND

AUGUST 30, 2016

12:30 p.m.	Registration
1:00 p.m.	General Introduction and Camp Overview
1:30 p.m.	Travel to Reiser Ranch
1:45 p.m.	Tour of Operation
2:30 p.m.	Concurrent Sessions
	-Soils and Ecological Sites
	-Range Plant ID and Nutrition
4:00 p.m.	Return to Camp
4:30 p.m.	Producers discussion of operations and goals
5:30 p.m.	Dinner
Evening	Work on Participants' Grazing Management Plans

AUGUST 31, 2016

7:00 a.m.	Breakfast
7:30 a.m.	Goal Setting & Ranch Planning
8:00 a.m.	Principles of Grazing Management
9:15 a.m.	Travel to Goven Ranch
10:00 a.m.	Stocking Rate Exercise
12:00 p.m.	Lunch in the field
1:00 p.m.	Grazing Management
	Tour of ranch showing examples
3:00 p.m.	Infiltration demonstration
4:00 p.m.	Return to Camp
5:00 p.m.	Dinner
5:30 p.m.	Producers to speak about operations
Evening	Work on Participants' Grazing Management Plans



REGISTER TODAY!

Early Rate: $150 per operation + $75 for each add person (now through August 1st)

Standard Rate: $200 per operation + $100 for each add person

Contact Fara Brummer
Phone: 701-424-3606
Email: fara.brumer@ndsu.edu

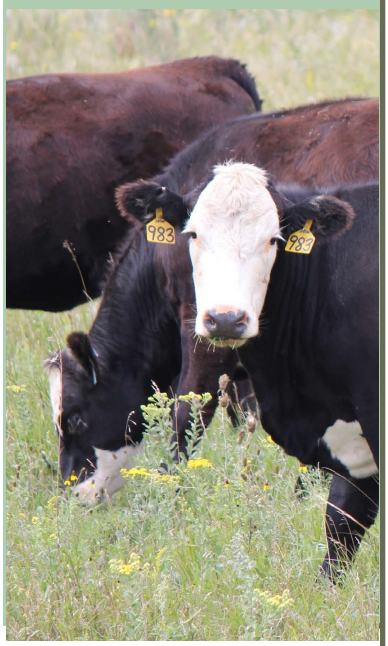
North Dakota Range Management School

Agenda

ND 4-H Camp in Washburn, ND

SEPTEMBER 1, 2016

7:00 a.m.	Breakfast
8:00 a.m.	Evaluating Inventory Data
9:30 a.m.	Range Improvements
10:00 a.m.	BREAK
10:15 a.m.	Monitoring
12:00 p.m.	Lunch
1:00 p.m.	Wrap Up and Evaluation/post-assessment



REGISTER TODAY!

Early Rate: $150 per operation + $75 for each add person (now through August 1st)

Standard Rate: $200 per operation

Contact Fara Brummer
Phone: 701-424-3606
Email: fara.brumer@ndsu.edu

2016 North Dakota Range Management School

August 30 - September 1, 2016
ND 4-H Camp in Washburn, ND

This year's school will focus on the principles of grazing management and how to integrate them into your livestock operation. The school will include ranch tours and presentations from livestock producers. Participants will receive a range inventory and monitoring kit.

Early Rate: $150 per operation + $75 for each add person
Standard Rate: $200 per operation + $100 for each add person

* Early rate ends August 1
* registration includes meals and lodging

REGISTER TODAY!

Contact Fara Brummer **Phone: 701-424-3606** **Email: fara.brummer@ndsu.edu**

Thank you Sponsors!

2016 North Dakota Range Management School

Date: August 30 – September 1, 2016
Location: Western North Dakota 4-H Camp, Washburn

Please send Registration to Fara Brummer at:

4824 48th Ave SE or fara.brummer@ndsu.edu
Streeter, ND 58483

CONTACT INFORMATION

Please submit complete contact information for all attendees if registration for multiple participants.

FIRST NAME:			**LAST NAME:**		
OPERATION NAME:					
ADDRESS:					
CITY		**STATE**		**ZIP CODE**	
PHONE					
EMAIL					

PAYMENT INFORMATION

Please submit payment as check or cash, credit cards will be accepted.
Make Checks payable to ND SRM

Registration Type	1st Person		Additional People	Total
*Early Bird Registration	$150	+	_____ x $75	_____
Standard Registration	$200	+	_____ x $100	_____

*** Early Bird Registration Rates End August 1st!**

LODGING INFORMATION

Lodging and camper hook-ups are available at the 4-H Camp location free of charge
Please indicate if you are staying at the 4-H Camp and what nights and the number of individuals

Night	Number of Men Staying	Number of Women Staying
August 30th	_____	_____
August 31st	_____	_____
Bringing Camper: YES / NO		

MEAL INFORMATION

Please indicate which meals you will be present for and the number of individuals

Day	Breakfast	Lunch	Dinner
Aug. 30th (lunch and dinner only)		_____	_____
Aug. 31st (breakfast, lunch, and dinner)	_____	_____	_____
Sept. 1st (breakfast and lunch only)	_____	_____	

Do you have special dietary needs? **Yes / No**

If **Yes** what are your needs? _____

AS1781

5 Easy Steps for Composting Dead Livestock

Step 1

Place 2 feet of base material in pile or long row, depending on number of carcasses to be composted.

Step 2

Lay carcass on top of base. Have at least 1 foot of base material between perimeter of carcass and edge of base.

Step 3

If composting cattle, puncture the rumen to prevent it from exploding.

Step 4

Cover carcass with 8 to 10 inches of bulking material.

Step 5

Cover the entire pile or long row with 2 feet of cover material.

Composting Material

- Base material: straw, old hay, coarse crop residues (corn stalks)
- Bulking material: manure or spoiled silage
- Cover material: straw, old hay, sawdust

Things To Remember

- Make sure pile always has sufficient cover material.
- Turn pile every six months from early spring to late fall.
- To accelerate composting, turn pile every two months from early spring to late fall.
- Do not disturb pile or long row during winter months.
- Existing compost can be used to cover new piles or long row sections.

Mary Berg, Area Livestock Environmental Management Specialist, Carrington Research Extension Center

Paige Brummund, Ward County Extension agent

Alicia E. Harstad, Stutsman County Extension agent

Penny L. Nester, Kidder County Extension agent

NDSU EXTENSION SERVICE

North Dakota State University, Fargo

December 2015