

LEM NEWS

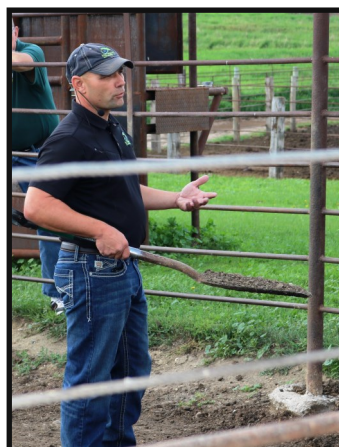


Livestock Environmental Management Newsletter Volume 5, Issue 3. October 2016.

Scholting advises NM Day

Nutrient Management (NM) Day was held at the NDSU Carrington Research Extension Center on August 23. Attendees mainly consisted of technical service providers who aid crop producers and livestock owners with manure management decisions.

One highlight of the event this year was hosting guest speaker Andy Scholting of Nutrient Advisors



from West Point, NE. Scholting was part of our Land Use Training in June via technology but joined us in person for NM Day.



Andy Scholting located differing qualities of manure in the same feedlot.

Fall is one of my very favorite times of the year. Although I don't get too excited about pumpkin spice, I do enjoy a good sniff of fresh corn silage, seeing hay moving into farmyards, and of course, watching North Dakota manure haulers (find one here: <https://www.ag.ndsu.edu/lem>) busy spreading fertilizer.

I spent the better part of June outdoors with hands-on training sessions and much of July and August running through airports on my way to personal and professional development opportunities.


I found my way onto the North American Manure Expo board and am excited to announce that we will be co-hosting the 2018 NAME with South Dakota State University. You can read more about that, as well as reviewing recaps of programs and reminders as we head into the next season.

Happy Fall!

— MB



CREC spread manure on 98 acres of cropland and chopped 42 acres of corn silage on the same very busy day this year.

Nutrient Advisors  is a consulting group that helps livestock owners produce the best possible manure fertilizer source for their crop producer counterparts. Nutrient Advisors then works with its sister company, StrongField Resources, who facilitates the use of

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Creating, Controlling Harmful Algal Blooms

You may recall that in 2014, an algal bloom on Lake Erie resulted in the City of Toledo, Ohio, shutting down its drinking water intake. The city announced via Facebook that its tap water was too poisonous to drink. This past summer, closer to home in northeast North Dakota, Homme Dam in Walsh County had a well-publicized algal bloom that concerned recreationalists.

What do you picture in your mind when you hear algal bloom -- more specifically 'Harmful Algal Bloom'? It is safe to say you do not picture roses and daisies.

Harmful Algal Blooms

A harmful algal bloom (HAB) is not only uninviting but also potentially harmful. Typically, a HAB is an overgrowth of cyanobacteria (blue-green algae) in surface water. Cyanobacteria are microscopic organisms found in all types of water. They are more like bacteria than plants, but because they live in water and use sunlight to create food (photosynthesis) they are often called 'blue-green algae.'

Cyanobacteria are important to freshwater ecosystems because they make oxygen as a by-product of photosynthesis, and they are a food source for other organisms.



Warning signs posted at Homme Dam in 2015.
Photo courtesy of Mike Ell, ND Department of Health.



An algal bloom stretches across the surface of Devils Lake.
Photo courtesy of Scott Elstad, ND Department of Health.

The Harmful in HABs

Under certain environmental conditions, cyanobacteria can multiply quickly and form a bloom. Some species of cyanobacteria produce cyanotoxins that are released when the cells die and rupture. The toxins can cause harm to people, wildlife, livestock, pets and aquatic life. Almost every year in North Dakota, a few cases of pet and livestock deaths occur due to drinking water with HABs. Additional effects of HABs include:

- Blocking sunlight needed for other aquatic organisms
- Raising treatment costs for public water supply systems and industries
- Depleting dissolved oxygen as the algae dies off, resulting in fish kills

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Specific human health effects are:

- Allergic-like reactions
- Skin rashes
- Eye irritation
- Gastroenteritis
- Respiratory irritation
- Neurological effects

What Causes HABs?

- Excess nutrients (phosphorus and nitrogen)
- Warm water temperatures
- Slow-moving water
- Sunlight

The major source of food for algae is nutrients that enter North Dakota lakes from:

- Fertilizers (fields and yards)
- Livestock and pet waste
- Septic systems



An algal bloom on a popular North Dakota fishery.
Photo courtesy of Jim Collins, Jr., ND Department of Health.

A Long-term Problem

Once a waterbody has an excess of nutrients, the problem cannot be fixed overnight. Nutrients must be removed mechanically and/or allowed to be reduced naturally through internal cycling, while limiting the sources of nutrients in the watershed. Several North Dakota lakes have hypolimnetic drawdown systems that remove nutrient-rich water from the bottom of the lake. These systems can be effective at removing nutrients, but they do not address the nutrient sources.

What Can You Do?

Everyone plays a part in feeding the algae, from how you fertilize your lawn to the timing of fertilizing a 160-acre field, to whether or not you pick up your pet's waste, to the proper management of livestock waste.

Tips to reduce nutrients from entering runoff to our surface waters:

- Sample the soil in your yard before you fertilize.
- Leave your grass clippings on the lawn—they give nitrogen back to the lawn.
- If you do need to fertilize, use only the recommended amount of product, and keep it off sidewalks and other hard surfaces
- Use field soil samples to calculate a nutrient budget for your crops.
- Complete a comprehensive nutrient management plan for your farm.
- Sample manure before applying it to the soil to ensure it is applied at the correct agronomic rate.

By limiting the nutrient sources in a watershed, we all can help prevent the growth of algae in our lakes.



For More Information

To learn more about HABs and nutrient reduction, contact the North Dakota Department of Health Watershed Management Program. —Jim Collins, Jr., ND Department of Health Watershed Management Program



You are invited to attend the third [International Conference on Livestock and Poultry Environmental Quality](#), a national network of agri-professionals addressing issues related to air, water, soil, and climate, Tuesday, April 18, through Friday, April 21, 2017 at the Embassy Suites Raleigh/Durham (201 Harrison Oaks Boulevard) Cary, North Carolina.

NDSU Extension Leads Bale Grazing Project for Winter Feeding in ND

Bale grazing allows livestock access to bales in a field, such as improved pasture or a hayfield, as an alternative to confined livestock drylots. Bale grazing eliminates the need for a bale mover or a storage area for bales, as well as the reducing feeding time, as forage is cut and baled in-place in the same field where grazing occurs. Livestock have access to a limited number of bales with a temporary electric wire fence moved in sections as needed, each time moving farther away from the water source so that access to water is maintained.

This practice has been used effectively in Canada for many years, as our friends to the north pioneered the concept, and now recently has been used in the Northern Great Plains of the United States. However, applied research on beef cattle performance in harsh winter conditions, proper bale placement, benefit to soil health, residue management techniques, and potential cost savings for North Dakota producers needs to be conducted.

The objective is to look at forage response to bale grazing, with the expectation for more biomass with better in quality, due to the “fertilizer” effect of the cows standing around the bales while grazing. Results will give us a deeper look at the effects of bale grazing over different soil types and terrain in North Dakota. —*Fara Brummer, NDSU Extension Area Extension Specialist, Livestock Systems.*

A two-year project focusing on hay bale grazing with beef cattle in North Dakota began last fall on four ranches in central North Dakota.

The bale grazing project was initiated by NDSU Extension in response to producer interest in this method of winter feeding. Our team consists of four Extension county agents, four producers, three area Extension specialists, and one Extension state specialist. Support for the first year of sampling came from the North Dakota Grazing Lands Coalition.

Last fall, soil was sampled systematically around four bale sites and four control sites, and bales were cored for forage nutrient analysis. Soil was analyzed conventionally and with the Haney method, which mimics nature’s approach to nutrient availability. Animal performance was quantified with body condition scores before and after bale-grazing at these monitored sites. This summer, forage regrowth was clipped from the four grazing sites and a control site. This fall, we will analyze soils at our cooperator ranches again, looking at the soil response after last winter’s bale grazing.



Manure: Returning Nutrients to Their Roots

The 2016 North American Manure Expo (NAME) was held August 3 and 4 this summer in London, Ohio. Hosted by The Ohio State University, this annual educational and demonstrative event was attended by over 1,200 people from across the US, Canada, Australia, China and Ireland. The expo is a coming to-

North American MANUREXPO Professionalism in Nutrient Management

gether of professional manure applicators, livestock producers, crop consultants, compost managers, industry representatives and extension educators.

The 2-day event kicked off with tours, with participants choosing between beef, dairy, or composting and nutrient management tracks. Local businesses highlighted their nutrient



Over 1,200 educators, industry representatives, applicators, and producers attended the 2016 NAME in London, Ohio in August. Photo courtesy Robb Meinen, Penn State Extension.

management systems or how they use nutrients at their facility. All tours ended at a local

dairy's side-by-side demonstration with manufacturers showing off their latest and greatest agitation models. The second day continued with demonstrations of the solid and liquid applicators. A 30-foot liquid injector attached to a stationary tank with a ¼ mile of hose was the highlight of the demonstrations.

Because education is a key focus at the NAME, Extension educators, industry representatives, applicators, and producers shared research, technology, innovation and advancements in their various areas of expertise. Topics included small farm manure management, cover crops, water quality and initiatives, reducing runoff, liquid and solid manure handling and application, safety and transportation, biosecurity and new and emerging technologies.

North Dakota State University Area Extension specialist Mary Berg and Sheridan County Extension agent Nicole Wardner represented NDSU at NAME. Both participated in the NAME board meeting held during the expo, where Berg was elected as board treasurer.

The 2017 [North American Manure Expo](#) is heading back to its roots, as Wisconsin State University will be hosting the annual event August 22-23 in Arlington, Wisconsin. Next year's expo is titled, "Innovation. Research. Solutions." –Nicole Wardner, Sheridan County Extension Agent

North American
MANUREXPO 2017
Innovation. Research. Solutions.

North American
MANUREXPO
Professionalism in Nutrient Management
Arlington 2017 Wisconsin

August 22, 2017 • TOUR DAY
August 23, 2017 • MANURE EXPO
Location ★ ARLINGTON, WI

• ManureExpo.org



Feedlot tour features four facilities in central North Dakota

North Dakota's feedlot industry is becoming increasingly diverse as producers turn to environmentally sound facilities for purposes ranging from custom heifer development to backgrounding commercial cattle for other feedlots.

As producers contemplate the often intimidating task of siting and constructing a modern feeding facility, the NDSA's 14th annual Feedlot Tour provided a closer look at four recently constructed facilities that serve as a model of the state's industry.

The 2016 tour featured four facilities in central North Dakota, including Heim Cattle Company near Bismarck; Weigel Cattle Company near Kintyre; the Braun Feedlot near Kintyre; and the Schlecht Feedlot near Tappen. The tour gave producers an opportunity to learn from fellow producers' experience.

More than 150 tour participants enjoyed a beautiful central North Dakota weather on June 21. The tour featured a wide range of facilities and showcased the many options for producers interested in building a feedlot facility.

Heim Cattle Company

Heim Cattle Company, operated by Alan and Chuckie Heim, near Bismarck marked the tour's first stop. The Heims focus on custom heifer development and backgrounding at the newly constructed lot northeast of Bismarck. Animal health and low-stress cattle handling techniques are a cornerstone of the operation.

The lot, permitted in 2015 for 999 head, features herringbone cowboy alleys, a shape that promotes a streamlined movement of cattle from alley to pen.

"Conception rates are a no. 1 priority for us, and low-stress cattle handling is a large part of what it takes to accomplish good rates," Alan said. "We think that alley design has really contributed to our success."

Drainage is also a high priority for the family.

"Cattle in two inches of mud or more lose that gain quickly," Alan said. "You're pouring feed into them and their gain is dropping off."

To combat muddy conditions, Heim Cattle Company features mounds in each of its pens.

"They work really well in winter to promote drainage," Alan said. "If you're going to spend any money on your lot, the mounds are worth it. That's probably the most important thing we did."

The facility also features continuous-poured concrete bunks and heavy-use pads, 8,200 feet of cable feedlot fence and concrete waterers.

Weigel Cattle Company

The Weigel Cattle Company feedlot, operated by Randy and Steven Weigel, near Kintyre was the second tour stop. The Weigels began work on their 2,500-head feedlot in 2015 to streamline the family's backgrounding business.


"I was feeding all my cattle out here in the pasture," Randy said. "We had a row of trees down there, but when we'd get a wet fall or spring, I'd have trouble getting to my feed bunks."



Alan Heim explains the drainage system at Heim Cattle Company northeast of Bismarck.



Randy Weigel addresses tour goers at Weigel Cattle Company near Kintyre.



The feedlot also gave Steven an opportunity to return to the operation.

The facility features continuous pipe fence, continuous-poured concrete bunks and heavy-use pads. The Weigels also rely on a state-of-the-art processing facility.

During the expansion phase, the Weigels worked to strengthen their water system.

"Anytime you tie two systems together, you'll have challenges and most of them will come in the old system," Randy said.

He warned producers interested in building their own facility to be involved in the construction process and to consult with experts who have built similar facilities in the past.

"We know how to feed cattle, but I don't read blueprints the best," he said. "It's not what we're trained to do. Get somebody that knows and make sure you want that dike there or that bunk line in a certain spot."

Braun Feedlot

The Braun Feedlot near Tappen followed a lunch stop at Napoleon Livestock in Napoleon. Donavin Braun operates the 999-head backgrounding facility. Permitted in 2011, the facility features a custom-built processing facility and cowboy alleys, free-standing panel feedlot fence, concrete bunks and heavy-use pads.

The Braun family custom feeds cattle, backgrounds their own cattle herd and farms grain for feed. Donavin began thinking about constructing a facility after his operation outgrew its current corral facilities. He custom-built the cowboy alleys and processing facility, including his own hydraulic chute.

"Our corrals needed repair and we had outgrown what we had, so we decided to do the whole thing," he said. "We did this in phases; the barn was done before the pens."

The facility also features two solid separators and provides flexibility with its free-standing feedlot panels.



Donavin Braun explains the custom-built cowboy alleys and hydraulic squeeze chute at the Braun Feedlot near Tappen.



Brandon Schlecht discussed the siting process for his new facility near Medina.

Schlecht Feedlot

The final tour stop was the Schlecht Feedlot, operated by Brandon Schlecht near Medina. Constructed in 2013, the 999-head permitted backgrounding facility features guardrail curb fenceline feeding, concrete heavy-use pads, continuous-pipe fencing and custom-designed processing facilities.

Schlecht elected to build the new facility to ease feeding and cattle handling.

"We were getting to the point where everything was muddy all of the time and hard to work with," he said. "We started looking for a location and decided on the current site. This site was all pasture when we started."

The new facility has allowed Schlecht to expand his operation to feature custom feeding and backgrounding and, in some cases, finishing cows for harvest.

Schlecht recommended working with resources like the NDSA's Environmental Services Program to learn from those who work frequently on feedlot construction projects.

North American Manure Expo to SD in 2018

BROOKINGS, S.D. - South Dakota State University and SDSU Extension are pleased to announce South Dakota was recently selected to host the 2018 North American Manure Expo.

The North American Manure Expo is a traveling show that combines three attractions into one event, consisting of an industry trade show, manure technology demonstrations and tours, and educational sessions and events

"The North American Manure Expo will also provide an opportunity to showcase our state's feeding industry and its ongoing commitment to environmental stewardship," said David Kringen, SDSU Extension Water Resources Field Specialist.

History of the North American Manure Expo

In early 2001, the University of Wisconsin was approached by a number of custom manure applicators in their region



In 2001, at the initial Manure Expo in Wisconsin, liquid application was demonstrated with several broadcast spreaders. At first, organizers offered the event every other year, so there were no Manure Expos in 2002 or 2005. After 2005 the Manure Expo became an annual event and has moved to a number of locations. *Photo courtesy NAME.*



South Dakota State University and SDSU Extension are pleased to announce South Dakota was recently selected to host the 2018 North American Manure Expo. - See more at: <http://igrow.org/news/north-american-manure-expo-to-sd-in-2018/#sthash.5Y9pysXD.dpuf>. *Photo courtesy of Robb Meinen, Penn State Extension.*

requesting a show that would provide side-by-side comparisons of agitation and application equipment to help determine what best fit their individual needs.

From this request came the first Manure Expo, which was held near Prairie Du Sac, WI in August 2001. The first event proved to be very successful and additional shows were requested for 2003.

The Expo has grown to be an annual event and has been hosted by Wisconsin, Michigan, Minnesota, Missouri, Ohio, Iowa, Nebraska, Pennsylvania, Ontario, Canada and, in 2018, South Dakota!

2018 Expo Event

The North American Manure Expo can expect to bring together a number of different industry and agency personnel including livestock producers in the dairy, beef, pork, and poultry industries; custom manure handlers, applicators, and brokers; crop consultants and nutrient management

SD Manure Expo

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specialists; agricultural support industry; and Extension and agency personnel.

SDSU Extension is currently evaluating a number of site locations in southeast South Dakota along the Interstate 29 corridor that can accommodate a potential audience of 1,000+ attendees over a 2-day event.

"The chosen site will have room for exhibitors, educational sessions, and machinery demonstrations," David Kringen explained. "A site near Sioux Falls would provide an ideal central location for attendees traveling from neighboring states, have airport access, and be in close proximity to the South Dakota feeding industry."

SDSU Extension has also taken a regional approach in the planning and development of the 2018 Expo by inviting the cooperation of the other members of the I-29 Consortium of Universities from the neighboring states of North Dakota, Nebraska, Iowa, and Minnesota. "We feel this multi-state approach will give participants the best possible experience when attending the event," Kringen said.

South Dakota's initial planning committee includes:

- Erin Cortus, Associate Professor & SDSU Extension Environmental Quality Engineer
- David Kringen, SDSU Extension Water Resources Field Specialist
- John Lentz, Resource Conservationist, South Dakota NRCS Nutrient Management Team

While the input from neighboring universities will be invaluable, Kringen said support from the South Dakota livestock industry, producer organizations, custom manure applicators, and others will be vital in order for the event to be successful. "SDSU Extension looks forward to working with our industry partners over the next two years to bring about a memorable Expo in 2018," he said.

To learn more about this event, contact Kringen by email.- See more at: <http://igrow.org/news/north-american-manure-expo-to-sd-in-2018/#sthash.5Y9pysXD.dpuf>

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NM Day highlights

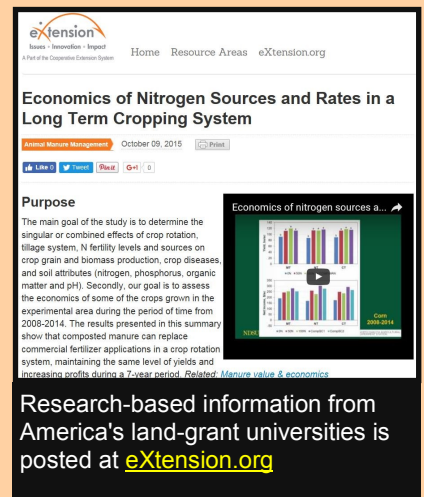
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that quality product as a fertilizer to maximize yields for crop producer. Scholting did a hands-on presentation showing how Nutrient Advisors works with livestock producer on sorting manure and knowing the "good stuff" from the other stuff.

Another highlight was the opportunity to share our 28 year Long-Term Cropping System research from the CREC (<http://articles.extension.org/pages/72759/economics-of-nitrogen-sources-and-rates-in-a-long-term-cropping-system>).

Brad Brummond, NDSU Extension agent in Walsh County presented yield and net returns from data collected over a seven year period. He also expressed the importance of managing manure as a resource as opposed to a liability.

Of course, the day wouldn't have been complete without the manure composting demonstration and manure spreader calibration activity.



The screenshot shows a webpage from eXtension.org. The article title is "Economics of Nitrogen Sources and Rates in a Long Term Cropping System" by Brad Brummond, dated October 09, 2015. The page includes a "Purpose" section and a small video player. The purpose text reads: "The main goal of the study is to determine the singular or combined effects of crop rotation, tillage system, N fertility levels and sources on crop grain and biomass production, crop diseases, and soil attributes (nitrogen, phosphorus, organic matter and pH). Secondly, our goal is to assess the economics of some of the crops grown in the experimental area during the period of time from 2008-2014. The results presented in this summary show that composted manure can replace commercial fertilizer applications in a crop rotation system, maintaining the same level of yields and increasing profits during a 7-year period." A small video player is visible on the right side of the article content.



Spreader calibration is essential in effective management of nutrients, to determine the proper amount of manure to apply in order for adequate nutrition for next year's crop.

Aside from the insane mosquito attack out at the plots, it was a great day! — Mary Berg

Extension Programs Host Land Use and Management Practices to Enhance Water Quality Workshop; Curriculum Available for Use

Fargo, North Dakota –In the Northern Great Plains, livestock production and watershed management often go hand in hand. If not managed properly, this combination can lead to water contaminated with harmful bacteria. This is the issue Miranda Meehan, her colleagues at North Dakota State University Extension, South Dakota State University Extension, and the University of Nebraska Extension set out to address by hosting two Land Use and Management Practices to Enhance Water Quality Workshops. The workshops provided training and curriculum to Extension professionals, educators and Technical Service Providers to help them address water quality concerns related to land use and nutrient management.



Participants can utilize the curriculum and skills learned at the workshop in programs within their areas/counties, miranda4increasing producers and land managers' awareness of issues impacting water quality and knowledge of management strategies to improve water quality. Workshop curriculum including PowerPoints, presentations, handouts, and lesson plans are available for use here.

“E.coli bacteria is the leading cause of impairment of many water bodies in the North Great Plains. This leading source of impairment has been linked to livestock production, specifically riparian grazing,” said Miranda Meehan, North Dakota State University Extension, “To date there has been no training provided to Extension educators in the project area on watershed management.”

The educational programs will increase public awareness of management and stewardship practices that will enhance habitat and water quality within watersheds in the participating states.

“Being able to learn the topic, then see, or apply the theory behind it in the field was great. Also, meeting other professionals you can introduce to local producers and improve their operation and stewardship practices is beneficial,” said attendee Nicole Wardner, NDSU Extension Service, “We don’t always have the answers, but if you can direct them or link them with someone who does it keeps momentum going for improving the land.”



Participants at the Land Use and Management Practices to Enhance Water Quality Workshops practice their bookkeeping skills.



Field work is an integral part of developing sound water quality plans.

The workshops are part of a seed-funded project grant provided by the North Central Region Water Network which is a 12-state collaboration designed to enhance connectivity across regional and state water projects, develop and carry out integrated outreach and education efforts, and coordinate projects with measurable short and long-term environmental and social impacts. More information on this seed-funded project and curriculum that was presented at the workshops can be found here: Professional Development for Extension Professionals and Educators on Land Use and Management Practice to Enhance Water Quality.

For more information, contact: Miranda Meehan, Extension Livestock Environmental Stewardship Specialist, North Dakota State University. 701-231-7683. miranda.meehan@ndsu.edu .

For media inquiries, contact: Amber Schmechel, UW-Extension, Environmental Resources Center. 608-262-1377. aschmechel@wisc.edu .

What Records Do I Need for an Inspection?



Commentary from the CAFO Corral

All of the animal feeding operations that have been permitted by the North Dakota Department of Health in recent years have had a Nutrient Management Plan (NMP) at one time. All too often, however, that plan is probably filed away in the dark corner of a filing cabinet shortly after it is developed. All parts of the NMP should be kept up to date, but there are three very important pieces of information that department staff will ask for at every inspection.

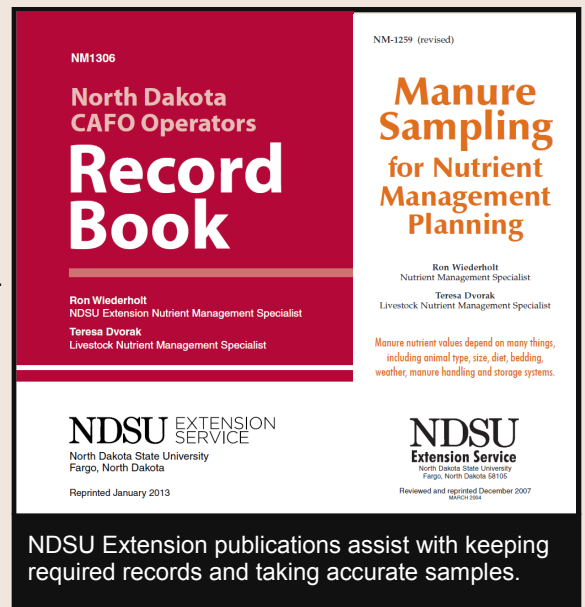
Manure spreading records. This is as simple as “where, when and how much.” Most crop producers keep good records when applying nutrients from commercial fertilizer, but they often overlook recording information when applying the nutrients from manure. Even if the tonnage of each load is not known, keep track of the number of loads. Use the applicable sections from NDSU Extension publication [NM-1306 North Dakota CAFO Operators Record Book](#) to make sure you are keeping the required records.

Soil nutrient test results. Current soil tests really tell the story of how the manure nutrients are interacting with the crop. Sampling every year is recommended; however, soil tests are considered current if they were taken in the last three years (for all but the CAFOs).

Manure nutrient test results. A manure sample should be taken when the manure is applied. Most soil test labs also analyze manure nutrients, so contact your agronomist to find out if the manure samples can be sent with your regular soil tests. For specifics on how to take a manure sample, refer to NDSU Extension publication [NM-1259 Manure Sampling for Nutrient Management Planning](#).

Make sure that the field identification is the same for all three items. It does not matter if a field is listed as “Field 7,” “The NW ¼ of Section 12,” or “The Schmidt Place,” as long as the manure records and soil tests use the same identification.

If you have any questions about what records are required or what the information means, department staff would be happy to visit with you at your convenience. Please contact our office at (701) 328-5210. -- *Jeremy Lang, ND Department of Health*



Recognized as the meeting place for the global dairy industry, [World Dairy Expo](#) attracts more than 70,000 attendees from over 90 countries to Madison, Wisconsin, each year.

Congratulations on 50 years of success!

Coming Events

- October 3: [Public Perceptions Training](#), Langdon REC, 6pm..
- October 4: [Public Perceptions Training](#), Carrington REC, 6pm.
- October 4-8: [World Dairy Expo](#), Madison, WI
- October 5: [Public Perceptions Training](#), Hettinger REC, 6pm (MST)
- October 6: [Public Perceptions Training](#), North Central REC at Minot, 6pm.
- October 10: Backgrounding [Webinar](#) ONLINE only, 7pm..
- October 15: Dakota Feeder Calf Show, Turtle Lake, ND.
- October 25: [Backgrounding Local Meeting](#) at Bottineau Farm Credit Services building, 1pm.
- October 25: [Backgrounding Local Meeting](#) at North Central REC, Minot, 7pm.
- October 26: [Backgrounding Local Meeting](#) at McClusky City Hall, 9am.
- October 26: [Backgrounding Local Meeting](#) at Hazen City Hall, 1:30pm.
- October 27: [Backgrounding Local Meeting](#) at Linton Courthouse auditorium, 9am.
- October 27: [Backgrounding Local Meeting](#) at Ashley Courthouse, 1pm.
- October 27: [Backgrounding Local Meeting](#) at Fullerton Ranch House, 7pm.
- December 16. Central Dakota Ag Day sponsored by Foster County Extension at the Carrington REC.
- January 18-19, 2017: NDSU Feedlot School sponsored by Foster County Extension at the Carrington REC.
- April 18-21, 2017. [Waste to Worth Conference](#) on Livestock and Poultry Environmental Quality, Raleigh, NC.

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.

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.edu.



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