

THE DAIRY BULLETIN

A NEBRASKA DAIRY EXTENSION UPDATE

Spring 2020

Preparing for FARM Animal Care Evaluations

By: Kim Clark, Nebraska Extension Dairy Educator & Heidi Carroll, SDSU Extension Livestock Stewardship Field Specialist & BQA Coordinator

Article also published at <https://extension.sdstate.edu/preparing-farm-animal-care-evaluations>

The FARM Animal Care Version 4.0 rolled out January 2020. This article is a condensed tool to aid you in preparing for your next evaluation. A detailed preparation guide that includes a checklist is located at the [National Dairy FARM webpage](#). We encourage you to reach out to your co-op or processor with questions or concerns as you prepare for your next evaluation. It is the responsibility of the FARM Evaluator to clearly communicate program expectations to the producer and schedule future evaluations. The "Documentation" section of this article provides a list of the records and protocols needed for the evaluation with a brief description of each. The "Observation" section outlines observations the evaluator will make while conducting the evaluation including which class of animals are observed for each criteria.

Documentation

Documents can be electronic or hard copy. However, all documents must be available at the farm and certain items must be posted to meet the criteria. For example, standard operating procedures (SOPs) should be posted in the appropriate area the tasks are being performed as a quick reference for employees. Consider the first languages of all employees and provide translated documents. [Google Translate](#) is a resource to generate a translated draft of existing documents. Work with experienced translators or industry

professionals to finalize the documents and ensure accurate translations.

- **A cow care agreement** needs to be signed by non-immediate family and immediate family members 18 years of older.
 - **Non-family labor:** Each employee that is 18 years of age or older needs to have a signed animal care agreement
 - **Family labor:** Each family member 18 years of age or older needs to sign the agreement *OR* if a family representative prefers to take the responsibility for all family members 18 years or older, they can sign a cow care agreement document for the immediate family. Immediate family members are grandparents, parents, in-laws, partners, siblings, children or grandchildren or legal owners of the dairy operation.
- **A Veterinarian Client Patient Relationship (VCPR) form** needs to be signed annually by the veterinarian of record.
- **Annual continuing education/training** needs to be provided and documented for employees (non-family and family) in their respective area(s) of animal care. Continuing education can be formal or informal taking the form of online videos, hands-on training, workshops,

etc. Documentation of continuing education needs to be provided in the following areas.

- Stockmanship
 - Pre-weaned calves
 - Non-ambulatory animals
 - Euthanasia
 - Fit for transport
- **Animal treatment records** need to be maintained. These records can be written or electronic but must be available for review by an evaluator. If records are solely electronic, ensure employees performing animal care tasks have access to the records to keep them updated. Provide clear instructions on how records should be entered, so information remains consistent. These records should include:
 - Date of treatment
 - Animal treated identification
 - Name of treatment product used
 - Disease or condition treated
 - Dosage administered
 - Route of administration
 - Duration of treatment
 - Specific milk and meat withdrawal times.
 - **The herd health plan** should be reviewed annually by the veterinarian of record and the review documented (date and initials of review need to be noted on the document). The herd health plan needs to include the following written protocols: (Additional criteria for each area is found in the Figure 1).
 - Pre-weaned calves
 - Difficult calving/dystocia
 - Non-ambulatory animals
 - Fitness to transport
 - Euthanasia
 - Treatment of common diseases
 - Lameness prevention and treatment
 - Vaccination
 - Milking procedure
 - Emergency action or crisis plan
 - Biosecurity

- Pest, fly and parasite control

Herd Health Plan

Reviewed annually by the Veterinarian of Record#

<p><input type="checkbox"/> Pre-Weaned Calves Protocol including:</p> <ul style="list-style-type: none"> <input type="checkbox"/> How calves are moved# <input type="checkbox"/> How colostrum is provided# <input type="checkbox"/> How milk/milk replacer is provided# <input type="checkbox"/> Feed and water are provided by day three# <input type="checkbox"/> Disbudding of calves prior to 8 weeks of age# <input type="checkbox"/> Pain mitigation used for disbudding† <ul style="list-style-type: none"> - Pain mitigation is expected to be used when disbudding calves for any method (cautery, paste, etc.) - It is expected that producers work with their veterinarians to determine the appropriate pain mitigation to use for disbudding 	<p><input type="checkbox"/> Euthanasia Protocol including:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Criteria for the identification of animals to be euthanized# <input type="checkbox"/> Euthanasia techniques that follow the approved methods of AABP and/or AVMA# <input type="checkbox"/> How carcass disposal is conducted using an appropriate method# <p><input type="checkbox"/> Treatment of Common Diseases</p> <ul style="list-style-type: none"> <input type="checkbox"/> Mastitis <input type="checkbox"/> Metritis <input type="checkbox"/> Milk fever <input type="checkbox"/> Ketosis <input type="checkbox"/> Displaced abomasum <input type="checkbox"/> Pneumonia <input type="checkbox"/> Diarrhea <p><input type="checkbox"/> Lameness Prevention and Treatment</p>
<p><input type="checkbox"/> Difficult Calving (Dystocia) Protocol</p> <p><input type="checkbox"/> Non-Ambulatory Animals Protocol including:</p> <ul style="list-style-type: none"> <input type="checkbox"/> How non-ambulatory animals are moved# <input type="checkbox"/> What prompt medical care is provided# <input type="checkbox"/> Outlines that non-ambulatory animals are provided with access to feed, water, protection from heat and cold for typical climatic conditions, isolation from other ambulatory animals and protection from predators# <p><input type="checkbox"/> Fitness to Transport Protocol# including:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Definition of animals that are eligible to be marketed <input type="checkbox"/> Outlines adherence to milk and meat withdrawal times 	<p><input type="checkbox"/> Vaccination Protocols that specify:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Age(s)/stage when vaccination given <input type="checkbox"/> Product used <input type="checkbox"/> Dosage administered <input type="checkbox"/> Route of administration <input type="checkbox"/> Withdrawal times <p><input type="checkbox"/> Milking Procedure Protocol</p> <p><input type="checkbox"/> Emergency Action or Crisis Plan <i>Examples: employee injury, biosecurity, natural disasters, temperature extremes, contagious disease outbreak, power failure, manure spills, etc.</i></p> <p><input type="checkbox"/> Biosecurity Protocol</p> <p><input type="checkbox"/> Pest, Fly and Parasite Control</p>

Figure 1: Herd health plan checklist. Courtesy: National Dairy FARM

Observations

- **Facility measures**
 - Posted emergency contact information
 - Clean, soft, dry, well-lit and well-ventilated calving area
 - All facilities provide proper ventilation to reduce odors, dust, and/or noxious gas
 - Method of daily exercise for all age classes

- Protection from heat and cold for typical climatic condition
- Housing allows all age classes of animals to easily stand up, lie down, adopt normal resting postures and have visual contact with other cattle without risk of injury
- Resting area for all age classes of animals that is clean, dry, provides traction at all times when away from the milking facility and does not pose risk of injury
- Facilities designed to prevent injuries, slips and falls of animals
- Facilities are designed to prevent unnecessary contact with electrical currents
- All age classes of animals have access to clean water and sufficient feed
- **Animal measures** will be observed and compared to the benchmark stated in Figure 2. Figure 2 summarizes the observations by the evaluator and indicates the expectation for tail docking and animal identification. Lactating cows are scored on all six observations - hygiene, body condition score, locomotion, hocks, knees, and broken tails, while pre-weaned and post-weaned calves are scored on hygiene and body condition score. Pre-fresh cows and heifers/dry cows are solely scored on hygiene.

This summary is only the starting point in preparing for your FARM Animal Care Evaluation. We encourage you to consult with your FARM Evaluator or co-op/processor representative and review any previous evaluation reports for your farm. Additional FARM Animal Care Version 4.0 resources and downloadable templates, available in English and Spanish, can be accessed at the [National Dairy Farm website](#).

Reference:
[FARM Animal Care Evaluation Preparation Guide \(2020\)](#), National Dairy FARM Program.

All Age Classes

No routine tail docking*

Each animal is identified with a tamper-resistant individual animal ID

Outcomes-Based Animal Observations

	Hygiene	Body Condition Score†	Locomotion‡	Hocks†	Knees†	Broken Tails†
Benchmark to Meet	90% or more observed animals score 2 or less on the FARM Program Hygiene Scorecard	90% or more of observed animals have a body score less than or equal to 2 on FARM Body Condition Scorecard	50% or more of the lactating herd score 2 or less on the FARM Locomotion Scorecard	90% or more of the lactating herd score 2 or less on the FARM Hock Scorecard	90% or more of the lactating herd score 2 or less on the FARM Knee Scorecard	90% or more of lactating animals do not have broken tails
Lactating Cows	✓	✓	✓	✓	✓	✓
Pre-Weaned Calves (heifers, bulls, steers)	✓ (1 day of age and older)	✓ (1 day of age and older)				
Post-Weaned Heifers	✓	✓				
Pre-Fresh Cows and Heifers/Dry Cows	✓					

Figure 2: Animal measures summary. Courtesy: FARM



Dairy Webinar Series

Join us each month as Nebraska Extension provides you a webinar related to dairy nutrition, waste management, feed efficiencies, and much more.



Thank you to our sponsors!



Date	Topic
May 12	Preparing for the FARM 4 Evaluation
June 9	Improving Cropland Resiliency by Making Manure Part of the Fertility Planning
July 14	Nutritional Energetics
August 11	Value of Manure
September 8	Mindful Manure Management: 5 Tips for Staying Safe During Manure Application
October 13	Can a Weather Forecast Reduce Neighbor Odor Exposure?
November 10	Does pelleting affect digestibility?
December 8	Feeding strategies with low quality and quantity forages

11:00 am CST

No fee to attend; however, pre-registration required.

Register at:
Go.unl.edu/dairywebinar

UNL does not discriminate based on sex, gender, race, ethnicity, or religion. Please see our nondiscrimination policy at www.unl.edu/nondiscrimination. ©2020 The Board of Regents of the University of Nebraska. All rights reserved.



Emergency Use of Milk as a Fertilizer Q&A

Author: Rick Koelsch, University of Nebraska livestock environmental engineer

Reviewers: Mitiku Mamo, Nebraska Extension Educator, and Charles Shapiro, Professor Emeritus of UNL Agronomy and Horticulture

Difficult challenges in the dairy industry such as those resulting from COVID-19 result in times when a market is not available for milk. When those occur, using milk as a crop fertilizer may provide a short-term option for gaining some value from milk. Below are some questions and answers for using milk as a fertilizer.

What Is Milk's Value as a Fertilizer?

Nearly all protein is readily degradable providing a source of nitrogen to a crop. In fact, one can assume that 100% of the nutrient in milk will be plant available during the cropping season immediately following application. Table 1, below, is a quick comparison of milk and dairy manure nutrient value.

Nutrient	Milk	Dairy Manure at 4% dry matter or less
Nitrogen	46	7
Phosphorus as P ₂ O ₅	26	3
Potassium as K ₂ O	17	11
Sulfur	2	1

Table 1: Typical nutrient concentrations for milk and dairy manure (pounds per 1,000 gallons). Reference: Carrie Laboski, University of Wisconsin presentation, recorded at <https://youtu.be/Gk2aeV14EoU>

Are there Environmental Concerns with Milk?

Yes, there are two issues which should be considered in planning.

- Milk has a very high "Biological Oxygen Demand", many times higher than manure. That means, when it is breaking down in soil or water, it consumes a lot of oxygen. The oxygen demand for degrading 1 Pint of Milk will consume all the oxygen from 1,600

gallons of surface water. Milk cannot be allowed to get into fresh water!

- The degradation process for milk will produce significant and powerful odors. Injecting or disking milk into the soil will minimize those odors. The soil is a good filter for odors. If this is not possible, chose a site with no downwind neighbors. Check the weather forecast for the 48 hours after milk is to be land applied. Note wind direction during the evening and nighttime hours, when odors often concentrate near the ground. Select a site with no neighbors in this direction. Discussions with neighbors about your plans for milk disposal are also encouraged.

If applied to a Nebraska corn field, what might be a reasonable rate?

If no fertilizer or manure has been applied, milk can be used to supply the primary nitrogen requirement of the crop as a pre-plant fertilizer. Scenario's #1, #2, and #3 illustrate examples of applying milk to corn fields which have not received fall or spring applied fertilizer or manure. Between 3,000 and 4,000 gallons of milk should meet the nitrogen requirements of these crops. The resulting application of 78 to 104 lbs of P₂O₅/acre should will only slightly excess the corn crop's phosphorus removal (76 to 90 lbs of P₂O₅/acre).

If a base rate of nitrogen fertilizer has been applied, milk should only be used to offset the planned fertilizer used at planting or post-planting. Scenario 4 suggests that 100 lbs N/acre has been applied pre-planting and only 1,100 gallons should be applied to offset the originally planned 51 lbs N/acre at or following planting.

Assumptions			Unit	#1	#2	#3	#4
Yield goal		bu/acre		220	220	260	220
Soil texture				Med./Fine	Sandy	Med./Fine	Med./Fine
Soil organic matter	in 0-8" depth	%		2.0	1.5	2.0	2.0
Soil Test Nitrate-N	8" soil sample - nitrate	ppm		7.0	5.0	7.0	7.0
	24" soil sample - nitrate	ppm		3.8	3.0	3.8	3.8
Previous crop				Soybean	Soybean	Soybean	Soybean
Irrigation	Water amount	inches		10	20	10	10
	Water nitrate-N	ppm		5	10	5	5
Nitrogen management program				Pre-plant	Split	Pre-plant	Split
N applied since harvest		lb/acre		0	0	0	100
UNL N recommendation							
N algorithm components	Crop N requirement	lb/acre		299	299	347	299
	SOM credit	lb/acre		62	46	73	62
	Soil nitrate-N credit	lb/acre		30	23	30	30
	Legume N credit	lb/acre		45	45	45	45
	Irrigation N credit	lb/acre		11	45	11	11
	Manure N credit	lb/acre		0	0	0	0
Recommended N amount			lb/acre	151	140	188	51
Recommended Milk Application Rate²			gal/ac	3,300	3,000	4,100	1,100

Are There Alternative Application Sites Besides Corn?

If corn fields are not available, here are a few options to be considered:

- Alfalfa fields, immediately after harvest. Legume crops such as alfalfa can be options for utilizing a lot of milk nitrogen.
- Field going into wheat or other small grain production. Milk should not exceed the crops N requirement! Excess N can lead to lodging.
- Fields harvested for forage production (apply soon after harvest). Milk may affect forage palatability or quality. Maximizing time between milk application and the next harvest is desirable.
- Post-harvest fields are an option. If several months are to lapse between milk

application and planting the next crop, a cover crop would be recommended.

- Application on pastures to be grazed is suggested as only a last resort. If necessary, apply milk shortly after grazing or harvest.

Visit with your agronomist or crop consultant about desirable rates

Are There Additional Considerations in Selecting a Milk Application Site?

Milk is likely to be spread on only a few acres. If spread at 3,000 gallons per acre, a 1000 cow lactating herd dumping milk producing 8,000 gallons per day will need access to less than 3 acres of land per day that milk is dumped. Choose locations in a field that are:

- Removed from surface water.
- Removed from neighbors.
- Unlikely to experience runoff.

- NOT tile drained or connected to a shallow water table.
- NOT manured or fertilized since last fall (unless milk is to replace planting and post-planting fertilizer application).

Can I Add Milk to My Manure Storage?

Yes. However, give some thoughts to two issues:

- Milk fats will coat mechanical systems and result in clogging. Add milk to the manure stream after all pumps and separation equipment.
- Do I have enough storage volume?
1000 lactation cows producing 8 gallons

of milk per cow per day will add 1,100 cubic feet (or 0.3 acre-inches) to the stored volume. A 2000 cow lactating herd dumping milk for 5 days will need sufficient storage space for about 11,000 cubic feet (2 thousand cows X 5 days X 1,100 ft³) or 3 acre-inches (2 thousand cows X 5 days X 0.3 ac-in). In this situation, a one acre pond would need to hold 3 additional inches of depth.

Reference: Carrie Laboski, University of Wisconsin soil scientist and Becky Larson, University of Wisconsin agricultural engineer.

Disposal of Milk and Milk Products on Dairy Farms During COVID-19

These recommendations pertain to dairy farmers who are unable to send milk to processors during the COVID-19 pandemic due to reduced processing abilities.

- 1 Milk may be directly applied to agricultural land at agronomic rates or added to an approved waste storage structure.** Keep records of the volumes of milk sent to storage or applied to land.

Choose Land Application Sites That:	Average Nutrient Characteristics of Raw Milk
Have minimal slope	Nitrogen.....45 lbs/1000 gal ¹
Are not next to water bodies	Phosphate.....17 lbs/1000 gal
Do not tend to experience runoff	Potash.....15 lbs/1000 gal
Do not have sandy, easily drained soils	*How much can I apply?
Do not have shallow depth to groundwater	4,500 gal/ac will supply approximately 200 lb N, 75 lb P ₂ O ₅ and 70 lb K ₂ O
	*Reduce rates, as needed, to avoid producing runoff.
- 2 Perform land application on any available application day to maintain sufficient storage volume in waste storage structure.** Adding milk to a waste storage structure will reduce storage capacity. A lactating cow produces about 7 1/2 gallons of milk every day, which equates to about 40% more volume going to the storage than with manure and wastewater alone.
- 3 Land applied milk should be injected or incorporated to minimize odor and vector attraction.** Milk is a very high strength waste with significant odor and pollution potential.
- 4 Follow the operation's approved nutrient management plan, permits and approved protocols.**

Additional information can be found at this webinar:
<https://www.youtube.com/watch?v=Gk2aeV14FoU&feature=youtu.be>

In collaboration with       

These are general recommendations that do not account for state-specific requirements. Contact your state regulatory program for additional guidance.

¹ Mourad, G., G. Bettache, and M. Samir. 2014. Composition and nutritional value of raw milk. *Issues in Biological Sciences and Pharmaceutical Research* (2) 115-122.

© Nebraska Extension, University of Nebraska-Lincoln
The University of Nebraska uses recycled, 50% post-consumer waste, 100% acid-free paper. Please see our print and electronic disclaimer.

USING MILK AS A FEED SOURCE IN DAIRY RATIONS

These recommendations pertain to dairy farmers who are unable to send milk to processors during the COVID-19 pandemic due to reduced processing abilities.



WORK WITH YOUR NUTRITIONIST TO DEVELOP RATIONS

Milk provides protein, fat and other nutrients. Milk also reduces the dry matter content of the total mixed ration so balance your ration accordingly.

UNPLEASANT ODORS MAY BE A CHALLENGE AS THE WEATHER BECOMES WARMER

The feed bunks need to be managed more closely when feeding milk. This includes pushing up feed more often and turning the ration as reduce the unpleasant odors that may be occur.



FLY CONTROL MEASURES NEED TO BE IN PLACE AND PRACTICED

The warmer weather and odor of the milk will attract more flies. Spraying and fogging can help control flies. Feed bunks should be managed more closely to control flies.

PASTEURIZATION OF THE MILK IS RECOMMENDED TO REDUCE THE SPREAD OF DISEASES

Pasteurize the milk, if possible, to reduce the spread of disease such as Johne's, bovine leukosis, staph aureus, and other diseases. Milk should be pasteurized at 145 degrees Fahrenheit for 30 minutes.



ADDITIONAL INFORMATION ABOUT USING MILK AS A FEED SOURCE CAN BE FOUND HERE. [HTTPS://FYI.EXTENSION.WISC.EDU/DAIRY/FEEDING-UNPASTEURIZED-MILK-TO-THE-DAIRY-HERD/](https://fyi.extension.wisc.edu/dairy/feeding-unpasteurized-milk-to-the-dairy-herd/)



In collaboration with



No distillers' grains: What can you do?

By Cassidy Buse, UNL dairy nutrition graduate student

With most people now resolved to sedentary life at home due to stay at home orders in the midst of COVID-19, gasoline usage across the United States is reduced significantly. This has put pressure on ethanol plants to decrease production, which results in the reduced availability of distillers' grains for use in cattle rations. While the rest of the country has slowed to an almost standstill, there is still a demand for food, and dairy producers still need to produce milk. But without distillers' grains, producers and nutritionists are going to have to find affordable alternatives to meet cows' needs as well as maintain health. Within a ration, corn distillers' grains are a source protein, fat, neutral detergent fiber (NDF), and phosphorous. The Dairy Nutrient Requirements of Cattle (NRC) lists that dried corn distillers' grains have a protein, fat, NDF, and phosphorous content of 30, 10, 39, and 0.83%, respectively. Logically, an ingredient or combination of ingredients will need to be included to meet the cow's needs in the absence of distillers.

Undoubtedly, distillers' most notable contribution to rations is protein. When looking for a replacement to supply protein, the rumen degradable and undegradable fractions need to also be considered. Corn distillers' grains, as a proportion of crude protein (CP), has a rumen undegraded protein (RUP) content of approximately 50%. Some possible feed alternatives include soybean meal, expellers

soybean meal, byproducts of rendering processes such as feather and blood meal, and alfalfa. Soybean meal currently is readily

available and affordable, and it can range between 45 and 50% CP with about 35% of that being rumen



undegradable, according to the NRC; it also is highly digestible. Soybean meal also contributes some NDF also with 22% NDF content as well as a small amount of phosphorous with a content of 0.7%. Soybean expellers meal is another protein option. The NRC lists that expellers meal has a CP content of 46%, 69% of which is RUP. It also has 22% NDF and 0.66% phosphorous.

Byproducts from rendering such as blood meal and feather meal are also relatively available and affordable options. As listed in the NRC, blood meal has CP content of 95% with 65% of that being RUP. Feather meal also has a high CP content with 92%, of which 65% is RUP, and it also has 4.6% crude fat to contribute some energy to the diet. It should be noted that both blood meal and feather meal have a lower protein digestibility (around 65%) as compared to soybean meal. The actual CP content of rendered products also can be variable depending on processing method, so testing for

CP and RUP content as well as RUP digestibility to ensure proper ration formulation is recommended.

Also thanks to the Covid-19 pandemic, milk is being dumped because of reduced sales and processing capacity. According to Dr. Bill Weiss, professor and extension dairy specialist at The Ohio State University, feeding less protein in diets can reduce milk yield. So, feeding low protein diets, between 13 and 13.5% CP, will not only decrease yields but also ration costs. The protein in the ration should not be replaced by energy dense feeds, which can lead to cows

putting on unnecessary weight. Instead, forage fiber can be increased in the ration. With the first cutting of alfalfa drawing near, it is easier to determine if there is enough stored alfalfa to accommodate adding extra alfalfa. Depending on maturity at cutting, alfalfa can range from 17 to 21% CP and 19 to 28% RUP. Alfalfa also contributes 36 to 52% NDF, once again depending on maturity. Whatever alternate or combination of alternate feedstuffs is chosen to replace distillers' grains in rations, making sure cows' health is not compromised should be a top priority.

Upcoming Dairy Events

Date	Program/Event	Time/Location <small>*Times listed are CDT</small>
May 12	FARM 4.0 Program Update Webinar	11:00 am
June 9	Improving Cropland Resiliency by Making Manure Part of Fertility Planning Webinar	11:00 am
June 26	Nebraska State Dairy Association Butter Putter	Columbus
July 14	Nutritional Energetics Webinar	11:00 am
August	Value of Manure Webinar	11:00 am
September 8	Mindful Manure Management: 5 Tips for Staying Safe During Manure Application Season	11:00 am
Septmeber 19	Nebraska Dairy tailgate vs SDSU	Lincoln
October 13	Can a Weather Forecast Reduce Neighbor Odor Exposure? Webinar	11:00 am
November 10	Does pelleting affect digestibility? Webinar	11:00 am
December 8	Feeding strategies with low quality and quantity forages Webinar	11:00 am





Best Management Practices for Livestock and Farm Operations to Stop the Spread of a Virus (like COVID-19)



1. Stay Informed

Follow federal, state, and local direction to reduce personal risk for contracting COVID-19 and to limit further transmission if you or your employees become infected. Stay informed at www.cdc.gov/coronavirus/2019-ncov



2. Make a Plan

Make a written plan by addressing the following

- What are the essential activities of the operation? (Feeding, farm work, etc.)
- Who is primarily responsible for completing those activities?
- How those activities are accomplished? (What basic skills are needed for the activity?)
- Who is available to complete those tasks if the primary individual becomes unavailable?
- How may essential activities have to be modified if primary individuals are unavailable?

Write down the plan in as much detail as possible and make team members aware of the plan to insure continuity of business if COVID-19 infections begin to have a direct impact that disrupts normal management channels. Consider worst case scenarios for this situation (e.g. all team members are in quarantine due to exposure) and how essential operations can continue (e.g. asymptomatic team members self-quarantine at the operation to continue operations) and the logistics required for that plan.



3. Separate Duties

Develop plans to separate the teams/family members/hired personnel to prevent transmission.

Separate duties and use personal distancing of employees while at work and not at work. Examples - processing livestock, filling planters, brandings, etc.



4. Clean High Touch Areas

Limit use of common areas-use only with social distancing and hygiene guidelines going into and coming out of high touch areas such as Meeting rooms, common kitchens, common restrooms, sinks, refrigerators, etc.

- Clean and disinfect high touch areas frequently (see cleaning disinfection guidance)
- Bleach may be used to disinfect surfaces, but the concentration is higher for COVID-19 than for everyday sanitation: 5 tablespoons bleach per gallon of water
- If bleach is difficult to obtain, a list of disinfectants effective against COVID-19 is available at <https://www.epa.gov/pesticide-registration/list-n-disinfectants-use-against-sars-cov-2>. Read and follow labels, including dilution rates and contact time.

©2020 Extension is a Division of the Institute of Agriculture and Natural Resources at the University of Nebraska-Lincoln, cooperating with the Counties and the United States Department of Agriculture. Nebraska Extension education programs abide with the nondiscrimination policies of the University of Nebraska-Lincoln and the United States Department of Agriculture.



5. Hold Virtual Meetings

Consider conducting employee meetings virtually - ZOOM, FaceTime, others. If in person, follow CDC guidelines



6. Clean Vehicles, Tractors, Implements, and Tools.

Place hygiene supplies (hand sanitizer, disinfect and/or disinfectant wipes in equipment and other shared areas (e.g. shop). When changing operators/users - when entering and leaving or before and after use.

- Disinfect hands using sanitizer.
- Disinfectant all high touch areas (e.g steering wheel, control handles, door handles, syringes, etc.)
- Consider disposable covers for porous surfaces like seats and other upholstered surfaces.
- Allow for 3 hour down-time to allow virus to die in confined spaces (e.g. cabs), if possible.
- For more information specific to trucks, see <https://www.cdc.gov/flu/pandemic-resources/archived/cleaning-trucking.html> for applicable information.



7. Communicate with People Coming to your Location

(consultants, veterinarians, dealers, mechanics, etc.)

Set up appointments that include time, meeting place, and a plan for transmission control (social distancing, cleaning/disinfection, personal protective equipment, etc)

Confirm that individuals are feeling well and have not traveled to high risk locations prior to departure for visit.



8. Coordinate Delivery of Products and Inputs

(feed, medicine, supplements, pesticides, others)

Develop non-contact delivery methods (e.g. drop off locations)

- Wash hands after handling packaging, consider wearing gloves.
- Consider disinfection of non-porous packaging.

For deliveries that require person-to-person interaction:

- Develop physical reminders for social distancing (tape on floor, barriers, etc)
- Practice hand sanitizing/washing before and after interaction
- Inventorying and back-up planning essential.
- Identify essential supplies and consider increasing inventory
- Develop contingency plans if essential supplies become unavailable

Meet the Nebraska Dairy Team!



Paul Kononoff, Ph.D

Professor of Dairy Nutrition/Dairy
Nutrition Specialist
Phone: (402) 472-6442
Email: Pkononoff2@unl.edu
Areas of Expertise: dairy cattle nutrition



Kim Clark, M.Ag.

Dairy Extension Educator
Phone: (402) 472-6065
Email: kimclark@unl.edu
Areas of Expertise: animal care and
comfort



Rick Stowell, Ph.D.

Biological Systems Engineering
Phone: (402) 472-3912
Email: Richard.Stowell@unl.edu
Areas of Expertise: Odor and air quality



Rick Koelsch, Ph.D.

Biological Systems Engineering
Phone: (402) 472-2966
Email: rkoelsch1@unl.edu
Areas of Expertise: sustainability of
agricultural systems & animal manure
management



Robert Tigner, M.S.

Agricultural Systems, Economist, Educator
Phone: (308) 696-6734
Email: Robert.Tigner@unl.edu
Areas of Expertise: agriculture
economics, dairy economics

Connect with us!



@NEDairyExt



@NEDairyExt



dairy.unl.edu

Thank you to the Nebraska State Dairy Association for their support!



The University of Nebraska does not discriminate based on race, color, ethnicity, national origin, sex, pregnancy, sexual orientation, gender identity, religion, disability, age, genetic information, veteran status, marital status, and/or political affiliation in its programs, activities, or employment.

© 2020 Nebraska Extension, University of Nebraska-Lincoln





University of Nebraska-Lincoln
Department of Animal Science
P.O. Box 830908
Lincoln, NE 68583-0908