

North Country Ag Advisor

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Good Vibrations and Collaboration

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Cornell University Cooperative Extension Northern New York Regional Ag Team August 22, 2016 Bunk Management 7-9pm Mosher Dale Farm

> August 24, 2016 Bunk Management 7-9pm Stauffer Dairy

> > **AUGUST 2016**

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Our Mission

"The Northern New York Regional Ag Team aims to improve the productivity and viability of agricultural industries, people and communities in Jefferson, Lewis, St. Lawrence, Franklin, Clinton, and Essex Counties by promoting productive, safe, economically and environmentally sustainable management practices, and by providing assistance to industry, government, and other agencies in evaluating the impact of public policies affecting the industry."

Why Dairy Month Should Be Every Month in New York State By Anika Zuber

According to the USDA's National Agriculture Statistic Service, in 2015, the state of New York produced 14,100,000,000 lbs of milk. In 2014, Cornell calculated the dairy industry's impact on New York's economy to be \$14.8 billion. The dairy industry also represents roughly one half of New York's agricultural receipts. In 2011, it was determined that Dairy Manufacturing in particular accounts for roughly one-quarter of total agricultural manufacturing sales, and keeps 15% of those employed with jobs.

Currently, we are in the midst of culture swings and fads. One example of this is the "fat" debate. Should you be eating high fat or low fat foods? We've gone from reading Michael Pollan's Omnivore's Dilemma to Nina Teicholz's The Big Fat Surprise. This is the first time in years we've seen an increase in whole milk sales. While fluid milk sales are still declining overall, whole milk sales were up 4.1% as of March 2016. This leads me to believe there is opportunity for higher fat products going forward as the consumer culture switches to more of an ideological mindset of what "healthy" means to them. It seems as though "healthy" is turning into more of a synonym with the word wholesome. The good news is that dairy has nothing to be ashamed of because it is one of the

sample and educational booths in the capital. It was open to the public, and was a great display of comradery amongst the industry. There was a tremendous amount to be proud of in that building. The industry has multiple organizations, such as ourselves within Extension, farmer-funded programs, manufacturer organizations, and the awesome power of social media. With all of those organizations throughout the state, it was fantastic to see them all working together to support the industry.

To tie things together, I had the realization that in New York (and even beyond) every month should be dairy month. With the economic benefit of the dairy industry to the state from the farm, to the plant, and beyond, the dietary benefits of dairy products, the wholesomeness of the industry, and all the different advocate groups, we have a tremendous reason to be showcasing our industry. There aren't many industries that can come full circle and say that they are stewards of the land and animals, provide living wage employment, and produce healthy, wholesome products for consumers to enjoy.

most wholesome industries I'm aware of. I am certain most readers are aware of the nine essential nutrients found in milk, and the 8g of protein per serving, not to mention the unwavering care cows receive at the farm level. These are becoming more important factors in consumers' minds going forward. From cow to cup, the industry produces a nutrient dense and wholesome product.

In June, I attended Dairy Day in Albany where a milk toast was conducted and organizations set up



Can the Computer Tell Us When the Cow is Sick Before She Does?

Driven by technology and consumer demands, the dairy industry has undergone profound changes over the last decade. Economic pressures, technological advances, demographic shifts, and regulations have all contributed to the impetus for change in the global dairy industry aimed at maximizing productivity and efficiency. One piece of technology that is gaining a great deal of attention is the use of rumination and activity monitors to identify cows with health disorders, especially in early lactation.

The early lactation cow is in a suppressed immune state, and

dealing with negative energy balance, this increases her risk of disease. Early lactation cows should be monitored for many health challenges (Figure 1). This allows for identification of sick cows, treatment decisions to be made, and most importantly the improved well-being and productivity of the cow. One challenge with

Figure 1. Early Lactation
Health Challenges

- Retained placenta
- Metritis
- Mastitis
- Displaced Abomasum
- Ketosis
- Hypocalcemia
- Diarrhea
- Pneumonia

monitoring cows for health issues is the variation across farms: frequency of checks, types of evaluation, labor demand, and aids used (thermometers, rectal palpation, stethoscopes, ketostix...). Even within a single farm, if there is not an standardized operating procedure, there can be variation of disease identification and treatment among workers. Health monitoring programs are not cheap; there is a great deal of labor involved in both animal evaluation and training employees on how to identify and treat a sick cow. Monitoring technologies are able to help reduce the labor and time associated with a health monitoring program as well as reduce the disruption of normal cow behavior.

There are many monitoring technologies available to dairy producers. Researchers from Cornell recently conducted a study to determine if rumination and activity monitors could identify cows with health disorders, as well as the timeliness with which the cow is identified by the monitoring system compared with when farm personnel first identified an illness. A total of 1,121 cows were enrolled in the study. Based on rumination and activity, cows were assigned a Health Index **(HI)**; an HI<86 was flagged for potential disease challenge. Throughout the duration of the study, the regular health monitoring program was still done by farm personnel. Upon conclusion of the study cows were grouped based on

occurrence of a clinical diagnosis (**CD**) (identified by farm personnel) and HI score (based on activity and rumination) to evaluate accuracy of the system.

The HI was effective in identifying cows that suffered from displaced abomasums (DA), ketosis, and indigestion. Ninetyeight percent of cows with a DA were identified by the HR system an average of three days before clinical diagnosis by farm personnel (Table 1).

Table 1. Ability of health index (HI) score to identify cows with health disorders and timing to clinical diagnosis (CD) of disease								
Disorder	Cows detected (%)	HI<86 to CD (Days)						
Displaced abomasum (n = 41)	98	-3						
Ketosis (n = 54)	91	-1.5						
Indigestion (n = 9)	89	-0.5						
All metabolic disorders (n = 104)	93	-2.1						

This same study evaluated the ability of the HI score to identify metritis and mastitis (Table 2). The monitoring system was able to identify 55% of cows an average of 1.2 days prior to clinical diagnosis of metritis. One reason the sensitivity was lower is due to the subjectivity of "What is metritis?" Mastitis was correctly detected using the HI on 53% of cows an average of 0.6 day prior to clinical diagnosis, however if the cow had *E.coli*, the HI was able to identify 81% of clinical cows.

Table 2. Ability of health index (HI) score to identify metritis and mastitis, and the timing to clinical diagnosis (CD) of disease							
Disease	Cows detected (%)	HI <86 to CD (days)					
Metritis (n = 349)	55	-1.2					
Mastitis (n=165)	53	-0.6					
<i>E.coli</i> mastitis (n=31)	81	-0.5					

In conclusion, use of rumination and activity monitoring to develop a health index score is most effective to identify cows suffering from metabolic and digestive disorders. The lower sensitivity to identify cows with metritis and mastitis may be explained by the fact that the cow has a less severe systemic illness, as well as which mastitis pathogen is present. The system is able to identify cows with a DA, ketosis, metritis, and mastitis earlier than farm personnel. This allows for earlier treatment of cows leading to an improved response, improved well-being, and a reduced risk of associated disorders.



Cornell University Cooperative Extension Northern New York Regional Ag Team

Don't go Bunk-rupt!!

Monday, August 22, 2016

7:00 p.m.-9:00 p.m. Moser Dale Farm 3755 Wilson Road, Copenhagen

Wednesday, August 24, 2016

7:00 p.m.-9:00 p.m. Stauffer Dairy 925 CR 54, North Lawrence For more information contact:

Kim Morrill at 603-568-1404 or kmm434@cornell.edu

Join Us to Discuss Bunk Management

"Pre and Post Harvest"

Lindsay Ferlito at 607-592-0290 or lc636@cornell.edu

Featuring Guest Speaker Joe Lawrence Dairy Forage Systems Specialist, Pro-Dairy

- Pre/Post Harvest of Bunk Management
- Hands on Demonstrations
- Barn Tour
- No registration required.
- Light refreshments will be served.



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Early Season Drought Stress in Corn By Kitty O'Neil

The 2016 growing season has been an unusually dry one right from the beginning. Many NNY locations are one to six inches of rain behind normal, as of July 4. For some locations, showers and thunderstorms in early July have brought them closer to normal, though they were three to five inches below normal in late June. The season has been one where corn planting continued and concluded without much interruption, and first- and second-cutting forage yields have been quite disappointing on the whole. The National Drought Mitigation Center has had most of NNY categorized as "Abnormally Dry" or "Moderate Drought" for most of the growing season. Until just the past week or 10 days, corn fields have not actually shown many signs of drought stress, but now, with a series of 85+ degree days, scenes of rolled corn are somewhat common.

Inadequate soil moisture in the early season causes some important problems for corn while in its vegetative growth stages. Some fields germinated at two or more points in the season and now have plants of two different sizes throughout the field. Some seeds were able to find sufficient moisture to germinate and emerge right on schedule, while other seeds, planted at the same time, did not germinate for weeks, until a rain finally brought adequate moisture to initiate germination. Once emerged, young seedlings establish roots to search for water and nutrients. Dry soils can encourage more extensive root development as plants need to search further to find needed resources, or dry soils can cause root tips to desiccate and stop growing altogether. The first condition helps corn plants to tolerate drought, while the latter further limits the amount of root surface area available for acquisition of water and nutrients. Dry soil conditions can also limit some nutrient availability to plants, regardless of root systems. Potassium (K) can bind to clay particles and become less available to plants as the soil dries. A corn plant relies on the flow of water toward the roots to deliver nitrogen (N) and sulfur (S). Nutrient movement toward roots with water is called mass flow. As the corn plant evaporates water from leaf surfaces, it draws water toward its roots from the soil. Mass flow accounts for nutrient uptake of more mobile nutrients, such as nitrogen and sulfur. Nutrient and water content in the soil determine the amount of nutrients absorbed with mass flow the more water and nutrients that are available in the soil. the more water and nutrients can be moved to the root system and used for plant growth. If soil water is minimal, few nutrients can be moved this way.

Soil water deficit during vegetative growth of corn has been found to be less problematic than deficits at the tasseling,



pollination, and grain filling stages of growth. Still, leaf and stem elongation are among the plant processes most sensitive to water shortage, and are reduced as plant water status suffers during drought conditions. Because of reduced leaf and stem growth, yield of corn silage and grain can be reduced by 5-10% with an early season drought, assuming rainfall is normal for the remainder of the season. It is thought that a drought later in the vegetative stages results in larger yield reductions than a temporary drought early in the season. Yield reductions of 40 to 50% or more are possible when drought conditions are present at tasseling, silking, or pollination. Our corn crop is just now reaching those reproductive stages, so it's possible that the negative impacts of our 2016 drought may be small...if we manage to get some rain in August. Cross your fingers and let the rain dancing commence.

For more information about field crop and soil management, contact your local Cornell Cooperative Extension office or NNY Cornell Cooperative Extension Regional Field Crops and Soils Specialists, Mike Hunter and Kitty O'Neil.

Kitty O'Neil

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Mike Hunter Jefferson County CCE Office, Watertown (315) 788-8450 meh27@cornell.edu

Risk Management on Organic Grain Farm

A diversified crop mix, recordkeeping, and crop insurance are some of the tools Gianforte Farm uses to manage the risk inherent in farming.

Gianforte Farm is a 600-acre certified organic operation located in Cazenovia, in central New York State. Each year, the farm grows up to 10 different field crops, from corn to small grains. The farm does its own marketing, selling grain to neighboring dairy farms, as well as small, regional mills and bakeries. A small percentage of grain is milled and packaged on the farm to be sold to nearby shops.

"I enjoy the process of farming, getting everything from start to finish. I enjoy the logistics of it all and seeing things grow from year to year," said Luke Gianforte, age 24, who joined the farm business in 2014, after graduating from Cornell University.

Gianforte farms with his father, Pete. The second-generation farm was founded in 1971. Today, the crop mix includes corn, soybeans, wheat, oats, sunflower, buckwheat and more.

The variety of crops is its own risk management tool. "Hopefully, if we end up with a complete failure on one crop, something else did OK and the whole farm does not experience a complete disaster," Gianforte said.

Crop insurance is another important risk management tool at Gianforte Farm.

"We use crop insurance on every insurable crop," Gianforte said. "We rely on it a fair amount to help manage risk. There hasn't been any one year in particular that we feel it hasn't been worthwhile. It's been worthwhile every year."

The farm regularly buys crop insurance for corn, soybeans, winter wheat, spring oats, and spring barley. They generally carry revenue protection coverage at 70-75 percent.

In recent years, the farm also enrolled in NAP, or the Noninsured Crop Disaster Assistance Program for disaster coverage on spring wheat and triticale. Designed for crops not covered by federal crop insurance products, NAP offers financial protection against natural disasters that prevent crop planting, or result in lower yields or crop losses.

"It's farming, so it's not easy that's for sure. The weather and the changing variability in the weather in recent years has been a real challenge, with wet to dry extremes," Gianforte said.

Recordkeeping is important to Gianforte, who uses spreadsheets to track costs per acre.

"You can get an idea of your costs per acre. Yield will always be a variable. It's hard to predict," he said.

The Gianfortes direct-market their own crops, whether





selling feed to the farm next door or selling food-grade grain for milling to bakeries from Maine to South Carolina.

"Marketing is a tricky part of the puzzle," Gianforte said. "Growing for food grade is a challenge. You try to make the quality and if you don't, then what do you do?"

The farm intends to use more contracts with buyers. Additionally, Gianforte said they plan to adopt a "farm share" model to sell grain to smaller bakeries and millers. Borrowed from "Community Supported Agriculture" systems where customers pay for produce at the start of the season and pickup product based on yield, the farm share model offers more shared risk between farmer and buyer.

Gianforte says agriculture right now is experiencing a great deal of opportunity, and a great deal of risk. He encourages new farmers to use cautious optimism plus a strong understanding of their production costs. He encourages farmer to buy crop insurance – and more than the minimum amount.

"I highly recommend crop insurance," he said. "Our thing has always been, if you have a really bad year you will want a high amount of coverage because it will pay for itself. But, if you have a good year, the added premium price will be negligible because you were successful yourself."

For more information about risk management and crop insurance, visit the NYS Department of Agriculture and Markets website *www.agriculture.ny.gov/AP/CropInsurance.html* or the USDA Risk Management Agency website *www.rma.usda.gov*. To discuss or purchase crop insurance, contact a crop insurance agent. To locate an agent, ask a neighbor for a recommendation, use the agent locator tool at *www.rma.usda.gov/tools/agent. html* or ask your county Farm Service Agency to print out a current list of crop insurance agents doing business in your county. For more information about NAP, contact FSA at your county Farm Service Agency: *www.fsa.usda.gov*.



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CCE Bunk Silo Management Workshop

By Ron Kuck



The NNY Regional Dairy Team monthly meeting in June was held at Mapleview Dairy in Madrid (St. Lawrence County). In addition to planning dairy management programs for the upcoming year, these team meetings include time for professional development. Special training is typically offered by someone on the team that has special interest in a particular aspect of dairy farm management. At the June meeting, Ron Kuck, Dairy and Livestock Educator with Cornell Cooperative Extension of Jefferson County and NNY Regional Ag Team, and Joe Lawrence, Dairy Forage Systems Specialist with Cornell University PRO-DAIRY, shared expertise they've developed over the past 10 years in assessing bunk silo management in NNY. An important aspect bunker silo management is achieving adequate silage density to assure proper forage fermentation and stability to prevent loss of quality and spoiling of forage.

At this June training, Ron and Joe helped NNY dairy specialists and outreach educators to understand, apply, and excel in the following topics:

- Bunk location
- •Harvest timing
- •Filling, packing, covering, feed out

Easy to use management and decision-making tools were also made available. Safety was emphasized throughout the

training—prioritizing everyone's safe return home to their families every day.

This training was chosen by the group because bunk silo storage losses can be staggering without the proper techniques and preservation tools. Silage loss or shrink from field to feed bunk is 6-12% in the most ideal situation. Packing forage with sufficient tractor weight to match the rate at which forage is delivered to the bunk silo is critical. This means using bigger tractors, adding more weight to tractors, or slowing down forage delivery time when packing rate lags behind chopping rate. Poorly packed, uncovered bunks and drive-over piles can lose an additional 20-30% of forage dry matter, with 50% loss as a real possibility.

Ron and Joe also demonstrated their method for "real time" bunk density measurements that provides immediate feedback to the farm manager and bunk crew at the time of bunk filling, so adjustments to chopping and packing procedures can be made.

Bunk silos and drive-over piles are an economical way to store forages on dairy, crop, and livestock farms. When managed properly, this storage option can result in high quality feed for the animals. NNY Regional Dairy team members are available to help you assess your bunk silo or drive-over pile management this summer and fall.

Good Vibrations and Collaboration

By Kelsey O'Shea

Agriculture Outreach Educators and interns from Franklin, Jefferson, Lewis and St. Lawrence Counties met with the NNY Regional Ag Team and ProDairy Statewide Specialist Joe Lawrence at the Mapleview Dairy in Madrid, NY to learn how to take bunk density measurements. With the NNY Regional Ag Team now fully staffed and in the full swing of summer time work, we wanted to take a moment to share our appreciation for the County Ag-Outreach Educators from the six NNY counties.

The county-based CCE staff you know and love continue to be a great resource for you—and for the Regional Ag Team by helping introduce us to farmers and agribusinesses, in addition to communicating with you about the services we can provide. The NNY Team continues to work closely with all Outreach Educators on program development, individual farm needs, and continued transfer of sciencebased knowledge from the research at Cornell University to everyday farm operations. We know that your needs as farm businesses vary by operation, and are constantly changing; that is why CCE added the NNY Regional Ag Team Specialists to provide additional services to those provided by the County Ag-Outreach Educators.



The NNY Regional Ag Team views collaboration with local extension staff in each of the six county CCE offices as critical for best outcomes on your farms and communities.

The North Country Ag Advisor will be converting to an electronic version soon.							
Please fill out information below and mail to Tatun email information to tlm92@cornell.edu.	n Langworthy at 203 North Hamilton Street, Watertown, NY 13601, or						
NAME:	FARM NAME:						
ADDRESS:	CITY:						
ZIP: PHONE:							
EMAIL:	eive a hard copy, please check box. 🗖						

Meat the Labels

By Mackenzie Waro

Local. Natural. Certified Organic. GMO Free. Non-GMO. Grass Fed. Antibiotic Free. Certified Angus. Hormone Free. Humanely Raised.

These are just a few of the labels found on meats in the market, but what do they mean and can you use them on your meat packaging label? The United States Department of Agriculture (USDA) and the Agricultural Marketing Services (AMS) hold the regulations for meat labeling on packaging. Visit fsis.usda.gov for further information and clarification. Over the next few newsletters, each term will be further identified. When using specific labels, the term must be written the way the USDA permits.

According to the usda.gov website, the term **'Natural'** is a product containing no artificial ingredients or added color, and is minimally processed. Minimal processing means that the product was processed in a manner that does not fundamentally alter the product. The meat label must include a statement explaining the meaning of the term natural, such as "no artificial ingredients, minimally processed." Using the word 'natural' on the label is not enough information.

The term **"No Hormones Administered"** may be approved for use on the label of beef products, if sufficient documentation is provided to the USDA by the producer, showing no hormones have been used in raising the animal.

Hormones are **not allowed** in raising hogs or poultry. Therefore the claim, "no hormones added" cannot be used on the labels of pork or poultry meat products unless it is followed by a statement that says "federal regulations prohibit the use of hormones."

Using these terms on meat labels and marketing materials can be tricky, and it is better to ask if you can use the terms rather than use them incorrectly. Visit fsis.usda.gov or contact Mackenzie Waro, NNY Livestock and Meats Processing Specialist, for more details.

Are you interested in advertising in *The North Country Ag Advisor* We reach ag communities across Jefferson, Lewis, Franklin, Essex, Clinton, and St. Lawrence Counties. For more Information Contact Tatum Langworthy at 315-788-8450 or tim92@cornell.edu for more information.

"One Stop Shop" - Starting a NY Winery

By Lindsey Pashow

Have you thought about starting a winery? New York has been working to try and make this as easy and painless as possible from the legal side. We have also tried to help make this as easy as possible and put together some helpful links at the end of this brief article. In a future article we'll cover more of the business and planning angles.

Multiple winery license options exist from a micro farm winery to "regular" winery in New York. The relatively inexpensive farm winery license has been a major incentive for starting farm wineries. The NYS Liquor Authority describes a farm winery/special farm winery license as the following: "Authorizes licensee to annually manufacture and wholesale up to 250,000 gallons of wine and/or cider made exclusively from NYS grown agricultural products. Must be located on a farm." A micro farm winery is similar, but may manufacture and wholesale considerably less.

If you're not producing your own inputs, you need to be particularly careful with what you purchase depending on what kind of license you have. This leads to legal definitions, quantities, etc., quickly taking us into the territory where we send you to other professionals. Sam Filler, Director of Industry Development for Empire State Development, has directed the "One Stop Shop " for New York's wine, cider, spirits, and beer industries since 2012. Contact Sam Filler and the "One Stop Shop" at nysbevbiz@esd.ny.gov or (518) 227-1535.

Please note – starting January 1, 2017, Samuel Filler is to become the Executive Director of the New York Wine and Grape Foundation replacing Jim Trezise.



Winery Establishment Links:

Wholesale Application Instructions: http://www.sla.ny.gov/system/files/Wholesale-Application-Instructions-061713.pdf

Wholesale Application: http://www.sla.ny.gov/system/files/Wholesale-Application-06012016.pdf

Wholesale Fee Chart: http://www.sla.ny.gov/system/files/Wholesale-Fee-Chart-03112016.pdf

Temporary License to Start Making Wine: <u>http://www.sla.ny.gov/system/files/</u> TemporaryWineryorFarmWineryPermit033115.pdf

Alcohol Label Information NYS: http://www.sla.ny.gov/system/files/Advisory_2014-7 - Brand_Label_Registration.pdf

U.S. Department of the Treasury: Alcohol and Tobacco Tax and Trade Bureau https://ttb.gov/index.shtml

U.S. Department of the Treasury: Alcohol and Tobacco Tax and Trade Bureau Wine Label: <u>https://www.ttb.gov/wine/index.shtml</u>

Starting a Farm (Cornell University): <u>http://www.nebeginningfarmers.org/resources/guides/farming-guide/</u>

NYS Wine, Beer, Spirits, and Cider – One Stop Shop: http://esd.ny.gov/nysbeveragebiz.html

Remember, you will need to contact New York State Agriculture and Markets (1-800-554-4501) at the appropriate time to arrange an inspection of your winery.

Commercial Beef Production Benchmarks for 2016

By Ron Kuck

Defining achievable goals is the first step toward improvement within a beef operation. Operating without goals or concepts of improvement and simply accepting what happens is easy to do, but may not be productive or profitable. While that is certainly one way to approach a beef operation, a better choice is to identify defined, reachable productivity or profitability goals that can be accepted or changed.

Measuring your performance relative to your goals allows for appropriate change through management or genetics. There are no absolute answers to what a particular farm should produce. The setting of individual herd goals is totally a function of the individual producer. Obviously, if poor performance is evident, managerial issues must be resolved first as management in combination with genetics make the cow, and the operation, whole.

Ultimately, each beef manager needs to take a moment and write down herd goals and try to achieve them. Cornell Cooperative Extension can assist you in setting your herd goals, measure your current performance, and then plan on making improvements based on the overall farm's environment and review the genetics within that environment.

Current CHAPS Production Benchmarks

Number exposed	265 cows
Average cow age	5.6 years
Pregnancy percentage	93.7%
Calving percentage	93.0%
Weaning percentage	90.5%
Calving 1st 21 days	62.7%
Calving 1st 42 days	87.2%
Calving 1st 63 days	96.1%
Average weaning age	193 days
Average weaning weight	553 lbs
Average frame score	5.2
Weight gain per day	2.9 lbs.
Pounds weaned per cow exposed	494 lbs.
Replacement percentage	14.9%
Culling percentage	13.2%

(CHAPS) Cow Herd Appraisal Performance Software

From: Kris Ringwall, North Dakota State University Extension

BULLS 5 TO 48 MONTHS OF AGE						FEM	ALES 5 TO	о 48 мо	NTHS OF	AGE			
Age in	Inches Required for Frame						Age in Inches Required for Frame						
Months	4	5	6	7	8	9	Months	4	5	6	7	8	9
5	39.5	41.6	43.6	45.6	47.7	49.7	5	39.3	41.3	43.4	45.5	47.5	49.6
6	40.8	42.9	44.9	46.9	48.9	51.0	6	40.3	42.3	44.4	46.5	48.5	50.6
7	42.1	44.1	46.1	48.1	50.1	52.2	7	41.2	43.3	45.3	47.4	49.4	51.5
8	43.2	45.2	47.2	49.3	51.3	53.3	8	42.1	44.1	46.2	48.2	50.2	52.3
9	44.3	46.3	48.3	50.3	52.3	54.3	9	42.9	44.9	47.0	49.0	51.0	53.0
10	45.3	47.3	49.3	51.3	53.3	55.3	10	43.7	45.7	47.7	49.7	51.7	53.8
11	46.2	48.2	50.2	52.2	54.2	56.2	11	44.3	46.4	48.4	50.4	52.4	54.4
12	47.0	49.0	51.0	53.0	55.0	57.0	12	45.0	47.0	49.0	51.0	53.0	55.0
13	47.8	49.8	51.8	53.8	55.8	57.7	13	45.5	47.5	49.5	51.5	53.5	55.5
14	48.5	50.4	52.4	54.4	56.4	58.4	14	46.1	48.0	50.0	52.0	54.0	56.0
15	49.1	51.1	53.0	55.0	57.0	59.0	15	46.5	48.5	50.4	52.4	54.4	56.4
16	49.6	51.6	53.6	55.6	57.5	59.5	16	46.9	48.9	50.8	52.8	54.8	56.7
17	50.1	52.0	54.0	56.0	58.0	60.0	17	47.2	49.2	51.1	53.1	55.1	57.0
18	50.5	52.4	54.4	56.4	58.4	60.3	18	47.5	49.5	51.4	53.4	55.3	57.2
19	50.8	52.7	54.7	56.7	58.7	60.6	19	47.7	49.7	51.6	53.6	55.5	57.4
20	51.0	53.0	55.0	56.9	58.9	60.9	20	47.9	49.8	51.8	53.7	55.6	57.6
21	51.2	53.2	55.1	57.1	59.0	61.0	21	48.0	50.0	51.9	53.8	55.7	57.6
24	52.3	53.9	56.0	58.0	60.0	62.0	24	48.8	50.7	52.5	54.5	56.4	58.2
30	53.2	54.9	57.0	59.0	61.0	63.0	30	49.4	51.3	53.1	55.1	57.0	58.9
36	53.8	55.5	57.5	59.5	61.5	63.5	36	49.8	51.8	53.6	55.5	57.2	59.2
42	54.0	55.7	57.8	59.8	61.8	63.7	42	49.9	51.9	53.8	55.7	57.4	59.3
48	54.1	55.9	58.0	60.0	62.0	63.9	48	50.0	52.0	53.9	55.8	57.5	59.4

FRAME SCORE CHART

http://www.noble.org/ag/tools/livestock/frame-score-calculator/

Lameness and Lying Behavior on Robotic Milking Herds

By Lindsay Ferlito

With the number of robotic milking herds in the US growing each year, researchers are focusing more on the impacts these milking systems have on production, health, reproduction, cow comfort, and behavior. A recent study published in two articles in the Journal of Dairy Science looks at lying behavior and lameness in dairy cattle housed in robotic milking herds. The study includes data from about 1300 lactating cows from 36 robotic dairies in Quebec, Ontario, Alberta, British Columbia, and Michigan.

Lying Behavior

On average, cows spent 11.4 h/d lying down, with 9.5 bouts/d and a median bout length of 71 minutes. Older cows, higher days in milk (DIM), and greater body condition score (BCS) were associated with higher lying time. More specifically, cows in their 3rd or greater lactation had lying times of 0.5 h/d greater than 1st lactation heifers, and fatter cows, with a BCS of 3.5 or greater lay down an extra 1 h/d compared to cows with a BCS of 2.25 or less. Additionally, lameness affected lying behavior in multiple ways as lame cows spent 0.6 h/d less lying down than sound cows and had fewer, but longer lying bouts.

Lameness

Overall, the prevalence of lameness averaged 15% across the herds and ranged from 2.5-46.0%. Although this average is lower than some recent studies of conventional parlor milking systems in the US, which cite averages anywhere from 13-35%, it still indicates plenty of room for improvement, especially for certain dairies. In robotic milking systems, this study found that the most significant factor linked to lameness prevalence was stall width relative to cow size and parity. If a 1st lactation heifer did not fit the average stall width, her odds of being lame were increased 3.7 times. Other risk factors for increased lameness included a narrow feed alley, limited lunge space, a low BCS, and the presence of hock injuries.

Narrow stalls were found to be the biggest risk factor for lameness in this study, yet only one of the 36 dairies studied provided the proper stall length and width relative to their cow size. In both robotic and conventional herds, stalls can be made wider by moving stall loops, but making stalls longer is not an easy or a cheap task. However, there are ways to make the stall seem longer to the cow, including removing the brisket board or making it less aggressive, removing lunge barrier obstructions on inside rows by replacing metal bars with a chain or fabric, and extending the barn roof to give more lunge space on the outside row.

Overall, the factors affecting lying behavior and lameness are multifactorial. By better understanding the significance of certain management and facility factors like stall width, producers will be better able to maximize lying time for sound and lame cows and reduce lameness prevalence, leading to increased productivity and profitability.



An example of a dairy that extended the outside wall to provide more lunge space.





Cornell University Cooperative Extension Eastern New York Commercial Horticulture

Summer Grower Meeting

Wednesday, August 3, 2016 6:30-8:00 pm Cornell Cooperative Extension Learning Farm 2043B Rte 68, Canton, NY



Featured Topics:

Training and Pruning High Tunnel Cherry Tomatoes Leaf Mold Resistant Cherry Tomato Variety Trial This Year's Disease Challenges Summer Cover Crops

Speakers: Christine Smart, Cornell University Plant Pathology Judson Reid, Cornell Vegetable Program Amy Ivy, Eastern NY Commercial Horticulture Kitty O'Neil, Northern NY Ag Program

Free and open to the public. For more information contact Amy Ivy at <u>adi2@cornell.edu</u> or 518-570-5991.

Sponsored in part by the Northern New York Agricultural Development Program. Funding for the Northern New York Agricultural Development Program is supported by the New York State Senate and administered by the New York State Department of Agriculture and Markets. Learn more at www.nnyagdev.org.

And by the Specialty Crop Block Grant Program at the U.S. Department of Agriculture through a grant from the New York State Department of Agriculture and Markets.

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What's happening in the Ag Community

Summer Grower Meeting - August 3; see page 14.

2016 GRASSTRAVAGANZA, Alfred State College, August 4-6

Empire Farms Days, Seneca Falls - August 9-11

Bunk Management Workshop, Moser Dale Farm, 3755 Wilson Road Copenhagen, August 22 at 7:00 p.m.

Bunk Management Workshop, Stauffer Dairy, 925 CR 54 North Lawrence, August 24 at 7:00 p.m.

Pasture Walk, Klock Farm, Janet and Lee Klock, Buttermilk Flats Road, Lafargeville, August 24, 2016

Livestock Conference, Ramada Inn, Watertown, November 11 & 12

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