

# FARM REPORT



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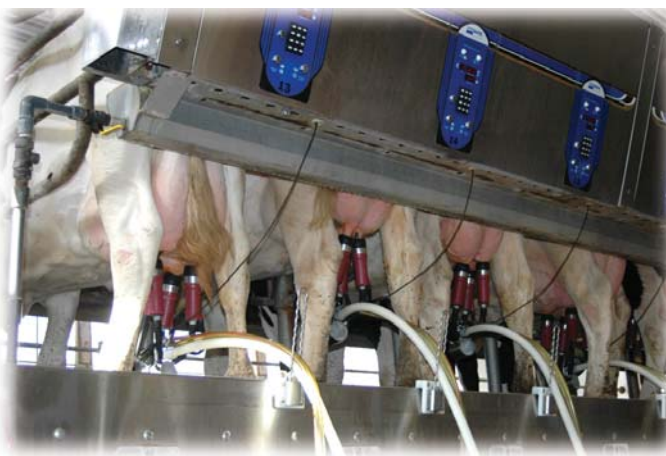
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**Don't Forget:  
Crop Congress is  
Feb. 18!**

9 a.m. - 3 p.m.  
Visit [whminer.org](http://whminer.org) for  
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## FROM THE PRESIDENT'S DESK: THERE'S ALWAYS MORE TO LEARN

A recent report from the University of Guelph compared 2x versus 3x daily milking (J. Dairy Sci. 2013. 96:6973). Honestly, when I read the title I thought “What more is there to know about 3x milking?” In the mid-90s Rich Erdman and Mark Varner at the University of Maryland had published a definitive review of 3x milking frequency that proposed the oft-quoted benefit of about 8 lb/d more milk for 3x versus 2x. Mostly, cows respond predictably to 3x milking and it reliably improves parlor use, cow productivity, and farm efficiency. Well, I did read the article – and guess what? I was reminded that there is always more to learn!



This Guelph research found that energy-corrected milk yield increased by 5.5 lb/d for first-calf heifers and 7 lb/d for mature cows. Dry matter intake did not change for the older cows so their milk production efficiency increased by nearly 5%. This response is no surprise because 3x milking is used routinely

to boost production efficiency. In contrast, the greater milk yield by the heifers was accompanied by an increase in dry matter intake of over 2 lb/day so that milk production efficiency was unchanged.

Unlike previous research on 2x versus 3x milking, the research group at Guelph focused on the behavioral responses to milking frequency. As you would expect, an extra milking each day results in more time spent outside the pen and has the potential to upset the cow's daily time budget. In particular, cows spent up to 20 more minutes per day eating when milked 3x in this study. Although not significant, lying time was reduced by 19 minutes daily. This study used very small numbers of cattle per pen – only six – and we need to understand the potential importance of 3x milking on time away from the pen, eating time, and resting time for larger pens and situations

See **MILKING**, Page 5

# OXIDATIVE STRESS IN TRANSITION DAIRY COWS

The first time that I heard of oxidative stress was from cosmetics advertisements. The products report that they help prevent aging of skin (a.k.a. wrinkles) through the elimination of over-accumulated free radicals or reactive oxygen species (ROS) that resulted from oxidative stress. The skin care products are essentially antioxidants. Currently, there is increasing evidence that oxidative stress is causatively linked to several health problems in transition dairy cows.

Reactive oxygen species are the by-product primarily produced during oxidative phosphorylation inside of mitochondria, which is a process that converts nutrients (fatty acids and sugar) into cellular energy substrate (ATP) in most of mammalian cells. Thus, ROS is generated as with normal metabolic process of cells in the human body as well as in dairy cows. Interestingly, ROS is a two-edged sword. Under normal conditions, the existence of several endogenous antioxidant mechanisms can efficiently neutralize ROS to prevent its accumulation; in addition, steady-state ROS helps immune cells to kill pathogens, which is beneficial to health. However, excessive accumulation of ROS that occurs when energy requirements are high and/or deficient in endogenous antioxidants will result in oxidative stress. This is

destructive to the protein and lipid components of cell membrane and DNA (especially immune cells) that cause tissue damage and suppression of the immune response.

For high-producing dairy cows, the energy requirement is generally doubled shortly after calving compared with late pregnancy, which greatly increases the metabolic rate of tissues and organs (e.g. mammary gland, liver, and muscles), which are more susceptible to oxidative stress. A recent study that used a new and more comprehensive parameter, called oxidative stress index which is the ratio of ROS to total serum antioxidant capacity, confirmed that both the ROS and oxidative stress index are higher in the post-fresh period than that in mid (4 to 5 months) or late gestation in dairy cows. The antioxidant capacity is lower during peak lactation than other times, which is probably due to depletion of fat-soluble antioxidants by milk and consumption by ROS.

Vitamins (e.g. A, C, and E) and trace minerals e.g. selenium (Se) are needed to optimize the antioxidative defense. Early studies found serum vitamin A and E were significantly declined around the time of calving which is at least partly due to increased oxidant challenge. A majority of studies have found that cows

supplemented with either vitamin E or Se improved the oxidative status and increased immune cell function in the face of pathogen challenge. Whereas cows with a low concentration of vitamin A and E postpartum are more susceptible to infectious disease including mastitis, and metritis, as well as retained placenta. Thus, it is worth checking if your close-up and fresh diets have adequate supplementation of vitamins and trace minerals. However, over-supplementation should also be avoided because it may exert no or even adverse effects.

Other factors may also affect oxidative status during the transition period. Obese cows are more susceptible to oxidative stress due to greater lipid peroxidation post-fresh. More interestingly, a recent study found sows with long-lasting expulsion stage of farrowing had increased risk of depletion of antioxidant defense. Whether cows with dystocia are more prone to oxidative stress seems to warrant future research.

— Peng Ji  
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\* References available on request.

Peng was a post-doctoral researcher at Miner Institute from fall 2011 through late summer 2013. Peng now has a post-doctoral research position at the University of Illinois.

# MORE THOUGHTS ON THE CALVING PEN

A properly designed and managed calving pen should:

1) promote cow comfort and a low stress environment for the cow, 2) minimize the health risk for the cow and calf, 3) offer convenience for people working with the cow and calf and 4) provide an opportunity for seclusion by the cow. In the December 2013 issue of the Farm

Report, I discussed the need for seclusion by the cow and the research we have done showing that heifers had a shorter duration of labor when left to calve in a bedded pack enhanced with a calving blind than when moved “just in time” to an individual calving pen. Since then, researchers from the University of British Columbia have published 2 papers regarding maternal isolation at calving and flooring preferences of cows at calving. The majority of work done on cow comfort and animal welfare has focused on the lactating cow. The importance of cow comfort and a low stress environment for our cows around the time of calving is being realized.

Close-up cows were housed in a freestall pen and moved as pairs based on expected calving date to a maternity pen about 1 week before calving and remained in that pen until they calved. Once the first cow of a pair calved (pair-housed cow), she was removed and the second cow remained in the pen until she calved (single-housed cow). The maternity pen contained 2 packs (~8' x 24') each with a mattress base and a layer (2.4") of sawdust. The maternity



pen contained a “shelter” with an 8' tall plywood barrier around 85% of the width of one pack. The opening to the shelter was 8'. The maternity pen was understocked and provided over 600 ft<sup>2</sup> per cow. While this is impractical on dairies, the extra room allowed cows to express their preference for isolation. The pair-housed cows began seeking a calving site and separating from its pair approximately 8 hours before calving. The pair-housed cows were more likely to calve in the open area, regardless of time of day. In contrast, the single-housed cows were more likely to calve in the shelter but only during the day.

Within 48 hours of calving, a cow will increase the number of times that she switches between standing and lying with the majority of the increase occurring in the last 6 hours before she calves. Given the frequent transitions between standing and lying, the flooring must provide proper traction to prevent slips and falls by the cow while providing a comfortable surface for the cow to lie on. Common flooring surfaces in calving pens are grooved concrete, sand, and rubber mats or mattresses with a thick layer of straw or sawdust added to the flooring surface.

In a preference study, cows were housed in an individual calving pen and allowed to choose a flooring surface (4" of sand, pebble-top rubber mats, or concrete floor) covered with 6" of straw. Before calving (24 to 29 hours), cows spend more time lying down on sand and concrete compared with rubber. However, the number of transitions between

standing and lying were similar between the flooring surfaces. At calving, 59% of cows chose sand, 35% chose concrete, and 6% chose mats. Also, cows that calved on sand spent more time lying on sand within the 6 hours before calving compared with the other 2 flooring surfaces. It is clear that cows preferred sand to rubber mats during calving.

As we design or remodel calving pens, let's keep in mind the needs of the cow. Cows seem to seek isolation or separation from other cows when calving. We can create a secluded area by using plywood or tarps on pen dividers and gates that minimizes distractions by people and other cows. However, we need to make sure that the area remains dry and clean to minimize the health risk for the cow and calf. In addition, the flooring surface of the calving pen or secluded area needs to provide the best footing surface for cows that frequently transition from standing to lying. Sand or concrete flooring covered with thick straw seems to be preferred by cows.

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# PROVIDING SUPPLEMENTAL WATER TO CALVES IS KEY TO GROWTH AND HEALTH

Water is essential for all life and both water availability and quality should be a vital consideration on all dairies. Mainly we think of the importance of water for our lactating cows, as milk itself is about 87% water. However, making milk isn't the only thing that water is essential for. Water is required for digestion and metabolism of energy and nutrients, transport of those nutrients, excretion of waste, maintenance of fluid balances, as well as generation of new tissues. It is important to think of not only the lactating cattle in our barns, but the growing heifers as well. Water plays a key role in driving feed intake to promote growth and development in young calves and older heifers. It is just as important, if not more important, to ensure that these animals have adequate access to water as it is for lactating cows. Water intake is even more crucial during periods of cold weather.

Temperatures have dipped recently into the double digits below zero in the North Country. With these temperatures, it can be particularly difficult to provide water to calves in hutches with rapidly freezing buckets, but it is critical that water be offered to calves throughout the day. At Calf Congress 2013 in December, Dr. Simon Peek from the University of Wisconsin stressed the importance of water and providing it immediately after feeding, even in the winter months. Someone questioned why water should be offered after feeding when drinking the milk or milk replacer should quench their thirst. Dr. Peek responded with



a question: "How many people are thirsty and end up going to get a drink after eating ice cream?" This was an interesting analogy, and made a lot of sense. Unfortunately there is not much research available to reference looking at offering calves water, and more specifically looking at the time of delivery or preference for when calves will drink.

Regardless of delivery method and time preference, access to water is necessary for calves. In a neonatal calf, water makes up 85.8% of its body weight. Many believe that the water in milk replacer is adequate for calves, but supplemental water is required to maximize the growth of these animals. A 1984 study showed that with no supplemental water provided to calves, dry matter intake decreased by 31% and weight gain decreased by 38% when compared

with calves offered supplemental water in addition to milk replacer. This is a substantial decrease showing that for each extra liter of water consumed there was a corresponding increase in weight gain of 56 grams per day. In accordance with a summary of data from Cornell University, gains prior to weaning ultimately lead to greater milk production later in life. To provide our calves with the best opportunity to grow into healthy and productive animals, supplemental water must be provided.

Although it might be difficult, ensure that calves have access to water all throughout the day even in the winter months. Providing your calves with water will ultimately provide you with better growth, healthier, and more productive animals.

— Sarah Williams  
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at [www.whminer.org](http://www.whminer.org)



# SOYBEAN ROW WIDTH

Looking at futures prices, it appears that the economics of growing soybeans in 2014 may be somewhat better than growing grain corn. We expect that our region will once again see a large acreage of soybeans, which seem a good fit for NY growing conditions. There's certainly risk involved since a poor crop of soybeans doesn't provide as much "forage security" to dairy farmers that a low-yielding crop of corn does if both are harvested for silage.

Research in the Midwest and N.Y. has found that narrow row soybeans yield more forage, more pods, and more grain per acre. One Cornell University trial found that soybeans grown in 7.5" rows yielded 15% more than those grown in 30" rows; another Cornell trial found a 4% advantage to 7.5" rows. Then why is the U.S. acreage of soybeans in 30" rows increasing? Ignorance? (No shortage of that.) The need to plant both corn and soybeans with the corn planter? (Likely the reason on many moderate-size farms.) Or the increasing need to

cultivate because of herbicide resistant weeds? (Also a likely reason.)

How many acres of soybeans do you need to justify buying a grain drill that will plant in 7.5" rows? Iowa State University research suggests that the breakeven number is about 200 acres of soybeans per year. Closer to home, a study at Cornell (based on Central NY soybean yields and 2010-11 prices) concluded that you'd need 300 acres of soybeans per year to justify buying a grain drill for soybeans. However, many dairy farmers already have a modern press wheel grain drill that should be able to plant soybeans. The uniformity of planting is usually better with a properly calibrated corn planter. Therefore it's likely that if you drill soybeans in 15" rows the drilled beans would be slightly lower yielding than if planted with a corn planter. But when the comparison is 30" rows with a corn planter vs. 7.5" rows with a drill, the edge is with the grain drill. You'll need a higher population with narrow rows, about 170,000 seeds per acre compared to

130,000 with a corn planter, so some yield increase is needed to justify the purchase of a grain drill.

However: Assuming a 4% yield advantage to narrow row soybeans, with a 50-bushel yield that's only 2 bushels per acre. If you've been using a corn planter and getting good results, I'd suggest that changing to a grain drill be on a trial basis — one field, or better yet split a field between the two — to see what difference it makes on your farm with your equipment and management. However, if there is no more than a several bushel yield difference you won't be able to see it any more than you would a 1 ton/acre difference in corn silage yield. A yield monitor on the combine is the best and easiest way to measure differences in grain yield; otherwise you'll need to go through the tedious process of measuring acreage and weighing yields.

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## MILKING, Continued from Page 1

where time away from the pen is longer. The failure of poorly managed farms to respond positively to 3x milking may well be due to compromised resting time.

In this report, the primary take-home information concerns feeding behavior. Here the researchers found that first-calf heifers and mature cows employed completely different feeding strategies to achieve similar milk production increases. For the older cows, the greater feeding activity was achieved by having longer and larger meals when they were milked 3x daily. But recall that overall feed intake was the same for 2x or 3x milking. Actually, feeding rate slows down when cows are milked 3x compared with 2x. Particularly

following milking, cows milked 3x per day tend to spend more time feeding at a slower rate. Given all that we understand about rate of feeding and rumen function, it's quite possible that 3x milking results in feeding patterns that promote a more consistent and efficient rumen fermentation.

What about the first-calf heifers? Unlike the mature cows, heifers consumed smaller and more frequent meals when milked 3x: Heifers ate about 1.5 more meals daily that were 10% smaller. But the net effect was about 2.5 pounds greater dry matter intake. So, with 3x milking frequency first-calf heifers adjusted their feeding behavior to achieve their greater milk production.

Overall, this research adds a significant new dimension to our understanding of 3x milking management. It confirmed the positive milk yield response and boost in production efficiency that previous research has reported. But, we now know that 3x milking elicits different feeding behavior depending on parity. Consequently, we now have one more good reason to group cows by parity so that first-calf heifers are managed as a group without the need to compete with older cows. If you milk 3x, be sure to group and manage your heifers to accommodate their natural differences in feeding behavior.

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# WHAT'S HAPPENING ON THE FARM

It is -15°F outside. Our feeder has just opened the overhead door to drop another load of TMR. The cold air rushes in, dropping the temperature in the barn and causing the moist air to condense and form a thick fog. You can hardly see five feet in front of you. It is winter in Chazy! Just the other day I lost my co-worker in the fog and had to call her cell phone to find her in the pen! Our ventilation system has been working well this winter. Ridge chimneys and air-filled curtains controlled by thermostats in each pen help keep the air fresh and the barn temperature in the mid 30s.

Calf hutches are great housing for calves year-round, but they are hard on us in the winter! We do our best to keep the calves warm through the sub-zero temperatures. Inside the hutch the calves are nestled in deep straw bedding and the younger calves have jackets. Beginning in November when the temperature starts to drop, we feed the younger calves (4 weeks and younger) an extra 2 quarts of milk at noon in addition to their regular AM/PM feedings. The newborn calves stay in the vet room by the close-up bedded pack until they are dry, active and drinking milk from a pail. Only then do they move into a hutch. The night milkers check on the calves, making sure they are resting inside their hutch and not sprawled out, in danger of losing too much body heat.

During Christmas time we had some water issues around our footbath area and stopped running the footbath for about 3 weeks. Soon afterward we had several cows with foot rot. We are back to putting cows through a copper sulfate or tetracycline footbath twice a week for all 3 milkings and foot rot

	2013	2012
<b>Herd average (lbs.)</b>	29,239	30,118
<b>Cows in milk</b>	396	374
<b>Lbs. of fat &amp; protein/cow</b>	6.5	6.36
<b>SCC</b>	216,000	193,000
<b>Calving interval</b>	12.8 months	13.1 months
<b>Conception rate</b>	33%	28%
<b>Pregnancy rate</b>	26%	20%

incidence has just about disappeared.

In January we summarized some herd numbers from 2013, comparing them with the previous year. See the chart above. Our average milk price in 2013 was \$2.48/cwt higher than in 2012 and the protein and butterfat accounted for 79.4% of the milk income. We will continue to look for ways to improve cow health (especially reducing our mastitis incidence) and increase productivity of the herd.

It's been a fairly quiet beginning to the year, though we are looking ahead and preparing for spring crop work and some changes in our labor force. Our eight Advanced Dairy Management students have started the semester at Miner Institute. They work with us in the barn Monday-Wednesday mornings and take a full set of classes. They're looking forward to their trip



in February to California to tour dairy farms and see agriculture on the West Coast. But for now they're bundled up in many layers feeding calves, milking and working around the barn!

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# STUDY REVEALS LONG-LASTING EFFECTS OF SOIL COMPACTION

Soil compaction in heavier-textured fields can be one of the most challenging factors to overcome when trying to maintain efficient crop production and good soil quality. While often overlooked, compaction can lead to drastic changes in a soil's macropore network. Macropores are large pores (>75  $\mu\text{m}$  cylindrical diameter) that are vital for proper water and air flow in soils. Compaction by heavy farm equipment alters the way pores are distributed within a soil (e.g., number, size, connectivity).

A new study published in the Nov.-Dec. 2013 issue of the Soil Science Society of America Journal used medical imaging tools to study soil compaction in Finland. The study was initiated in 1981 using in a randomized block design on a clay soil (64% clay and 30% silt). The compaction treatment was from one compaction event, which consisted of four tractor-trailer passes with a load of 3.5 tons/tractor rear wheel and 5.3 tons/trailer wheel.

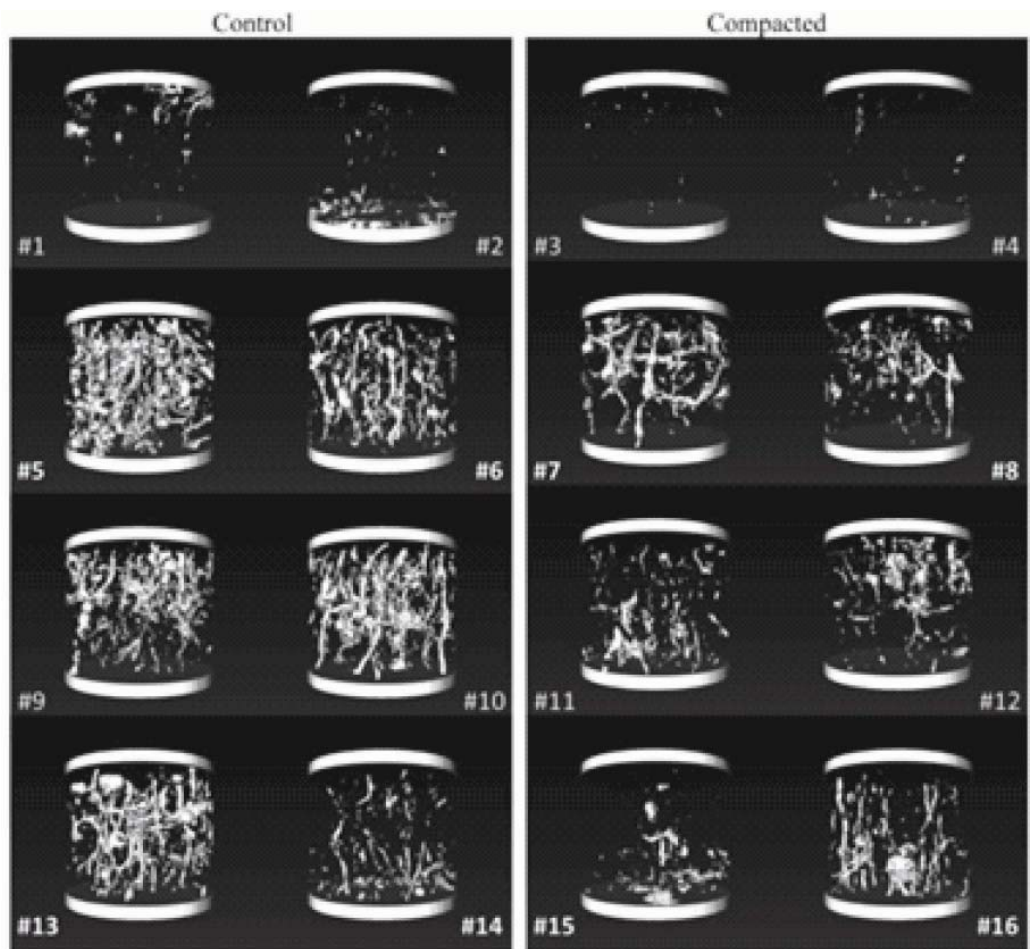
In spring 2010 (29 yr later), soil cores (35 in<sup>3</sup>) were taken from each block (1.0 to 1.3 ft deep) and were scanned using an x-ray computed tomography (CT)/positron emission tomography (PET) medical scanner. Horizontal resolution was approx. 0.01 in with a vertical resolution of 0.024 in- which meant that pores <600  $\mu\text{m}$  could not be confidently detected.

CT images (above) clearly show an altered pore distribution in compacted treatments- compacted soil had longer, more vertically oriented pores, with significantly fewer branching pores compared to the control. This has implications for water distribution, as fewer branching pores means water flows faster through the crop rooting zone and cannot be distributed to plant roots as well. Not surprisingly, the compacted soil also had significantly lower air permeability capacity than the control soil.

This study clearly showed that a one-time compaction event can persist for 29 years with potentially damaging effects on crop productivity and soil health. Consider, also, that the wheel loads used in this study are often less than wheel loads associated with today's larger farm equipment.

Learn more at: <https://www.soils.org/discover-soils/story/medical-imaging-helps-reveal-lasting-impacts-soil-compaction>  
<https://dl.sciencesocieties.org/publications/sssaj/abstracts/77/6/1977>

— Eric Young  
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# CORN SILAGE peNDF DETERMINATION AND INTERPRETATIONS

A recent flurry of emails centered on the topic of whether or not our on-farm assessment of physically effective fiber (peNDF) of corn silage was biologically correct. The concern was whether kernels and starch content was inflating the peNDF value of corn silage. A secondary topic was whether corn silage NDF really amounts to effective fiber by increasing chewing time or not and how does Shredlage influence that.

Classic peNDF as defined by Mertens (1997):  $\text{pef} \times \text{NDF}\% = \text{peNDF}$ . Where pef (physical effective factor) = the proportion of NDF retained in particles  $\geq 1.18\text{mm}$  upon vertical sieving a dried sample, not simply the amount of wet material or even DM retained.  $\text{NDF} = \text{\%NDF}$  of the entire forage. With the capability of determining pef value of as-fed forages on farm using either the Z Box or modified Penn State Particle Separator equipped with the 4.00 mm pef screen, we must assume that NDF is evenly distributed across particle fractions above and below the pef sieve. Otherwise we would need to wait for NDF determination of the pef portion. We decided to run some quick UFR (unfunded research) to test whether the % NDF of particles  $\geq$  pef sieve differed from the %NDF of the entire sample.

We analyzed 9 corn silage samples (7

chopped and kernel processed, 2 Shredlage) for DM, PSPS distribution and pef value using our 3.18mm sieve along with NDF of both the whole sample and the entire portion  $\geq 3.18\text{mm}$ . The table below lists the results. Surprisingly, there was little to no difference in NDF values of the whole vs. pef fraction of these samples. On average there was slightly higher %NDF of the pef fraction compared to the whole samples.

Visually, it is disconcerting to think that all those corn kernels are being valued as part of the physical effective factor. However, the chemical analysis of NDF accounts for the fact that starch is not fiber in the final calculation of peNDF. The more grain, the lower the NDF value used to calculate peNDF.

On the topic of whether corn silage NDF should be considered effective fiber, chopped or Shredlage: Mertens' 1997 paper included chewing time values of 97 min/kg of NDF from corn silage. Mertens referenced this value from a paper by Sudweeks published in 1979. Using these values, compared to alfalfa and grass hays requiring 125-165 min of chewing/kg NDF, chewing time of corn silage is only 59-78% that of grass and legume hay. Question, is 97min of chewing/kg NDF from CS a valid number today in 2014? Since 1979,

much of the improvement in CS quality has come from better ear development, higher grain:stalk ratio rather than NDF-D. Though, advances in fiber digestibility of notably BMR and some of the leafy hybrids would suggest cows chew less on some of the more recent CS varieties. In a 2011 project comparing high forage rations of BMR vs. CS, we documented total chewing times of only 80 and 89 min/kg NDF consumed, respectively. Over 60% of the total dietary NDF was from the CS sources in that trial. Clearly, corn silage NDF is on the low end of forage stimulating chewing time. Regarding Shredlage, whether or not longer fiber particles will increase chewing time and improve rumen health has yet to be determined. In this sample set, pef values of the 2 Shredlage samples were similar to the chopped silages. It appears that only longer particles were left longer as the total amount of material  $>8\text{mm}$  were similar between chopped and Shredlage, about 75%.

It would be nice to run a trial to test this all...

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\* Reference: Mertens, D.R. 1997. Creating a system for meeting the fiber requirements of dairy cows. JDS. 80:1463.

**Table 1.** Penn State Particle Separation, pef value, NDF values of whole sample and fraction of forage  $\geq 3.18\text{mm}$ .

ID#	Description	DM%	Penn State Particle Separator				>3.18mm	Whole	Fraction >3.18mm	Diff
			% As Fed							
			19mm	8mm	3.18mm	Pan	Pef value	%NDF	%NDF	
13931	CS Pile 2013	27.1	5	81	10	4	0.97	40.5	42.6	-2.1
13932	CS Pile 2012	34.5	4	74	16	6	0.94	35.0	37.2	-2.2
14053	BMR CS a	30.0	4	82	10	4	0.96	30.6	30.8	-0.2
14054	BMR CS b	32.0	4	75	15	7	0.94	33.3	32.0	1.3
14119	CS Farm 1	31.3	9	65	17	9	0.91	34.3	35.2	-0.9
14121	CS Top Farm 2	49.9	3	50	29	18	0.82	32.7	34.5	-1.8
14122	CS comp Farm 2	39.3	7	60	19	14	0.86	30.6	32.5	-1.9
14124	CS Shredlage Farm 3	32.7	15	59	15	11	0.89	33.5	33.8	-0.3
14128	CS Shredlage Farm 4	33.0	20	53	17	10	0.90	33.2	33.2	0.0
							Avg	33.7	34.6	-0.9



# A MINOR PIECE OF MINER HISTORY: THE FIRST ANNUAL MINER INSTITUTE LIVESTOCK AUCTION

In the summer of 1986 Miner Institute had 14 milk-fed crossbred hogs that had grown to 250-300 pounds each. We also had a surplus of Alpine goat kids and 28 cows and heifers of various sizes, breeds and temperaments. The focus of the sale was livestock but we also had some miscellaneous stuff including some “tired iron” that no self-respecting farm equipment dealer would look at. So on August 9th we held “The First Annual Miner Institute Livestock Auction” to sell the livestock and assorted junk. (One man’s junk is another man’s treasure.) The deal on the hogs was that we would transport them to the slaughterhouse and have a butcher prepare the pork to each buyer’s specification. We made sure that a number of non-farmers including the Miner Institute Trustees knew about the “hog deal.” Auction day arrived and after the auctioneer had sold the cattle, goats and equipment it was time to auction off the hogs. Some of the non-farmers in attendance (including several Trustees) had told

their wives that they were going to buy a hog at the auction. The bidding was spirited since one farmer was willing to buy every one of the hogs at a fair price, so at least a couple of the non-farmers decided to wait until the last hog or two figuring that by then they’d sell for less. However, others had the same idea so it came down to the last two hogs and several “highly committed” bidders: Demand therefore exceeded supply, promises had been made, and those last two hogs wound up selling for a very high price.

The sale was a financial success and accomplished the primary goal of selling what we considered the “saleable” unregistered Holsteins on the farm, since in the previous six years the herd had gone from 100% grades to over 75% Registered Holsteins. However, for one reason or another there’s never been a Second Annual Miner Institute Livestock Auction.

— E.T.

## DOWN TIME

The “dog days of summer” are when it’s too hot and humid to want to do much of anything except complain about the heat and humidity. I’m not sure what the current time of year is called, but with the holidays long past and spring seemingly a long way off, February isn’t much of a month but at least it’s short. One thing you can do while waiting for the first signs of spring is to carefully plan and then write down the identification of each field that will be planted to corn, the number of bags of each corn hybrid you’ve ordered including traits, and then match up field and hybrid. (You probably have good intentions about doing this, but my mother used to say that the road to Hell is paved with good intentions.) What with the advent of corn rootworm resistance in NY, the careful matching of seed to field has never been as important as it will be in 2014.

Seed corn has a good shelf life, so don’t be afraid to order a few more bags than you think you’ll need. We’ve seed that’s several years old tested for germination and it was still well over 90%. Of course seldom would you need to save seed for more than one year.

— E.T.

## TALL FESCUE REVISITED

We got a couple of responses to our request for feedback regarding pasturing tall fescue. This was a topic of concern since we’d heard a couple of comments suggesting that cows don’t like to graze this species. Joe Lawrence from the Lowville (NY) Farmers Coop said that he’s been told by many grazers that the texture of tall fescue is the problem, but once the cows get used to it they love it, regardless of the time of year. The key is a willingness to stick out the initial refusal by the cows. Joe has also heard that this can also be a problem in dry hay and longer-cut baleage that’s on the dry side. It

doesn’t seem to be an issue with rotocut baleage or hay silage. Aaron Gabriel from Cooperative Extension (Hudson Falls, NY) knows of two incidences of fescue foot, caused by cattle grazing endophyte-infected tall fescue. This illustrates the importance of using only endophyte-free tall fescue varieties. If you have native tall fescue in your pastures, you can have it tested for the presence of endophytes. Agrinostics is one lab doing the assays, which aren’t cheap.

— E.T.

# ICE SHEETS

Some say the world will end in fire, some say in ice.  
From what I've tasted of desire I hold with those who favor fire.  
But if it had to perish twice, I think I know enough of hate  
To say that for destruction ice is also great and would suffice.

*"Fire and Ice" by Robert Frost*

Frost was right about the destructive potential of ice; in late December northern NY, northern New England and southern Ontario and Quebec were hit with an ice storm that knocked out power for tens of thousands of homes and businesses, some for over a week. Unfortunately those of us who lived in these areas in January, 1998 have experience with ice since that's when we were hit with the worst ice storm in 500 years. The concern was the impact a sheet of ice 2-3" thick would have on alfalfa. What we discovered was that even a few inches of snow between the ice sheet and the soil surface was enough to protect the alfalfa. The difference these few inches of snow made was dramatic, which bodes well for alfalfa fields since when this winter's ice storm hit there was plenty of snow cover in much of the region. In many areas about an inch of ice covered several inches of snow. This doesn't guarantee lush green fields this spring since other challenges exist including alfalfa snout beetle, frost heaving and root diseases. However, a layer of snow isn't just the "poor man's fertilizer," but protection against ice sheet damage as well.

— E.T.

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## WINTER DAIRY MANAGEMENT 2014

### MILKING SYSTEM EFFICIENCY: MILKING IT FOR ALL IT'S WORTH!

March 12 – Miner Institute, Chazy, NY; March 13 – Elk's Club, Carthage, NY

#### Meeting Agenda:

**9:30 a.m.** - Registration

**10-10:15 a.m.** - Welcome and program overview

**10:15-11 a.m.** - Business Planning for a Successful Project. Caroline Potter, Pro-Dairy & The New York Dairy Acceleration Program.

Why Develop A Project Business Plan? A well thought out business plan allows you to organize your thoughts, seek input from key people and ask the hard questions to make sure the dream can become reality! Additionally, The New York Dairy Acceleration Program offers farmers assistance in developing business plans. This presentation will provide information on the value and key components of business plans and an overview of the Dairy Acceleration Program and what it can offer producers.

**11 a.m.-12 p.m.** - Low Cost Parlors- Options and Considerations - David Kammel, University of Wisconsin, Professor of Biological Systems Engineering

Remodeling or adding a low cost parlor requires good planning, design, and sometimes creative solutions to problems posed by the existing facility. Prof. Kammel has extensive experience working with producers to implement the best milking system for their situation.

**12-12:45 p.m.** - lunch

**12:45-1:45 p.m.** - Budgeting for a Dairy Modernization Capital Investment in a Realistic Way - David Kammel

Budgeting for a Dairy Modernization Capital Investment in a Realistic Way.

Being able to realistically budget for a dairy modernization project is crucial to making a sound decision and ensuring a successful implementation.

**1:45-2:30 p.m.** - Parlors - Typical Intervals for Maintenance and Improved Numbers Game - Rick Watters, DVM, PhD - Sr. Extension Veterinarian, Quality Milk Promotion Services

The major costs of operating a milking parlor lie in the capital investment of the parlor and the labor used to operate the parlor. One of the goals of the milking center is to milk a certain number of cows in a specific amount of time. Parlor efficiencies and equipment maintenance are two key components that keep the milking center operating on a routine schedule. Spreading out the costs of the parlor and the labor used to operate the parlor can be done by improving parlor efficiencies. Parlor efficiencies can be analyzed in terms of hundredweights shipped per milker, pounds of milk harvested per stall and cows milked per hour to name a few. Dr. Watters will address these important factors.

**2:30-3:15 p.m.** - Robotic Milking Systems-Different Management System – Beth Dahl, Cornell Cooperative Extension.

There has been increasing interest in robotic milking systems in the last 5 years or so. Although still not the norm, there are more and more farmers installing them in our region. Consequently, we are gaining more information on when these systems are a good choice for producers and how they manage them.

Presenting this information will be:

**3:15 p.m.** - Wrap up-local staff

Registration is \$35/person. To register for the Miner Institute location please contact Kimberley Morrill 315-379-9192, kmm434@cornell.edu to register for the Carthage location please contact Ron Kuck at 315-788-8450, rak76@cornell.edu or Terri Taraska at 315-376-5270 or tt394@cornell.edu.

# 2014 HERD HEALTH & NUTRITION CONFERENCE

Mark your calendar now to attend the 2014 Herd Health and Nutrition Conferences on **April 8 at the Doubletree Hotel in East Syracuse, NY** and **April 10 at the Fireside Inn and Suites, West Lebanon, NH**. These conferences are presented through a partnership between PRO-DAIRY and Northeast Ag and Feed Alliance (NEAFA). This conference is an ideal educational opportunity for agriservice professionals, feed industry representatives, veterinarians, and dairy producers alike.

Topics for the 2014 Conferences include:

- Animal Well-Being and Cow Performance, Reproduction, and Health Responses: An On-Farm Perspective - Dr. Gordie Jones, Central Sands Dairy, Nekoosa, WI
- Genetics of Feed Efficiency and Applications for the Dairy Industry - Dr. Stephanie McKay, University of Vermont
- Innovations in Feed Storage Technology - Dr. Rich Muck, US Dairy Forage Research Center, Madison, WI
- On-Farm Technologies for Dairy Production Producer Panel – Moderator: Corwin Holtz, Holtz Nelson Dairy Consultants

Registration information will be available at: <http://www.ansci.cornell.edu/prodairy/HHNC/>

**For sponsorship & Syracuse site information, contact:**

Heather Darrow, Conference Coordinator  
272 Morrison Hall  
Ithaca, NY 14853  
Phone: (607) 255-4478  
[hh96@cornell.edu](mailto:hh96@cornell.edu)

**For West Lebanon site information, contact:**

Sue Kinner, Financial & Administrative Support  
27 Elk St.  
Albany, NY 12207  
Phone: (518) 783-1322  
[sue@nysta.org](mailto:sue@nysta.org)

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## 2014 VERMONT DAIRY PRODUCERS CONFERENCE

**Tuesday, February 25**

**Sheraton Conference Center, Burlington, VT**

### Tentative agenda:

- 8:00-8:30 Registration  
8:30-8:35 Welcome  
8:35-8:45 Remarks by Congressman Peter Welch  
8:45-9:30 Nina von Keyserlingk - University of British Columbia - Identifying and Managing the Vulnerable Transition Cow  
9:30-10:15 Mike Apley - Kansas State University - Milk & Meat Residue  
10:45-11:00 Guest Speaker - Governor Peter Shumlin  
11:00-11:45 Shawn Bossard/Scott Potter - Manure Irrigation and Dragline  
11:45-12:45 Lunch  
12:45-12:50 Sponsor Recognitions and Announcements  
12:50-1:35 Lance Fox - No Place but UP  
1:35-1:45 Remarks by Secretary of Agriculture, Chuck Ross  
1:45-2:30 Karl Burgi - Dairyland Hoof Care Institute - Professional Hoof Care  
2:30-3:00 Break - Meet our Sponsors  
3:00-3:45 Mike vanAmburgh - Cornell University - Accelerated Calf Growth  
3:45-4:00 Door Prizes and Adjourn

For more information, contact Reg Chaput: [cff1991@hotmail.com](mailto:cff1991@hotmail.com)

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FARM REPORT IS HERE*

*ENJOY!*

## *Closing Comment*

Beware of half truths: You may get the wrong half.

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