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## **CLEANEAST Offers No-Cost Environmental Assessments and NMPs**

As a Dairy One initiative, Farmland Environmental works to help farmers to organize field and crop records, optimize nutrient use and yields, and control their environmental compliance position. In their efforts to achieve these goals, Farmland Environmental also promotes compatible funding opportunities. The CLEAN EAST project is one such opportunity. If you are interested in taking advantage of the EPA's confidential and no-cost Environmental Assessments and Nutrient Management Plans, or are looking for more information, call Dairy One/Farmland Environmental at 1-800-344-2697 today.

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## **Northeast Market Information Toll-Free Number**

Dairylea has now set up a Northeast Market Information toll-free number, where you can receive weekly updates of dairy markets, milk price updates and industry updates. Every Friday at the end of the day, we will post updates on the Northeast and U.S. dairy markets, available to you by calling 1-888-858-7813, toll-free.

Call Toll-Free: 1-888-858-7813

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## **A Homegrown Advantage**

When you're squeezing more out of each dollar spent on feed, it is important not to forget forage quality. Forages account for 50 to 60 percent of total ration dry matter, so subtle changes make a big difference in overall quality of ration. Read how your forages could be suffering.

See page 2, below

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## **Six Cost-Cutting Tips**

Purdue University dairy specialist Tamilee Nennich offers six easy recommendations to help dairy producers cut their cost during this tough low-price cycle.

See page 2, below

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## **Don't take a "vaccination vacation"**

When margins get tight, it's only logical to look for places in your budget to save money. And animal health is a line-item that often falls under the microscope. Be careful when searching for cost-cutting measures in this area, particularly when it comes to vaccines. Keep in mind, they are an investment in future herd health. Trying to attain short-term savings could result in higher expenses down the road.

[http://www.dairyherd.com/immunology.asp?pgID=724&ed\\_id=7812&ts=ia](http://www.dairyherd.com/immunology.asp?pgID=724&ed_id=7812&ts=ia)

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## **Answers to Volatility**

Dairylea's CEO Greg Wickham recently submitted this editorial to the national publication Progressive Dairyman. In Wickham's article, he addresses the unprecedented times that our industry is facing and presents some long- and short-term answers to fixing the problem of price volatility. Among these tools, Wickham discusses Risk Management programs, the CWT program and growing export markets.

See page 3, below

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## **The Top Ten Keys to Surviving in 2009**

2009 is proving to be a challenging year for dairy producers. Focusing your efforts on the factors you can control will help minimize the impact of low price cycles. This link provides 10 tips on things to review on your farm operation.

[http://www.das.psu.edu/dairy/dairy\\_digest/articles/dd200902-01](http://www.das.psu.edu/dairy/dairy_digest/articles/dd200902-01)

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***If you would like more information about these or any other resources available to you, please call Karen Cartier, Director of Communications, at 1-800-654-8838, ext. 5669. You can also e-mail [communications@dairydataprocessing.com](mailto:communications@dairydataprocessing.com)***

# DAIRY HERD MANAGEMENT

## Don't take a "vaccination vacation"

By Shannon Linderoth | 11/1/2008

When margins get tight, it's only logical to look for places in your budget to save money. And animal health is a line-item that often falls under the microscope.

However, be careful when searching for cost-cutting measures in this area, particularly when it comes to vaccines. Keep in mind, they are an investment in future herd health. Trying to attain short-term savings could result in higher expenses down the road.

"I remember one herd that had a scours problem," says Scott Pooch, University of Missouri veterinarian. "We added a scours vaccine into their vaccination protocol. After several years of good results, the farm decided that it would try to save money by not vaccinating." Unfortunately, the scours problem reoccurred and the farm quickly started to vaccinate again.

Here's why you should remain vigilant with your vaccination program.

### Performance cost

Obviously, you vaccinate animals for a variety of diseases, and at different stages of life, to improve animal health and increase economic returns. Vaccinations against *E. coli* mastitis provide a good example. But what is the performance cost or gain if you decide to use — or not use — this tool?

According to research published in the October Journal of Dairy Science, cows vaccinated with a J5 bacterin produced 16.7 more pounds of milk per day in the 21 days following an incidence of clinical mastitis than cows that did not receive the vaccine. In addition, vaccinated cows lost 13.2 to 33 fewer pounds of milk per day in the 21 days following coliform clinical mastitis cases versus non-vaccinated cows.

"A reduction in the loss of daily milk production following a case of clinical mastitis, whether for all cases or only those caused by coliform bacteria, is an important benefit of J5 vaccinations," says study author David Wilson, a veterinarian at the University of Utah.

### Every stage affected

You can find corresponding examples at virtually every stage of development.

Experts at Virginia Tech note that studies consistently demonstrate that calves with respiratory infections are almost twice as likely to leave the herd — and that can lead to higher replacement costs. As of Oct. 13, heifer calves brought as much as \$700 in some areas. And springing heifers were as high as \$2,325. It's much cheaper to vaccinate heifers against respiratory diseases.

# DAIRY HERD MANAGEMENT

## A homegrown advantage

By Kimberlee Schoonmaker | 4/1/2009

At the time of ration formulation, the dry matter level of the corn silage in the diet was 37 percent. Two months later, the dry matter level of that same corn silage had fallen to 27 percent. Meanwhile, the cows still received about 68 pounds of corn silage as-fed, but instead of getting 2 pounds of crude protein from that silage, they were now getting about 1.46 pounds — a loss of about 0.5 pound or 6 percent of their daily needs.

Dry-matter losses like this scenario happen regularly on dairy operations. But when you're pinching pennies, you can't afford to let dry matter and other forage-quality parameters slide. Forages represent a prime opportunity — a silver lining, if you will — during these rough times.

### Go for quality

A lot of producers go for yield at harvest because they want to get the most tons of forage per acre, says Gabriella Varga, dairy nutrition professor at Penn State University. However, getting the most tons of forage dry matter per acre will not necessarily yield the most tons of digestible dry matter.

Sure, you need enough inventory for your cows, but forage quality is important, too, especially when you're squeezing more out of each dollar spent on feed.

"This is the time that you really need to pay attention to forage dry matter," Varga says.

Forages account for 50 percent to 60 percent of total ration dry matter, so you can bet that even a subtle change in quality parameters like dry matter makes a big difference in the overall quality of the ration.

Take, for example, the corn silage dry matter example mentioned earlier. The same type of scenario can happen to protein levels when alfalfa silage dry matter declines (Please see the example at left.)

"If you do not adjust for dry matter in the ration and changes occur, you can actually shortchange cows on protein or fiber, which could limit not only production, but perhaps components as well," Varga says. You also could be overfeeding certain nutrients, which can hinder performance and lead to excess nutrients in the environment.

### Maximize quality

There is value in maximizing other forage-quality parameters, too.

A number of studies show that neutral detergent fiber (NDF) quality influences feed intake and milk production, says Larry Chase, professor of dairy nutrition at Cornell University.

For example, a Cornell study published a couple years ago shows that cows fed early-cut orchardgrass high in NDF digestibility had higher dry matter intake and milk production than cows fed late-cut orchardgrass with low digestibility.

In general, research shows each 1 percent increase in forage fiber digestibility equates to a 0.5-pound increase in dry matter intake and another 0.5-pound increase in daily milk yield, Varga says.

A 1-percent increase in digestibility also can reduce grain intake by 1 to 1.25 pounds per cow per day and yield 200 to 250 pounds more milk over the course of a lactation, she adds.

### Count on quality

Each dollar spent on feed counts in today's economic climate.

For example, if you have to replace the dietary protein lost because of a dry matter change in corn silage or alfalfa silage, it can start to add up fast.

With soybean meal, for example, it could add 10 cents or more per cow per day to your feed bill. That is \$10 per 100 cows per day.

The opportunity to save some of the dollars spent on other protein sources could lie in the forages grown and fed on your farm. Look for ways to maximize forage quality at harvest, during storage and at feedout.



## It takes a team

Regardless of size, dairies can't get better without concentrated and coordinated effort on the part of owners, managers, employees, and key advisors.

By Greg Squires

**M**ANY dairy producers do not fully recognize the value or benefits of even having an advisory team. Ironically, many of these same farms (even those with classic "one-man" operations) already technically have a "team" as it takes more than one set of hands to complete all the daily, weekly, and seasonal tasks.

In order for more of our dairy businesses to achieve greater success, owners and managers must gain a stronger passion for building teams of owners, employees, and advisors. Without that, you can't have maximum ingenuity, productivity, and leadership from your efforts.

The owner or owners of the business are a vital part of its team. However, many farm owners could be more effective at planning, communication, and organization as part of a team. They often are guilty of letting day-to-day tasks and putting out fires get in the way of being team players. Another stumbling block for owners is that they often are "family." It's hard enough for most families to be happy with one another let alone when they are working together to run a business.

Too often, nonowner staff or employees are overlooked as potential team members. They are thought to be too tied up with mundane tasks and routines. But those people may have solid ideas.

### Use your advisors . . .

Wherever I go across the U.S., too many dairy farm owners are guilty of not purposely selecting the very best sources of advice in the areas of herd health, facilities, milking technology, nutrition, legal, accounting, environmental management, and banking. A related common deficiency is not setting and communicating expectations of their advisors' performance and overall contribution.

A well-known quote suggests that the best characteristic of a great business manager is to "surround yourself with people who are smarter than you." An improvement to this approach might be to surround those people with expectations which will make them better than themselves.

Ultimately, owners are responsible for selecting and developing the team, how it will function, and what it will achieve. When the team operates to its potential, the business will realize untold benefits. In fact, once the team becomes a well-oiled machine, it would be easy to take it for granted because the operation will find itself operating at a high level with minimal firefighting. Here are two key characteristics of a winning team:

**The team understands the dairy's vision and mission.** If the team's primary responsibility is to improve business performance, it needs a detailed understanding of where the business is heading in terms of its long-term plan and strategy. A team cannot provide guidance about business planning and strategies unless it knows the business' long-term mission, vision, and goals. The owners must have purposely defined the destina-

tion and supported it with a complete business plan. The team must help develop the dairy's roadmap.

**Members understand their roles and responsibilities.** Family members often are guilty of overstepping boundaries of roles and responsibilities because they have never clearly defined the roles for each member of the team. An uncle who used to oversee the fresh cow

**DO NOT OVERLOOK** employees as potential team members. You should strive to create a work environment which nurtures empowerment and personal development.

pen still tells employees to wait at least two hours to pull calves, while a nephew who took over adopted a different procedure four months ago. This results in a very confused and frustrated fresh cow staff.

An effective team needs to operate in an environment of empowerment and think in terms of end results, not just the means to an end. A personal management system which fosters the idea of employees taking greater ownership in their role/likely will produce more favorable results.

Take a look at this example of one particular area of responsibility for a feeder. He might be told "To perform all functions necessary to deliver quality balanced rations to all livestock." Compare that to the following: "Feed all milking groups twice daily 30 minutes prior to return from parlor."

The difference between these two statements should be clear. Certainly, they differ in the attitudes they convey to the employee or team member. The first statement invites the team member to "manage" feeding, while the second is little more than one line on a to-do list.

If the owners of the dairy have hired a talented and capable feed manager and not just a feeder, managing him or her by responsibilities along with several performance expectations will encourage the feed manager to more proactively manage. They will not just cross things off of a to-do list.

Family owner-managers often operate businesses without formal personnel management practices because they are "family." Family team members need and benefit from having defined roles and responsibilities, and many family-owned businesses benefit from having formal boards of directors, including several nonfamily members. You need to operate the family business like a business, not a never-ending family reunion.

Most people will only perform to the level expected by his or her employer, customer, or client. If owners desire greater performance from themselves, staff, and advisors, they should set and communicate higher expectations. If you want to nearly guarantee that your team will underperform, set low expectations.

It is human nature to crave feedback from those with whom we work. Winning team leaders provide regular formal and informal feedback to



everyone on the team. Let family members and employees know what they are doing right and how they can further improve the team's overall performance.

Remember that you don't need to have the entire team involved in every decision or project. Assign responsibilities to certain members of the team to evaluate a purchase or change in procedure. Make sure only the appropriate skill sets are involved with special projects, but make sure to communicate outcomes and results to the entire team. The concepts of "team" and "team approach" must be woven into the fabric of your business.

The ultimate goal in developing the team is to have it operate with a continual focus on improvement and not on putting out fires. A schedule of regular meetings will keep the team constantly focused on continual improvement.

You can only make productive and meaningful decisions when you have a good handle on your current situation. Managers who have responsibility for the farm's reproductive program must be aware of current performance levels in order to first identify what gaps need closing. Once the team agrees to a new procedure or process, they must monitor the results of the decision so that follow-up actions can be taken.

### Evaluate, evaluate, evaluate . . .

Did the new process achieve the desired result or benefit? More importantly, was the new procedure cost-effective? In order to answer both of these questions, some members of the team need access to both detailed production and financial information. Knowing that herd turnover was reduced from 34 percent to 29 percent, and milk shipped per cow went up by 1,200 pounds per year, while labor cost rose \$180 per cow annually, does not tell the complete picture. Did the changes you made improve profitability or simply shift dollars from one pocket to the other?

Your team should focus its energy toward results that directly support the mission and goals of the business. Don't allow the team concept to erode into just having another meeting.

The author is with Dairy Enterprise Services, Ashland, Ohio. This article was adapted from a presentation at the IMC 2006 Regional Meeting, Green Bay, Wis.

February 25, 2008 137

## Long- and short-term answers to volatility

Gregory Wickham for Progressive Dairyman

These are unprecedented times in the dairy industry, and the current pricing structure is more than just a problem for dairy producers. The volatility in the dairy industry, from high price to low price, has increased in recent years, with even less time between the peaks and valleys—almost to the point of being unmanageable.

How did we get here? The main reasons for the price decline are a supply and demand imbalance as well as weakening U.S. and global economies. First, we all recognize that dairy is, to a large degree, a commodity market. So, a relatively small difference between supply and demand will cause a very significant change in price, hence the volatility. Dairy farmers did not cause this current down cycle. Producers responded responsibly and intelligently to the price signals that were sent in 2007 and 2008, which indicated the world needs more U.S. dairy protein for export. By most accounts, this is a long-term opportunity/trend, and dairy industry leaders responded by accessing more export markets. Ultimately, farmers responded with an increased milk supply. World population continues to rise, and many countries will be looking to increase their dairy consumption. These countries will simply not have

the ability to meet demand without significant imports. The U.S. is well positioned to provide such support and will gain from these sales.

Unfortunately, as we all know, the U.S. and world economy has since entered into the worst down cycle probably since World War II, maybe even since the Depression. At a time when U.S. dairy producers are still steadily increasing production at a rate of 1 to 2 percent, U.S. sales are off and international sales are expected to slow appreciably in 2008. This trend is causing dairy product inventory increases in the U.S. and weaker sales. Therefore, we have more milk than there is demand domestically and in the world markets. Most experts would agree the difference between where we are now and being in balance, is the equivalent of removing 200,000 to 400,000 cows from the U.S. herd. It is astounding that such a small difference in supply and demand has caused the high price decline that we are experiencing.

What can we do to fix the price volatility problem? First, there are risk management tools available to dairy producers that can offer some insurance and stability. **DairyRisk Cooperative** has the longest running risk management program for producers of any

cooperative in the U.S. During late spring/early summer 2008, a producer could have purchased a price floor that would effectively have guaranteed an approximate \$17.50 per hundredweight price floor in the Northeast for all of 2009's milk for an approximate cost of \$25 per hundredweight. In hindsight, that is a great value. Producers need to be sure they understand what tools are available and how they might fit into their operation.

Another short-term solution is a strong Cooperatives Working Together (CWT) program that can help manage supply and demand in the industry. This voluntary self-help program is a great tool, that has the size and scope to take only part of the volatility and length of the down cycle out (i.e., it cannot guarantee a profitable price for every dairy farmer in the U.S.). The program deserves continued support by cooperatives and all producers. A strong CWT program will shorten the length of the down cycle significantly.

On a longer-term basis, dairy promotion dollars continue to be focused on selling more products, and the U.S. Dairy Export Council, supported by dairy industry leaders, is very focused on the export market and maintaining a growing U.S. share.

For eight of the past 10 years, the

## Gregory Wickham

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Northeast has been in balance or short on regional supply and demand. We have felt the effects of consolidations and plant closures. However, the Northeast Boston-Washington corridor is a very good market, and processors here have started to reinvest in the Northeast infrastructure. High freight costs and our proximity to a large population puts the Northeast in a very good position. We believe this is an excellent place to dairy, and there are many opportunities ahead.

Many producers are asking what they can do to get through this difficult period. There is no easy answer, but to manage the things they can control, and do the best they can. Demand will rebound; it is just a matter of when. Additionally, it is important to be sure producers are marketing their milk with a financially strong company—hopefully a cooperative, since there is strength in numbers. As stated above, there are tools available to manage some of the price risk. Most importantly on a long-term basis, encourage your farm organizations and leaders to work hard on long-term solutions to price volatility. **PD**

## Ten Key Herd Management Opportunities on Dairy Farms

Tom Overton, Larry Chase, Jason Karszes, Mike Van Amburgh, and David Galton  
Department of Animal Science and PRO-DAIRY  
Cornell University

Tighter and potentially negative margins on dairy farms now and for the next period of time make it even more critical for dairy producers to focus their management skills on making sure that their herd management is “being all that it can be”. In a previous paper, we outlined “Ten low investment, high return management opportunities on dairy farms”. The purpose of this paper is to give some added focus to this material and add other key points for discussion and evaluation within individual dairy farms.

**1) Maximize milk component production** – Top-end herds in the monthly Dairy Profit Monitor benchmarking program [www.dairyprofit.cornell.edu](http://www.dairyprofit.cornell.edu) are producing a combined total of 6 lbs/day per cow or more of fat and true protein, with a solid goal across herds of greater than 5.5 lbs/day per cow. Although the major driver of fat and protein yield is overall milk yield, component percentages are also important. In general, herd-level milk fat percentage below 3.5% and true protein percentage under 3.0% in Holstein herds suggest opportunities for improvement. Motivation to seek this improvement needs to be based on the current value of milk fat and protein. Low milk fat suggests passage from the rumen of unique unsaturated fatty acids that directly inhibit milk fat synthesis and that there is opportunity either in ration formulation (unsaturated fats, carbohydrate balance, forage quality issues) or in ration implementation (dry matters, amounts fed, sorting, etc.). In the case of milk protein, levels below 3.0% suggest that rumen fermentation and microbial protein synthesis is not being maximized, or there are opportunities to improve amino acid balance by use of blended proteins or protected amino acids. The general timeline for the impact of ration changes on milk components is 10 to 14 days after implementation of the change.

**2) Relentlessly seek marginal milk opportunities** – Generally, the highest profit margin production is that from marginal (incremental) increases in milk production. This can be accomplished by herd-level management strategies such as changing milking frequency (e.g., 2X to 3X or 4X/2X milking), shortening dry period length on higher producing cows down to 40 days dry, use of bST, or capturing feed efficiency through use of compounds such as Rumensin. We recently completed a field study to evaluate production responses to 4X milking during the first three to four weeks postcalving followed by 2X milking thereafter. Although responses varied among farms and by lactation group within farm, all farms had positive production responses for cows milked 4X/2X and the average response was approximately 3.5 lbs of component-corrected milk yield across the first 7 monthly test days. The overall increase in labor/milking capacity for a 2X herd to actualize 4X/2X is only about 7% compared to 30% for whole-herd 3X. With any of these changes, it is important to look at not only the expected increases in production, but also the changes in input costs to determine what the actual profit may be.

**3) Don't lose fresh cows** -- The best dairies that we encounter maintain fresh cow loss in the first 60 days in milk at or below 6 to 7% of calvings, without keeping low producing fresh cows simply to keep this number lower. Many dairies continue to lose 10 to 15% of fresh cows during the first 60 days in milk, frequently because of health disorders caused by overcrowding either before or after calving, frequent group changes before or after calving, or competition issues between springing heifers and older cows. Ration formulation issues are relatively rare, but ration implementation issues (long chop length of dry forages in dry/prefresh TMR leading to sorting, inaccurate weighing of ingredients, not accounting for dry matter changes) are common. Farms with high quality forages typically will need to obtain low energy forages for far-off dry cow rations because high energy intake far-off can lead to more fresh cow health disorders and increased fresh cow loss. If overall management practices and grouping are in line, there is little added value from routine drenching/pumping practices.

**4) Identify and potentially cull low value and low profit cows** – Identify those low producing cows who are not generating enough revenue to cover variable feed and labor expenses and use routines such as COWVAL in DairyComp 305 (either on-farm or can be run by DairyOne technician at monthly herd visit) to identify those lower value cows in the herd for either removal, dry off, or replacement. In overstocked pens, removal of low profit cows may result in little to no change in overall milk yield because of better overall performance of the remaining cows. It is important to analyze each individual herd situation, perhaps in conjunction with your agriscience professionals (consultants, extension, veterinarian, nutritionist) because the opportunity can vary widely from herd to herd.

**5) Ensure that all management protocols are working and being followed** – Protocol drift in many areas of dairy herd management (an incomplete list includes milking routines, calving and colostrum management, reproductive program implementation, and feeding management) is common. This can easily lead to drag in milk yield, higher SCC, poorer conception rate, increased morbidity and mortality in calves, lower feed efficiency and poorer rumen health among other issues. Are you losing out on milk quality premiums because of milking routine/facility issues or a few high SCC cows that are elevating the entire tank? Take the opportunity to review protocols with employees and provide feedback to ensure that these protocols are getting the response and return that you expect.

**6) Don't incur heifer rearing costs longer than necessary** – Despite years of research and herd experience that suggests that herds can grow heifers well and calve them at 21 to 22 months of age, many herds still average 24 to 26 months age or higher at first calving. This can incur substantial additional cost both in terms of feed requirements and facility/labor to support additional heifer inventory. An Excel spreadsheet calculator for evaluation of the heifer enterprise is available at the PRO-DAIRY website located at <http://www.ansci.cornell.edu/prodairy/index.html>

**7) Maximize your reproduction program** – Better pregnancy rates on dairy farms generally correspond with lower days in milk and more overall production of milk components. The calculated cost per day open increases from about \$3 per day at around 120 DIM to \$5 per day later in lactation. Is your current reproductive management program getting all cows bred for the first time by 70 days in milk, with overall calculated 21-day pregnancy rate at 20% or greater? Strategic use of synchronization programs combined with attention to detail in all aspects of breeding protocols are key aspects of reproductive management.

**8) Optimize neonatal management** -- Opportunities exist on many dairies to decrease stillborn (DOA) rates and decrease morbidity and mortality in calves through the milk-fed phase and weaning. Our best dairies consistently maintain dead-on-arrival (DOA) rates in female calves at around 4 to 5% of calvings; however, a number of dairies have DOA rates of 8 to 10% or more. Intensively managing the calving process for a “just-in-time” move from a close-up group to a calving area usually decreases DOA rates (and also decreases overall fresh cow problems). More calves born alive provides more calves that either eventually enter the herd or can be sold to improve cash flow.

Once born alive, studies suggest that calf mortality rates average 8% and morbidity averages about 30%. Excellent colostrum management [4 quarts of quality colostrum (> 45 to 50 mg/ml of IgG; < 100,000 CFU/ml of bacteria) within 4 hours of birth for Holsteins] is critical to ensure that calves have sufficient passive transfer of immunity and nutrition immediately after birth. Calves should be fed to double their birth weight by 56 days of life, which is higher than traditional feeding recommendations – this plane of nutrition both enhances the efficiency of lean gain and provides nutrients to allow the immune system to function, thereby decreasing veterinary and medicine costs for the calf program.

**9) Strategically identify ration opportunities** – Opportunities exist both in terms of using accurate forage analyses to enable tighter ration formulation and more sophisticated forage analyses (e.g., fiber digestibilities) integrated with nutritional models to optimize use of homegrown forage within dairy rations. If forage is of high quality and inventory is adequate, is it being utilized to its potential? Likewise, if high quality forage is not available, are there other ration adjustments that can be made to optimize milk yield? Recent work has suggested that there may be opportunities to strategically decrease protein feeding levels and maintain high milk and milk component yield. This strategy has focused primarily on decreasing rumen degradable protein supply to about 8 to 9% of diet dry matter and using high quality undegradable protein sources and amino acids to ensure adequate metabolizable protein supply. Economics likely will make this approach more attractive in high corn silage based diets when haylage inventory is limited. Research consistently indicates that there is no productive or reproductive reason to exceed approximately 0.40% phosphorus for fresh cows, and 0.35% phosphorus for cows at other stages of lactation. Ration levels of 0.35% phosphorus are typically achieved using only basal feed ingredients, and no added phosphorus from mineral sources. When making changes to the overall ration program, it is important to measure and track net milk income over feed costs to ensure that the changes you are making are providing the results that you are looking for.

**10) Maximize your feeding management program** – The feeding management program can result in hidden losses in feeding programs. Opportunities range from decreasing shrink at the silo by better face management in bunks and bags to accurate and frequent (at least weekly) assessment of silage dry matters to ensure more consistent delivery of diets to cows. This is another area in which protocol drift both within a feeder and across multiple feeders is common, which can change particle size and consistency of diets, which contributes to inconsistent intakes and lower efficiency of use of rations.