

DAIRY CONNECTION

Vol. 18, No. 3 September 2008

EDITORIAL

What a summer it has been. New records of all sorts have kept daily decisions anything but mundane. And, harvest yields have been from one extreme to the other. With fall just around the corner, thoughts turn to stocking the feed yard, and dealing with high feed and fuel costs. North Dakota sure hasn't been without variety, especially in the weather category, from flooding in the southeast to extreme drought in the northwest.

Here is the fall edition of *Dairy Connection*, where I attempt to share topics of interest to your dairy operation and family farm. Fall is also the time I start thinking about the *Dairy Convention* (see the details below). And some good news: The latest North Dakota Dairy Coalition project is breaking ground at Carrington. The van Bedafs are in the state and working toward a late-winter startup. Welcome to North Dakota, Cornie, Conny and family!

Good reading,



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EVENTS

42nd Annual North Dakota Dairy Convention Thursday and Friday, Nov. 20-21, 2008

Best Western Seven Seas Inn, Mandan, N.D.
(Junction of I-94 and exit 152)

Thursday, Nov. 20

- 10 a.m. **Registration**
- 10:30 a.m. **Trade show opens**
- Theme – Day One: Family – The Farm Foundation*
- 11:45 a.m. **Opening luncheon and featured speaker**
- 1:15 p.m. **The Things I've Seen**
Loel Nelson
- 2:15 p.m. **Ice cream break sponsored by Cass Clay/AMPI**
- 3:15 p.m. **Defining the Family Farm – Dairy Family Panel:**
Heidi and Eric Reiter, Jerry and Deb Messer, Julie and Alan Qual, James Dykema, Kathy and Jack Spah
- 5:30 p.m. **Pre-banquet social and awards banquet**
Dinner music – Gene Schaaf Band
Milky Way and Merit Awards
Ag Commissioner's Award of Dairy Excellence
Entertainment – Christie Goldade, singer/yodeling
Silent auctions

Friday, Nov. 21

- 7:30 a.m. **Registration**
- 7:30 a.m. **Breakfast buffet**
- 8 a.m. **Trade show**

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Theme – Day Two: Preserve and Protect the Farm

- 8:30 a.m. **Animal Biosecurity and Protection**
Charlie Stoltenow
- 9:15 a.m. **State and National Security**
Larry Shireley
- 9:45 a.m. **Cheese break sponsored by Cass Clay/AMPI**
- 9:45 a.m. **National Guard display**
- 10:15 a.m. **Dairy 5: Image – It's Your Responsibility**
Larry Schnell
- 11 a.m. **Milk Producers of North Dakota Cutty Sark**

Registration: at the door

Lodging information: contact Best Western Seven Seas Inn, 2611 Old Red Trail, Mandan, ND 58554-1448, (701) 663-7401 or (800) 597-7327

More information about the convention: contact J.W. Schroeder at (701) 231-7663 or jw.schroeder@ndsu.edu

■ CALVES and HEIFERS

Monitor performance

Customized management records help keep track of calf growth, use, death loss and herd check. Collect the following data:

- **Growth data** – Record calf weight at the time of purchase and at weaning. Use this information to calculate average daily gain for each calf and group. The goal is to have the calf double its weight in eight weeks while in a calf hutch.
- **Antibiotic use** – Record the date and dose given for each animal-health product used most commonly on the farm track.
- **Death record** – Note animal ID, date and cause of death.
- **Vet check sheet** – This contains information for use during herd checks. Information recorded during the herd check then can be entered into the computer.

Limit-feeding

When limit-fed, heifers receive the same amount of calories and the same amount of protein, only in less dry matter, says Pat Hoffman, dairy scientist at the University of Wisconsin. One of the hallmarks of using this technique is the reduction in wet feces per head per day. Research at the Marshfield Agricultural Research Station shows limit-fed heifers (gaining about 2 pounds per head per day) produced 10 pounds less manure per head per day than full-fed heifers. Here are some behavioral issues Hoffman has observed:

- Vocalization time increases. This usually is temporary and ends after 10 to 14 days.

- Eating time decreases. Heifers seem to stand around more rather than lie down.
- Heifers still sort feed. Push it up 45 minutes after feed delivery.

Methods to reduce feed cost for dairy heifers

Raising dairy replacement heifers contributes a sizeable percent of the total costs of the dairy herd. Whether you raise your own heifers or have them custom raised, eventually the milking herd has to pay its rearing costs.

Heifer (Holstein) raising goals are to have the heifers gain between 1.7 and 1.9 pounds per day, calve at 23 to 24 months of age and weigh between 1,300 and 1,350 pounds, pre-calving. Wither height should be at least 56 inches and the heifer should be a body condition score 3.5 (1 to 5 scale).

Feed costs make up the largest share of the costs to raise a calf to freshening. 2007 Minnesota Farm Business Management results from more than 400 dairy farms shown 45.2 percent of total heifer-raising costs are feed. One method to reduce feed costs is to combine corn coproducts with low-quality forages. Low-quality forages, such as corn stalks, oat hay, sorghum-sudan grass, etc., are low in energy, protein, calcium and phosphorous but high in neutral detergent fiber (NDF). Corn coproducts, such as distillers grains, are high in protein, energy and phosphorous, yet low in calcium and NDF.

Can we combine wet distillers grains and solubles (WDGS) with corn stalks for growing heifers? Studies have been conducted on this proposal at South Dakota State University. Dairy farmers in Iowa are using these feedstuffs for their 500-plus-pound heifers. South Dakota researchers mixed ground corn stalks and wet distillers at a ratio of 69 percent WDGS and 31 percent corn stalks, as-fed. Then they mixed this blend at 86 percent, with 14 percent rye straw, minerals and vitamins. They compared this diet to a traditional diet of alfalfa and grass hays, alfalfa haylage, corn silage, dried distillers grains and solubles (DDGS), earlage, vitamins and minerals.

Heifers on both diets gained too fast (2.82 vs. 2.31 pounds per day) on the traditional versus co-product/corn stalks ration. Interestingly, the cost of feed was reduced from 86 cents per day to 52 cents per day by feeding the WDGS/corn stalks ration. This trial was conducted in 2004.

What might a ration for an 800-pound heifer look like? We've developed heifer rations using ground or shredded corn stalks, WDGS (30 percent dry matter), minerals and vitamins to achieve a 1.6-plus-pound average daily gain. The ration consisted of 7.82 pounds of WDGS, 9.8 pounds of corn stalks, 0.02 pound of limestone and 0.05 pound of trace mineral and vitamins pack, all on a dry-matter basis.

These are all mixed as a total mixed ration (TMR) to get the WDGS to adhere to the corn stalks. This ration resulted in a 16 percent crude protein, 0.68 megacalorie of net energy for maintenance (Mcal NEm), 0.40 megacalorie of net energy for gain (Mcal NEg), 62 percent NDF, 5.03 percent fat, 0.31 percent calcium and 0.29 percent phosphorous ration at a current cost of \$1.06 per day. Last December this ration cost 69 cents per day.

A more traditional ration similar to the “traditional” ration used by the SDSU study would cost \$1.29 per day. A difference of 23 cents per head per day doesn’t sound like a lot until you consider the 800-pound heifers to be the “average” size heifer in a dairy herd. So a herd of 100 cows would have about 75 heifers that could be fed this lower-cost ration. In one year, that is a saving of more than \$6,000.

Producers have some precautions to be aware of when using coproducts. We need to make sure the fat content of the WDGS is between 10 percent and 12 percent. Too much fat will result in fatty uddered heifers that will not milk to their potential. Most heifer rations would not contain excess sulfur, but the entire ration sulfur content should be less than 0.4 percent of the dry matter. Be sure to watch consistency of the product from a moisture, fat and sulfur standpoint.

Source: D. Thoreson, field specialist, Iowa State University

■ REPRODUCTION

Make the effort to get cows bred

“We live in interesting times” certainly applies to the summer of 2008. Costs of feed and fuel and changes in consumer preferences for milk supplies are shaking some very basic assumptions about how to manage dairy cows.

Watching the subtle trends in the state rolling herd average for milk for a number of months, each month’s “test period milk pounds added” is just a bit less than the month from the previous year. Cows are giving slightly less milk this year. Why such trends exist always is complex, but the high costs of concentrates are involved. Producers feel that they must rely more on home-grown forages or locally produced grain supplements than in the past, and those inputs won’t always support previous yields.

BST (bovine somatotropin hormone) is not the option it once was to sustain milk yield in prolonged lactations. In the past, low concentrate costs and BST reduced the costs of extended days open, but the rules of that game have changed. Recordkeeping programs, such as PCDART, can help avoid those 150-day intervals to first breeding. Track all cows after calving and have a protocol to breed most of them at 70 to 80 days in milk.

Many systems and options still are available to rebreed cows in the lactating herd. One key component is a frequent and consistent vet check program. Monthly vet checks probably are the minimum. Even more frequent vet checks lead to more timely intervention on problem cows.

Most dairy farms have or can acquire the resources to shorten interval to first breeding. The benefits of reduced days open remain the same: fresher, more productive cows and additional heifer calves. The costs of days open are higher than ever.

Adapted from: B. Cassell, Extension dairy scientist, Virginia State University

Ensure your calves get off to a good start

- The maternity pen is in an area of the barn that is away from traffic to give cows a quiet, relaxed atmosphere for birth.
- The pen is cleaned, sanitized and bedded with new bedding after each calving.
- Whenever an employee goes into the maternity pen, he or she must put on clean coveralls and boots.
- All births are supervised.
- All calves receive colostrum from mature cows that test negative for bovine leukosis, Johne’s disease and neospora and are BVD-PI free.

Source: 2007 World Dairy Expo – Sunshine Genetics, Feeds and Forages

■ FEEDS and FORAGES

High-moisture corn harvest

Estimated growing degree days for corn development suggest Mother Nature will need to delay a chilling frost if the 2008 crop is to make maturity, and with the high cost of drying, that would be good. Whether planned or weather driven, you may find yourself putting up high-moisture corn. The situation sometimes prompts the question, “What can I get away with?” Here are some factors and suggestions you may want to consider when making decisions regarding the harvest and storage of high-moisture corn.

Consider the type of silo first. Conventional and oxygen-limiting silos must be approached differently when specifying minimum, maximum and desirable moisture levels. The following table illustrates these relationships.

High-moisture corn storage in conventional and oxygen-limiting silos

Conventional top unloading silos and silo bags			
	Minimum	Desired	Maximum
	— corn kernel moisture, % —		
• Ear corn	26	32-36	40
• Shelled corn	24	28-30	35

Bottom-unloading oxygen-limiting silos			
	Minimum	Desired	Maximum
	— corn kernel moisture, % —		
• Ear corn-rolled oxygen-limiting	26	28-32	36
• Shelled corn	24	26-28	32

High-moisture shelled corn above 32 percent kernel moisture may result in difficulty in unloading from typical oxygen-limiting silos equipped to handle high-moisture shelled corn.

For corn stored above 40 percent moisture, an undesirable fermentation will take place and yeast will predominate along with high ethanol levels. Animal acceptance will be poor with this type of fermentation.

Recommendations for harvesting, processing and storing wet corn

1. Check corn kernel moisture from different fields and harvest the one nearest to optimum first. Corn with higher than desirable moisture tests may be less of a problem when fed during the coldest months and is best to put on the top of the silo. Very wet corn may be prone to spoilage upon removal from the silo or even prior to removal if fermentation was poor.
2. Take care not to overprocess corn that is above the desired moisture level. Excessively fine high-moisture corn may result in fat test depression, off-feed problems and an increased incidence of displaced abomasums resulting from rumen acidosis. As the corn approaches optimum moisture content, increase the degree of processing.
3. High-moisture corn ferments more slowly and less extensively than corn silage. Thus, consider the application of a lactic acid bacterial inoculant to high-moisture corn, especially if it is beyond the optimum moisture level. Apply a minimum of 100,000 colony-forming units per gram of fresh corn to help ensure a good fermentation. Use an inoculant product that has been developed specifically for high-moisture corn. Ensiling the high-moisture corn during cold weather and after several days of freezing temperatures may severely reduce the population of naturally occurring lactic acid-producing bacteria.

4. Consider the application of propionic acid at 12 to 15 pounds per ton of actual propionic acid. A number of products with less than 100 percent propionic acid are available. Be sure to base rates on pounds of actual propionic acid. The propionic acid must be placed onto the grain. Applying the acid by spraying onto the corn as it arrives at the blower throat often has resulted in less than satisfactory results because of excessive volatilization loss. Placing the acid on the corn as it is augured to the blower is the preferred method of mixing the acid so that all corn is treated uniformly.
5. Corn with significant mold on the kernels and cob is best harvested and stored as shelled corn (rather than ear corn). Some producers have dried moldy corn to storable moisture while screening off the fines. Where drying is not an option, propionic acid is recommended. The propionic acid will not lessen any problems from the mold, but likely will prevent mold problems from getting worse.
6. Be careful to plan for an ample removal rate from the silo. A removal rate of 3 to 4 inches per day may be required to prevent heating during feeding in warmer weather. Treating the bottom third to half of the silo of high-moisture corn with propionic acid (12 to 15 pounds/ton) may be desirable to ensure quality during warm-weather feeding.
7. If high-moisture corn is stored in bags, locate bags away from trees and long grass, and keep snow removed from around the bags. For best results, remove bagged high-moisture corn during cooler months. Punctures, rips or tears in the summer can cause rapid and expansive spoilage.

Source: M. Rankin, University of Wisconsin Extension

Get a handle on forage quality

Have you ever started the herd on a new silage crop and experienced an intake and milk production crash? Producers commonly evaluate silage on the basis of dry matter, crude protein, acid detergent fiber and neutral detergent fiber. Generally, lower fiber means higher energy content and more milk. However, sometimes these traditional measures are not sufficient to determine how a herd might respond to a silage crop. Fermentation analysis can provide valuable information and help determine expected response to forage or its suitability for a given class of livestock on the farm.

Silage depends on fermentation of carbohydrates (primarily sugars and starch) to produce acids, which in turn preserve the crop. Rapid filling, exclusion of air by good packing and a plentiful supply of readily available carbohydrates are essential for good fermentation. Goals for silage fermentation are shown in the table.

Goals for silage fermentation

Item	Legume silage	Corn silage
pH	4.0 – 4.8	3.7 – 4.2
Lactic acid	6 – 8%	3 – 5%
Lactic acid (% of acids)	>70%	>70%
Acetic acid	<2%	<2%
Ammonia	<10% of total N	<10% of total N

What does the fermentation analysis tell us about silage?

A high pH commonly means a poor fermentation has occurred and the silage may not keep very well.

It's also associated with higher losses of nutrients during fermentation. High pH is more common with mature forages or those ensiled too dryly.

Lactic acid is a strong acid that should predominate in the silage. This is the acid responsible for the rapid drop in pH. The importance of acetic acid is not as clear.

Lactobacillus buchneri is included in some microbial additives and it produces acetic acid, which helps extend bunk life after silage is fed. If L. buchneri is not added, higher acetic acid levels might be associated with depressed intake.

Propionic and butyric acids should not be detectable. Butyric acid indicates an undesirable fermentation has occurred. This silage usually stinks!

High levels of ammonia frequently are associated with a poor fermentation. The silage may have been too wet or poorly packed, or the silo filled too slowly. Poor fermentation usually indicates excessive breakdown of protein.

What can be done with poorly fermented silage?

Silage with high levels of butyric acid should not be fed to the milking herd and especially not to close-up or fresh cows because it will result in low intake and increased ketosis. If it must be fed to the milking herd, it should be fed to lower-producing, later-lactation cows and diluted with higher-quality silage. Older heifers may be more likely candidates to receive this forage.

Dry silage with a low pH may be less digestible and have lower palatability. Sometimes the addition of wet brewers grains will help "perk" this silage up and improve intake of the ration. Fermentation analysis is available from many forage-testing laboratories at an added cost above the basic analysis.

From Virginia Tech Dairy Pipeline, Vol. 27, No. 9.

Slow-cooked silage is better

Corn silage quality is optimized if the crop remains in storage for three to four months before it's fed. Corn silage goes through four phases, with the final phase offering the best quality feed.

You can feed it green right off the field or you can feed it four to seven days after it's been ensiled in a bunker, upright silo or bag. Fermentation is complete within a week after harvest.

You can feed the silage three to four weeks after ensiling, which offers better-quality feed than the first two options. But for the best silage, ensile it for three to four months before using it. That's why many dairy producers see a spike in production after the holidays.

During storage, the starch component (grain) of the silage becomes more digestible. The starch initially is encapsulated within a protein matrix, which gets broken down. If you're not able to wait that long, the silage still works, but it is adding a little more grain to the ration to compensate for the lower digestibility. If you can wait, you probably won't experience the drop in milk production that many producers do when they switch from last year's corn silage to material that's only three weeks to a month old.

Ruminal starch digestibility can increase by up to 25 percent during those first months.

Understanding the value that ample storage time has on corn silage is very important. It's a bigger variable in dairy rations because higher-corn silage feeding programs are more prevalent than they used to be.

If it's practical, keep a supply of last year's corn silage to feed while the current crop is gaining digestibility.

Some growers use bunker silos and also put several weeks' worth of silage in bags so they can keep some aside to feed right after harvest. Others find using bunkers that can be accessed from both ends, which is relatively easy to do.

Two final notes: 1) kernel processing aids quality improvement during those first few months because it exposes more of the starch to microbial attack and 2) silage quality remains stable for two to three years in storage.

Adapted from Hay and Forage, September 2007

■ NUTRITION

Coping with soaring feed costs

Feed prices continue to chart unknown territory and our first reaction is to find something cheaper to help keep milk production up and get energy into our cows. Our cheap corn has broken \$12 a bushel and the rush is on to get energy into the cows in a cheaper way. In general, corn supplies starch that rumen bugs can use as energy to produce volatile fatty acids (VFA). The cow uses VFA for energy and to produce microbial protein, which she digests and uses to make milk protein. Some starch may bypass the rumen and also be used for energy directly by the cow.

Dairy production, in general, utilizes feedstocks that are “byproducts.” These can be from other food processes, excess production (corn) or high-fiber products that humans can’t digest. Every time prices go high, we are reminded that we are last in line for feedstocks.

So what are the options for high-priced corn? Each choice needs to be weighed individually to see if it fits your overall ration and management abilities.

Some dairy industry supporters point to breaking down the components for which you are feeding corn and checking to see if you can find a better buy. Software such as Feedval, available from the University of Wisconsin, and Sesame III, developed by Ohio State University, take into account energy and protein and some fiber components to give a shadow value to help find good cost deals.

Remember to look at the big picture when making a substitution. The rumen uses sugars, starch and fiber to make VFA and microbial protein that the cow in turn utilizes for her energy and milk production. Rumen fermentation is a delicate balance and just substituting a sugar source, which is rapidly fermentable for corn (more slowly fermentable starch source), can cause upset. Similarly, adding a fiber source (slower fermentation and less energy availability) can cause overall VFA energy production by the rumen bugs to be lower. In many cases, prices for other ingredients are based on corn, so for top production, corn still is the most cost-effective choice.

The real key to maintaining profitability when feed prices are high is to do a good job of sourcing ingredients and then look beyond the direct cost of ingredients and manage areas that you control. What are those areas?

1. Formulation
2. Mixing
3. Delivery
4. Digestion (or making the feed easier for the cow to digest)

In essence, many dairies let manageable areas lag when feed prices are low. The same pound of feed that only costs 5 cents last year now may cost 10 cents, which makes watching every function on the dairy imperative.

Key points

- When evaluating cost-effective feed ingredients, remember we are feeding two animals – first the rumen bugs and then the cow.
- Rumen-efficient use of starch, sugars and fiber make VFA that supply up to 85 percent of the cow’s energy.
- Cow-post ruminal energy helps achieve top production and maintain health and reproduction.

- When feed prices are high, look for good buys, but don’t create problems with rumen fermentation or the cow’s basic requirements.
- Manage the basics of feeding on the farm. Formulation, mixing and delivery can make or break the feed you are buying.
- Know what you are delivering to the cows. Small changes in forage dry matter can unbalance a ration and cause you to feed more grain than you want to feed.
- Keeping cows in top productive form and getting them pregnant helps maximize your profitability.

Source: Progressive Dairyman, K. Murphy

■ EQUIPMENT and FACILITIES

Evaluating milking systems

To evaluate a milking system comprehensively, you should perform a static test, dynamic test and operator evaluation:

Static Test:

- Vacuum level
- Pulsation characteristics
- Vacuum reserve

Dynamic Test:

- Vacuum stability
- Claw vacuum levels
- Automatic cluster removal (ACR) operation

Operator Evaluation:

- Milking hygiene
- Competence
- Consistency

Assessing a milking system requires using air flow meters, vacuum gauges and pulsation analyzers. Plus, you need testing procedure training.

Carefully observing cow behavior usually sheds light on milking system problems. Cows should enter the milking parlor without hesitation and stand comfortably when the milking machine is attached. Restless cows, fidgeting at the milking cluster, particularly at the end of milking, can indicate excessive vacuum levels, poor pulsation performance or no milk flow. If cattle frequently urinate or defecate during milking, they most likely are experiencing stress or suffering some discomfort.

Are liners slipping frequently? If yes, this may indicate incompatibility between the milking liner and teats, poor effective reserve, low working vacuum level or old liners.

Does the working vacuum level fluctuate? This may suggest that the vacuum regulator is failing to maintain a stable vacuum level and may indicate poor effective reserve or poor operation techniques.

Are milk flow patterns irregular? If yes, this suggests poor milk letdown or lack of stimulation. When this occurs toward the end of milking, overmilking or poor ACR adjustment may be the cause.

Lastly, monitor teat end health. The majority of milking system shortcomings will be highlighted by measurable changes in teat condition after milking. Hyperkeratosis, discoloration, oedema, wedging or teat base ringing identify traits associated with an aspect of machine milking.

Source: Dairy Solutions Symposium, University College, Dublin, Ireland

■ MILK and MEAT QUALITY

Dairy producers are beef producers, too

Dairy producers generally do an excellent job of producing high-quality milk; however, the same cannot always be said about their contribution to the beef supply each year through the elimination of market (cull) cows and bulls.

Although producing substantial amounts of high-quality milk is the primary concern of dairy producers, about one-third of beef production in the U.S. is from market dairy cows. In a 2000 U.S. Department of Agriculture study, dairy cattle represented more than 50 percent of the cattle harvested in 43 percent of the nation's largest slaughter plants. Sales of market cows from the dairy can represent 5 percent to 15 percent of total income from the dairy.

A popular misconception is that the majority of beef from cows and bulls is used solely for ground beef; therefore, proper handling and timely marketing of dairy cattle is of less concern. However, dairy producers need to realize that beef cuts from dairy animals are sold to supermarket and food service operators, and may be used as entree items in steakhouses, airlines, fast-food establishments and "quick fix" beef items (for example, fajitas).

Our food system is under intense scrutiny. Now with communication tools such as the Internet, a reputation can be damaged beyond repair, even if you're innocent. Don't take our good reputation for granted. If that cull is not ready for market, leave her home!

■ MANAGEMENT

Getting better every day

These are unsettling times in animal agriculture.

That's all the more reason to strive to be the best at what you do. Regardless of the climate of the times, the best producers are trying to get better every day – through innovation and process improvement.

The best producers have these things in common:

- They put people first, technology second. They understand that their most important resource is their team of people.
- They constantly study their businesses for better ways to do things.
- They are never done. What was good enough today to be competitive won't be good enough tomorrow.
- They challenge their team to get better. They never think they have things figured out.
- They monitor the key production and financial metrics that drive their business.
- They have strategic and operational plans, and use them to model what may happen.
- They celebrate achievement as they meet their goals.

Adapted from Dairy Herd Management

■ MISCELLANEOUS

Keeping current on dairy

We live in the information age. Finding answers and contacts continues to be a challenge and necessity.

This publication provides valuable resources and contacts to assist dairy owners and managers, employees, veterinarians and professionals. A new Internet-based resource is DAIREXNET.

DAIREXNET was launched in October 2007 in connection with the World Dairy Expo in Madison, Wis. This national, Extension-based and -driven Web resource was developed as part of the national eXtension effort and is designed to meet the educational and decision-making needs of dairy owners and employees, allied industry partners, Extension educators and consumers. Through collaboration with dairy professionals, this resource provides relevant and cutting-edge information and learning opportunities, which are science-based and peer-reviewed in a format accessible 24 hours a day, seven days a week. Informational resources include:

- Answers to frequently asked questions (you can view answers or ask a question that will be answered by a specialist in that area)

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- Access to information by top experts in their fields of expertise (state Web sites are listed for easy access and documents)
- Access to cutting-edge content in 13 subject areas (listed below)
- Searchable state and regional newsletters (most current information available every month)
- Consumer links relating to the dairy industry and its products
- News and lists of events

Resources are provided in 12 subject areas, which include business management, milk marketing, nutrient management, nutrition of milking and dry cows, organic dairy production and reproduction. A 13th area includes several articles available in Spanish for Spanish-speaking farm workers and educators.

Plans are to continue to expand these resource areas; include pilot areas in the form of learning modules; conduct webinar meetings for dairy producers and allied industry on cutting-edge, timely topics; and develop webinar training sessions for county Extension educators

across the U.S. Leadership for this project is provided by 10 dairy Extension professionals from across the U.S. Also, our subject areas are led by 13 dairy experts from throughout the country. To date, 211 dairy professionals representing 35 universities and allied industries and the top 25 states for milk production have contributed to DAIReXNET. DAIReNET can be found at: www.extension.org/dairy_cattle.

No charges or fees are involved. This resource is available to anyone with Internet access.

Deodorizing your barn

USDA Agricultural Research Service scientists have found that aluminum chloride – a common ingredient in deodorants for people – helps minimize the nose-prickling vapors that tend to concentrate in and around dairy facilities. The compound can slash troubling ammonia emissions significantly.

The compound doesn't generate smelly, sulfuric gases when applied to liquid waste. And, aluminum chloride reduces phosphorus runoff and atmospheric ammonia levels in animal facilities in a cost-effective manner.