Volume 7 Issue 2 Fall 1998

UNIVERSITY OF MINNESOTA

DAIRY Initiatives

NEWSLETTER

Contents

1 *Managing Your TMR*

4 *Increasing Productivity by Strengthening Communication*

6 *Johne's Disease Update*

6 *Time for a Trip?*

7 *What About Odors?*

8 *The Winning Edge: Detecting a Silent Thief*

9 *Dairy Profile: Diagnostic Team Guides Change*

10 *U Welcomes New Dairy Faculty*

10 *Dates Set for Dairy Training*

11 *Remember the Beef*

Managing Your TMR

Jim Linn, EXTENSION DAIRY SPECIALIST

A total mixed ration (TMR) should be the best way to feed your dairy cows and heifers. It offers the advantage of providing a balance of all the nutrients an animal needs in each and every mouthful she consumes. However, the best formulated ration can result in poor animal performance and health problems if the TMR is not properly mixed and fed. Let's look at some potential problems in mixing and feeding TMRs.

Weighing Feed

The scales on your mixer should be checked every few months because they can become inaccurate. It is important to check the scales at different weights because sometimes they can be accurate at low weights, but inaccurate after several thousand pounds of feed have been added. One way to do this in open-top auger-type mixers is to place a 50-pound feed sack on each corner (200 pounds total)

and observe the scale weight. Remove the sacks and begin adding feeds to the mixer. After about a third of the total mix weight has been added, place the

Continued on page 2

Learn About Your U—And Get a Free Lunch, Too

WONDER WHAT THE UNIVERSITY OF MINNESOTA IS DOING for you as a dairy farm family? The answer will be coming your way this winter in the form of "The Dairy Industry and the 'U,'" a day filled with presentations, exhibits, and other opportunities to explore how the University is helping Minnesota's dairy industry and how you can get the most out of its programs. You'll learn about a variety of research and extension efforts related to the four general areas of family, dairy products, dairy production, and dairy careers. Specific topics include balancing work and family, gender differences in solving problems, dairy food safety and new product development, what's new in dairy nutrition, dairy advisory teams, dairy industry opportunities, and more. Student recruiters will be on hand to give your kids a chance to explore dairy-related educational programs.

DATES, LOCATIONS, AND CONTACT PEOPLE FOR MORE INFORMATION ON THE DAIRY INDUSTRY AND THE "U":

Jan. 9—Crookston: Sahlstrom Conference Center, University of Minnesota, George Marx, 218-281-8606

Jan. 23 —Zumbrota: Zumbrota-Mazeppa High School,Chuck Schwartau, 651-385-3100

Feb. 6—Melrose : Melrose High School, Jim Salfer, 320-255-6169

Managing Your TMR

Continued from page 1

Not adjusting for changing moisture content of feeds is probably one of the major reasons TMRs fail to give the animal performance expected.

sacks back on the corners and check the scale to see if it increased 200 pounds. Repeat this after about two-thirds and all of the feeds have been added to the mixer.

Too often we assume if the final weight of the TMR is correct, the individual feed weights must be close to the amount listed for the batch recipe. This is not always true. For example, you could have added 400 pounds too much of one feed and 400 pounds too little of another. A couple of times each month, the weight of all individual feeds and the total weight for the batch should be recorded by someone assisting the feeder.

Not adjusting for changing moisture content of feeds is probably one of the major reasons TMRs fail to give the animal performance expected. Determine the moisture content of ensiled and wet feeds at least once a week. If the moisture or dry matter (DM) content of a feed is different than what is listed on the feed mixing instructions, you need to adjust the amount of that feed so the ration remains balanced.

Mixing the TMR

In general, minor ingredients, minerals, protein supplements, and grains should be added to the mixer first and forages last. However, this varies with mixer type and feeds being mixed, so follow manufacturer recommendations.

Overmixing a TMR can lead to inadequate particle size and a mushy mix cows don't particularly relish. A TMR should be completely mixed about four to five minutes after the last feed has been added. If you mix much longer than this, especially with auger mixers, forages and long particles can be ground too fine. Particle size your TMR mix on a particle shaker box. Between 6 and 10 percent of the sample weight should be on the top screen.

Undermixing TMRs is a less frequent problem than overmixing, but it can happen when mixers are overfilled. To get the best, most efficient mixing, fill the mixer to only about 90 percent of capacity. Look at mixes as they are being unloaded to evaluate how well they have been mixed.

To help avoid overmixing and undermixing problems, develop protocols for mixing feeds that specify ingredient addition order and how long to let the mixer run between feed additions and after

all feeds have been added. This will help the people mixing feed and assure more continuity in TMRs when different people are mixing.

Adding Hay

Most feeds can be mixed into TMRs rather easily except one, baled hay. Often baled hay is added to the TMR for "effective fiber" or to provide the fiber needed for good rumination. What generally occurs is the hay gets sorted out in the manger and cows eat grain and the other finer material. When this happens cows develop acidosis symptoms (sore feet, low fat tests, fluctuating or lowered feed intakes, displaced abomasums, or other problems) even though on paper and in the mix there is plenty of "effective fiber." Without grinding or processing hay before adding to most mixers, it is almost impossible to consistently get good mixing of hay into a TMR and prevent cows from sorting.

Some points for evaluating whether you are having a problem with hay in your TMR:

1. Are you trying to feed more than 5 pounds of hay per cow per day in your TMR? Sorting is almost impossible to prevent when this amount or more hay is fed without fine-grinding the hay first or having premium quality dry alfalfa hay (160-plus RFV).

John Bush ©1998

2. Particle size your TMR. Between 6 and 10 percent of the sample weight should be on the top screen. Evaluate the top screen material. Is it something cows will eat? It should not be corn cobs or long coarse stems of hay or haylage. If you have more than 15 percent of the sample on the top screen, there is a good chance cows will be sorting through the TMR.
3. Particle size the weighback. Feed refusals or weighback from a pen should ideally be the same as what was fed. If the weight of material on the top screen is more than 10 percentage points higher than the TMR fed, cows are sorting. For example, if your TMR has 15 percent on the top screen and your weighback is 28 percent on the top screen, this is a very good indication cows are sorting.

Solutions to sorting problems are few. Hay can be ground finer or reduced in amount fed. If the material being sorted out is long haylage or corn stalks and cobs, there are not many options. Reducing amounts of the refused forages fed can worsen problems as you reduce fiber in the ration and cows continue to sort, reducing fiber intake even more. Addition of molasses or water if the TMR is too dry can sometimes help. So can feeding more fibrous byproduct feeds such as beet pulp or corn gluten feed to replace some of the forage.

Feeding

The first feeding every day should always be to a clean bunk or manger. Clean out refusals each day before fresh feed is delivered. Evaluate the refusal for quality and amount. Weighbacks should be the same composition as the TMR fed and no more than 2 percent of the TMR fed. At least 1 percent weighback is needed to assure cows are being full fed. However, as weighback amounts increase, the opportunity for sorting increases.

TMRs can be fed once a day, but for best animal performance twice a day feeding is preferred. If you feed once a day, be sure you have adequate bunk space. The average lactating cow will eat 80 to 100 pounds of as-fed per day.

As cows eat, they push feed away from them. On flat mangers, push up feed at least four times per day to minimize sorting.

TMRs can be fed once a day, but for best animal performance twice a day feeding is preferred.

Increasing Productivity by Strengthening Communication

By
Sharon M. Danes
PROFESSOR,
DEPARTMENT
OF FAMILY
SOCIAL
SCIENCE

Working in a family business is complex because of the overlap of the business and family. It becomes even more complex as the business expands and employees from outside the family are added.

Often productivity becomes an issue. There are some things you can do to increase productivity that require an investment of human energy but little to no financial investment. Problem solving is central to productivity in the family business and effective communication is core to problem solving.

Expectations About Communication

When people work together, it is normal for disagreement and/or conflict to arise. There are several reasons why conflicts can arise:

- Lack of communication or miscommunication
- Value conflict (different attitudes, beliefs, or values)
- Gaps in role expectations (who does what or who decides what)
- Unresolved prior conflicts

The first of those reasons, communication, is the focus of this article. Adjusting the messages you give can improve productivity whether the people receiving the messages are related to you or not.

One area that interferes with giving or hearing a message is gender differences in communication and problem solving. Another is communicating with respect. Respect is important in motivating others, no matter what their gender. It is also critical to the decision-making process.

Gender Differences in Communication and Problem Solving

In a recent study of farm family business couples, I found that about a quarter of the couples indicated a great deal of tension around financial decisions. Another one-third said there was some degree of tension. Husbands indicated more tension then did wives. However, wives were less satisfied with their decision-making involvement than were husbands.

When men and women make decisions about money together, differences often surface. Those differences often arise through the different ways that they communicate and solve problems. Differences can surface in regard to who controls the money, who makes the major financial decisions in the family, and how men and women talk about money, both alone and together.

Communication Patterns of Women

Women have a connectedness orientation. They see things as interconnected webs or links. Relationships are vital to them. They operate under an "ethic of care," which emphasizes responsibilities. The foundation of this ethic is one of nonviolence; what matters most is that no one should get hurt.

Women are socialized to take care of the needs of others ahead of their own. Thus, it is critical for a woman in financial decision making to figure out what is important for herself—not for her spouse, not for her children, but for herself. Women's perception of strength includes nurturance and interdependence.

Communication Patterns of Men

Men, on the other hand, have a task orientation. They are socialized to take charge, to protect, to get things accomplished, and to be successful in the eyes of those around them. They see relationships as hierarchies. Men operate under an "ethic of justice," which emphasizes the question of rights. What matters most is equality—that everyone is treated the same.

It is critical in family financial decision making that men consider the needs and expectations of others in the family. What makes them anxious is when they don't know what to do about a problem. Men equate strength with assertion and aggression.

Gender Differences in Communication

Neither communication pattern is better than the other. But because of the differences, men and women may be saying the same thing but not communicating in an effective manner.

Just being aware of the differences can help you step back when communication about money is difficult. It gives some information to assess whether there might be a different way of saying something in order to be heard by a person of a different gender.

Problem-Solving Patterns of Women

When problems arise for women, their initial tendency is to talk about the problem and then act. They need to express thoughts, feelings, and values as they search for alternatives. Anxiety arises when

The Power of Body Language

MANY people have no idea how powerful body language can be. About 90 percent of any situation is perception. So pay attention to your body language in addition to what you say. Be sure that your body language and your words give the same message. If you say, "I'm not angry," when your face or ears are red or your fists are clenched, no one is likely to believe you. Saying one thing and doing another gives confusing messages. It seldom works in business because you lose your credibility.

they can't do this or they perceive they are not being heard. Women's problem-solving mode is characterized by methods that are contextual, narrative, and inclusive.

Problem-Solving Patterns of Men

For men, finding a solution is the priority. Jumping into action will often be a response to a problem. Anxiety surfaces for men from not knowing what action to take.

Rather than talk about things, as most women would do, a man will often go off alone and do something. It is through action-oriented problem solving that he sorts out his thoughts and concerns, clarifies his values and priorities, and develops a plan. Men's problem solving is often based on formal and abstract expression.

When Differences Meet

When these different problem-solving patterns intersect, often little progress in problem solving occurs. Women perceive that men are not listening to them and men perceive women as talking about the problem and not doing anything about it.

Problem solving over money decisions can be more effective if each gender is aware of how the other communicates and solves problems. Women need to give men space to figure out what they need to do. Men need to listen while women process their thoughts, feelings, and values.

Keep in mind that in different situations, different modes of communication and problem solving are more effective. Part of treating family members and employees with respect is recognizing this fact and deciding on roles within the business based on strengths and need in various situations.

Make Criticism Productive

Most people consider criticism entirely negative. Criticism should include both positive reinforcement and a statement of what needs to be improved. However, most people have only experienced criticism in ways that are blaming and shaming. We are usually not taught to give criticism in positive ways.

You may have heard that it's important to use "I" statements in communicating (for example, saying "I feel angry" instead of "You make me mad."). But an "I" statement can be just as blaming and shaming as a "you" statement. A productive "I" statement should:

- use "I" rather than "you"
- include a feeling word
- include a cause of feeling.

Showing Respect in Communication

Respect is important in communicating with others. Saying something respectfully will be more productive, no matter the gender of the person with whom you are interacting. What exactly does that mean? It means instead of constant criticizing, point out what needs to be done. Instead of using "put-downs," state a message in a more positive way. For example:

INSTEAD OF SAYING. . .	TRY SAYING . . .
That's stupid	I don't see it that way
That's not true	Where did you get your information?
You forgot to say—	I'd like to add—
What a dumb idea	How would that idea work?
You're wrong	Here's another way to look at it

Put-downs and constant negative criticism can interfere with others' ability to hear a message. To motivate people, try rewording your message. Notice that the statements on the right acknowledge that you are open to further involvement in the problem-solving process.

Also consider indicating specifically what is needed to alleviate the problem at hand, and/or end with a question that targets the discussion toward addressing the concern causing the problem. Here is an example of "you" and "I" statements addressing a money issue where one member of a couple does the primary record keeping:

"YOU" STATEMENT: *You bought that piece of machinery without discussing it with me.*

"I" STATEMENT (WITH THE SUGGESTED COMPONENTS): *I would feel more secure about managing the finances if I weren't surprised about a major purchase. Can we agree on a maximum amount of money that we can spend for the business without discussing it first?*

Keep in mind that "I" statements, while often helpful, are not appropriate in every circumstance. They are just one approach to problem solving. But practicing communicating with respect, if done with sincerity and persistence, will increase both productivity and enjoyment in doing the work.

Johne's Disease Update

TO KEEP JOHNE'S FROM WREAKING HAVOC ON YOUR HERD:

- **Only bring in stock from herds that have tested free of Johne's.**
- **Keep all facilities as manure-free as possible.**
- **Keep young animals away from the manure of adult animals. Feed milk replacer or colostrum only from cows that have tested negative for Johne's.**
- **Keep manure separate from feed and water. Use separate tools to handle each. Don't walk through feed bunks. Don't spread manure on fields that will be grazed the same season.**
- **If you suspect Johne's, have your herd tested and cull infected animals.**

Minnesota's broad-sweep program to reduce the threat of Johne's disease in dairy herds continues with a statewide education and testing program funded by the 1997 state legislature.

Under the program, the state will pay the lab cost for Johne's for the first 30 animals in a herd, and up to half the cost for animals beyond the first 30. The producer is responsible for any veterinarian costs associated with the sampling.

In addition to the testing, the program provides funds for identifying herds free of Johne's. It also is helping producers with infected herds reduce or eliminate the disease from their operation.

Johne's is a bacterial disease of cattle that causes weight loss, diarrhea, and reduced production and carcass quality. It is spread mainly through manure, but also to calves through colostrum from an infected cow. The disease is hard to control because it may take years for infected animals to show any signs of the disease. There is no treatment or cure.

If you would like a brochure on Johne's or would like to know more about the testing and assistance programs, contact your veterinarian or the Minnesota Board of Animal Health at 651-296-2942, ext. 27.

JOHNE'S MYTHS AND FACTS:

MYTH: LABORATORY TESTS FOR JOHNE'S ARE INACCURATE.
FACT: If a cow tests positive for Johne's, there is a 99 percent chance that she actually has the disease. A negative test truly means that an animal is Johne's -free only half the time, however. For that reason, the test should be used to determine the presence of Johne's in a herd rather than in individual animals.

MYTH: ALL YOU HAVE TO DO TO GET RID OF JOHNE'S IS CULL ANIMALS WITH DIARRHEA.
FACT: It is quite common for cows to be infected but not show any clinical signs of the disease. To clean up a herd, you must use the one-two-three punch of testing even healthy-looking animals, culling animals that test positive, and keeping calves from getting infected.

MYTH: JOHNE'S IS CAUSED BY A VIRUS.
FACT: Johne's is a bacterial disease.

MYTH: FROM AN ECONOMIC STANDPOINT, THERE'S NO NEED TO DO ANYTHING IF YOU DON'T SEE A LOT OF ANIMALS WITH CLINICAL SIGNS OF JOHNE'S.
FACT: According to USOA figures, even if only one out of 10 animals shows clinical signs, Johne's costs the producer more than $200 per animal (not just per infected animal) per year.

MYTH: ONCE YOU HAVE JOHNE'S IN YOUR HERD, IT'S IMPOSSIBLE TO GET RID OF IT.
FACT: Infected herds can be and have been completely cleaned up. In one demonstration case, a severely infected Wisconsin herd was freed of Johne's in just one year.

MYTH: PASTEURIZATION DOES NOT DESTROY JOHNE'S BACTERIA.
FACT: In response to concerns that Johne's bacteria might be able to infect humans through milk, the U.S. Food and Drug Administration tested this claim. The results: Johne's bacteria were 100 percent killed by commercial pasteurization.

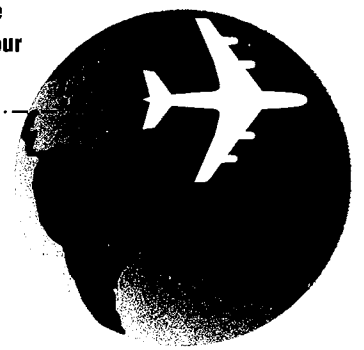
MYTH: MINNESOTA WINTERS CAN KNOCK OFF JOHNE'S.
FACT: Johne's bacteria grow best in a cool, dark, moist environment—just the conditions found in most Minnesota barns in winter.

Time for a Trip?

The University of Minnesota Extension Service invites you to join others from around the state on an enjoyable, educational tour that can benefit both you and your dairy operation. This year's offerings:

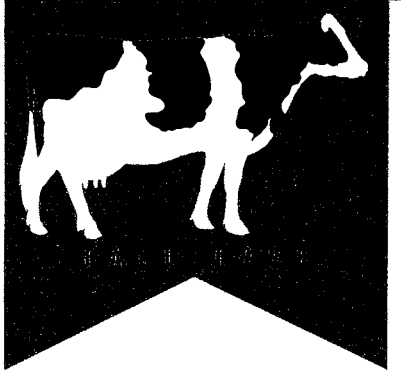
- **15th annual International Agricultural Study Tour, Australia and New Zealand, February 4–March 4, 1999**
- **27th annual USA Dairy Study Tour, California, February 8–14, 1999**
- **22nd annual Washington, D.C., Study Tour, April 1999**

For more information contact Fred Hoefer or Leon Meger at 800-367-5363, or check the tour Web page at http://www/extension.umn.edu/Courses/tours/.



UPDATE

MINNESOTA DAIRY LEADERS ROUNDTABLE



In 1992, dairy farmers, and CEOs of 32 dairy related businesses and organizations made a formal commitment to revitalize Minnesota's dairy industry by forming a structure to unite their effort. That structure is the Dairy Leaders Roundtable. This newsletter highlights Roundtable accomplishments as well as on-going projects and plans.

Minnesota Dairy Extravaganza

Dairy producers from around the state will gather in St. Cloud on February 23 and 24, 1999 for the first Minnesota Dairy Extravaganza -- an event that tentatively will include an industry trade show, educational seminars, industry/organization meetings, and a special reception and banquet.

This event, which will be held at the Kelly Inn, is being scheduled in conjunction with the Central Minnesota Farm Show at the St. Cloud Civic Center.

Additional industry organizations can make use of the available meeting space at the Kelly Inn – which has been set aside for groups or organizations that also may wish to hold concurrent gatherings. In planning the extravaganza, the Dairy Leaders Roundtable hoped to help a variety of organizations take advantage of a single meeting site and date -- thus saving people time and travel costs.

Two hundred rooms have been reserved at the Kelly Inn ($60+ per night) for participants attending the dairy extravaganza. Additional rooms are available at the Radisson Hotel across the street.

The St. Cloud Civic Center—site of the Farm Show – is located adjacent to the Kelly Inn.

TENTATIVE PROGRAM

Tuesday, February 23, 1999

10:00 a.m.	**Agricultural/Dairy Tradeshow**
11:00 a.m.	**Partnering opportunities for crop and dairy producers**
1:00 p.m.	**Internet applications for agriculture**
3:00 p.m.	**Minnesota Dairy Leaders Roundtable meeting**
5:00 p.m.	**Dairy reception**
6 00 p.m.	**Dairy Extravaganza Awards Banquet**

Wednesday, February 24, 1999

10:00 a.m.	**Agricultural/Dairy Tradeshow**
11:00 a.m.	**Available technologies for odor control**
1:00 p.m.	**Landscaping ideas to enhance farms**
4:00 p.m.	**Adjourn**

For additional information about the Dairy Extravaganza — including opportunities for additional organizational meetings to be hosted during the two-day event—contact Ed Frederick at the Minnesota Dairy Leaders Roundtable.

Roundtable December meeting

The Minnesota Dairy Leaders Roundtable will meet Monday, December 7 at the Sheraton Inn Midway—in St. Paul.

Theme for the program is: "Working Together, We Can Make a Difference"

The program will include reports from the Minnesota Department of Agriculture, a New Zealand dairy tour report, and committee reports including those of the Economic Development and Education Coalitions.

Details on the reports given will be noted in the next issue of the newsletter.

Next Generation Dairy Proposal to be reviewed by Roundtable

A proposal to help individual farm families create, extend and enhance their own educational and development networks and thus establish personal visions for success in the dairy industry is being reviewed by the Roundtable.

The proposal is built on the belief that those who will be active in dairying in 2015 should have the tools and the opportunities to prepare their vision for the future.

Building on the education and communication strengths demonstrated by the Roundtable since its founding 1992, the proposal being reviewed calls on the Roundtable to establish an arms-length education program with the Humphrey Institute at the University of Minnesota. The program would assist in the development of networks of young farm families wishing to create their own vision for the future —with a goal of developing new leadership within the industry.

A key facet of the program would be developing the resources and tools needed for success in dairy farming—as identified by the producers themselves. A secondary facet would be locating and the organizations and institutions that fulfill the identified needs.

Minnesota's dairy industry is said to face three critical challenges:

1. **The need for strong leadership**
2. **The need for a clear vision**
3. **The need for capital funding**

The Next Generation Dairy Proposal is designed to address the second critical challenge. In a discussion paper on the proposal, it is stated: "Much of our personal success has come from building our own personal networks of friends, mentors, educators and seeing other's models. The successful dairy farmer of the future will build their own networks for ideas, support, information and examples."

"We need to assist the next generation to build networks... they need for success."

The proposal suggests a number of funding options that might involve sharing of costs between the farm family and outside agencies, institutions or organizations. It is anticipated the program would have a three year duration.

Roundtable reports on goals for 1998

At year-end The Dairy Leaders Roundtable reviewed its 14 goals for 1998 and considered plans for 1999.

The annual goals included re-establishment of the newsletter on a quarterly

???

If you have questions about regulations, permits or other dairy development issues you can get advice toll-free from an Agriculture Development Specialist, Minnesota Department of Agriculture by calling

1-800-967-AGRI

(2474)

basis; measurement for profitability on dairy farms; developing liaison with other state's dairy industry; adding new participants to the Roundtable; establishing reliable funding; promoting Dairy Diagnostic Teams; creating a statewide dairy event (see story in this issue); and expansion of the Moo Booth at the state fair.

In many instances the Roundtable was able to report considerable progress on its goals. Implementation and follow-up on some goals will continue into 1999.

In search of farms

This winter the *Minnesota Dairy Farm Tour Guide* will be updated and put onto the world wide web.

Candidates would be individuals who have unique milking systems, feeding systems or manure systems and would be willing to share their experiences with others. Examples would include flat-barn parlors, bunker silos, short term manure storage grazers and even custom heifer raisers.

If you are a producer or know someone, who would be a good candidate for the *Tour Guide* call Bonnie Rae at 612-624-4995.

$440,000 IN EDUCATION GRANTS DISTRIBUTED

The Minnesota Department of Agriculture reports $440,000 in education grants were distributed to eight diagnostic programs in the state.

Among the programs funded were:

- **$115,000 for expansion of the West Central Minnesota Dairy team**
- **$100,000 for Sustainable Farming Association program expansion and a resource list**
- **$61,000 for internet access training for producers in central Minnesota**
- **$50,000 for a full-time assistant coordinator for Carver County Dairy Profitability Enhancement program**
- **$40,000 for creation of groups to deliver information on technology and information to producers in southeast Minnesota**
- **$33,600 for hiring a program coordinator for Northwest Minnesota Dairy team**
- **$29,000 for staff to coordinate management groups in southeast Minnesota**
- **$11,400 for updating and producing the Minnesota Dairy Farm Tour Guide and web site**

VIEWPOINTS ON STRENGTHENING MINNESOTA'S DAIRY INDUSTRY

A four-member producer panel presented issues and ideas on how to strengthen the dairy industry in Minnesota and the Upper Midwest— and collected ideas from those attending a summer meeting of the Dairy Leaders Roundtable.

Among the issues and ideas revealed in the discussion were:

- **Dairy Diagnostic Teams are useful to dairy producers who are considering major changes. Teams need to address many issues, including family relationships and values.**
- **There is a need for producers to network with others. This includes looking for creative business partners.**
- **Strong leadership is needed to move the state and region's dairy industry forward.**
- **Positive attitudes are critical to success.**
- **There is a need to work on bio-security issues**
- **Environmental issues are major business factors**
- **Benchmarks would help producers compare performance**

In asking members of the Roundtable to score the top three ideas for strengthening the industry, the following ideas received the highest ranking, in order:

- **Help promote a positive attitude toward the industry**
- **Use and improve the Dairy Diagnostic Teams**
- **Encourage people to utilize research information to improve operations**
- **Become more politically active**
- **Encourage dairy industry stakeholders to embrace change**
- **Provide producers with education on cost of production and return on investment**
- **Speak out against limiting herd size**
- **Support ways for young people to enter dairying**
- **Support further unification of ideas / direction within the industry**
- **Publish Dairy Initiatives Newsletter**
- **Expand education partnership programs**
- **Support programs to improve dairy product quality and dairy careers**

Calendar of Events

Educational opportunities open to all producers and other professionals in the dairy industry

DECEMBER

2 & 3	Milker Training School, Ridgewater College, Willmar, MN. Contact: Brant Groen 320-231-7647
9	Dairy Labor Management Course, Melrose, MN. Contact: Lee Gross 320-255-6169
4 & 10	Basic Dairy Nutrition, Browerville, MN (exact location TBA). Contact: Harouna Maiga 218-847-3141
7	MN Dairy Leaders Round Table Meeting, Sheraton Midway, St. Paul, MN. Contact: Ed Frederick 507-835-3422
9	Dairy Labor Management Course, Melrose, MN. Contact: Lee Gross 320-255-6169
9 & 16	Basic Dairy Nutrition, Norwood, MN (exact location TBA). Contact: Vern Oraskovich 612-442-4496
15	MN Dairy Advisors Annual Meeting, Holiday Inn, St. Cloud. Contact: Nancy Iverson 612-420-4552
16	Dairy Expo, Holiday Inn, St. Cloud. Contact: Jim Salfer 320-255-6169
17	Nutritional Monitors & Ration Interpretation, Browerville, MN (exact location TBA). Contact: Harouna Maiga 218-847-3141
30	Nutritional Monitors & Ration Interpretation, Norwood, MN (exact location TBA). Contact: Vern Oraskovich 612-442-4496

JANUARY 1999

9	The Dairy Industry and the "U", Sahlstrom Conference Center, UMC Campus, Crookston, MN. Contact: George Marx 218-281-8606
5, 6 &19	Labor Management Series, Cannon Falls City Hall Meeting Room, Cannon Falls, MN. Contact: Chuck Schwartau 651-385-3100
14	Dairy Cattle Disease Update, 1-3:00 p.m. - SE Minnesota (exact location TBA). Contact: Neil Broadwater 507-457-6440
15	Dairy Cattle Disease Update, Zumbrota, MN (exact location TBA). Contact: Chuck Schwartau 651-385-3100
23	The Dairy Industry and the "U", Zumbrota-Mazeppa High School, Zumbrota, MN. Contact: Chuck Schwartau 651-385-3100
27 & 28	Dairy Transition Cow Management Workshops, 1-3:00 p.m. - Two locations in SE Minnesota. Contact: Neil Broadwater 507-457-6440

FEBRUARY

4 - Mar 4	15th Annual International Agricultural Study Tour: Australia and New Zealand. Contact: Fred Hoefer or Leon Meger, 800-367-5363
6	The Dairy Industry and the "U", Melrose High School, Melrose, MN. Contact: Jim Salfer 320-255-6169
8 - 14	27th Annual USA Dairy Study Tour: California. Contact: Fred Hoefer or Leon Meger 800-367-5363
9 - 11	MN Forage & Grassland Annual Conference, Kahler Hotel, Rochester, MN. Contact: Betty Schiefelbein 651-436-3930
15	Dairy Expo, Central High School, Norwood, MN. Contact: Vern Oraskovich 612-442-4496
18	Feeding Systems– Session 1 (Session 2 on March 4), 10 a.m.-3 p.m. - Altura Ballroom, Altura, MN. Contact: Neil Broadwater 507-457-6440
20	USDA Dairy Options Pilot Program, Location TBA. Contact: Chuck Schwartau 651-385-3100
23 & 24	Minnesota Dairy Extravaganza, Kelly Inn, St. Cloud, MN. Contact: Ed Frederick 507-835-3422
25	4-State Dairy Seminar, 4-H Building, Olmsted County Fairgrounds, Rochester, MN. Contact: Jim Linn 612-624-6789

Changes to the Minnesota Dairy Calendar may be directed to:

Bonnie Rae
Department of Animal Science
University of Minnesota
205 Haecker Hall
1364 Eckles Avenue
St. Paul, MN 55108-6118
Phone: 612-624-4995
Fax: 612-625-1283
Email: raexx001@tc.umn.edu
Look for us on the Web:
http://www.animal.agri.umn.edu/dairy

MINNESOTA DAIRY LEADERS ROUNDTABLE

MISSION: "To develop and implement a shared vision of the Minnesota dairy sector through strengthening its competitiveness, profitability and social vitality."

1998 STEERING COMMITTEE:

Bill Dropik, *Minnesota Milk Producers Association*

Paul Kent, *Land O'Lakes, Inc.*

Mel Kunstleben, *Associated Milk Producers Inc.*

Don Berg, *Land O'Lakes, Inc.*

Dave Daeges, *Minnesota Bankers Association*

Daniel E. Little, MS DVM, *Minnesota Veterinary Medical Association*

Gene Hugoson, Commissioner, *Minnesota Department of Agriculture*

Pat Irrthum, *Women Involved in Farm Economics*

Gene Hugoson, *Minnesota Department of Agriculture*

F. Abel Ponce de Leon, *University of Minnesota*

Clint Fall, President, *First District Association*

Ed Frederick, *MDLR facilitator, Southern Experiment Station Annex, 12298 350th Ave. Waseca, MN 56093-5160 Phone 507-835-3422*

What About Odors?

Dairy Operations and Hydrogen Sulfide Compliance

By Kevin A. Janni
EXTENSION ENGINEER

MINNESOTA AMBIENT AIR QUALITY STANDARD

(Minn. R. 7009.0020, Prohibited Emissions)

NO PERSON SHALL EMIT ANY POLLUTANT in such an amount or in such a manner as to cause or contribute to a violation of any ambient air quality standard beyond such person's property line, provided however, that in the event the general public has access to the person's property or portion thereof, the ambient air quality standards shall apply in those locations. The general public shall not include employees, trespassers, or other categories of people who have been directly authorized by the property owner to enter or remain on the property for a limited period of time and for a specific purpose.

The hydrogen sulfide ambient air quality standard (Minn. R. 7009.0080) is: 50 ppb, half-hour average, not to be exceeded over two times per year, and 30 ppb, half-hour average, not to be exceeded over two times in any five consecutive days.

Dairy producers, beware: There's "something in the air" that could complicate your life more than you'd like.

Two Minnesota dairy operations are negotiating with the Minnesota Pollution Control Agency (MPCA) because unofficial monitoring has indicated they could exceed Minnesota's hydrogen sulfide ambient air quality standard (see box). These cases suggest that dairy producers need to become aware of hydrogen sulfide emissions from their operations and be more responsive to odor complaints by neighbors. If your manure storage is close to your property line, you may want to consider trying to reduce emissions and maintain good neighbor relations to avoid being identified as a site with the potential to exceed Minnesota's hydrogen sulfide standard.

Minnesota's air quality standard limits how much hydrogen sulfide can be in the air at your property line. MPCA screens livestock operations for compliance after receiving a complaint or as a part of field studies. If a site is deemed to have the potential to exceed the standard, the owner is sent a letter and a copy of the data collected. The letter requests a meeting to discuss the owner's plan to meet the standard. Failure to respond to the letter could lead to other, presumably more severe, action. The goal of the meeting and subsequent negotiations is to either agree on a plan to reduce hydrogen sulfide emissions so that the site is in compliance, or establish procedures for documenting that the site is in compliance. If further monitoring indicates that the site is not in compliance, a plan to reduce emissions is required.

Insufficient experience is available to indicate what MPCA requires in the plan. This is new territory for everyone involved.

What can you as a producer do to reduce your risk of having hydrogen sulfide problems? It's hard to offer specific recommendations without a clear picture of the regulatory situation. However, it's probably safe to assume that manure pits and/or outside storages are the major hydrogen sulfide sources on a dairy operation. If this is your situation, the following suggestions may help reduce your risk of not meeting the Minnesota hydrogen sulfide standard:

Locate manure storages away from property lines. The standard limits the allowable concentration at a property line. Increased distance usually helps reduce concentrations.

Cover manure storages. Options include crusts that develop naturally, biocovers (straw or other biodegradable organic matter blown onto the storage), and impermeable and permeable plastic covers. Installation and management of covers on large waste storages is a challenge. More research is needed before we can offer specific recommendations.

Maintain good neighbor relations. Odor complaints may trigger MPCA screening.

Reduce sulfur inputs into manure storages. Hydrogen sulfide is produced when microorganisms break down sulfur-containing compounds. Proteins contain sulfur; however, undigested protein in feces and urine is not believed to be a major sulfur source. University experts suspect that waste milk and foot bath chemicals (copper sulfate and zinc sulfate) could be major sulfur sources. Research is needed to determine whether this is the case.

Treat fan exhaust air. Exhaust air can be treated to reduce odor and hydrogen sulfide emissions. University faculty are developing guidelines for low-cost biofilters for treating odorous air from livestock facilities. Biofilters are used around the world with good success. Other technologies such as non-thermal plasma are also being studied and developed.

Use chemical and biological additives. Compounds added to manure can also help reduce odors. Numerous products are on the market. Their effectiveness and cost vary widely.

Inject manure during land application. Manure injected into the soil during land application will have fewer odor emissions than surface-applied manure. Immediate incorporation after surface application can also help. Land application with an irrigation system or surface application with incorporation a day or two later allows more emissions and could result in odor complaints.

Additional information on biofilters and odor research is available through the Biosystems and Agricultural Engineering web page (http://www.bae.umn.edu). Extension publications are listed under Extension and research progress reports are available under Manure Education and Research.

Detecting a Silent Thief

By Kenn Buelow
DAIRY MANAGEMENT SPECIALIST

There's a silent thief roaming through dairy herds throughout Minnesota. Has it found your farm yet?

Subacute rumen acidosis (SARA) is a common and financially significant health issue for dairy herds regardless of size or location. "Rumen acidosis" means the rumen's pH has dropped below healthy levels. "Subacute" means the signs of this low rumen pH are commonly missed or ignored.

Cows are at greatest risk of developing SARA one week before and three weeks after freshening. The high risk is because changes in dry matter intake and concentrate feeding at these times are more rapid than the rumen's ability to adapt.

Is SARA robbing your dairy? Take a look at the table below. The signs can be the result of numerous causes, but a high level of several in early lactation suggests that SARA is on the prowl. If three or more clinical signs are in the problem range, use your nutritionist and veterinarian to investigate if SARA is the culprit.

Start by having your veterinarian determine the rumen pH for several cows at different stages of lactation. If an excessive number of samples show low rumen pH (<5.5), start looking at the list at right of common causes of SARA. Necropsing cows that die at or near freshening and focusing on the development of rumen papillae is also helpful.

If it turns out that SARA is your problem, you need to revamp your procedure for transitioning your cows to the lactating ration and correct other problems as indicated by the list of common causes. This may take some time and energy, but you will be rewarded with improved herd health and increased milk production, which translates into less headaches, more free time, lower costs, and increased profit. A dairy manager's dream!

Clinical Signs of SARA

Signs	Typical	Problem Range
Clinical Lameness	15%	>5%
Diarrhea	occasional throughout herd	mild to severe cases at higher levels in fresh cows
Feed Intake	seasonal changes	variable or reduced daily
Absesses	injection site, bruises	abnormal sites, liver, lung, other sites
Herd Turnover Rate	35-40%	>45%
Dead Cows	2-3%	>5%
Thin Cows	5% with a BCS <2.25 at 150 days in milk	>20% with a BCS <2.25 at 150 days in milk
Metritis	2-7%	>10%
Ketosis	2-5%	>7.5%
DA's	1-5%	>7.5%
Off Feed	1-5%	>7.5%

(based on research, unpublished data, and/or author's experience)

Common causes of SARA

1. Inadequate transitions between dry cow, fresh cow, and/or high cow rations.
2. Feeding forages and concentrates separately, especially at freshening.
3. Cows selectively eating concentrates versus forages due to feeding management or forage quality (TMR or component fed).
4. Forages with inadequate particle size due to harvesting methods and/or excessive handling.
5. Inadequate or improper adjustment of forages to accommodate moisture level differences.
6. Improperly formulated and/or mixed rations.

Diagnostic Team Guides Change on 75-Cow Farm

By David Weinand
DEPARTMENT OF
ANIMAL SCIENCE

FARM FACTS: Gregg and Terri Worm have farmed on their own for almost four years. Their Carver County farm is composed of 75 Holsteins and 250 acres. The Worms milk in a step-up, walk-through, in-line, 8-stall parlor. The cattle are housed in a converted loafing shed that has been remodeled into freestalls with sand bedding. Their four children—Andrew, Stephanie, Jeffrey, and Heather—and Gerald and Doris Worm (Gregg's parents) help with the day-to-day activities of the farming operation.

SMART MOVES: Before the Worms started using a TMR mixer, their milk production had stalled out and feeding took a long time. The day after they installed the mixer, per-cow production started climbing.

Shortly after adding the mixer, the Worms began working with a diagnostic team to help eliminate some of the other challenges they were experiencing. Terri said, "We had a lot of ideas, but wanted to have a team approach before implementing any of our plans."

The recommendations the team provided helped the Worms as they remodeled their freestall barn, developed a plan for a flat-barn parlor, and buried water lines to improve cattle housing. By increasing the amount of space available for animals, the Worms were able to separate groups of animals, allowing more room for youngstock.

Gregg is pleased with the team's help with the parlor. "They had a lot of ideas," he said In the end the Worms combined the team's ideas with some of their own and came up with the step-up, walk-through parlor option.

Freestall housing and sand bedding has really improved the cow comfort and has improved milk production at the same time.

"It is nice to have the team come out to take a look over things and point out things, like keeping bunks clean," said Gregg.

Gregg said that the team is important because members' experiences can help the producer implement changes and become more successful. "Our team is made up of very knowledgeable people," he said.

"[Our] team works well together. The support has been fantastic. It is wonderful to work with these people all together," said Terri.

FUTURE PLANS: A manure pit will be installed later this fall that will allow for six months of manure storage. The added youngstock facilities will eliminate the need to rent off-farm facilities, and allow for increasing herd size to 100 milking and dry cows. These moves will help the Worms stay in the dairy business for the long term, and allow an opportunity for the next generation to farm if they wish too.

ADVICE: The Worms stressed that you must have a positive attitude, be open to listening, and be willing to change. They explained that the team recommended little things that really made a big difference without spending a lot of money and that paying attention to detail has really helped them fine tune their operation. Terri and Gregg both encouraged others to take part in the program.

"Don't ever be afraid of change," Terri said.

"We've gotten rid of a lot of old problems," Greg added.

For more information about the Dairy Diagnostic Teams, contact Katie Kulesa at 651-215-3946.

Dairy PROFILE

Gregg and Terri Worm are making improvments in their operation that will help them stay in business and allow an opportunity for the next generation to farm if they wish, too.

"Don't ever be afraid of change."

—Terri Worm

U Welcomes New Dairy Faculty

The University of Minnesota has added three new dairy experts to the faculty in the College of Veterinary Medicine.

Kenneth Buelow came to Minnesota in October. He most recently served as clinical instructor in food animal production medicine at the University of Wisconsin—Madison School of Veterinary Medicine and owner and practitioner with Dairy Health & Production Service in Roswell, New Mexico. His primary areas of interest and expertise include dairy nutrition, health, production, and finance. He is a 1988 graduate of the University of Wisconsin School of Veterinary Medicine.

Sandra Godden, a graduate of Ontario Veterinary College in Guelph, Ontario, joined the faculty in November. She is a specialist in ruminant health management, and has been involved in research on milk urea nitrogen and reproductive performance.

Paul Rapnicki, a partner at Kiel (Wisconsin) Veterinary Clinic working primarily with dairy cattle medicine, surgery, and herd health, also joined the faculty in November. Rapnicki is a graduate of Michigan State University. His career goals focus on helping the dairy industry meet its growing challenges through the application of production medicine and computer technology.

John Bush ©1998

Dates Set for Dairy Training

The Minnesota Dairy Labor Training Program is offering classes around the state this winter for persons interested in developing the skills needed to successfully pursue a career as a manager or employee of a modern dairy operation.

Upcoming class schedules, cost, and contacts:

LABOR MANAGEMENT			
Paynesville	March 2, 3, 23	$85	Lee Gross, 320-255-6169
BASIC DAIRY NUTRITION			
Norwood	Dec. 9, 16	$35	Vern Oraskovich, 612-442-4496
Browerville	Dec. 4, 10	$35	Harouna Maiga, 218-847-3141
McIntosh	Mar. 11, 18	$35	Vince Crary, 218-563-2465
NUTRITIONAL MONITORS AND RATION INTERPRETATION*			
Norwood	Dec. 30	$15	Vern Oraskovich, 612-442-4496
Browerville	Dec. 17	$15	Harouna Maiga, 218-847-3141
McIntosh	Mar. 25	$15	Vince Crary, 218-563-2465
*prerequisite: Basic Dairy Nutrition			
FEEDING SYSTEMS			
Altura	Feb. 18, Mar. 4	$35	Neil Broadwater, 507-457-6440
Norwood	Mar. 9, 23	$35	Vern Oraskovich, 612-442-4496

The Minnesota Dairy Labor Training Program is a cooperative program of the Minnesota Job Skills Partnership, the University of Minnesota Extension Service, Ridgewater College, the Minnesota Department of Agriculture, and Fergus Falls Community College. For more information on this program or on Minnesota dairy careers, contact Harold Stanislawski, Minnesota Department of Agriculture, 218-739-7632; Lee Gross, University of Minnesota Extension Service, 800-450-6171; or Julie Joplin, Ridgewater College, 800-722-1151.

Remember the Beef!

To prevent waste and lost profit tomorrow, keep your cows' ultimate destination in mind today

Most Minnesota dairy farmers take great pride in putting out a quality product in the form of wholesome, high-quality milk. But have you ever considered whether you're giving your best to the consumer with your other product—beef?

"Roughly one half of the cows processed in the United States for beef are dairy cows," says Ron Eustice, executive director of the Minnesota Beef Council. Unfortunately, he says, many dairy producers don't think about meat production potential in their day-to-day operations. Consequently, far too many dairy cattle end up with highly preventable flaws that result in downgraded carcasses, wasted meat, and ultimately lost profitability for the dairy producer.

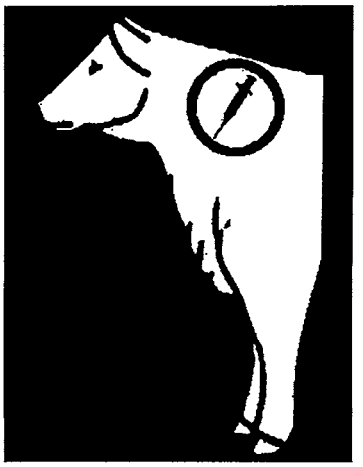
What can dairy producers do to make sure the beef they produce is up to par with the quality milk they take pride in? Eustice's recommendations:

1) Avoid rump shots. A recent packing plant survey found that nearly three-quarters of dairy carcasses showed damage from injections given in the rump. By giving shots in the neck or in front of the shoulder instead of the butt or flank, dairy producers can protect the quality of valuable meat cuts. This counts for calves, too: Research has shown that damage can still be obvious more than a year after a calf receives an injection.

2) Cull early. Once you start thinking about culling an animal from your herd, don't delay. Sure, you've got plenty of other things to think about. But the longer you wait, the greater the likelihood that the animal will end up disabled or down, resulting in poorer carcass quality and a loss of meat or condemnation.

3) Watch the drugs. Antibiotics can cause the same kinds of trouble in meat as they do in milk. To minimize your contribution to the development of antibiotic resistance and reduce the odds of having to discard contaminated meat, use antibiotics only when necessary and then only according to label recommendations.

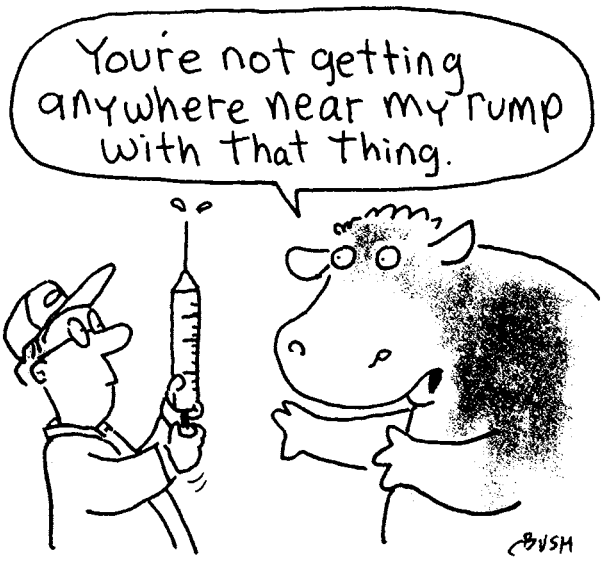
4) Be gentle. Handling your cows humanely is not only the right thing to do from an ethical perspective, it also helps minimize waste and economic loss due to bruising in the meat produced. Check gates, corrals, and trucks for sharp edges, bolts, and protruding boards. Pad corners with pieces of old tires or conveyor belt. Don't put animals together that don't know each other.



Administer intramuscular (IM) and/or subcutaneous (SubQ) injections in locations from the front shoulder region forward.

Far too many dairy cattle end up with highly preventable flaws that result in lost profitability for the dairy producer.

For more information on how you can get the most out of the beef potential of your animals, contact the Minnesota Beef Council at 612-854-6980.



John Bush ©1998

D A I R Y   I n i   N E W S L E T T E R

UNIVERSITY OF MINNESOTA
Extension
SERVICE
Department of Animal Science

205 Haecker Hall
1364 Eckles Avenue
St. Paul MN 55108-6118

CHANGE SERVICE REQUESTED

Non-Profit Org.
U.S. Postage
PAID
Minneapolis MN
Permit No. 155

*************************ECRLOT**C-028
MARLYS MCGUIRE
UNIVERSITY OF MINNESOTA
SPC CENTRAL LIBRARY
1984 BUFORD AVE
SAINT PAUL MN 55108-1012

Directory

Extension Specialists:

Charles Casey, Veterinary Outreach Program	612/624-1711
Hugh Chester-Jones, Dairy	507/835-3620
Ralph Farnsworth, Mastitis/Veterinary	612/625-3130
Kevin Janni, Engineer/Dairy Housing	612/625-3108
Dennis Johnson, Dairy	320/589-1711
David Kjome, Southeast District Dairy Specialist	507/280-2869
James Linn, Dairy	612/624-6789
Neal Martin, Agronomy/Forages	612/625-3747
George Marx, Dairy	218/281-8606
Jeffrey Reneau, Dairy	612/624-9791
Gerald Steuernagel, Dairy	612/624-5391

Specialized Dairy Extension Educators

Jeff Arseneau, Carlton County	218/384-3511
Neil Broadwater, Winona County	507/457-6440
Vince Crary, E. Polk County	218/563-2465
Bill Crawford, Martin County	507/235-3341
Harouna Maiga, Becker County	218/847-3141
Tim Dolan, Sibley County	507/237-5531
Lee Gross, Stearns County	320/225-6169
Pat Kearney, Kandiyohi County	320/231-7890
Kendall Langseth, Freeborn County	507/377-5660
Vern Oraskovich, Carver County	612/442-4496
Jim Salfer, Stearns County	320/255-6169
Wayne Schoper, Brown County	507/794-7993
Larry Zilliox, Douglas County	320/762-3890

DAIRY *Initiatives*
Volume 7 Issue 2 Fall 1998

Dairy Initiatives is published quarterly by the University of Minnesota Extension Service, Dairy Initiatives Program, as an educational service to Minnesota dairy producers. Address correspondence to Jerry Steuernagel, 205 Haecker Hall, 1364 Eckles Avenue, University of Minnesota, St. Paul MN 55108; 612/624-5391; xjer@tc.umn.edu.

Production Staff:
Editor: Gerald Steuernagel
Writer: Mary Hoff
Designer: Tara Christopherson
Illustrator: John Bush

If you are getting more than one of this publication, have a change of address, or would like to be added to the mailing list of this newsletter, please call or write to the above address.

Financial support provided by Dairy Partnership, Inc.