



DAIRY Initiatives

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SEE INSERT FOR CALENDAR OF EVENTS

Safety in Silage Bunker Silos and Piles

JIM LINN
Department of Animal Science
University of Minnesota

This past winter a dairy nutritionist was killed in southeastern Minnesota when a large, frozen chunk of corn silage fell on him while he was taking samples. This tragic accident serves as a reminder that it's important to build bunker silos or piles no higher than the height the silo unloading equipment can reach. Too-high bunkers or piles produce poor quality silage and are unsafe for anyone working around them.

For high-quality forage, you need to remove at least 6 inches of forage from the whole face of the bunker silo or forage pile each day, winter and summer. If the bunker or pile is taller than the unloading equipment can reach, ledges form above the face from which forage is being removed. These ledges can fall and kill you. And even if they don't kill you, they can harm your operation. The feed that is in the ledge is usually moldy and low quality. If you throw it away, you lose money to wasted feed. If you feed it, you lose money to reduced animal performance.

Bunker silo and pile heights are safety concerns when filling as well as at feedout. When filling and during packing, the risk of tractor rollovers and the severity of injuries increases as the height of the silage pile increases.

For safety, bunkers and piles should not be more than 10 to 12 feet high. Build piles at least three times as wide as they are high. In bunkers, don't pile silage more than about 2 feet above the wall. Enough silage should be at the peak of bunkers or piles to build a crown for water to run off.

As you fill bunkers or make piles this year, consider how high the feeding equipment can safely



Sampling Safety

The nutritionist who was killed was taking samples off the face of the bunker. While this is a common practice, there is a safer and better way to get good samples. The best way to get a good sample of forage in bunkers or piles is to knock down the daily amount for feeding and then load a large quantity into the TMR mixer and mix it for three to five minutes. Unload the forage and then take three or four grab samples to send to the lab for analysis.

reach and do not exceed that height. It is better to build piles longer or wider than higher. A bunker or pile that is too wide for removing 6 inches off the face every day can be split. Feed off of one half (moving back 6 inches or more per day) for a month, then switch to the other half. 🐄

This archival publication may not reflect current scientific knowledge or recommendations.
Current information available from University of Minnesota Extension: <http://www.extension.umn.edu>.

Bedding and Bacteria

JEFF RENEAU
 Department of Animal Science
 University of Minnesota

How you bed and how often you bed can make a big difference in udder health

What bedding is best? There is no simple answer. Which bedding material you use depends on your housing, your manure system, availability, and cost. One thing that is always true is that to minimize mastitis, you must manage your bedding in a way that keeps bacteria counts down.

Here are some questions and answers to help you do so:

How is bedding type related to bacterial growth?

The ability to support growth of mastitis-causing bacteria is an important difference between organic (straw, corn stalks, sawdust, paper, ground particle-board, sunflower hulls, oat hulls, barley chaff) and inorganic (washed sand) bedding.

All organic bedding provides food for bacteria. How much varies considerably. In general, paper has slightly less than either sawdust or straw. Hardwood sawdust or shavings have more than pine sawdust. The pine oil in pine sawdust tends to reduce bacterial growth.

Washed sand has no nutrients to support bacterial growth. However, this is only true when it is free of organic matter.

Bedding particle size is an important factor in bacterial growth (Table 1). Finely chopped or ground organic bedding favors more rapid bacterial growth than coarser bedding. This is especially true if it is a material that has lots of nutrients available for bacteria (e.g., oat hulls or corn stalks).

When are bacterial counts in bedding too high?

Fresh, clean bedding will normally have bacteria counts lower than 5,000 colony-forming units per ml (cfu/ml) of bedding. Regardless of what kind of bedding you use, it is important to keep bacteria counts below 1 million cfu/ml of bedding. Anytime your counts are higher than 1 million, you should adjust your bedding management.

What causes high counts, and what can I do about them?

In order to grow, bacteria need moisture, nutrients, and a favorable pH. The addition of manure is the most important factor promoting rapid bacterial growth. Therefore, anything that reduces contamination with manure will reduce bacteria problems.

When managing bedding, consider the following:

Crowding—More cows means more manure and urine. (Overcrowding also increases stall use and may result in more cows lying in alleys or failing to get enough rest, increasing general stress and/or compromising foot health.)

Nutrition—“High”-group cows generally have higher intakes of a more nutrient dense diet and thus pass more nutrient-laden manure into their environment.

Stall Cleaning—Remove soiled bedding from stalls at least every time you milk. Clean loafing areas daily. Studies comparing low SCC herds (<150,000) to high SCC herds (>250,000) found that stalls were cleaned an average of 2.2 times per day for low SCC herds but only 1.6 times per day for high SCC herds.

Alley Scraping—The more frequent, the better. Scrape alleys at least every milking. Mechanical scrapers help maintain cleaner stalls.

Table 1. Bacteria count on individual samples of various bedding types after particle size separation at zero time and after 24 hours incubation.

		Particle size		
		#8 (coarse)	#16 (medium)	Bottom (fines)
		cfu/ml		
Straw	zero time	462	933	1,400
	24 hours	43,000,000	45,000,000	99,000,000
Sunflower hulls	zero time	100	11,700	23,200
	24 hours	37,000,000	37,000,000	93,000,000
Hardwood shavings	zero time	0	0	10
	24 hours	33,200	40,000	90,000
Softwood shavings	zero time	0	20	20
	24 hours	0	100,800	300,000
Aspen sawdust	zero time	110	930	1,160
	24 hours	200	1,200	23,000

cfu = colony-forming units

This table is not a ranking of bedding types. All of these beddings had acceptable zero time bacteria counts. These samples demonstrate the speed bacteria grow in the “fines” relative to the coarse and medium particle size bedding material.

Moisture—Since bacteria require moisture, anything that can be done to reduce accumulation of moisture in the bedding will reduce bacterial growth in bedding. Slotted floors offer the advantage of draining all moisture immediately. Good ventilation can help, too.

Bedding Storage—Keep bedding dry. The addition of moisture into unused bedding will increase bacterial growth before the bedding even makes it to the stall.

Weather—Although you can't directly control this, you can be aware of its effect on bacterial growth and intensify bedding management to compensate.

Bedding Frequency—Change organic bedding at least every other day—every day during the summer. Replace sand bedding every five to seven days.

How should stalls be bedded?

The goal is to keep bacteria counts under 1 million cfu/ml where bedding contacts the udder. To accomplish this when using organic bedding:

- Remove all used bedding from the back half of the stall each day and replace it with fresh bedding.
- Don't move bedding from the front of the stall to the back of the stall.
- If you have stall mattresses, use a small amount of fresh bedding (about one pound per stall) every day, being sure that the cleanest and driest bedding is beneath the udder.
- Once each week remove all the bedding from the stall.

For sand bedding, place fresh bedding on the top of the surface, maintaining a level surface above the height of the curb. Attempts at "tilling" sand bedding to level it may not be wise since this brings the older and more contaminated sand to the surface.

How can I find out what the level of bacteria is in my bedding?

The Diagnostic Lab at the University of Minnesota does bedding cultures for \$18.00 per sample.

Collect representative bits of bedding from the rear of a representative number of stalls (e.g., every other stall). Place them in a one-gallon zip-lock freezer bag. Store the bag in a refrigerator or freezer until it is delivered or mailed to the laboratory. If the sample is mailed, it should be mailed in a Styro-foam container packed with ice and is best not mailed over a weekend.

Send the sample to: Veterinary Diagnostic Lab,

Bedding strategies that work and do not work

As it is in many things in life, it is not what you do but how you do it that makes the difference.

Using no bedding does not work! Neither does doing a poor job of bedding (using too little bedding and/or changing it too infrequently).

Another common and faulty bedding practice is to pile lots of bedding in the front of the stall with the idea that the cows will drag it back or that you will move bedding from the front to the rear of the stall when you remove soiled bedding. While bedding in the front of the stall appears clean, it may be highly contaminated. The table below shows bacteria counts of bedding taken from the front, middle, and rear of the stalls on dairies that stockpile bedding in the front of the stall and then move it back to replace soiled bedding.

Bedding bacteria counts in the front, middle, and rear of the stall on two Minnesota dairies that stockpile bedding in the front of the stall for replacement of soiled bedding under the udder.

FARM	BEDDING TYPE	FRONT OF STALL (cfu/ml)	MIDDLE OF STALL (cfu/ml)	REAR OF STALL (cfu/ml)
A	Ground sunflower hulls	3,850,000	9,925,000	27,275,000
B	Chopped straw and paper	690,000	19,000,000	41,000,000

Udder Health Lab, University of Minnesota, 1333 Gortner Avenue, St. Paul, Minnesota 55108.

It's best to work with your veterinarian in submitting the sample since your veterinarian will have the needed forms and can help interpret the results.

How can I tell if my bedding management is good enough?

Collect a representative sample of the bedding in the back half of the stall just before changing the bedding. Send the sample for culture as described above. If the sample has greater than 1 million cfu/ml, then follow these diagnostic steps:

1. Sample and culture bedding before it is placed in the stall to see how clean it is.
2. After rebedding stalls, take a sample to culture every 24 hours until you rebed again.

When the results come back you will be able to tell how often you need to bed to keep counts below 1 million cfu/ml. 🐄

Working With a Hispanic Person

Some useful answers to questions about the Hispanic labor force, culture, and work ethic

MARCO LOPEZ

Monsanto Dairy Business

Do you work with Hispanic labor? Have you thought about employing Hispanic labor and would like to know more about the Hispanic work ethic and culture?

I am a native of Mexico and have been in the United States since 1991. I received my B.S. in Animal Sciences with emphasis in dairy production from Washington State University in May 2000. I have worked with Hispanic employees in the dairy industry and have helped manage large and small dairies. I am currently an area territory representative for Monsanto Dairy Business.

With the help of Lee Gross, extension educator/financial and business management with the University of Minnesota Extension Service, I would like to offer some answers to frequently asked questions to help you understand the Hispanic culture and work ethic.

Q: Do I use the term "Hispanic," "Latino," or "Mexican" to describe someone? What's the difference?

A: "Hispanic" and "Latino" refer to Spanish-speaking people from Latin America or Spain. "Mexican" refers to a Mexican native. If you are not sure about the nationality of a Spanish-speaking employee, it is preferable to use the term "Hispanic." The term "Latino" is also appropriate, but is not used as often. Use "Mexican" only if you know people are natives of Mexico. My best advice is ASK. You will not offend anyone by asking something like "Would you prefer I refer to you as Mexican, Hispanic, or Latino?"

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Q: Are the Hispanic culture's holidays different from ours in Minnesota?

A: Easter, Thanksgiving, Christmas, and New Years are the same. Some Hispanics will adapt to observe the same holidays as Minnesotans. However, most Hispanic employees prefer to take two to four weeks of time off or vacation during December for Christmas to visit relatives.

Q: I have heard that family is very important to Hispanics. What should I take into account as I work with Hispanics?

A: Keeping close family ties is very important for all cultures. However, Hispanic families like to support each other economically and morally. Most Hispanics come from large families where one house may be the shelter for two or three families, allowing them to develop and maintain close family ties. In the majority of cases, men seek work to support the family while women stay at home and care for the family.

Q: Are non-English-speaking Hispanics interested in learning English?

A: Yes. Most Hispanics will try to learn English. Sometimes people make the mistake of referring to non-English-speaking people as stupid because they do not speak or understand the language well. If these employees are treated as part of the management team, they will demonstrate how intelligent and creative they are. However, they will only do it if the employer gives them the opportunity.

Q: Do I need to learn Spanish? How much Spanish should I know?

A: You don't need to learn Spanish, but I would challenge you to ask yourself how successful you want to be in the management of your business. Think of a time when you bought a new computer program for your dairy record management. In order to use it, you needed to learn the computer language, commands, and abbreviations of the program. The same applies to employees. They will be doing the day-to-day work. If the basic communication is not there, you will probably have a difficult time analyzing management and changes that need to be made.



Q: Should I be aware of any food preferences of Hispanics?

A: Most Hispanics like to keep their traditional eating habits. They prefer spicy foods (but not mixed with sweets), mainly dishes with beans, tortillas, meat, and rice. Employees will traditionally cook their own meals, but will take advantage of days off to take their family to a nice restaurant.

Q: Do Hispanics have religious beliefs I should take into account?

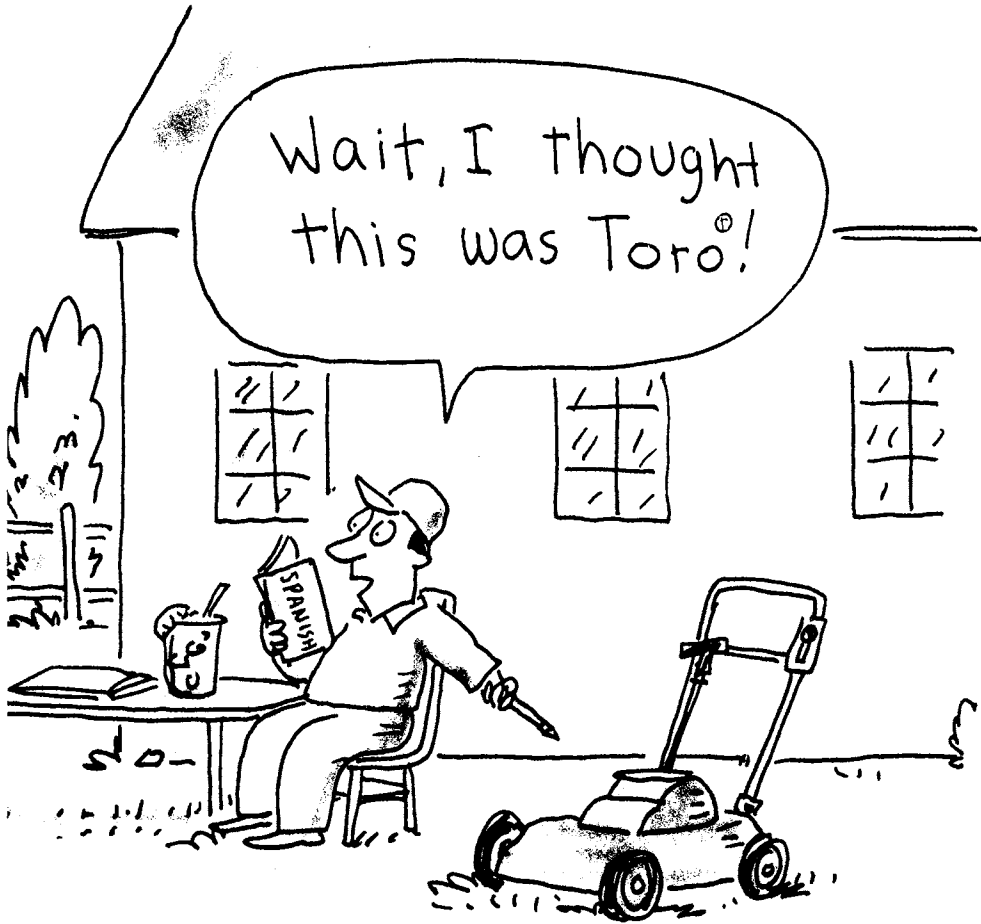
A: Most Hispanics are Catholic. They have strong beliefs and like to respect others' beliefs as well.

Q: Do Hispanic women work outside of the home as frequently as U.S. women?

A: No. Typically, the men work to support the family and the women stay home and care for the family.

Q: Does the Hispanic culture's work day vary from ours?

A: No. Most people will work six days a week, but it will vary depending on the



Legislature Considers Dairy Enhancement Plan

BOB LEFEBVRE
Minnesota Milk Producers Assn.

Dairy producers will reap numerous benefits if a bill being considered by the Minnesota Legislature becomes law. The Dairy Enhancement Plan of 2001 requests \$2 million over two years to :

- 1) Enhance the Dairy Diagnostics Teams program. The bill would expand the program to further boost planning and modernization. It would also add a benchmarking component to show how the program improves profitability.
- 2) Provide business planning grants. Producers could apply for matching funds to use to develop business plans.
- 3) Establish a voluntary best practices program to recognize certain environment-protecting practices.
- 4) Allow for "5-Star Dairy" designation. With funding from the Legislative Commission on Minnesota Resources, this will provide a means of communicating to consumers exceptional environmental responsibility.

John Bush ©2001

The effort would be coordinated by the Minnesota Department of Agriculture. It would also involve the Minnesota Milk Producers Association (MMPA), other producer and processor groups, the Dairy Leaders Roundtable, the Minnesota State Colleges and Universities system, the University of Minnesota Extension Service, and lending institutions.

employer and business. Some prefer to take fewer days off and make extra money.

Q: Will Hispanics be offended if I ask about their family or culture?

A: No. In fact, it will allow them to feel more comfortable and build a better relationship by breaking communication barriers. They will enjoy talking about things other than work-related issues.

Q: Will I offend somebody by trying to use Spanish words or phrases?

A: No as long as you know what you are trying to say. The best way to learn is by practicing. Hispanics enjoy translating words or phrases from Spanish to English and vice versa.

Q: Under what conditions can Hispanics be in this country legally? How can they prove this to me?

A: There are different types of work visas. The most common is a permanent residence. Under this type of visa, employees can acquire legal working status through

an application submitted by the employer or a relative. An attorney can provide more information on labor and employment law.

Q: How would you suggest I learn Spanish?

A: If you have access to audiotapes or a computer program, that would be a good way to learn. Also, there is a booklet called "Simplified Dairyman's Spanish," developed by Utah State University, that is available through Monsanto Dairy Business at 800-233-2999.

Q: I understand that the level of education and experience can vary a lot from person to person, just like our local folks. Is this true?

A: Yes. The level of education will vary from illiterate to college graduates. Most agricultural migrant workers come from poor rural areas where, quite often, they have to quit school to take a job and help contribute to support the family. However, a few manage to graduate from high school or college.

Milkhouse Wastes: Handle with Care

KEVIN JANNI

Department of Biosystems and Agricultural Engineering
University of Minnesota

The newly revised Minnesota Feedlot Rules (7020) clarify requirements for properly treating and handling milkhouse wastes to prevent water pollution. The wastes can be surface-applied to cropland (a good way to recycle nutrients). They can also be treated and applied to an infiltration field.

If you need to upgrade your milkhouse wastewater treatment and handling to comply with the new regulations, evaluate several options and select the one that best fits your farm. Systems you may want to consider include:

- short-term storage with land application
- long-term storage with land application
- organic filter bed
- stone-filled treatment trench
- lime flocculation.

Each option has advantages and disadvantages. All require an investment, management changes, and maintenance. When choosing among them, consider initial and operating costs, long-term reliability, performance (in both cold and hot weather), maintenance, management, and space, soil, and slope requirements.

Short-Term Storage/Land Application

With this option, milkhouse wastes are placed in below- or above-ground storage and land-applied daily or weekly. Septic tanks are commonly used for below-ground storage. Single-day storage is generally not recommended because it lacks flexibility.

The cost of this option depends on storage size. Also, if you handle manure as a solid you will need to buy a spreader for the liquid milkhouse wastes. You will also need a pump to fill or empty the storage. Agitation is needed occasionally to keep solids from building up in the storage.

A major consideration is that this option requires land for application in wet weather, the cropping season, and winter. Land application under this and other options must meet nutrient rate standards, setback distances, and soil and slope requirements of the revised feedlot rules. Also, think about

where you will store the spreader during cold weather to keep it from freezing up.

Long-Term Storage/Land Application

Long-term storage with land application once or twice a year is commonly used by operations with long-term liquid manure storage. Manure storage capacity is increased to accommodate the milkhouse wastes, and the milkhouse wastes are simply added to the liquid manure storage. The option is less economical if you haul manure daily or handle manure as a solid because of the cost of the storage structure.

Concrete or glass-lined tanks or lined earthen basins can be used for storage. Hiring a custom applicator eliminates the

TIP: When selecting and sizing a milkhouse waste management system, be sure to consider future milking herd expansion.

need to buy equipment for agitating and emptying the storage unit. Milkhouse wastes in a separate open liquid storage would likely emit noticeable odors in warm weather.

Organic Filter Beds

Septic tanks with conventional infiltration (drain) fields typically fail within five years of installation because the fats, bedding, and manure are hard to digest and tend to plug the soil in the infiltration fields.

Organic filter beds are an alternative to conventional infiltration fields. In this system, milkhouse wastes are pretreated in a septic tank, where heavy solids settle out and lighter materials float to the surface and form a scum. The liquid in between is drawn off and applied to an organic filter bed, a flat area with a surrounding berm (approximately one foot high) filled at least two feet deep with high-carbon organic matter such as wood chips, sawdust, or straw. The organic matter provides a carbon source for the aerobic microorganisms and a surface for them to grow on as they treat the wastewater in the bed. It also helps prevent the soil from freezing so the bed can operate all winter. Organic matter must be added every fall.

If properly sized and maintained, this system should work well in cold climates. However, detailed design, construction, and management guidelines are needed for Minnesota conditions. Soil conditions and high water table may limit its use in some areas.

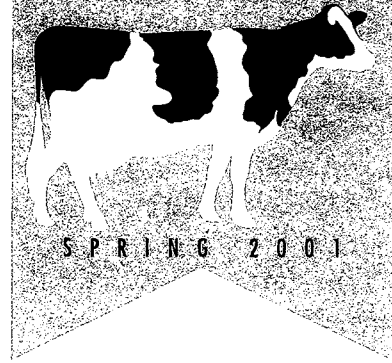
Treatment Trenches

Wide, stone-filled treatment trenches are another alternative to conventional infiltration fields. They can be used on fairly per-

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.



Roundtable lays out 2001 priorities, activities.

Members of the Minnesota Dairy Leaders Roundtable met on March 15 in St. Cloud. The Roundtable meeting was held in conjunction with the annual meeting of the Minnesota Milk Producers Association. About 60 Roundtable members participated in the meeting. In addition, another 40 members of MMPA attended. Clint Fall, president and CEO of First District Association, convened the meeting, focusing on the theme "Partnership that Works."

Roundtable members received an update from the Minnesota Department of Agriculture and the Minnesota Pollution Control Agency. They discussed the "memo of understanding" between the two agencies that was signed on February 15. The document commits the two agencies to establishing a stable regulatory environment for milk producers in the state, and to promote growth of the dairy industry in Minnesota.

The memo describes how the Ag Department and the PCA will work together and with dairy industry stakeholders. The working relationship established

by the memo seeks to assure that timely environmental inspections, assistance with compliance, and permitting are readily available to Minnesota dairy producers. The memo relies on the frequent presence of Ag Department dairy inspectors on dairy farms, putting inspectors in an ideal position to promote a better understanding of feedlot regulations and the resources available to assist them achieving full compliance.

On a related topic, Jerry Heil led a discussion on "Livestock Friendly Counties." Heil is a tri-chair of the Roundtable's Task Force on Economic Development Through Dairy. Counties that wish to attract livestock production and help livestock production grow should focus on four key factors.

First, livestock production must be done in an environmentally sound way. It must be socially acceptable. Equally important, it must be economically sound. Finally, the counties should promote a broad recognition of the importance of rural community development and the role of agriculture in devel-

oping a community with a high quality of life.

A "Livestock Friendly County" is one that has a committed business community and an involved financial community. It needs to adopt supportive government policies, and it should promote an informed and understanding public.

Nearly all of the participants at the meeting supported the concept of establishing "Livestock Friendly Counties." However, the Roundtable members emphasized that funding for this new program should not come out of funding for dairy diagnostics. Also, it shouldn't be at the expense of a proposed dairy business planning grant program.

Harold Stanislawski from the Minnesota Department of Agriculture gave a report on risk management and Milk Marketing Clubs. He provided copies of a University of Wisconsin report on Dairy Marketing Clubs in that state. Currently, about 15 such clubs operate in Wisconsin. The Minnesota Department of Agriculture is exploring the concept for Minnesota. The Roundtable members expressed general support for pursuing the concept.

Financial support keeps Roundtable programs moving forward

A group of 26 Roundtable members and supporting organizations provided the financial support needed to keep the Roundtable's programs moving forward. During 2000, these organizations contributed a total of \$30,550.

While the funds received is gratifying, it's not enough to support all of the work that needs to be accomplished to keep the Minnesota dairy industry competitive. Also, contributions to the Dairy Leaders Roundtable provide matching funds needed to attract investments from the state of Minnesota in some projects.

Below are the contributors to the Roundtable for the year 2000.

DAIRY MARKETING ORGANIZATIONS, \$25,750

- Associated Milk Producers, Inc.
- Davisco Foods International, Inc.
- First District Association
- Foremost Farms, USA
- Kraft Foods, Inc.
- Land O'Lakes, Inc.
- Plainview Milk Products Cooperative

DAIRY SERVICES, \$1,000

- Minnesota DHIA

DAIRY SUPPLIERS, \$250

- Boumatic/Dairy Equipment Co., Inc.

FARM, TRADE, BREED ORGANIZATIONS, \$1,800

- Cottington Foods
- Minnesota Agri-Women
- Doris Mold
- Minnesota Milk Producers Association

FINANCIAL ORGANIZATIONS, \$1,750

- Security State Bank, Clearbrook

- State Bank of Danvers
- First National Bank of Deerwood
- First National Bank of Henning
- Security State Bank, Lewiston
- MinnStar Bank N.A. of Lake Crystal
- Center National Bank, Litchfield

- Farmers & Merchants State Bank, New York Mills
- First National Bank of Sauk Centre
- Jennings State Bank, Spring Grove
- Wadena State Bank
- Bremer Bank, West St. Paul

Congratulations



Gerald Steuernagel (left) received a plaque commending his service to the Dairy Leaders Roundtable and his leadership on the Communications Task Force. The plaque was presented by Steven Krikava, Land O'Lakes.

Dairy Supporters Recognized



On behalf of the Minnesota Dairy Leaders Roundtable, Mel Kunstleben (center), Steering Committee member, presents outstanding service awards to Rep. Bob Ness (left), Chair, Agriculture and Rural Development Finance, and Senator Steve Dille (right), ranking minority member, Agriculture, General Legislation and Veterans Affairs Committee.

Steering Committee for 2001 expanded

In March, members of the Roundtable accepted a recommendation to expand the steering committee to include one additional producer and one additional representative from a marketing organization.

Below are the steering committee members for 2001.

Producers

- Bill Dropik, Minnesota Milk Producers Association
- Paul Kent, Land O'Lakes
- Jim Ridgeway, Professional Dairy Producers of Minnesota
- Dave Scheevel, Foremost Farms

Marketing Organizations

- Clint Fall, First District Association
- Mark Davis, Davisco
- Mark Furth, Associated Milk Producers Inc.
- Ray Cherry, Land O'Lakes

Service Organizations

- Dave Daeges, Minnesota Bankers Association
- Dan Little, Minnesota Veterinary Medical Association
- Doris Mold, Rural Women Organizations
- Gene Hugoson, Minnesota Department of Agriculture
- F. Abel Ponce de León, University of Minnesota

LEGISLATIVE AGENDA FOCUSES ON ASSISTANCE FOR MILK PRODUCERS

Delbert Mandelko, chairman of the Roundtable's Legislative Task Force, gave a legislative update at the March 15 meeting. Harlan Holmquist from the Minnesota Association of Cooperatives joined him.

The members of the Roundtable support increased funding from the state of Minnesota to help milk producers implement profit-enhancing improvements on their farms. The proposal builds on the proven success of the dairy diagnostics teams that have been operating in the state. These teams work with individual milk producers to identify production practices that will work on their farms. The results achieved on the vast majority of farms that have used diagnostic teams shows increased production, herd health, and profitability.

The legislative agenda also aims to build on another successful program in Wisconsin. Milk producers who are considering a more extensive modernization of their operations often find that lenders seek a fairly high degree of financial justification before they will make a loan. Wisconsin has a program of "early planning grants." These are funds made available to producers to help them prepare a formal business plan to present to lenders. In Minnesota, Roundtable members broadened the concept to make it a dairy business-planning grant. The concept is similar. The program encourages milk producers to write a formal business plan. The result is to put their operations on a more secure financial foundation.

There are several other legislative items on the Roundtable agenda. They include a new program to control Johne's Disease in the state, cost-sharing for feedlot improvements, livestock fencing, cruelty to animals, and some regulatory administrative provisions.

The Minnesota legislature is scheduled to adjourn in late May.

ROUNDTABLE SETS JUNE AGENDA

During June Dairy Month, the Minnesota Dairy Leaders Roundtable will meet jointly with the Wisconsin Dairy 2020 group. The meeting will be held in River Falls, Wis. on Wednesday, June 6. This is a repeat of a similar joint meeting held last year. The theme for the meeting is "Developing Partnerships between States for the Benefit of the Dairy Industry."

The Roundtable's agenda for its morning session includes a review of education and curriculum programs for 2001. It also will receive a report on legislative results. Roundtable members will spend time reviewing the action plan for 2001. It also will discuss potential partnership projects between Minnesota and Wisconsin.

At noon, the Dairy 2020 group will join the Roundtable members for a joint luncheon and program.

Questions?

If you have questions about regulations, permits or other dairy development issues you can get advice toll-free from an Agricultural Development

Specialist, Minnesota Department of Agriculture. Call

1-800-967-AGRI (2474)

Midwest Dairy reports on reputation management

What can milk producers, and dairy organizations, do to preserve the reputation of milk and dairy products for flavor, nutrition, and wholesomeness? The Midwest Dairy Association is moving forward with a program that provides producers and others with strategies to respond to attacks that may come from any direction.

Dairy Reputation Management was launched late in 2000. MDA provided the Dairy Leaders Roundtable with an update on the project's progress.

Currently, the association is in the process of identifying independent, third party experts to serve as media resources and offer a dairy perspective on technical issues. When reporters call, looking for information and background on current issues, it's often better to direct them to a neutral expert who's not directly affiliated with the dairy industry. These experts can provide scientific facts and credible comments to enlighten the reporter and the public. The current public attention on Foot & Mouth Disease and Mad Cow Disease make this an immediate priority.

MDA also has been working with dairy organizations in Minnesota to assemble an advisory network to help guide the reputation management project. This process should be completed by early summer.

An "early warning" system is crucial to an effective reputation management program. MDA has identified a method for sharing advisories and alerts particularly those coming from Dairy Management Inc., and other national organizations. The system will get these alerts out to a core group of dairy leaders to make them aware of an attack or situation that threatens the reputation of the dairy industry.

While these aspects of the plan are primarily defensive, reputation management also involves promoting a positive image of milk, dairy products, and the dairy industry. MDA is actively developing story ideas for media placement. The initiative includes both consumer and ag media.

For more information on MDA's dairy reputation management program contact Sherry Newell, 320.363.4829.

Calendar of Events

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

MAY 2001

- 22-24 2001 Minnesota Dairy Health Conference (Veterinary Outreach Programs). Earle Brown Center, University of Minnesota, St. Paul. Contact: Janice Storebo 612-624-3434 or 800-380-8636.

JUNE 2001

- 6 Minnesota Dairy Leaders Roundtable Meeting (in conjunction with Wisconsin Dairy 2020). River Falls, WI. Contact: Ed Frederick 507-835-3422.
- 15 Minnesota Holstein Association Field Day. Floralawn Holsteins, Hutchinson, MN. Contact: Pauline Bratt 320-259-0637.
- 28 Livestock Watering Systems Workshop. Duluth, MN (exact location to be announced). Contact: Elizabeth Oolman 507-289-7454.
- 29 & 30 Holstein Association-USA Convention. Cedar Rapids, IA. Contact: Pauline Bratt 320-259-0637.

JULY 2001

- 11 & 12 4-State Applied Nutrition and Management Conference. LaCrosse Center, LaCrosse, WI. Contact: Wisconsin Agri-Service Association, Inc. 608-223-1111.
- 13 Minnesota Junior Holstein State Show. Waconia, MN. Contact: Pauline Bratt 320-259-0637.
- 14 Minnesota Holstein Association State Show. Waconia, MN. Contact: Pauline Bratt 320-259-0637.

Changes or additions 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. Telephone: 612-624-4995; Fax: 612-625-1283; Email: bjr@umn.edu.

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."

2001 STEERING COMMITTEE:

Bill Dropik, *Minnesota Milk Producers Association*

Paul Kent, *Land O'Lakes*

Jim Ridgeway, *Professional Dairy Producers of Minnesota*

Dave Scheevel, *Foremost Farms*

Clint Fall, *First District Association*

Mark Davis, *Davisco*

Mark Furth, *Associated Milk Producers, Inc.*

Ray Cherry, *Land O'Lakes*

Dave Daeges, *Minnesota Bankers Association*

Dan Little, *Minnesota Veterinary Medical Association*

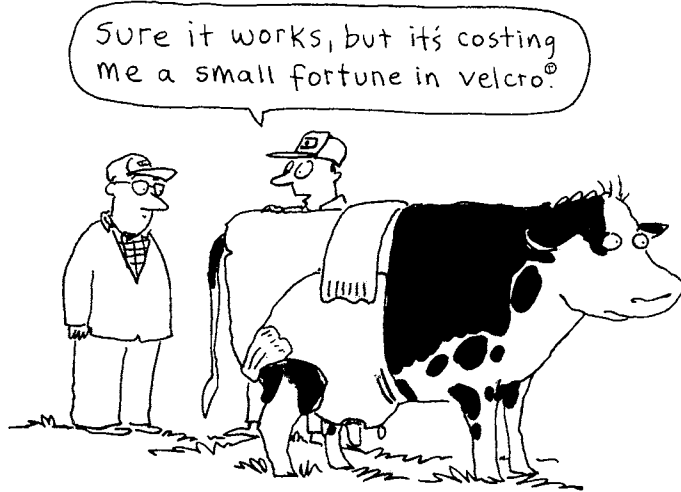
Doris Mold, *Rural Women Organizations*

Gene Hugoson, *Minnesota Department of Agriculture*

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

Ed Frederick, *MDLR facilitator, Southern Research and Outreach Center, 12298 350th Ave., Waseca, MN 56093-5160 Phone 507-835-3422*

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meable soils but not on highly permeable soils.

Like the organic filter bed, this system uses a septic tank for pretreatment, settling of solids, and scum removal. The stone-filled treatment trenches are about three feet wide and filled with two feet of gravel. A four-inch perforated sewer pipe is laid near the top of the gravel. The stone-filled trench and sewer pipe are covered with fabric and soil backfill. Effluent from the septic tank is evenly distributed throughout the trenches. The gravel provides an aerobic environment for more treatment. Proper trench construction and septic tank maintenance are critical to long-term performance.

Lime Flocculator

Lime flocculator treatment of milkhouse wastes was adapted from the wastewater treatment industry. It removes solids from wastewater so they can be handled with conventional solid manure-handling equipment. The liquid can then be sent

TIP: Minimize milkhouse waste treatment and handling system size and cost by reducing water use in the milkhouse. Save water by scraping floors before washing down, reusing pre-cooler water, avoiding use of excessive water for washing and rinsing equipment (follow manufacturer's recommendations), and fixing leaks promptly.

to a septic tank with an infiltration field. About three pounds of lime are added to 400 gallons of wastewater, mixed for about 20 minutes, and allowed to settle for two hours. Automated units for treating milkhouse wastes are available. The tank and equipment must be housed in a heated building to prevent freezing.

Other milkhouse wastewater treatment systems include grass filters, aerobic lagoons, constructed wetlands, and spray irrigation. While these are not prohibited in Minnesota, they generally are not suitable here because they don't work well in winter. 🐄

Keeping N Costs Down

Seven ways you can strike back at rising nitrogen prices

GEORGE REHM

Department of Soil, Water, and Climate
University of Minnesota

You've already heard the bad news: The price of nitrogen is going through the roof. Fortunately, there are a few things you can do to minimize its impact on your bottom line. Here are some ideas:

1. **GIVE CREDIT WHERE CREDIT IS DUE.** When calculating your nitrogen needs, be sure to give proper credit for previous legume crops and any manure you've applied.
2. **USE REALISTIC EXPECTED YIELDS.** Nitrogen rates are based on expected yields. This is not the year to raise expectations. As planting time gets closer, adjust your expectations according to subsoil moisture and long-range weather forecasts.
3. **THINK TWICE ABOUT PADDING APPLICATION RATES.** If you're in the habit of adding a little extra N as insurance against loss or to get the most out of favorable weather, reconsider. Follow recommendations in F0-3790-C, *Fertilizing Corn in Minnesota*, available from the University of Minnesota Extension Service (612/624-4900 or 800/876-8636).
4. **USE THE SOIL NITRATE TEST.** This may allow you to apply N as a side-dress treatment if soybean yields were lower than average in 2000, for corn following corn, or for corn following small grains. For details see F0-3790-C, *Fertilizing Corn in Minnesota*.
5. **SHIFT DOLLARS.** You get more return on a dollar spent on nitrogen than on any other nutrient. Rather than automatically cutting back on N, consider reducing K, P, sulfur, or micronutrients instead. If your soil is not sandy, you may be able to get by without sulfur. Broadcast applications are not economical if soil test levels are medium to high for P and K. Instead of broadcasting, consider dribbling fertilizer on the seed when soil test levels are medium to high. Fertilizer placed with the seed can substitute for the traditional starter use.
6. **CUT RATES.** Don't cut rates unless you have no other option. If you have no choice, cut 10 to 15 percent from University of Minnesota recommendations. This will likely cut corn yields 2 to 3 percent.
7. **SWITCH CROPS.** This might be reasonable if you have the equipment and can sell the crop. However, if it means two consecutive years of soybeans, the price you pay later for lost yield due to soybean cyst nematode (SCN), diseases, and so on may overshadow what you save now. Consider the consequences before you make a change. 🐄



DI Update

BR&E Programs Lead to Success

MICHAEL DARGER
Department of
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University of Minnesota

The University of Minnesota's Business Retention & Expansion Strategies (BR&E) program has helped many communities learn how to retain and enhance businesses. A few BR&E programs have focused on the dairy industry. Some outstanding successes resulted in two milksheds, Stearns County and Becker-Otter Tail Counties.

What is BR&E? It's a cooperative activity, kind of like the way farmers used to help each other raise barns. A task force visits and surveys 30 to 100 farms. It uses the information it gathers to create an action plan of three or four projects to help these farmers succeed.

Does it work? In Stearns (1997) the dairy BR&E connected more than 300 farms to Dairy Diagnostic Teams. Of the farmers involved, 92 percent reported a positive influence on their farm. The Becker-Otter Tail BR&E

(1995) found financing to be a bottleneck, so it hosted a conference that attracted about 80 financiers. In only two years more than \$3 million worth of dairy facilities were financed.

But sometimes it's about more than technical assistance or financing. And sometimes it takes more than a year or two to get it done. For instance, Becker-Otter Tail BR&E is still working to get a 60-day MPCA permitting statute passed to help dairy projects happen faster.

There have also been BR&E programs aimed at crops, swine, and sheep producers. Swift County's Corn/Soybean BR&E (1999) found lack of health care access the number one threat. So, for the second year, they're sponsoring a bill to get Minnesota Care to stop counting depreciation as income to farmers for eligibility determination.

Interested in learning more? Ed Frederick (507-835-3422) and Lee Gross (320-255-6169) have been involved in dairy BR&E projects. Or call program director Michael Darger (612-625-6246), or visit <http://www3.extension.umn.edu/projects/bre/>.

New Johne's Disease Cattle Study

SCOTT J. WELLS
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The Minnesota Board of Animal Health has received funding from the Minnesota Legislature to:

1. increase awareness of Johne's disease among Minnesota cattle producers
2. identify infected cattle herds and help with herd-level control programs
3. identify cattle herds with low risk of Johne's disease infection to serve as sources of replacement stock for other producers.


To meet these objectives and boost its existing educational and testing program, faculty at the University of Minnesota College of Veterinary Medicine, in collaboration with the Minnesota Board of Animal Health, designed an education and research project that consists of an educational plan, an evaluation of herd-level testing, and an evaluation of control and prevention. Initial findings from this project should be available by summer 2001.

To launch this study, five focus group meetings were held throughout the state last winter. The meetings gathered feedback from nearly 60 veterinarians on the status of Johne's disease in Minnesota and facilitated discussion about what additional information is needed to better deal with the disease.

Work dealing with Johne's disease in cattle cur-

rently in progress at the University of Minnesota (partly in response to the focus group input) includes:

- Six demonstration dairy herds that have tested positive for Johne's disease and their veterinarians have been recruited from Gibbon, Goodhue, Kenyon, Litchfield, Spring Valley, and Underwood. Information learned from controlling the disease in these herds will serve as a road map for veterinarians on how to deal with infected herds using test information and management changes.
- Information sheets are being assembled on topics including using and interpreting Johne's disease tests, controlling Johne's disease, economic impact of Johne's disease, disinfection and environmental survival, and maternity and calf management.
- A study is underway to see if on-farm pasteurization of colostrum and waste milk can prevent transmission of several diseases, including Johne's disease.
- A study is underway to investigate methods of detecting Johne's disease in herds.
- Research articles and Web sites are being assembled as sources of information on Johne's disease and the studies noted above.

Many thanks to the veterinarians and producers who have shared their ideas and/or generously agreed to share information gained from their practices and herds in this cooperative effort. 

Beyond the Bottom Line

When the Going Gets Tough, the Tough Get Going

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 Department of Applied Economics and Management
 Cornell University

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 Department of Family Social Science
 University of Minnesota

We have often heard the cliché: “When the going gets tough, the tough get going.” We do not question whether dairy farm families are tough. We know they are. We do not question whether they are ready to get going. We know they are. The question is: What should a dairy farm manager do to “get going,” and where should he or she “go”?

Let’s start by looking at another kind of family business with a similar dilemma. Myrtle’s Diner has been serving meals for more than 40 years. Myrtle and Frank started the diner in 1957. Their son, George, now has primary responsibility, but rarely a day goes by without a visit by Myrtle. The diner has successfully supported Myrtle and Frank and now George and his family.

Recently, however, business has been declining. A strong local economy has made it hard to hire competent cooks and wait staff. As a consequence, food quality and service have declined. A recent case of food poisoning added to the difficulties, as did the opening of a large restaurant from a popular national chain down the road a year ago. Myrtle’s Diner is under great economic pressure and George is feeling severe stress.

George is “tough” and is ready to “get going.” Consider the two alternative strategies for George:



George’s Alternatives

ALTERNATIVE A. George could be “tough” by working long, hard hours. He could reduce labor costs and improve food quality by doing more of the cooking and waiting on tables himself. Perhaps he could get his family to work more as well.

ALTERNATIVE B. George could be “tough” by focusing his energy on improving Myrtle’s Diner and by carefully considering the future of the business. He could begin by rekindling the current staff’s passion for this family business and satisfying customers. He could focus on training, increasing employee satisfaction, and recruiting. George could also begin a careful analysis of the future of Myrtle’s Diner to determine needed strategic changes, including dramatic changes such as closing the diner.

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Beyond the Bottom Line

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Now put yourself in George's shoes. What would you do? The first choice might well have short-term benefits, but would not likely resolve the underlying problems. The second choice, while counter to our instincts to plunge in and "work harder," has a greater chance of success. It would let George address the critical but extremely difficult issues facing Myrtle's Diner.

Many dairy farm families are in George's shoes. They have crucial decisions to make concerning the future of their business. It is easy and appealing to follow George's Alternative A. Even people who know that the second approach is correct find it hard to follow because of uncertainty as to what to do. How to implement George's Alternative B is the topic of this article.

Resilience

In times of change, we need to increase our resilience—our ability to bounce back from the consequences of change. Change experts, including Daryl Conner, author of *Managing at the Speed of Change*, have identified five characteristics of resilient people:

- Positive
- Focused
- Flexible
- Organized
- Proactive

Each characteristic has unique qualities. Aspects of all five are needed for business success.

RESILIENT DAIRY FARM MANAGERS ARE POSITIVE

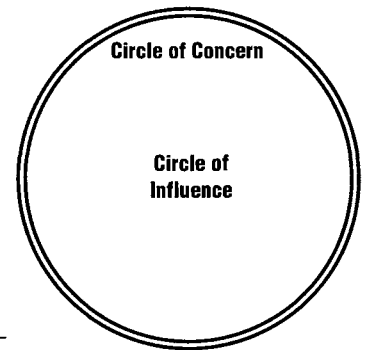
In a recent TV show, investigators were solving a bombing at an office building. The culprit turned out to be the son of a fired employee. The son was so incensed by his father's bitter complaints about being fired unfairly that he decided to "get even" with his father's former employer.

Although fictional, this story illustrates how dramatically our words and attitudes impact ourselves and those around us. The father had no idea how his words and attitude were impacting his son; in this situation, devastation resulted.

A positive person views life as challenging and ever-changing but filled with opportunities. If an individual is not positive and excited about what he or she is doing, it is time to seriously consider a change in attitude or job or both. Each of us must seriously examine our attitudes for the sake of our-

selves and for the emotional health of those around us.

One help in staying positive is to focus on things that we can influence. Our circle of concern (right) includes both things we can influence and things we can't. Staying inside our circle of influence will lead to a more positive attitude.



For example, think of a time when bad weather delayed planting or harvesting. The weather was certainly within your circle of concern. However, it was NOT within your circle of influence. Dwelling on the weather only made you mad. The alternative was to focus on your circle of influence—to concentrate on making preparations for planting or harvesting when the weather improved.

RESILIENT DAIRY FARM MANAGERS ARE FOCUSED

Proverbs says, "Without a vision, the people perish."

You probably are a part of a business with a mission that involves a dairy farm business. But what is your vision? Rural living? A particular life-style? Producing nutritious food? Helping feed the people of the world? Being your own boss? Owning a family business? Owning a farm? Owning a dairy farm? Is your vision shared by other family members?

We believe you know your vision. But you probably need to more clearly articulate it. When you share it you may find, as have many farm families before you, that there is more than one mission that can fulfill the vision for you and your family.

One danger of not being focused on your real vision and mission is that you can get stuck and resist change when that change would improve your situation without deviating from your vision. You must continuously ask how important it is to your vision to do things a certain way, to use a particular technology, to have a specific farm size or enterprise mix.

We all can become more resilient to change if we know and focus upon what is really important—our personal vision and the vision of our family.

RESILIENT DAIRY FARM MANAGERS ARE FLEXIBLE

MIT professor Peter Senge asks his students to view change as a biologist would. What does he mean? Think of a plant or a crop that is not growing well—perhaps it is wilted. What do you do? Do you tell it to grow? Of course not. You figure out what is wrong and fix it.

When we find ourselves or others not changing, what do we usually do? We tell ourselves or others to change. That's like telling the ailing plant to grow!

Senge suggests that we approach change as we would approach the ailing plant. He recommends we focus on why we or others are not changing, then remove the constraints to

A Dairy Farm Example

Let's look at how being positive, focused, and flexible can make a difference on a dairy farm. Diane and Frank Smith are on the young side of 40 with two children, ages 10 and 12. The dairy farm they own and operate is not providing the economic return they believe they deserve and they need to support their family.

Let's look at some alternative visions the Smiths might hold and how they impact their alternatives. Let's also speculate on what the Smiths might do to focus on changes within their circle of influence.

ALTERNATIVE A: Diane and Frank believe in the virtues of rural life. They want to raise their children in a rural environment and provide them with opportunities to grow and develop so that they can become productive, happy adults working in whatever field they find satisfying. They live in the home where Diane and her father were born and raised and would like to stay there.

The Future: Diane and Frank have many alternatives. However, making no change is not one of them, because their current income won't let them fulfill their vision for their family. They might modernize the current dairy, expand the dairy, change farm enterprises, or reduce or eliminate the farming operation and get local jobs within or outside of agriculture.

ALTERNATIVE B: Diane and Frank are both fourth generation dairy farmers. Retaining an operating dairy farm is basic to their personal and family needs. They are not interested in and/or able to make a major expansion. They realize that passing this farm to their children is not a viable option.

The Future: Diane and Frank are in a difficult situation. They are 25 to 30 years from retirement and retaining the farm may not be viable for that long. They should focus in two directions. First, they must do everything they can to achieve the maximum economic return from the business they have. They also should consider alternative sources of income that fit within their family vision—for example, creative enterprises (sweet corn? pumpkins? farm tours?) and/or part-time off-farm work.

Second, they must set criteria for how much they are willing to sacrifice to fulfill their vision of owning this dairy farm. In other words, at what level of extra work and lost economic return should they alter their vision and seek something else? Until then (and hopefully "then" will never arrive), they must develop positive attitudes and focus on their circle of influence.

ALTERNATIVE C: Diane and Frank have always owned their business and never worked as employees. They desire a financial return that will let them provide opportunities for their family and spend time with their children as they grow. They don't believe they would be happy working for someone else.

The Future: Again, the current situation does not appear to fulfill their vision. They could expand the current dairy. Depending upon their skills, they could consider some other type of farm or nonfarm business. Any business expansion or startup comes with risk as well as opportunity. They do have significant equity and that is a great start. They need to develop a business plan that will let them fulfill their vision.



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change and provide needed support to enable the change.

What are some constraints? We may be negative and need to become more positive. We may be stuck in the outer portion of our circle of concern and need to move into our circle of influence. We may need more information and time to collect, analyze, and use that information.

Senge also suggests we support those who need to change. For others who need to change, that means providing encouragement and assistance. What does it mean when you're the one who needs to change? It means reaching out to family and friends and asking for their support in your efforts to change.

RESILIENT DAIRY FARM MANAGERS ARE ORGANIZED AND PROACTIVE

Being proactive means finding ways to adjust to current industry trends to move toward business goals. It means addressing issues that are within your circle of influence and making adjustments required to compensate for changes that are only within your circle of concern.

A business plan aimed at enabling you to fulfill your vision and mission will keep you organized and "on track." Communicating the components of the plan to other family business members, creating enthusiasm and passion for the vision, and adjusting the plan when needed are all part of developing and maintaining resilience within your dairy business.

Summary

When the going gets tough, the tough get going. "Tough" means resilient. It means you have the ability to bounce back from the consequences of the changes that are all around you. "Getting going" means to be positive, focused, flexible, organized, and proactive. It means developing new skills as a manager as well as carrying out the business plan. It means understanding and building upon human resources as well as financial and physical resources. 🐄



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Specialized Dairy Extension Educators

Table listing Specialized Dairy Extension Educators and their contact numbers, including Neil Broadwater, Vince Crary, Bill Crawford, Tim Dolan, Lee Gross, Pat Kearney, Vern Oraskovich, Jim Salfer, Troy Salzer, and Wayne Schoper.

Foot-and-Mouth Disease

Foot-and mouth disease (FMD) is highly contagious and affects cattle, swine, sheep, and other cloven-hoofed animals. It is characterized by fever and blister-like lesions followed by erosions on the tongue and lips, in the mouth, on the teats, and between the hooves. Most affected animals recover, but the disease leaves them debilitated, causing severe losses in meat and milk production. The United States has been free of FMD since 1929. An FMD outbreak in the United States could potentially cost the U.S. livestock industry billions of dollars in losses in the first year. FMD is not considered a public health problem.

The disease is caused by a virus that can persist in contaminated fodder and the environment for up to one month. FMD viruses can be spread by animals, people, or materials.

It is important that travelers NOT bring swine or ruminant products, unpasteurized dairy products, or agricultural products from countries in the European Union to the U.S.

For more information:

Minnesota Board of Animal Health: www.bah.state.mn.us
U.S. Department of Agriculture: www.aphis.usda.gov/oa/fmd/



DAIRY Initiatives

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