

UNIVERSITY OF MINNESOTA

DAIRY Initiatives



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Success Doesn't Always Mean Big

Supersizing is not the only way to make it in today's dairy environment. Here's how one dairy family found stability and improved quality of life while still milking under 100 head.

JOSEPH KURTZ
Extension News
University of Minnesota

The 14-hour work days were taking their toll on Carver County dairy producers Jon and Jill Zieroth. So were the physical demands of cleaning stalls by hand and pushing a heavy feed cart through their tie-stall barn. Milking was especially demanding because there were more cows than stalls, so cows had to be moved in and out of the tie-stalls. Vacations were out of the question.

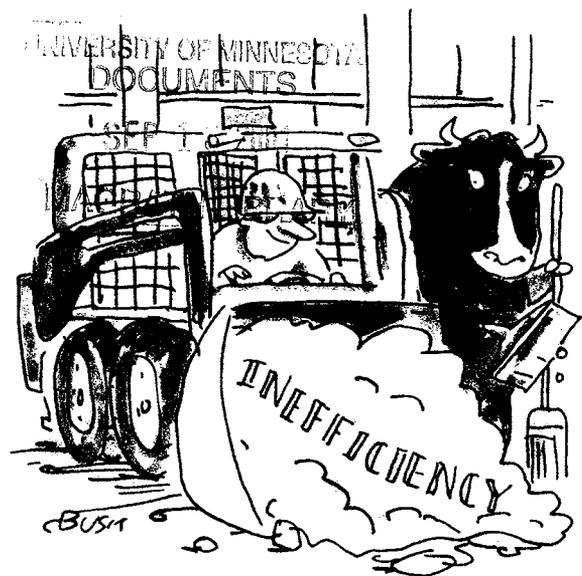
If they had to go back to that situation, says Jon, they wouldn't be dairying anymore.

"I can remember going to their place and Jon would be physically and mentally exhausted," recalls Carver County Extension educator Vern Oraskovich. "Now when you go there you see a totally different person."

Realizing that they were working too long and too hard to have a satisfying quality of life, the Zieroths made some changes in the late 1990s. They didn't go through a big expansion, though they did add a few cows (they're currently milking 90 head). They didn't hire outside labor. But they did find a way to have more family time, reduce the physical demands of farming, and even get away for vacations from time to time. A key step for the couple was building a 94' x 108' freestall barn. Another was converting the tie-stall barn to a double-four flat-barn milking parlor with a 16-inch step-up. They also stopped growing their own replacement heifers.

Need for Change

The Zieroth farm, north of Waconia, has been in the family since Jon's great-great-grandfather started



John Bush ©2001

farming there in 1877. Jon grew up working on the farm and went into partnership with his father, Loren, in 1983, three years after graduating from high school. Jill grew up in town in nearby Mayer. Jon and Jill are the parents of Jeremy, 20; Nicole, 17; and Timmy, 7.

The Zieroths were milking about 60 cows in 1983 and 75 in 1994 when Loren retired and Jon and Jill bought full ownership of the 500-acre farm. They had added another 10 cows by 1996, though there were only 60 stalls in the barn. Jon and Jeremy were doing the milking, while Loren helped with stall bedding and cleaning, barn cleaning, and moving cows in and out.

On a typical day they started milking at 6 a.m.

Continued on page 2

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

SUCCESS DOESN'T ALWAYS MEAN BIG*Continued from page 1***Jill and Jon Zieroth and son Timmy in their freestall barn.**

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After the cows were moved into the freestall barn, the herd milk production average climbed by 4,000 pounds to 21,700 pounds.

.....

and finished at 9:30. Feeding, bedding, and cleaning the barn took another three hours. Evening chores began at 4:30, and the work in the barn ended at 8 to 8:30 p.m.

The need for changes was obvious, especially with Jeremy making plans to leave for college.

Analyzing Feasibility

The Zieroths worked closely with their lender to analyze the financial feasibility of changes and went through an analysis of their operation by a dairy diagnostics team.

"We started to do cash flows for a freestall barn and parlor," says Jon. "We took the actual take-home milk price for the three previous years, subtracted a dollar per hundredweight, and used that for the projected milk price. We subtracted a thousand pounds from our rolling herd milk production average and used that for projected production. We took actual per-cow expenses for breeding, veterinary care, and utilities. These were the figures we used for the financial projections."

The loan was approved, but not due to having plenty of up-front money. "We borrowed 100 percent of the money for the freestall barn and parlor," Jon says.

The Zieroths moved their cows into the new 100-stall freestall barn in July 1999, then began remodeling the tie-stall barn into a flat-barn parlor. The first day of milking in the new parlor was August 23, 1999.

Shortly before construction began on the new freestall barn, the Zieroths sent their replacement heifers to a custom grower about 15 miles away. They had to either do this or build new heifer housing, since the new freestall barn was built where the heifers had been housed.

Looking Up

Today, things are definitely looking up on the Zieroth farm.

Jon had his doubts about not raising his own heifers, although "it was proven on paper they could be raised as cheap or cheaper" by a custom grower. Now, he says he's satisfied with the arrangement. "They're coming back at a good weight, to calve at the right age," he says. "I'm not looking to get back in the heifer business."

With the freestall barn came a change to feeding a total mixed ration using a tractor and TMR mixer wagon. Feeding in the tie-stall barn had involved using a feed cart and separate feedings of hayage, corn silage, protein, minerals, and grain.

The new barn also eliminated cleaning tie-stalls by hand. The Zieroths use a skid-steer loader to clean the freestall barn.

After the cows were moved into the freestall barn, the herd milk production average climbed by 4,000 pounds to 21,700 pounds. Jon attributes the increase to greater cow comfort.

Jon says the new system cuts almost an hour off the milking time. One person scrapes the freestall barn while the other is milking. The only chores after milking are scraping the holding area and feeding. Instead of finishing the morning work at 12:30 to 1 p.m., the Zieroths are now done at 9:30 to 10 a.m., with one less person working. Initially, the Zieroths had talked about hiring a full-time worker to help out. But the new system is efficient enough that they have only had to hire occasional part-time help.

"A Lot Nicer"

What do the changes mean for the family?

"It makes it a lot nicer—you don't feel quite as tied down," says Jon. "With the old barn and switching cows in and out of the tie-stalls, we had to have three people there at milking time. And we couldn't bring in outside people to milk because it was impossible for them to know what to do.

"Now if we want to hire people to milk, they only have to come for one milking to see how it's done. If we want to take off we can get someone to do the chores now."

"There's more time for field work in the spring and fall now," says Jill. "And it's easier to go on vacation. We've been able to go to Hawaii for vacations twice in the past three years. Before, we wouldn't have considered that."

Jon says getting out of the barn earlier makes it

easier to attend the kids' school events. "If we want to leave the barn a half hour before milking is done, one person can finish up," he says. "Before, it took two at a minimum.

"Now it's possible for one person to handle everything, if necessary. I've done everything by myself a couple of times."

Jill says she has noticed that Jon is now a lot more relaxed. "He even gets to take a nap once in a great while," she says.

"It's just a lot less stressful all the way around," says Jon. "Everyone knows what needs to be done; we get it done; then we can go play."

Diagnostic Team

Charley Streiff, ag loan officer at the First National Bank of Waconia, has been working with the Zieroths for more than eight years. "They have been wonderful to work with and have kept excellent records," he says.

Streiff was a member of the diagnostic team that analyzed the Zieroth operation. Oraskovich was also on the team, along with a veterinarian, a nutritionist, a milk plant field person, and another dairy producer.

"The fact that a dairy family goes through that process with the diagnostic team says a lot about their attitude about management," says Streiff.

He notes that the Zieroths are a relatively young farm family who either had to get more labor efficient or get out of dairying. There are a number of similar situations in Carver County and elsewhere in Minnesota, he adds.

"From a personal perspective, these types of projects are the ones I feel proudest of, where we've helped a younger dairy farmer stay on the farm and become more efficient," he says.

Oraskovich says families such as the Zieroths show it's not necessary to add several hundred cows to an operation and hire lots of labor to meet lifestyle goals and be successful.

"There are many people who want to make mid-size or smaller-scale expansions," he says. "Many of them want to have a less labor-intensive way to continue their operation. To accomplish this, it's not necessary to build a \$250,000 milking parlor. Changes such as the Zieroths have made, such as putting in a freestall barn and a flat-barn parlor, can help many families meet their goals." 

To learn more about how changes like those the Zieroths made might benefit your farm, contact Extension educator Kevin Janni at 612/625-3108.

Steps to Upgrade and Modernize Your Dairy

KEVIN JANNI

Department of Biosystems and Agricultural Engineering
University of Minnesota

DAIRY PRODUCERS UPGRADE and modernize their operations for many reasons: to boost income, cut costs, meet environmental requirements, save labor, improve working conditions, fulfill personal dreams, and so on. The bigger the upgrade, the more complete and detailed your plan needs to be to ensure that the changes meet your needs. Be sure to include these steps:

- SET A TARGET**
Develop a broad vision, goals, or mission statement to describe your upgraded dairy that fits your values.
- SET PERFORMANCE CRITERIA AND DIMENSIONS**
Define the upgrade, its size, the management plan, and required and desired elements.
- INVESTIGATE AND INNOVATE**
Find innovative ideas by visiting other dairy operations, reading dairy articles, and talking to people.
- EVALUATE ALTERNATIVES AND OPTIONS**
Sort through the ideas and information collected and compare them with the required and desired elements.
- SELECT**
Select the best option for you. Remember that there is no single ideal solution. Every design includes trade-offs.
- PREPARE PLANS**
Have blueprints prepared and develop bid specifications.
- TROUBLESHOOT THE PLANS**
Check the plans for accuracy and completeness. Check flows of cows, milk, equipment, feed, water, air, manure, and people.
- IMPLEMENT THE PLAN**
Get bids, select contractors, and modify the operation. Monitor construction to ensure that your plans are followed as specified.
- EVALUATE THE FINAL PRODUCT**
Make sure that everything was completed as specified. Celebrate your accomplishments. Learn from mistakes.
- DO IT AGAIN**
Identify your operation's next high priority goal or bottleneck and tackle it next.

Farm Safety and Kids

Tragedy is only a bad judgment call away

MADGE ALBERTS
Child, Youth & Family Consortium
University of Minnesota

One recent Sunday afternoon, I was driving in rural Minnesota past a dairy farm, and I saw a woman mowing her very large lawn on a riding mower. A common sight for this time of year, right? Only this woman had not one, but TWO children on the mower with her, one perched on each knee. I thought to myself, “Now there is an accident waiting to happen. WHAT is she thinking?” My better judgment told me I should have stopped and said something to her about how dangerous and irresponsible her actions were. But I didn’t.

A few months ago I was watching television and two things occurred, one right after the other, that made me sit up and take notice.

First, on the 6 p.m. news, there was report of a young boy from Wisconsin who had wandered out of his home at 3 a.m. and nearly froze to death. He apparently was watching a video after having been in the barn with his siblings and parents until nearly 2 a.m. while his parents milked cows. Thankfully, he has recovered.

Later that same evening, “Judging Amy,” a TV show about a single mom who’s also a judge required to make decisions regularly about a variety of family issues, came on. This episode was about a dairy farmer who was reported to child protection for keeping his children home from school to work on the farm. Of course, this was fiction, but it probably made many people without knowledge of farming think critically about the

roles of kids working on farms.

I’m the spouse of a dairy farmer. I’m also the mom of five children and stepchildren and a family development professional. I know what life is like on farms. I know firsthand the stresses and demands that sometimes drive people to make decisions that may not be wise.

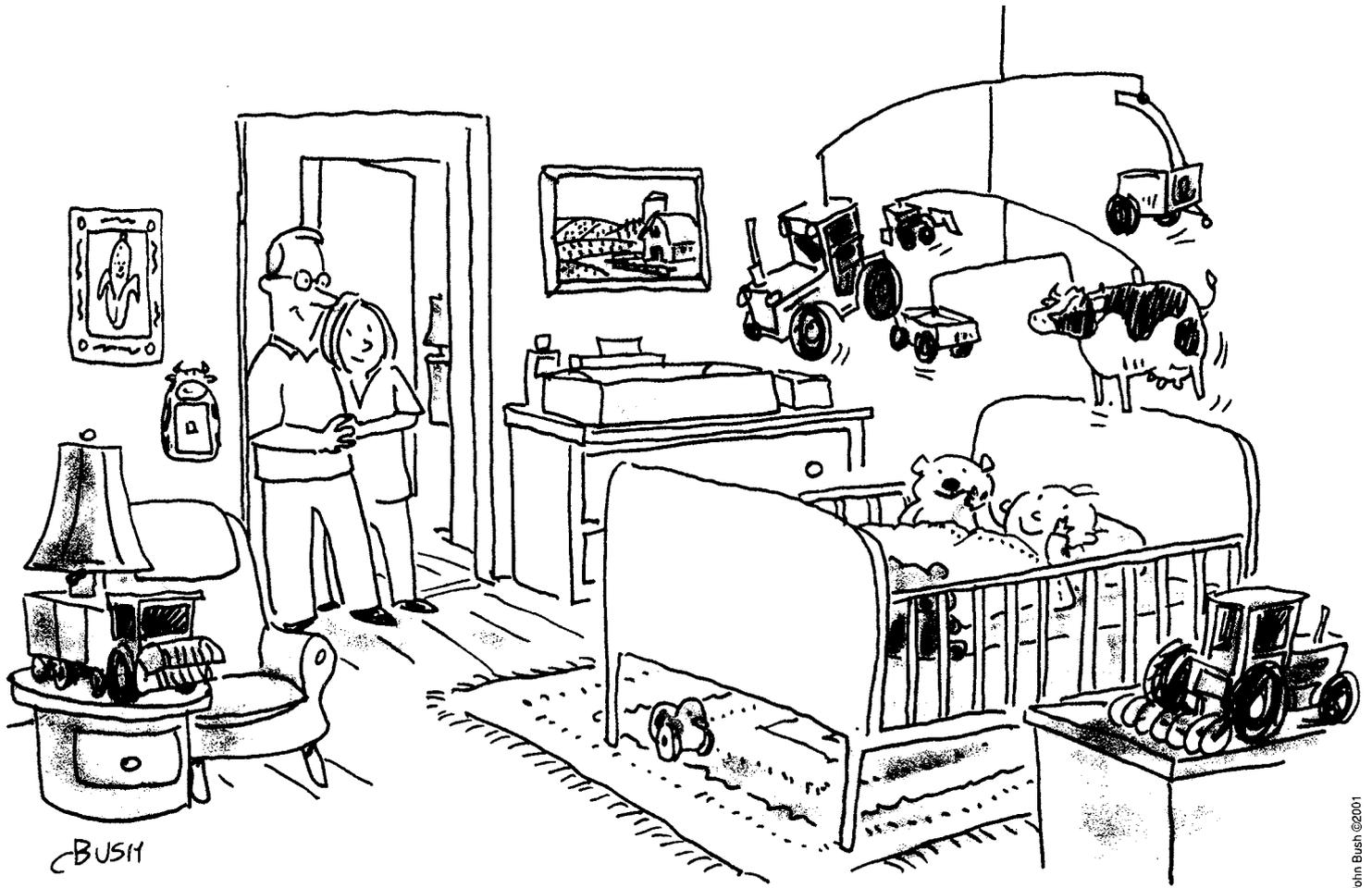
And WAY too often, those decisions are about our kids’ safety. I have heard many stories in the past few months about children who have been seriously injured or killed on farms in incidents that were the result of bad judgment, and maybe even irresponsibility, on the part

of the parents—incidents that probably could have been prevented.

So it’s time for me to speak up. We are not, as farmers, being attentive enough to the safety needs of our young children. Far too often we take chances we shouldn’t take because we think, “It will never happen to us!” But it does happen—and has happened to many people who thought it would never happen to them.

So for what it’s worth, here’s my thinking, based on experience and research about farm safety that we all know about, but often choose to ignore:

- **Children are not responsible for their own safety. It is the responsibility of the adults in their lives to fill that role.**
- **Young children should never—NEVER—be around a farm site or in barns unsupervised. Period. If they are outside, they should be under the direct supervision of an adult who is not pre-occupied with something else—within direct eyesight—at all times. When parents are working at their job of farming or milking cows, their attention cannot be fully focused on the safety of their children.**
- **Young children should not be riding on machinery of any kind. Yes, it’s fun to ride on the lawnmower with Mommy. And yes, it’s even more fun to ride in the big tractor while Daddy is cutting hay. But it’s not safe. What happens if the child falls off the lawnmower and gets caught underneath it? If you think it can’t happen, think again. You say the tractor has an enclosed cab? What happens if there’s some emergency with the equipment and the parent has to jump out? Will he remember to shut off moving parts? What if the child tries to climb out after him? There is just too much risk involved to have children in situations like this until they are of a developmental age at which they are capable of understanding the dangers of the situation and making decisions for themselves.**
- **Don’t take for granted that young children fully understand the dangers of farm equipment and machinery. They don’t. They aren’t developmentally able to understand the consequences of getting caught in a PTO, even if you’ve told them. They don’t understand that they could get stepped on by a cow if they get too close. They don’t understand that sticking their hand in a conveyor to grab a handful of feed could result in their arm being ripped off. Too often we expect children to be able to use adult reasoning powers, and they aren’t able to do so, developmentally. Further, at young ages, they aren’t able to transfer the danger of one situation to another similar situation. They need to be told the rules or cautioned of the dangers for every single situation.**
- **At least one parent needs to maintain a level of alertness to be able to adequately parent their children. When parents are so exhausted that they can’t attend to the physical, emotional, and mental needs of their kids, they need to make some changes.**
- **The first job of children is to be children. Although working as a family on the family farm (large or small) can be very healthy for kids, and can help them develop a great work ethic, it’s too easy to cross the line and expect kids to take on roles that aren’t developmentally appropriate, or that take too much time away from their job of growing up and learning. Be sure those needs are respected.**



John Bush ©2001

A few years ago I was part of a study of dairy farm families in southern Minnesota. When we asked about safety issues, one wife told us that when she works outside, she and her husband arrange child care for their kids. If they couldn't find child care, she didn't go out. They did not allow their young children to be outside when they were occupied working. They made some significant financial sacrifices in order to accomplish this. Unfortunately, I'm afraid their wise choice is the exception rather than the rule.

During times of high stress or fatigue—such as planting, harvesting, chopping hay, inclement weather, and low milk prices—our ability to make good judgments or decisions is impaired. We are much more tempted to cut corners or let things slide because we believe we don't have the time, energy, and maybe money to attend to them ade-

quately.

I have long believed that if, as farm families, we are unable for whatever reason to adequately attend to the safety and developmental well-being of our children, including proper parenting, we need to rethink our priorities. Yes, working together and living together on a farm can provide a wonderful, nurturing environment for spouses and children. But it can also pose risks that must be acknowledged and attended to on a daily basis.

In an Extension publication titled *Keeping Farm Children Safe*, author and farm safety expert John Shutske writes, "Farm accidents to children are not random. They are very predictable. And almost all of them could be prevented." Given the alarming number of children who have been seriously injured or killed in farm accidents in the past year or so, we are apparently not giving ade-

quate attention to children's safety. Losing even ONE child because of poor judgment or laxness in supervision is too much, and it affects all the family members for the rest of their lives.

Keeping Farm Children Safe contains an exceptional chart showing the developmental stages of children, what they're capable of at each stage, and risks and protective measures. It is available at <http://www.extension.umn.edu/distribution/youthdevelopment/DA6188.html>.

Another useful resource is the North American Guidelines for Children's Agricultural Tasks. It can be found at: <http://www.nagcat.org/>. 🐾

Why Would I Want to Lock in My Milk Price?

MARGOT RUDSTROM

West Central Research and Outreach Center
University of Minnesota

More and more dairy producers are contracting with processors to sell milk. Why lock in a milk price and miss the opportunity to profit more if milk prices were to rise? The reason is the flip side: price can also decline.

Up to 1986, milk prices were fairly stable (Figure 1). Government support prices hovered around \$11 to \$12/cwt. As the support price for milk dropped, however, milk prices became more volatile. From December 1998 to November 2000 the Class III price went from an all-time high of \$17.34/cwt. to an all-time low of \$8.37/cwt.

Like it or not, volatility is here to stay. If you want or need more predictability in your life, *cash forward contracts* can help you to manage that volatility.

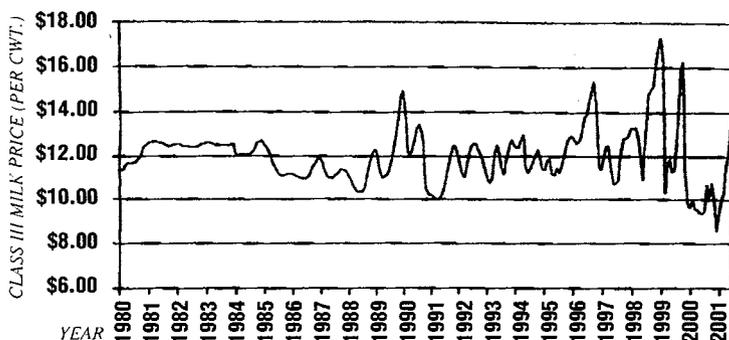


FIGURE 1. Milk prices have become increasingly volatile since 1986.

Kinds of Contracts

Cash forward contracts offer you a specified price for future milk production to be delivered to the buyer's milk plant. Offered prices can change daily. Contracts may be offered for individual months, six months, or even a year.

Most cash forward contracts are for a guaranteed base price related to the Class III milk futures contract price. You are still eligible for the same premiums and discounts (for milk composition and quality) as are producers who do not forward contract.

Some milk plants offer a type of cash forward contract called a *floor price contract*. The buyer uses Class III *put options* to set a floor for the milk price. If the milk price rises, you get more than the floor price. If the milk price falls below

the floor, you get the floor price.

What's a Good Price?

Your milk check is based on the price of Class III milk, which has 3.5 percent butterfat, 3.1 percent protein, and 5.9 percent other solids. The price you actually get differs from the Class III price because of differences in milk composition, somatic cell adjustments, producer price differential, and plant premiums. The difference between your price and the Class III price is called the *mailbox differential* or *basis*. Your basis changes monthly because milk composition and producer price differential change monthly.

Most cash forward contracts are based on a Class III price. Track your basis monthly. Then use Table 1 and the information you've collected on your basis to estimate your future mailbox price. Use this information to determine what might be an acceptable price for a cash forward contract for your milk.

	1998	1999	2000	2001
January	13.25	16.27	10.05	9.99
February	13.32	10.27	9.54	10.27
March	12.81	11.62	9.54	11.42
April	12.01	11.81	9.41	12.06
May	10.88	11.26	9.37	13.83
June	13.10	11.42	9.46	15.02
July	14.77	13.59	10.66	15.46
August	14.99	15.79	10.13	
September	15.10	16.26	10.76	
October	16.04	11.49	10.02	
November	16.84	9.79	8.57	
December	17.34	9.63	9.37	

TABLE 1. Class III milk prices (\$/cwt), 1998–present

Advantages

A major advantage of cash forward contracts is their flexibility. While futures contracts and options require relatively large fixed quantities of milk (for example, 200,000 pounds for a CME (Chicago Mercantile Exchange) Class III milk futures contract), cash forward contracts can be for much smaller quantities—as little as 10,000 pounds of milk per month.

Another advantage of cash forward contracts is that they are simple to use. You just need to ask the milk buyer what contract price is being offered. You don't need to establish an account with a broker, nor do you need to maintain margin accounts as you would with options.

Disadvantages

Disadvantages of cash forward contracts include the fact that

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.



S U M M E R 2 0 0 1

Dairy leaders highlight partnering benefits

Other than a preference for different football teams, the dairy leaders' messages had a common theme.

"The dairy industry will be the winner if Minnesota and Wisconsin work together," said Jim Harsdorf. He echoed the sentiments of fellow leaders who participated in a panel discussion at a joint meeting of the Minnesota Dairy Leaders Roundtable and the Wisconsin Dairy 2020 Council, held June 6 in New Richmond, Wis.

"When you cooperate, you succeed," said Harsdorf who is both a producer and the current Wisconsin Secretary of the Department of Agriculture, Trade and Consumer Protection. "Producers need to figure out where we can multiply our dairying resources." Minnesota dairy producer Bill Dropik agreed. "The Midwest can compete in the dairy industry," he said. "But we must keep the plants full to be profitable."

"Growing the state's milk supply should be the foremost

concern", said Harold Stanislowski of the Minnesota Department of Agriculture.

But Minnesota dairy producer Jim Ridgeway said there are too many deterrents for expanding dairy herds.

He and fellow panel members said dairy producers from both states should:

- Work together on feedlot regulations.

- Establish joint certification of dairy farms for environmental standards.
- Take an active role in county economic development committees.
- Convince state residents that the dairy industry is an economic engine.
- Work toward dairy-friendly legislation.
- Modernize the dairy infrastructure.
- Speak as one voice.



Minnesota dairy producer Jim Ridgeway, right, participates in a panel discussion on "Developing Partnerships Between States for the Benefit of the Dairy Industry." Fellow Minnesota dairy producer Bill Dropik, left, also participated in the panel.

Are you an average Minnesota dairy producer?

Minnesota dairy producers now know how close they are to the "average."

Representatives from the Minnesota State Colleges and Universities (MnSCU) presented 2000 farm management dairy data at the Minnesota Dairy Leaders Roundtable summer meeting.

The data was collected from 535 dairy operations that are part of the farm business management education program. Statistical highlights show the average dairy producer:

- Spent \$316,405 in his community.
- Earned a gross farm income of \$290,251.
- Earned \$41,688 of net farm income.
- Showed \$733,378 in farm assets.
- Had a farm net worth of \$360,258.
- Milked 87.1 cows.
- Recorded a herd average of 19,797 pounds of milk.
- Spent \$4.86 on feed for every hundredweight of milk produced.
- Spent a total of \$11.07 for every hundredweight of milk produced.
- Received \$12.17 for every hundredweight of milk marketed.

For more Dairy Farm Sort information, go to www.mgt.org/fbm/reports/index.htm

Wisconsin ag leader delivers 1-2-3 punch

If dairying was a race, every winner would have hurdles to cross, Jim Harsdorf says.

At a joint June meeting of the Minnesota Dairy Leaders Roundtable and the Wisconsin Dairy 2020 Council, he described the hurdles that lie between dairy producers and their goals.

First, producers must be positive thinkers and prepared to solve problems.

Second, they must realize the one-size-fits-all mentality doesn't pertain to dairy. There are no formulas for profitability, he said.

Finally, every producer must realize, "It's all about

profitability," he said. "If you can't make money milking cows, it's no fun."

Harsdorf knows firsthand how high these hurdles might seem. As a dairy producer and now the Wisconsin Secretary of the Department of Agriculture, Trade and Consumer Protection, he has been both a runner and a spectator.



Jim Harsdorf, right, Wisconsin Secretary of the Department of Agriculture, Trade and Consumer Protection, shares his insight on what hurdles dairy-men must cross to be winners. At his side is Timm Johnson, a dairy producer from New Richmond, Wis.

State Dairy Extravaganza to be held in November

The Minnesota Dairy Extravaganza will be held Nov. 27-29 at the Minneapolis Convention Center, Minneapolis, Minn.

Held in conjunction with the North American Farm and Power Show, the Dairy Extravaganza is a statewide event that enables dairy producers to attend multiple industry meetings, an industry trade show and educational seminars.

The event's educational topics will include risk management, labor, financing and estate planning. In addition, speakers will address new ideas such as cow-friendly counties.

Discount hotel accommodations and bus trips are being organized. For more information on bussing, contact Tradexpos Inc. at (507) 437-1678. For details on the event, contact Kandiyohi County Extension Educator Pat Kearney at (320) 231-7893 or by e-mail at kearn007@umn.edu.

State veterinarian offers biosecurity advice

Minnesota's state veterinarian is looking for a silver lining in the high-profile outbreaks of cattle diseases.

Dr. Bill Hartmann said this is an ideal time for dairy producers to evaluate the biosecurity plans on their own farms. Though foot-and-mouth disease (FMD) and bovine spongiform encephalopathy (BSE) are making the headlines, there are many lesser-publicized diseases that must be kept off of dairy farms.

Other key points he shared with those attending the June meeting of the Minnesota Dairy Leaders Roundtable were:

- There is no BSE or FMD in this country.
- The likelihood of problems being caused from holding on-farm meetings is extremely low.
- Producers may not want to hold an on-farm dairy event in order to stress the seriousness of the situation.

For more information on FMD and BSE, visit the following websites:

- National Milk Producers Federation: www.nmpf.org/govissues/index.cfm
- National Animal Health Emergency Management System: www.usaha.org/NAHEMS/diseases.html
- United Kingdom's Ministry of Agriculture, Fisheries and Food

FMD: www.maff.gov.uk/animalh/diseases/fmd/default.htm

BSE: www.maff.gov.uk/animalh/bse/index.html

WANTED: VOLUNTEERS FOR MOO BOOTH

Wanted: persons with an active interest and knowledge of today's dairy industry who are willing to share their knowledge with Moo Booth™ visitors.

The nationally-recognized Moo Booth needs volunteers to give two or more hours of their time to help staff the booth at the Minnesota State Fair, Aug. 23-Sept. 3, in St. Paul, Minn. In return, volunteers receive free admission to the fair the day that they work.

Created in 1991 to educate the public about cattle and the dairy industry, the booth is located in the northwest corner of the cattle barn on the fairgrounds. Volunteers interact with the public in varied ways, such as telling visitors about the dairy industry, answering questions, operating game show-like games, milking cows and judging contests.

For more information or to volunteer, contact Doris Mold at (651)645-3275 (pre-fair) or (651)642-2423 (during the fair), or reach her by e-mail at moldx001@tc.umn.edu.

MID-YEAR REVIEW OF ROUNDTABLE GOALS SHOWS PROGRESS

A mid-year report shows progress toward completion of the Minnesota Dairy Leaders Roundtable 2001 goals.

The 2001 goals include:

- Feedlot issues.
- Access to capital for dairy development.
- A trained and reliable labor force.
- The Dairy Diagnostic Program
- Establishing an Early Planning Grant.
- Continuing economic development through the dairy task force.
- Establishing cow-friendly counties.
- Continuing the Educational Partnership Coalition.
- Continuing the Dairy Initiatives Newsletter.
- Developing a measurement for profitability on dairy farms.
- Updating the planning guide for dairy development.
- Reaching a 6.8 percent state marketshare in milk production.
- Continuing to develop a liaison with surrounding states.
- Continuing to hold the Minnesota Dairy Extravaganza.
- Continuing to maintain MinnLink website.
- The Minnesota State Fair Moo Booth.

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)

Calendar of Events

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

AUGUST / SEPTEMBER 2001

- AUG 23- SEP 3 Minnesota State Fair. Minnesota State Fairgrounds, 1265 Snelling Ave N, St. Paul, MN. Contact: Main Office 651-642-2200. Website: www.mnstatefair.org/
- AUG 23- SEP 3 Moo Booth at the Minnesota State Fair. Minnesota State Fairgrounds, 1265 Snelling Ave N, St. Paul, MN. Contact: Doris Mold 651-645-3275. Website: people.mn.mediaone.net/moobooth/intro.htm
- 11 & 12 Minnesota Nutrition Conference. Hilton Hotel, Bloomington, MN. Contact: Tracey Benson 612-624-3708. Website: www.conferences.umn.edu/mn/livestok/mnutconf.htm
- 17 Minnesota Dairy Leaders Roundtable Meeting. Sheraton Inn Midway Hotel, St. Paul, MN. Contact: Ed Frederick 507-835-3422.

NOVEMBER 2001

- 28 Minnesota Dairy Leaders Roundtable Meeting in conjunction with the North American Farm and Power Show and the Minnesota Dairy Extravaganza. Minneapolis Convention Center, Minneapolis, MN. Contact: Ed Frederick 507-835-3422. Website: www.tradexpos.com/farmpowr/northam.htm

DECEMBER

- 13 Central Minnesota Dairy Expo. Holiday Inn, St. Cloud, MN. Contact: Jim Salfer 320-255-6169

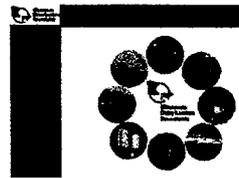
Changes or additions to the Minnesota Dairy Calendar may be directed to:
Bonnie Rae, Department of Animal Science, University of Minnesota,
205 Haecker Hall, 1364 Eckles Avenue, St. Paul, MN 55108-6118.
Telephone: 612-624-4995; Fax: 612-625-1283; Email: bjrae@umn.edu

Roundtable sets September agenda

The next meeting of the Minnesota Dairy Leaders Roundtable will be Monday, Sept. 17, at the Four Points Sheraton St. Paul/Capitol (formerly Sheraton Inn Midway).

The Roundtable's agenda for its morning session includes a review of the 2001 action plan, education program and the Dairy Extravaganza set for November. Those in attendance will also discuss the legislative plans for 2002.

MinnLink Update www.minnlink.org



The most recent resource found on the MinnLink Website, Minnesota's resource website for dairy producers and providers, is a link to the Minnesota Dairy Leaders Roundtable www.mdlrt.org website.

Minnesota Dairy Leaders Roundtable has identified 17 key areas affecting the dairy industry. Each area is being studied by committee members and an action plan is being developed and implemented. For more information check out this new site.



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*

Dairy Horizon

Definitions

BASIS: the difference between the price for Class III milk and what you get for your milk, due to differences in composition, quality, etc.

CASH FORWARD CONTRACT: an agreement with a processor to sell a certain amount of milk at a specified price during a specified period.

FLOOR PRICE CONTRACT: a cash forward contract that specifies a minimum price rather than a set price for milk. The producer may get more than the minimum if milk prices rise.

MAILBOX DIFFERENTIAL: same as basis

SELLING A FUTURES CONTRACT: obligates the seller to accept an agreed-upon future price for future milk production.

BUYING A PUT OPTION: gives the owner of the put option the right to sell a futures contract at an agreed-upon price.

you are normally not allowed to get out of the contract. That means you are locked into delivering milk to the buyer you contracted with. It also means you forgo opportunities to take advantage of rising milk prices (unless it is a floor price contract).

There is a way to take the edge off this disadvantage. Since offered contract prices can change daily, you can accept more than one contract price for a given month. For example, say that you accept a contract price of \$13.00 for the following August on 10,000 pounds of milk. A few weeks later you see that Class III milk futures have strengthened and the buyer is offering \$13.75 for that same month. You might decide to contract another 10,000 pounds.

If you choose to use this strategy, however, be aware that most buyers limit total contracts to less than 100 percent of your expected monthly production. A general rule of thumb is contract no more than 70 to 75 percent of your expected production. 🐄

Quick Tips for Contracting Milk

- **KNOW THE PRICE YOU ARE TRYING TO PROTECT.** You need to cover your costs of production, debt repayment, living costs, and so on. If you lock in a profitable price you won't lose money.
- **UNDERSTAND YOUR MAILBOX DIFFERENTIAL OR BASIS.** Overestimating your basis will result in a lower than expected mailbox price. Underestimating your basis will result in a higher than expected mailbox price.
- **LEAVE SOME ROOM.** Most milk buyers will not let you contract 100 percent of your expected production. Leave yourself some room in case you have unexpected drops in production.
- **READ THE CONTRACT CAREFULLY.** How much milk are you contracting? Which months are included? Is it a base price contract or a floor price contract? Is the contract price based on Class III price or some other price?

Biotechnology and the Dairy Industry

ABEL PONCE DE LEÓN

Department of Animal Science

University of Minnesota

Biototechnology is a broad term that encompasses many of the ways in which humans derive benefits from other living things. In recent years it has most often been used to refer to efforts to learn about and modify genetic material for human benefit.

This particular aspect of biotechnology provides an opportunity to enhance the economic viability of animal and plant agricultural industries. We already have seen increases in milk production due to the use of recombinant bovine growth hormone mass-produced by bacteria that contain genetic material taken from cow DNA. We also have seen the use of genetic engineering to produce pest-resistant and herbicide-tolerant crops.

The future holds many more opportunities for enhancing dairy production and profitability through biotechnology. Among them:

Marker-Assisted Selection. Scientists are working to identify bits of genetic material within the dairy cow's chromosomes that are inherited along with various economically important traits such as milk production, reproductive performance, and disease resistance. Producers will be able to use the presence or absence of these gene bits, known as *genetic markers*, in a bull's chromosomes to tell whether he has genes for particular desirable or undesirable characteristics. They can then use this information in a process called *marker-assisted selection* (MAS) to choose a sire that will produce calves with the best possible traits. Markers can also be used to determine whether a newborn calf has inherited traits such as high milk production that aren't otherwise detectable until later in life.

Cloning. Cloning involves replacing the genetic material of an egg with ge-

Continued on page 8

Dairy Horizon

BIOTECHNOLOGY AND THE DAIRY INDUSTRY

Continued from page 7

netic material from a body cell of another cow, then letting the altered egg grow inside a surrogate mother into a calf with the same traits as the animal from which the body cell was taken. This technology may eventually allow us to “photocopy” our best animals to preserve genetic material.

New Products. Current research is also focusing on improving our ability to insert genes from other species into a cow’s genetic material. This technology could allow us to produce milk that contains proteins such as human serum albumin or blood clotting factors. This milk could then be harvested to make life-saving drugs. It also could be used to produce animals whose milk is custom-designed to meet specific consumer demands—for example, milk that can be tolerated by lactose-intolerant individuals.

In summary, biotechnology is a promising area of investment. In the future it will be an important factor in maintaining the vitality and economic viability of animal industries, particularly the dairy industry. 

Do Consumers Matter?

ROBERT A. MILLIGAN

Department of Applied Economics and Management
Cornell University

“Whatever color you want, as long as it is black.”

— Henry Ford

The Model T was an immensely successful car. But do you think a car manufacturer would be successful today with Henry Ford’s attitude? Of course not! Today cars come in untold combinations of sizes, colors, trims, and so on. What’s the difference between the Model T and cars today? The Model T was produced in a producer-driven economy. Today we

are in a consumer-driven economy. Right after World War II, consumers had money and goods were scarce due to the war. Whatever was produced was purchased. Within a few years, however, production caught up with demand, and consumers started to exercise more choice. They began to “vote” with their pocket-books. As the economy continued strong in the 1950s and 1960s, we moved more and more into a consumer-driven economy.

In the same period, W. Edwards Deming introduced

Total Quality Management (TQM). Some have suggested that TQM was the most important development of the 20th century. TQM transformed how quality is managed. It led to the modern employee empowerment movement and altered how the consumer is viewed.

The first two principles of TQM are that the consumer defines value and the producer adds value. Henry Ford looked at his Model T as simply a car. When he produced it at a very low price, almost everyone bought one. Today auto makers must look at a car through the eyes of the consumer; they look at attributes including price, status, mileage (including environmental perspectives), color, and many others.

They are seeking to determine what customers will pay for. Customers decide what they will purchase. The customer determines value! Producing this value is then an opportunity for the automobile manufacturer. The profitability of automobile companies is determined by how successful they are in producing what the customer values.

Let’s apply this same analysis to milk. The equivalent of “whatever color you want as long as it is black” is, “however you would like your milk as long as it has 3.5 percent butterfat.” Just as cars changed, so have dairy products. We now have multiple fat levels, calcium added, fla-

vored milk, yogurt, untold types of cheeses, and many more.

How should the dairy farmer view milk? As the customer views it—by its attributes. What are those attributes? Certainly price is one attribute. Another is nutritional quality. Various levels of fat content has been a reflection of this attribute. The customer has determined value and the dairy industry has responded.

An increasingly important attribute of all food products relates to food safety. Consumers increasingly value dairy products or dairy product production and delivery systems that have real or perceived food safety advantages.

Recent events, including livestock disease outbreaks, new biotechnology products, and food contamination, have heightened interest in and concern about food safety. Dairy farmers and everyone in the food system will continue to be faced with these issues. As you are faced with these issues, including proposals for animal identification and trace back, I encourage you to think about the consumer’s view. Just as with cars, if consumers value the attribute, they will pay. That is an opportunity for producers. 



DI Update



Web Site Top Picks

BONNIE RAE

Department of Animal Science
University of Minnesota

Check out these Web sites for information of use to dairy producers:

CENTER FOR DAIRY HEALTH, MANAGEMENT, AND FOOD QUALITY (College of Veterinary Medicine, University of Minnesota)
<http://www.cvm.umn.edu/dairycenter/index.html>

CENTER FOR DAIRY PROFITABILITY (University of Wisconsin)
<http://www.wisc.edu/dairy-profit/>

COOPERATIVES ONLINE (Wisconsin Federation of Cooperatives / Minnesota Association of Cooperatives)
<http://www.wfcmac.org/coops/wfcmac.html>

DAIRY ACTION (informational site by dairy farmers for dairy farmers)
<http://www.dairyaction.com/>

DAIRY EXTENSION, DEPARTMENT OF ANIMAL SCIENCE, UNIVERSITY OF MINNESOTA
<http://www.ansci.umn.edu/dairy/>

DAIRY INITIATIVES NEWSLETTER
<http://www.ansci.umn.edu/dairy/dinews/di.htm>

DAIRY MANAGEMENT INC. (a domestic and international planning and management organization that builds demand for U.S.-produced dairy products on behalf of America's dairy farmers)
<http://www.dairyinfo.com/>

HISPANIC RESOURCES (Outagamie County, UW-Extension)
<http://www.uwex.edu/ces/cty/outagamie/hispanicresources.htm>

LINKS — DEPARTMENT OF ANIMAL SCIENCE, UNIVERSITY OF MINNESOTA (list of academic sites for dairy science, nutrient management, and/or young-stock information)
<http://www.ansci.umn.edu/links.htm#dairy>

MIDWEST DAIRY ASSOCIATION
<http://www.midwestdairy.com/>

MINNESOTA BOARD OF ANIMAL HEALTH
<http://www.bah.state.mn.us/>

MINNESOTA DAIRY CALENDAR
<http://www.ansci.umn.edu/dairy/calendar/dairycalendar.htm>

MINNESOTA DAIRY HERD IMPROVEMENT ASSOCIATION
<http://www.mndhia.org/>

MINNESOTA DAIRY LEADERS ROUNDTABLE (stakeholders of the Minnesota dairy industry working together to strengthen the competitiveness, profitability and social vitality of Minnesota's dairy sector)
<http://www.mdlrt.org/>

MINNESOTA DEPARTMENT OF AGRICULTURE
<http://www.mda.state.mn.us/>

Educating the Next Generation of Dairy Professionals

TONY SEYKORA

Department of Animal Science
University of Minnesota

The animal production systems major at the University of Minnesota is designed for students interested in managing livestock production units or working closely with the livestock industry. Dairy, beef, swine, sheep, and poultry herds are maintained on the St. Paul campus to provide hands-on educational experiences and employment opportunities for students. In addition to gaining technical expertise in animal science, students participate in courses emphasizing economic analysis, problem solving, and critical thinking skills. A required internship in the livestock industry helps students apply learned principles to real world situations and increases employment opportunities after college. 🐄



University of Minnesota students in dairy production systems management class learn how to correctly assist an abnormal calving using a box simulating a cow's uterus. Students from left to right are: James Hoefs, Eb Ballinger, Rita Albrecht, Joni Kunz, and Joe Vander Kooi.

MINNESOTA FARMERS UNION
<http://www.mfu.org/>

MINNESOTA MANAGEMENT EDUCATION PROGRAMS (education programs available through Minnesota State Colleges and Universities)
<http://www.mgt.org/>

MINNESOTA MILK PRODUCERS ASSOCIATION
<http://www.mnmilk.org/>

MINNLINK (Minnesota dairy industry network)
<http://www.MinnLink.org/>

NATIONAL FARMERS ORGANIZATION
<http://www.nfo.org/>

WISCONSIN LINK (an interactive information tool developed by and for Wisconsin dairy producers)
<http://www.wislink.org/>

Managing Manure for Fun and Profit

Okay, "fun" might be stretching it. But good manure management truly will help your operation become more profitable.

PHIL NESSE

University of Minnesota Extension Service
Central Lakes Agricultural Center, Staples

Looking for money? Try looking in your manure pile. Many dairy producers can boost their economic return by improving manure and nutrient management through the following five-step plan:

1 Test Your Soil

Soil testing can tell you which fields should receive manure. It's especially important on fields that have received heavy manure applications in the past.

Test soils for pH, phosphorus (P), potassium (K), and where appropriate, nitrate-nitrogen. In western Minnesota, use the fall nitrate test. Elsewhere in Minnesota, the spring nitrate test is a relatively new option. Check with your county Extension educator to find out if this test is recommended for your county.

Nitrate-nitrogen testing is not recommended for use in sandy soils.

2 Test Your Manure

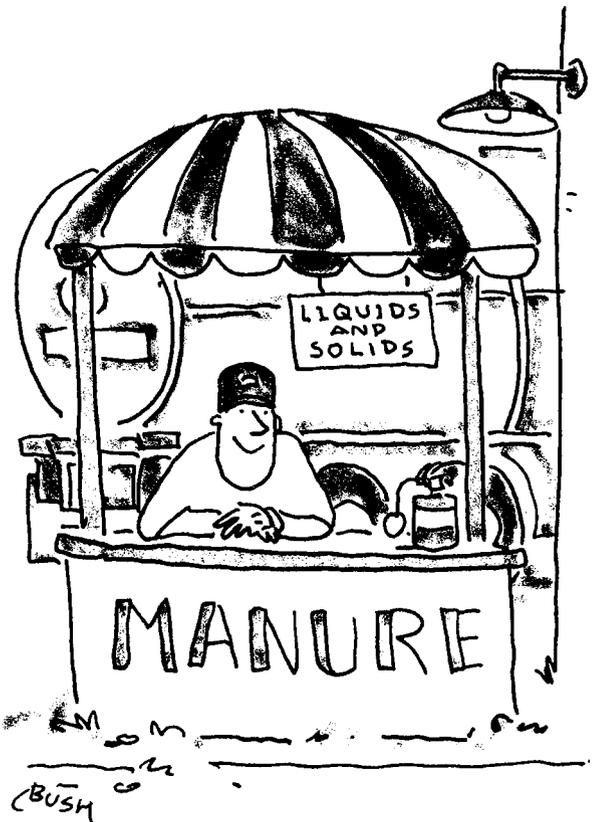
Test manure for total nitrogen, P, K, and perhaps ammonium-nitrogen.

For pit manure, agitate before sampling, then take several subsamples as the pit is being emptied. Keep the manure cool. Mix the samples and pour into the container provided by the laboratory. (Only fill the container about 3/4 full to allow for gas expansion.) Solid manure should also be a composite of several subsamples.

Freeze the sample and hand deliver or mail to the laboratory early in the week.

Sample manure yearly for several years until a consistent result becomes clear. Then sample it whenever changes occur in your operation that may affect the manure test.

For more information see *Livestock Manure Sampling and Testing* (FO-6423-C), available from your local Extension office or from the University of Minnesota Extension Service Distribution Center at 800/876-8636.



3 Calibrate Your Spreader

To calibrate a liquid manure spreader, assume that about 90 percent of the listed capacity is applied each time the spreader is emptied. Spread a load to see how many acres you cover. Then divide the gallons applied by the number of acres to get the application rate at that spreading speed.

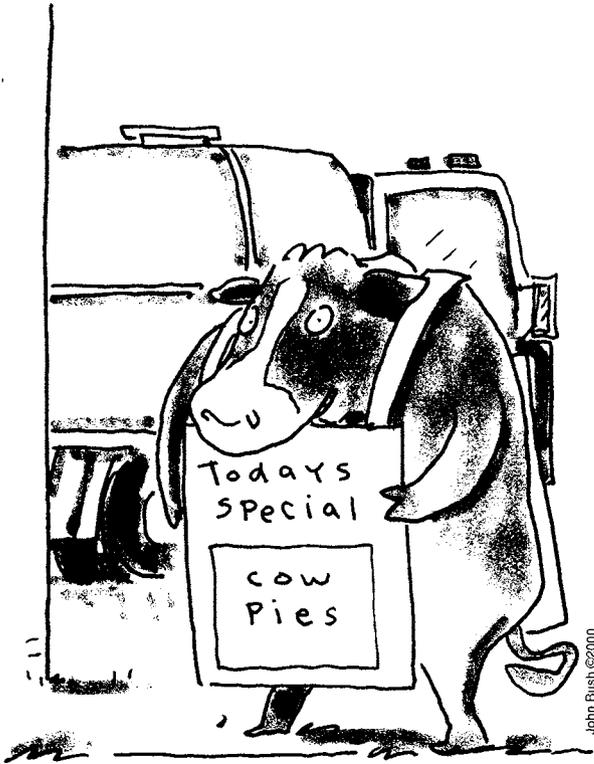
Calibration of solid manure spreaders is more difficult. Simply using the spreader capacity to estimate application rate is often misleading. Contact your Extension office or the Natural Resource Conservation Service (NRCS) for help weighing a representative load of manure using load cells. Once you know the weight of a load, you can divide the weighed manure (in tons) by the area (in acres) that received one load to get application rate in tons per acre at that spreading speed.

4 Determine Nutrient Needs

What application rate should you use? That depends on past manure applications, legume plowdowns, crop to be grown, yield goal, soil organic matter, and in a few cases, soil texture. It also depends on the source of manure (livestock type), method of incorporation, and time of application.

Nitrogen is the nutrient that is most likely to limit crop growth. Although some situations near surface water require attention to phosphorus, the

The Minnesota Department of Agriculture has a list of laboratories certified for manure analysis. The list is available at www.mda.state.mn.us/appd/manurelabs.htm or from your county Extension office.



John Bush ©2000

- new feedlot rules generally allow producers to apply manure based on nitrogen needs of the crop.
- Unless you are a producer in the western part of the state who uses the fall nitrate test, use this process to determine how much manure to apply:
- 1) Find the nitrogen recommendation for the crop you are planning from University of Minnesota fertilizer recommendation tables (available from your Extension office).
 - 2) Subtract 25 percent of the nitrogen applied from manure prior to last year's crop from the N recommendation.
 - 3) Divide the remainder by 55 percent (0.55) if manure will be immediately incorporated, by 25 percent (0.25) if there will be no incorporation.
 - 4) Divide by the nutrient content of the manure.

5 Plan and Keep Records

Minnesota Pollution Control Agency (MPCA) feedlot rules require record keeping for operations with more than 100 animal units and require manure plans for certain situations. However, planning and record keeping are important parts of any good manure management program.

For information on manure management planning, see *Developing a Manure Management Plan* (BU-6957-D, 2001), available from the University of Minnesota Extension Service Distribution Center

Test Manure for Nutrient Content

IF YOU ARE depending on industry average table information to estimate nutrient values in manure, you may be “shooting in the dark”!

The importance of manure testing is apparent from a study conducted in 1994 and 1995 by the Wadena SWCD, the Wadena County Natural Resource Conservation Service, and the University of Minnesota Extension Service. The study showed substantial variation in nutrient content of manure. Tests of 35 Wadena County earthen dairy manure pits showed a range per 1,000 gallons of 8 to 42 pounds of N, 2 to 19 pounds of P, and 5 to 45 pounds of K. In 8 facilities with solid manure, samples showed a range of 9 to 13 pounds of N, 5 to 6 pounds of P, and 8 to 12 pounds of K per ton of manure.

These results suggest that many if not most farmers who base their rates on the table values are either overapplying or underapplying manure. Overapplication can reduce farm profitability. It can also cause pollution. Underapplication can lead to reduced yield or added reliance on costly commercial fertilizers.

The bottom line? Table values aren't good enough. Dairy manure should be sampled and sent to a laboratory for nutrient analysis.

at 800/876-8636. For information on MPCA rules, call MPCA at 800/657-3864 or 877/333-3508 and ask for *Land Application of Manure: Minimum State Requirements*.

For more information related to manure management, contact your county Extension office or Soil and Water Conservation District (SWCD) office.

Beyond Feedlot Rules

THERE ARE MANY ways to improve manure management. Only some of these practices—most notably, use of land-grant nutrient recommendations, manure testing for feedlots with more than 100 animal units, and phosphorus soil testing for feedlots with more than 300 animal units—made it into the MPCA's recent feedlot revisions. Practices such as soil testing, manure testing, use of proper recommendations, and application of manure at the right time and rate will put more money into the pocket of many producers.

To Conserve Nutrients, Apply Manure Later

To maximize nutrient value to the crop, apply manure after mid-October or before seeding in spring.

When soil temperatures exceed 50° F, nitrogen in ammonium form readily converts to nitrate-nitrogen, which is prone to leaching. As a result, as much as one third of total nitrogen can be lost through late summer or early fall application. Under typical conditions, that could mean a loss of up to \$12 worth of nitrogen per acre.

TIP: If you don't have enough acreage within several miles of your manure storage facility, try arranging for a neighboring crop farmer to take some of your manure.



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205 Haecker Hall
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Extension Specialists:

Hugh Chester-Jones, Dairy Replacements.....	507/835-3620
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Kevin Janni, Engineer/Dairy Housing	612/625-3108
Dennis Johnson, Sustainable Dairy	320/589-1711
James Linn, Dairy Nutrition	612/624-6789
George Marx, Dairy Management	218/281-8606
Jeffrey Reneau, Dairy Milk Quality.....	612/624-9791

Specialized Dairy Extension Educators

Neil Broadwater, Winona County.....	507/457-6440
Vince Crary, E. Polk County.....	218/563-2465
Bill Crawford, Martin County.....	507/235-3341
Tim Dolan, Sibley County.....	507/237-4103
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Troy Salzer, Carlton County.....	218/384-3511
Wayne Schoper, Brown County.....	507/794-7993

LEGISLATURE FUNDS NEW DAIRY PROGRAM

MINNESOTA'S legislature and Governor Jesse Ventura have agreed to invest more than \$2 million over the next two years to provide grants and technical assistance to Minnesota dairy farmers working to improve the profitability of their operations.

The Dairy Development and Profitability Enhancement program is designed to help producers deal with environmental issues, establish manure management plans, increase milk production, and develop business and milk marketing plans. It will provide valuable on-farm technical assistance to help producers identify opportunities to increase profitability, and offer access to a wide range of cost-sharing programs. It will also provide many other professional and technical services.

To find out more about this valuable resource for your farm, contact the Minnesota Milk Producers Association toll free at 877/577-0741. MMPA is an association of Minnesota dairy producers that together with other industry partners is providing leadership in working with the Minnesota Department of Agriculture, other state agencies, and the University of Minnesota to make this program available to all dairy producers across the state.

DAIRY *Initiatives*

Volume 10 Issue 2 Summer 2001

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Production Staff:

Editor: Jeff Reneau
Writer: Mary Hoff
Designer: Tara Christopherson
Illustrator: John Bush

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