

MN 2000 DT-6/2

Volume 6 Issue 2 Spring 1997

UNIVERSITY OF MINNESOTA

DAIRY

Initiatives



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A Pasture Walk

Harvesting Top Quality Alfalfa Hay or Haylage

by NEAL P. MARTIN

extension agronomist—forages

Dairy cows in their first 100 days of milk production need alfalfa hay or haylage with a relative feed value (RFV) of 140 to 160. But it's not cheap: Alfalfa hay testing 151 RFV has averaged \$116 per ton at quality-tested hay auctions in Minnesota over the past 11 years and has been worth an extra \$26 per ton this past winter. How can you harvest alfalfa of this quality from your own farm?

One important way is to use an early first harvest. But how early? To answer that, you need to be able to predict the quality of standing forage. At least two programs for predicting forage quality in the field are being used in Minnesota: scissors cut and predictive equations for alfalfa quality (PEAQ).

Scissors Cut

With scissors cut, forage experts hand-clip samples in early spring from specified fields and test their



RFV. Farmers then use the results, which are faxed to participants, broadcast over the radio, or placed on Web sites the next day, to estimate the quality of their fields.

The Minnesota Forage and Grassland Council plans to publish scissors cut results over DTN and on its Internet home page this spring. Ask your specialized dairy extension educator (see the back of

Continued on page 2

Transition to the Future

U of M In-State Dairy Facility and Management Tour

June 25-27, 1997

The University of Minnesota Extension Service is organizing an in-state dairy tour to provide dairy farmers and dairy advisers the opportunity to explore viable alternatives to successful dairy expansion in Minnesota. Various alternatives for size, facilities, personnel management, feed storage, and manure utilization will be viewed and discussed. This year's tour will begin in Alexandria. The cost of the three-day tour is \$175 per person, and includes charter bus transportation, two nights' lodging, all meals, and a resource book. Space is limited and registration will be accepted on a first-come basis. Contact Lee Raeth, 612/682-7394.

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

Harvesting Top-Quality Alfalfa Hay or Haylage

Continued from page 1

Hay or Haylage?

WHEN IT COMES time to cut, what should you make? Haylage gets the vote of extension agronomist Neal Martin. Martin says you have a better chance of harvesting at the right time with haylage because drying time is shorter, often by a day or more. Field losses of haylage are less than those for hay, too.

this newsletter) for more information.

Prediction Equations for Alfalfa Quality (PEAQ)

This system uses the length of the longest stem and the stage of the most mature stem from each of five, 2-square-foot field samples to predict RFV. This system was first reported by researchers at the University of Wisconsin-Madison and is now under a nationwide evaluation. Your specialized dairy extension educator can advise you on sampling methods and provide the tables you need to use PEAO.

Using the Information

I recommend you use the scissors cut information for your county as a first alert, then sample PEAQ in the fields you expect to harvest to fine-tune your harvest plans. To apply the information you obtain, first establish as-fed quality goals, then adjust for storage, harvest time, and field conditions.

Establish as-fed quality goals. Different classes of animals need different qualities of forage (Table 1). Feeding prime hay to dry cows is a waste of inputs; feeding inferior hay to milking animals, on the other hand, is a waste of potential. So start by determining what quality of hay or haylage you wish to harvest.

TABLE 1. Forage quality needs of various animal classes

CATEGORY OF LIVESTOCK	RELATIVE FEED VALUE (RFV) NEEDED
early lactation cow	140-160
middle/late lactation cow	125-145
dairy calf	140-160
heifer (3-12 months)	125-145
heifer (12-18 months)	115-130
heifer (18-24 months)	100-115
dry cow	100-115

Adjust for storage quality losses. Losses are normally 20 percent as haylage, 30 percent as hay. To adjust for storage loss, multiply the desired as-fed quality by 1.2 for hay and 1.3 for haylage.

Adjust for harvest time. RFV drops two to five units per day from the value determined by scissors cut. Multiply the daily decline by the number of days required to harvest the alfalfa and add the results to your estimate of needed field quality adjusted for storage losses.

Adjust for local conditions. If you have winter injury, delay harvest to allow plants to recover. Under dry conditions allow more time for maturing before harvest. 

THOUGHT FOR THE DAY

"There is a midwestern tradition of having something physical in your hands when you pay out money. That means that many farmers don't consider that information has value. Farmers have to learn to consider good, unbiased information as valuable—and as worth paying for—as a good piece of machinery."

Jerry Olson
extension dairy and veterinary specialist

New Rules for Antibiotics

**by JEFF RENEAU
extension dairy specialist**

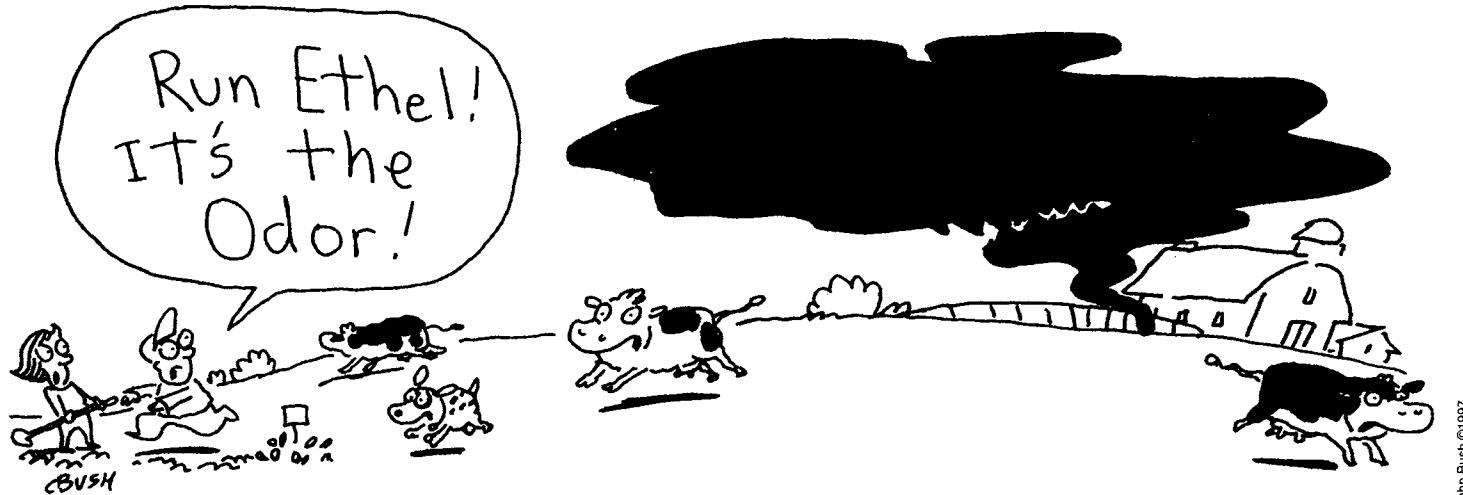
ALL MINNESOTA DAIRIES should be aware of the new U.S. Food and Drug Administration (FDA) rules regarding the feeding of antibiotics to lactating dairy cows. Until now it has been legal to feed chlortetracycline and oxytetracycline at sub-therapeutic levels to lactating dairy cows. Very soon this will no longer be the case.

On April 1, 1997, the FDA will require all manufacturers to stop making these products for use in lactating dairy cattle and to change all labels correspondingly. Feed manufacturers will have until April 1, 1998, to deplete stocks and comply with labeling changes. After April 1, 1998, feed manufacturers may no longer distribute these products. Any feed found on farms for use in lactating dairy cows that contains chlortetracycline or oxytetracycline will be illegal after April 1, 1998.

Please be aware of this new ruling and take the necessary steps to be sure that your farm is not in violation of this new FDA ruling.



John Busch ©1997



Not Just Fresh Country Air

Today, when rural and urban areas, towns and country spaces are moving closer and closer together, it is more important than ever to get along with your neighbors. This is especially true when it comes to that "fresh country air" you breathe every day. It isn't as fresh to your city neighbors. They call it an "odor," and to them, it stinks.

"Odors from livestock facilities are an issue for many communities and livestock producers. People don't like smelling something they have no control over, especially when it comes to livestock manure," note David Schmidt, assistant extension engineer, and Larry Jacobson, extension agricultural engineer, both with the University of Minnesota.

Schmidt and Jacobson explain that odors come from all livestock enterprises and are a byproduct of microbial decomposition of manure and other organic material. The microbial activity determines how much odor is produced. Microbes are sensitive to moisture, temperature, pH, and oxygen concentration. For instance, people aren't bothered by manure odors as much in the winter because cold slows down the microbes so they don't produce as much odor. But in warmer months, neighbors are more likely to raise a stink over odors from livestock buildings, manure storage units, fields where manure has been applied, pastures, and so on.

Schmidt and Jacobson list three categories of odor control technologies: 1) those that prevent odors from being generated, 2) those that capture and destroy odors before they are released, and 3) those that disperse or disguise odors.

Treating manure or using anaerobic digestion, aeration, oxidation, and manure additives can prevent odors from being generated. Storage covers, organic mats, and biofilters capture and destroy odors. Stacks, windbreaks, perfumes, and masking agents are all practices that disperse or disguise odors.

Most technologies available for reducing odor emission are not yet economically feasible for many dairy farmers. But there are things you can do:

- **Building Odors.** Buildings release odor through ventilation fans and windows. To reduce emissions from buildings, change manure composition through nutrition practices, treat building exhaust air, and reduce emission from stored manure. Reducing dust in and around barns may also help.

- **Land Application.** Because land application has the biggest potential for odor problems, it is important that you use application procedures that will reduce odors. Spreading manure on top of the soil by irrigation, tankers, or high trajectory guns with small droplet size produces the most odor. Injecting manure into the land will result in slightly less odor, as will cultivating land after spreading manure. Spreading manure early in the morning or on a cloudy day will also help reduce odors. Also, try to spread manure when the wind is blowing away from neighbors, or when neighbors are least likely to be home. Another good idea is to simply tell neighbors that you'll be spreading manure on a certain day. This allows them to be mentally prepared, and they are less likely to complain if they know ahead of time.

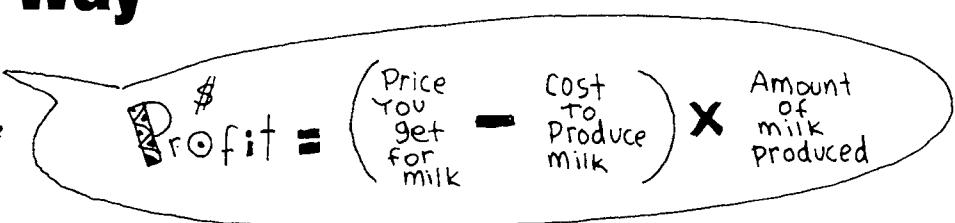
Don't let your neighbors raise a big stink over your farm and manure management practices. Be prepared, know the new technologies available, and keep your fresh country air to yourself.

Handy Hint

ONE EASY HINT for reducing odor emissions from your farm is to cover storage units. Studies indicate that odor intensity can be reduced significantly with this management practice.

Another Way to Grow

Expansion isn't the only way to make better money



What Is Success?

A SUCCESSFUL BUSINESS is:

- profitable
- able to provide for your financial needs and desires
- aligned with your values.

Success is not a matter of farm size. Both small and large farms can be profitable. Financial goals and values are personal matters. So don't try to fit into your neighbor's definition of success any more than you would try to fit into his work boots.

Ever since Cain showed up on the scene with more sheep than Abel, farmers have had the urge to measure success by how many animals they have. The reality, however, is that bigger isn't always better. If you're happy with your current farm size, there are many things you can do besides expanding to increase your profit and satisfaction.

"Small is neither good nor bad and big is neither good nor bad," says extension dairy specialist Joe Conlin. "What is good is having a business that generates sufficient income to sustain the business and family in a satisfying way. Small herds can be as profitable and rewarding to owners and operators as larger herds."

To illustrate his point, Conlin notes that in a 1995 summary of characteristics of Minnesota family farms, the top small (less than 49 cows) dairies outperformed more than half of larger herds on a variety of profit-related measures, including retained earnings, family living per hundredweight, return on assets, and break-even milk prices.

A Three-Part Formula

How do you go about increasing profitability without expanding your herd? The answer lies in the basic dairy profit equation:

$$\text{profit} = (\text{price you get for milk} - \text{cost to produce milk}) \times \text{amount of milk produced}$$

What this formula says is that to increase your net income, you need to **increase the price** you get for milk, **reduce the cost** of producing it, and/or **increase the amount** of milk each cow produces.

Increase the Price. The price producers get for milk can vary by \$1.00/cwt or more because of differences in fat, protein, and somatic cell count. And that difference can add up. If you milk 50 cows and have a herd average of 17,000 lb/cow/year, for example, that extra dollar would add \$8,500 to your income over the course of the year.

If you're getting less than the best price for your milk, here are some ideas to help you improve:

- Get SCC under control
- Feed to maximize milk fat, protein, and other solids
- Select genetically for more pounds of protein and fat

Reduce the Cost. The second way you can improve your profitability is lower the cost of producing milk. Some things you can do in this regard:

- Control feed costs
- Improve milking practices
- Consider intensive grazing
- Limit cropping
- Reduce replacement rate
- Use consultants and advisers
- Sell or lease assets
- Custom crop land
- Contract replacements, feed, manure, etc.
- Form networks and partnerships
- Calve first-lactation animals by 24 months of age
- Buy new equipment only as needed
- Decrease calving interval

What kind of difference can cost control make? In a 1994 survey of Minnesota dairy farms, the average cost of producing milk ranged from an average of \$11.08/cwt for the most profitable farms to \$15.79/cwt for the least profitable. All other things being equal, for a 50-cow herd averaging 17,000 lb/cow/year, that would translate into a difference of more than \$40,000 in expenses annually.

Increase the Amount. What is your herd average? In some parts of the United States, they don't bat an eye at 24,000 pounds per year. With the right know-how, Conlin says, just about any Minnesota producer should be able to achieve a herd average of at least 20,000 pounds per year—perhaps even up to 25,000. Some ideas for increasing herd average:

- Improve genetics
- Improve feed quality
- Minimize mastitis problems

Will it make a difference? Say you have a 50-cow milking herd, you're at 14,000 lb/cow/year

now and are getting \$13.00/cwt for your milk. If you raise your herd average to 17,000 lb/cow/year, you can bring in nearly \$20,000 more a year.

Of course, a change you make in one of these three areas will affect the others. If you enhance your feeding to improve milk quality and quantity, for example, your costs will rise. But if you make your moves strategically, the changes you make can add up to a hefty improvement in the net income you desire to support yourself and your family.

Where to Start

With so many profitability-improving options to choose from, where does a person begin?

Start where there is the most room for improvement on your farm. You may already have an idea of what that is. If not, a good way to find out is to compare your farm with others, a process known as "benchmarking." The table below shows some measures for Minnesota's most and least profitable dairies in 1994. Fill in your own numbers. How do you compare? The results can give you a good idea on where to concentrate your efforts to increase your profitability. 

What Does It Take to Make 40 Grand?

WHAT DOES IT take for a dairy producer to net the equivalent of \$40,000 a year in take-home pay? The answer is a combination of herd size, herd average, and profit per hundredweight. The table below gives a good idea of how these factors balance one another.

Net income per hundredweight needed to achieve \$40,000 income at various herd sizes and yields.

NUMBER OF COWS	POUNDS OF MILK PER COW PER YEAR				
	15,000	17,500	20,000	22,500	25,000
30	\$8.89	\$7.62	\$6.67	\$5.93	\$5.33
40	\$6.67	\$5.71	\$5.00	\$4.44	\$4.00
50	\$5.33	\$4.57	\$4.00	\$3.56	\$3.20
60	\$4.44	\$3.81	\$3.33	\$2.96	\$2.67

What does this table tell you? Basically, that increasing herd size is not the only way to get your income where you want it. Increasing your per-cow yield, reducing your expenses, and increasing the price you get for milk can make a big difference, too.

Compare Your Farm With Others

BENCHMARK	HIGH-PROFIT FARMS	LOW-PROFIT FARMS	YOUR FARM
number of cows	61	49	
lb milk/cow/year	19,459	13,745	
calf death loss (%)	9	21	
milk sales, \$/cwt	13.29	12.80	
cull cows & calves, inventory adjustment, \$/cwt	2.10	1.16	
cash cost & depreciation, \$/cwt	11.08	15.79	
feed cost, \$/cwt	6.19	8.92	
other variable costs, \$/cwt	3.26	5.10	
depreciation, \$/cwt	1.63	1.77	
debt-to-asset ratio, %	41	59	

PROFILE

Profit Is the Key for Leonards

by DAVID WEINAND
Dairy Initiatives coordinator

Farm Facts: TA-Leonard Registered Holsteins is a century farm near Young America that is building a profitable operation on 50 cows. Tim and Amy Leonard started farming the 117 tillable acres in 1991. They own the cows and are leasing the land and equipment from Amy's parents. Their rolling herd average is 27,003 with 1,150 fat and 881 protein, which places them seventh in the state in per-cow production. Tim concentrates on the cows and raising quality forage. Amy is employed part-time as a dietitian at a local medical center, but is also heavily involved in the dairy through registering cattle, keeping financial records, and helping with chores.

Recent Moves: The Leonards began feeding a total mixed ration (TMR) in 1994. Tim says this increased rolling herd average by 1,500+ pounds the first year. They also constructed a shed for the TMR and bulk commodities.

"By switching to buying feed in bulk we are able to save money by buying feed when the prices are better," Amy says.

The Leonards store some forages in large plastic bags. This management move, along with the purchase of a chopper, has allowed Tim to harvest all their haylage at a consistent quality stan-



The Leonards have made a variety of changes to increase profitability on their 50-cow farm.

dard and preserve the forage without significant spoilage. They have been able to, on occasion, cut most of their hay on one day and make haylage the next day, which Tim explained has greatly improved the quality of the forage they've been able to feed their milking herd, further lowering feed costs.

In 1995 the Leonards decided to begin using BST. This has allowed them to increase the amount of milk sold without increasing cow numbers. Close attention is paid to body condition and SCC of cows on BST. Keeping plenty of feed in front of the cows at all times is a priority.

The Leonards also have added end milk indicators (EMIs) to their milking system. This allows all the cows to be milked the same each time, no matter who is milking.

Another management tool that Tim and Amy have recently begun using is a mating service. "This service has helped us quite a bit," said Tim. "It has allowed us to be more selective of the bulls we use and has decreased the stress of choosing bulls to service the cows with."

Last spring Tim and Amy added mattresses to their stall barn. Tim commented that they have fewer swollen hocks and the cows seem to lie down more. In addition, the heifers don't bang themselves up and will stay in the herd longer. They also added tunnel ventilation fans, which allow them to keep the barn cooler during the summer and pro-

vide more fresh air to the cattle while in the barn. A fly control program also adds to cow comfort.

Future Plans: The Leonards don't have any plans to expand their operation, but do plan

to build a new youngstock facility. This would house calves four months of age up to bred heifers and may include some hay and cornstalk storage.

"Our main goal is to continue to produce a quality product at a profit," Tim said. "I don't treat many cows and keep my somatic cell count below 200,000."

Advice: Tim and Amy believe that teamwork is key to their success. Amy said, "You can't be an expert at everything. You need to seek help. . . . You just can't possibly know everything about cow health, nutrition, breeding, etc." They agree that extension educator Vern Oraskovich, Amy's parents, and many other enthusiastic support people have been helpful. "The diagnostic teams are a really good idea," Tim said. The teams allow farmers to troubleshoot problems and improve management.

Another important factor that has helped the Leonards is a positive social support system of other dairy producers in their area. Amy explained that there is strength in numbers and others provide an unspoken camaraderie, someone to talk to when times aren't going smoothly.

Tim commented, "Milking is where you make your money so this is where you need to spend your time. You need to spend quality time milking. If you aren't spending the time necessary to milk, then all the hay down [in the field] won't mean anything." 

MINNESOTA DAIRY LEADERS

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.

State's milk production trends showing slight increase

Minnesota's dairy industry may have turned the corner.

In 1996, Minnesota milk production represented 6.12 percent of national production, as compared to 6.05 percent and 6.08 percent in two prior years.

Milk production per cow and per farm is increasing at a consistent rate.

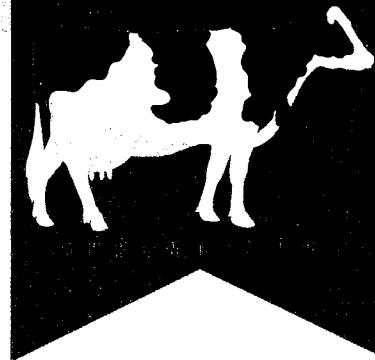
"It appears we're going in the right direction," Mark Pochardt of the Minnesota Department of Agriculture told those attending the spring meeting of the Dairy Leaders Roundtable.

State production increased despite extreme price volatility and an accelerated number of sell-outs.

Pochardt says Minnesota statistics prove dairy producers are adopting management strategies started in

growing dairy states such as California.

"Evaluating herd size, utilizing improved technologies and improving business manage-



ment strategies promote the retention and enhancement of Minnesota's dairy industry," Pochardt says.

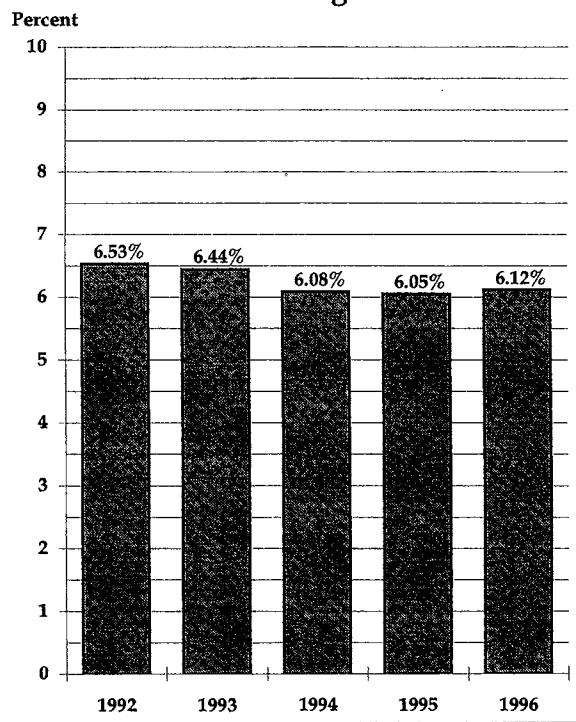
"It's evident we're seeing a production increase, and a shift in the attitude of those involved in Minnesota's dairy industry," Ed Frederick, Minnesota Dairy Leaders Roundtable facilitator, says.

But Pochardt reminded the audience that when the Minnesota Dairy Leaders Roundtable was assembled in 1992, one of its goals was to increase the state's market share.

"Minnesota has turned the corner but it has a lot of work to reach its goal," Pochardt concluded.

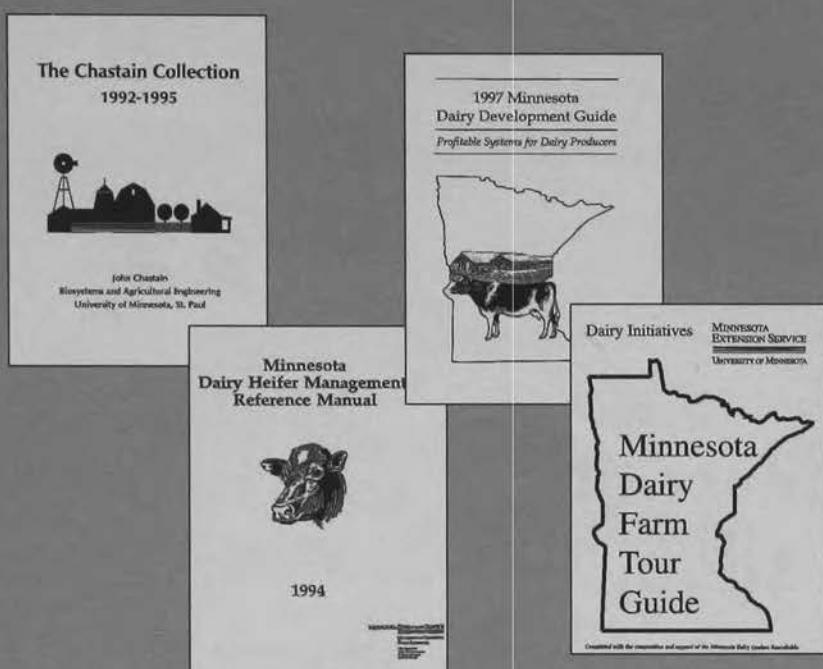
"We must be reminded the goal was to have Minnesota milk production representing 6.8 percent of national production," Pochardt says. When the Roundtable effort began, Minnesota's share of national production was 6.53 percent.

**MN Milk Production as % of U.S.
1992 through 1996**



Source: MN Dept. of Agricultural Statistics
Prepared by MN Dept. of Ag., Dairy Trade Section

Date: 4/2/97



PUBLICATIONS NOW AVAILABLE

If there is a question about dairying in Minnesota, the Dairy Initiatives office may have the answer.

A collection of dairy industry publications is being offered at a reasonable price.

CHASTAIN COLLECTION—\$30

Collection of publications about proper management of livestock facilities, milking parlors, feeding systems, manure storage and diagrams produced by John Chastain.

DAIRY HEIFER MANUAL—\$30

Collection of publications compiled by David Kjome involving the proper management of dairy heifers including pre-weaning, growth, health, housing, nutrition, economics, custom rearing and grazing.

DAIRY DEVELOPMENT GUIDE—\$25

Collection of publications involving planning, business management, financing, facilities, permitting, labor, young stock, herd health and grazing, compiled by David Kjome.

MN DAIRY FARM TOUR GUIDE—\$10

Collection of 74 farms across Minnesota and western Wisconsin that have gone through an expansion, remodeling, retrofit or developed custom heifer raising businesses. These individuals are willing to allow tours or offer advice on an appointment basis.

DAIRY INITIATIVES NEWSLETTER—FREE

Quarterly publication directed at dairy producers and professionals to enhance quality of dairy farm life, improve profitability, strengthen national competitiveness and increase the vitality of rural communities.

To order any of the publications, contact:

Dairy Initiatives, University of Minnesota
1404 Gortner Ave., 126 Peters Hall
St. Paul, MN 55108
(612) 625-9757
dweinand@mes.umn.edu



Dille



Swenson

Rural legislators say dairy producers must be proactive

Rural Minnesota legislators Steve Dille and Howard Swenson say dairy producers should not be conservative when asking for state funding.

Sen. Dille and Rep. Swenson spoke to Roundtable members, advising them on how to approach legislators with the industry's request for \$3.6 million to establish a Dairy Development Fund.

"Pick up the telephone and call the legislators from your home district," Dille says.

"Lobby your local legislators and tell them how important the dairy industry is to you and the state."

Dille and Swenson each serve on agriculture committees.

Roundtable notes five years of progress

The Minnesota Dairy Leaders Roundtable celebrated its birthday at the group's spring meeting.

Rather than celebrating with the traditional cake and balloons, Roundtable members observed five years of progress.

"When this group began in 1992 the dairy industry was at a point of crisis," Mark Furth, manager of the North Central Region of Associated Milk Producers Inc. (AMPI), says.

Furth, an original member of the Roundtable Steering Committee, says the state's dairy industry has undergone three primary changes since the Roundtable's formation:

1) Minnesota residents recognize the importance of the dairy industry on the state economy;

2) producers realize Minnesota's dairy infrastructure is at crossroads; and

3) a positive attitude toward the industry is developing in all sectors.

"Our confidence in the future has changed," Furth says. "We're reinvesting in the industry and believing in what we can do."

Though turnaround in the state's share of national milk production is the most measurable success factor, it is only the tip of a proverbial ice berg.

Leaders of committees focusing on economic development, education, communication and legislation reviewed five years of projects and progress.

"We're noting five years of

progress, but at the same time we're challenging ourselves to accomplish more — much more," Ed Frederick, Dairy Leaders Roundtable facilitator says.

The Roundtable will continue to be a structure for dairy organizations to work together to achieve a common purpose: to revitalize Minnesota's dairy industry.

Educational curriculum designed to address dairy labor challenge

Minnesota organizations are developing a comprehensive educational curriculum for dairy farm employees. Organizations, including the Minnesota Department of Agriculture, universities, technical colleges and private industry, recognize the the labor needs of today's dairy farms are changing.

As farm families and partners expand their operation, employees will need to be trained in areas of farm management, herdsman ship, milking and barn maintenance.

The training will be designed for on-the-farm sessions led by a local management team.

"It's critical for a growing dairy industry that young people recognize these jobs are excellent career opportunities, offering competitive salaries, vacations, health insurance and incentive bonuses," Harold Stanislawski, dairy development specialist with the Minnesota Department of Agriculture, says. "Without a network of trained labor and an attitude

of success at the farm level, the business will not endure long term."

PENNSYLVANIA, WISCONSIN SEND REPRESENTATIVES TO STUDY DAIRY LEADERS ROUNDTABLE EFFORTS

Representatives from two of the top five milk producing states attended the spring meeting of the Minnesota Dairy Leaders Roundtable.

N. Allan Bair of the Pennsylvania Dairy Stakeholders and Tim Johnson of Wisconsin's Dairy 2020 spoke to the group regarding their organization's goals and how they align with Roundtable efforts.



N. Allan Bair, Pennsylvania Dairy Stakeholders

"It's the same in every dairy state, we're talking about attitude,"

Bair, the group's executive director, says. He alluded to the similarities between Pennsylvania and Minnesota,

saying there is "real opportunity" in each of the state's dairy industries.



Tim Johnson, Dairy 2020

"Making the public realize dairy is of major economic importance to a state should be the first priority," Johnson, a Wisconsin dairy farmer, says when outlining the Dairy 2020 program.

"Now we're concentrating on creating a world-class dairy industry"

Calendar of Events

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

M A Y

- 20-22 Minnesota Dairy Health Conference, Earle Brown Center, U of M, St. Paul Campus. Contact: Charles Casey 612-624-1711
20-21 Tri-State Dairy Nutrition Conference, Grand Wayne Convention Center, Fort Wayne, IN. Contact: Cheryl Hall 614-688-3143

J U N E

- 8 FarmAmerica—Feed Mill, Minnesota's Agriculture Interpretive Center, Dairy Education Exhibit. Contact: Pat Beckman 507-835-4106
15-18 American Dairy Science Association Annual Meeting, Guelph, Ontario, Canada. Contact: ADSA 217-356-3182
18 Minnesota Dairy Leaders Roundtable, Sheraton Inn Midway Hotel. Contact: Ed Frederick 507-835-3422
23-27 Southwest Milk Marketing Conference, San Antonio, TX. Contact: Bud Schwart 409-845-5284
24-26 Dairy Tour, Minnesota. Contact: Lee Raeth 612-682-7394

J U L Y

- 25-26 Program Planning for 1998 Midwest Dairy Management Conference, Minneapolis, MN. Contact Joe Conlin 612-624-7497
30-8/5 Dairy Tour to Pennsylvania. Contact: Gerald Wagner 612-625-1978

A U G U S T

- 5 & 6 Four-State Nutrition Conference, LaCrosse, WI Convention Center. Contact: Randy Shaver 608-263-3491
12-13 Tour-A-Rama, Minnesota Agricultural Growth Council. Contact: Tom Cochrane 612-854-1665
8/21-9/1 Minnesota State Fair-Moo Booth. Contact: Doris Mold 612-626-1277

S E P T E M B E R

- 15 Minnesota Dairy Leaders Roundtable, Sheraton Inn Midway Hotel. Contact: Ed Frederick 507-835-3422

Any changes to the Minnesota Dairy Calendar may be directed to:
**Dave Weinand, Dairy Initiatives, U of M,
122 Peters Hall, St. Paul, MN 55108**



DLR facilitator Ed Frederick, left presents Mark Furth, New Ulm a plaque in recognition for his service on the Dairy Leaders Roundtable Steering Committee.

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."

1997 STEERING COMMITTEE:

- Don Berg, Vice President, *Land O'Lakes, Inc.*
Dave Daeges, President, *Minnesota Bankers Association*
Bill Dropik, *Minnesota Milk Producers Association*
Gene Hugoson, Commissioner, *Minnesota Department of Agriculture*
Pat Irrthum, *Women Involved in Farm Economics*
Paul Kent, *Land O'Lakes, Inc.*
Mel Kunstleben, *Associated Milk Producers Inc.*
Daniel E. Little, MS DVM, *Minnesota Veterinary Medical Association*
Don Otterby, *University of Minnesota*
Dave Peterson, President, *First District Association*

Ed Frederick, MDLR facilitator, Southern Experiment Station Annex, 12298 350th Ave. Waseca, MN 56093-5160

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

1-800-967-AGRI (2474)

Avoiding Summer Heat Stress

Are your cows a little hot under their collars in the summer? Most people think of Minnesota weather as cold and blustery. But that's just the winter; what about the three months of hot, humid summer? A cow's comfort zone is 41°F to 77°F, so it's important to know how to avoid heat-stressed cows on those summer days when the mercury climbs to 80°F or higher.

Solar radiation and elevated air temperatures are the two most common environmental sources of heat for cows. One of the best ways to combat the sun's harsh rays is to provide shade. In the Midwest, where cost-efficient measures are especially important because of changing seasons, try simple strategies such as soaker hoses or improving natural or forced air movement with large fans.

Having easily accessible clean waterers with lots of clean water should be your number one priority for water nutrition of your dairy herd. Water supplies should be close to the feeding area to encourage both dry matter intake (DMI) and drinking. Also, think about having fans, misters, or shade over the feeding and watering area. Cows are more likely to venture out to eat and drink in a shaded or cool resting area than a hot, sunny spot.

To encourage ample DMI, try feeding less feed more frequently. This provides fresher feed for cows to eat. Good feeding times are right after the cows have been milked (especially if cows have been cooled in holding areas), at sunset, and about an hour before sunrise. Additionally, feeding a total mixed ration (TMR) will encourage DMI in times of extreme heat because cows can't selectively eat concentrates instead of forages. Finally, remember to keep mangers and feed alleys clean. Remove old feed every day, and make sure there aren't any moldy or heated feeds stuck in the corners. All of these practices will help cows want to eat more.

Jim Linn, extension dairy specialist, says that while altering the diet a little will help, changing the herd's environment so that they are more comfortable will net you bigger gains



David Wienand

during heat stress times. "Diet changes will have only a small effect on productivity and should be considered supportive and an enhancement to environmental cooling," he says. So when your cows get the summertime blues, remember to keep plenty of fresh water and encourage DMI. 

Why Is Heat Stress a Problem?

When cows are heat-stressed, they try to maintain their normal body temperature by eating less. As a result, they produce less milk. Other problems associated with heat stress are decreased fertility, a depressed immune system, higher maintenance requirements, and less efficient milk production. Moreover, higher-producing cows experience heat stress before lower-producing cows.

When You're the Boss

Ten tips for success as a farm business employer

Your operation is growing, and you've decided it's time to hire help. Before you put out an ad or take on your sister-in-law's nephew, it's a good idea to familiarize yourself with some of the basics of hiring and managing people.

1 Prepare Yourself. If you've never been "the boss" before, you may have some worries or misconceptions.

First, be assured that management ability is an acquired trait: You can learn all the skills you need to succeed in this area. Second, recognize that being the boss is not about being bossy; it's about building and maintaining a team dedicated to achieving your farm's goals. There are many resources available to help you learn the right attitude and techniques of management. Take advantage of them.

2 Define the Job. It's hard to hire the best person for a job if you don't know what the job is. Are you looking for someone to milk? Manage feed? Do field work? Develop a written job description, performance standards, and organizational chart so both you and the employee know what's expected.

3 Get the Word Out. There are many ways to let people know you're looking for help—newspaper and trade publication ads, state job service offices, employment services, contact with the job placement office of a local college, and word of mouth, to name a few. Remember as you spread the word that you are giving a lot of people their first impression of your farm. Make your ads up-

beat, informative, and professional, and you will attract the kind of people you want to work for you.

4 Assess Applicants. In-person interviews will help you find out if the applicants have the knowledge, skills, and abilities the job requires. As you interview, consider personalities: How well would you get along? Are they optimistic or sour on life? Think about the applicants' learning potential as well as what they already know. Be wary of anyone with a bad track record. "If you hire problems, you will manage problems," says extension educator Pat Kearney.

Be sure to check references. You may also want to watch potential employees perform tasks so you can assess their skills and work styles.

Resist the temptation to settle for the first applicant you interview. Assess at least three potential hires. And don't hesitate to keep looking if none seems like what you're looking for.

5 Hire the Right One. After reviewing the applications and your notes,

Just remember...
She's BOSSY and I'm
"the boss."



John Bush ©1997

make your choice. You may wish to have a trial period before you hire so you can watch this person in action.

Inform unsuccessful interviewees of your decision to hire someone else. Consider offering feedback to help them as they continue their job hunt.

6 Be a Good Coach. Whatever the experience level, the new employee is going to need some training to do things right for your farm. Plan to spend time the first few weeks showing the ropes, answering questions, and helping the employee fit into your routines.

An employee handbook can be a good way to introduce the new employee to your farm and procedures. (If you do put together a handbook, be sure it states clearly that it does not constitute a contract between you and the employee, and consider having your attorney review it to make sure it doesn't contain any language that could have unintended legal ramifications.)

When your new employee comes on board, start with the basics. Where is the bathroom? The fire extinguisher? What

phone number should the family use for emergencies?

Be sure, as your employee begins, that both of you have a clear picture of expectations and responsibilities. To teach specific tasks, try this five-step process: 1) prepare the person to learn the job, 2) tell him or her how to do it, 3) show how to do it, 4) let the employee give it a try, and 5) review the lesson.

7 Make Employees Part of the Team.

The best working relationship is when employees are considered part of the farm team. Make sure they feel free to offer input on working conditions, procedures, and management decisions. Delegate responsibilities and encourage initiative as much as you can. Catch people doing things right and thank them. Develop pride with "company" shirts or caps. Have picnics or parties to celebrate success. Help your employees grow by giving them opportunities to learn new tasks and take on new responsibilities. Remember their birthdays with a card or a plate of donuts by the coffeepot.

Make sure your team is one that the employees—and you—can be proud of. Set high standards for neatness, language, behavior, work quality, and so on. Share your vision for your farm with your employees, perhaps by writing it down in the form of a mission statement. Behave professionally yourself, and the people around you will follow suit.

8 Communicate. Your new employee has many skills, but it's doubtful that reading minds is among them. If you need a job done in a certain way, say so—don't assume he or she automatically knows your routines.

If something is bothering you, talk it over instead of letting it fester. And encourage the employee to do the same. Many farm managers hold regular meetings to ensure everyone is aware of what's up and to provide a forum for sharing problems and ideas. A central bulletin board/message center also helps—but don't rely on it as a substitute

What Do Employees Really Want?

MONEY, YOU'RE PROBABLY thinking. But according to extension educator Pat Kearney, good pay is relatively low on the wish list. Kearney lists the following as the top ten traits of a good job from an employee's perspective:

- | | |
|-----------------------------------|--|
| 1. interesting work | 6. feeling of being in on things |
| 2. good working conditions | 7. full appreciation of work done |
| 3. tactful discipline | 8. job security |
| 4. loyalty to employee | 9. help with personal problems |
| 5. good pay | 10. promotion and growth |

For More Information:

Farm Labor Laws and Regulations for Minnesota by Kenneth Thomas, BU-6528-E (revised 1995). Contact Minnesota Extension Service Distribution Center, 612/624-4900 or 800/876-8636.

Farm Personnel Management by Ken Thomas and Bernard Erven, North Central Regional Extension Publication 329, 1989.

A Guide to Starting a Business in Minnesota, Minnesota Department of Trade and Economic Development, 612/296-3871 or 800/657-3858.

for in-person communication.

Regular one-on-one performance evaluations are important. Plan to hold three in the first year and then at least one a year thereafter. But don't withhold feedback in between. Your employee should always have a pretty good sense of how he or she is doing.

1995) can help you. Ask at your county extension office.

10 Discipline Justly. If problems arise, don't fly off the handle, but don't ignore them either. Tell the employee exactly what the trouble is and agree on how it will be solved. If it happens again, give a written warning. Third strike? A day off—with pay—to think about whether he or she would rather correct the problem or be without a job. Four strikes and they're out. 

How Much?

WHAT SHOULD YOU pay your new employee? Get an idea of what the going rates are in your area by checking the ads and talking with others who have employees with similar jobs. And remember that you get what you pay for. "If you pay above the community average, you will hire above the community average," Kearney says. If your employees know they're being treated a notch above the rest, they'll take pride and their work will show it.

9 Keep on Top of Legal Issues.

There are many legal issues involved in having someone work for you. Be sure you know the requirements and restrictions. Minnesota Extension Service publication BU-6528-E, *Farm Labor Laws and Regulations for Minnesota* (revised



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A Pasture Walk

For many dairy producers, intensive grazing is an idea whose time has come. If you're thinking about taking the plunge, here's some advice.

Bulk Tank Barometer

MANY FOLKS WHO use intensive grazing say the best guide to managing your rotations is your bulk tank. If production slacks off, it's time to try some new tactics—perhaps move animals more often or feed more concentrate in the barn.

Have you heard about the remarkable machine that harvests and feeds forage, spreads manure, and saves labor, fuel, and equipment costs, too?

It's called a cow.

Today more and more dairy producers are taking advantage of this "machine" by adopting management intensive grazing, or MIG. MIG is a bit like conventional pasturing in that the animals go to the forage instead of you hauling forage to them. But it's also much more. With MIG, you strategically manage pastures by encouraging a nutritious blend of forage plants and dividing the land into small sections that are alternately grazed and rested. The result: your animals get the forage they need for top production, and you reduce the expense, labor input, and environmental impact of conventional cropping and manure management.

If you think MIG might be for you, here are some suggestions for doing it right:

BUILD A GOOD PASTURE

The foundation of MIG is a high-quality pasture made up of plant species chosen for food quality, growth characteristics, durability, and suitability for region and soil type. You can create MIG pasture from conventional pasture, hay acreage, or cropland.

- **Existing pasture.** To convert conventional pasture to MIG, time grazing to encourage desirable plants and discourage undesirable ones. Add species as needed by frost seeding (seeding before the frost goes out), interseeding, or no-till drill planting (you can rent a planter from your Soil Conservation Service).

Farmers who convert conventional pasture to MIG pasture commonly aim for a mixture of red clover, alfalfa, orchardgrass, timothy, smooth bromegrass, birdsfoot trefoil, reed canarygrass, Kentucky bluegrass, and white clover. Insider's advice: Seed only legumes, not grass, into existing sod—new grass probably won't be able to compete with what's already there.

- **Hay acres.** The most common way to convert hayfields to MIG pasture is to selectively graze the field to encourage desired species. Some farmers also use frost seeding and no-till drills. Species to encourage include red clover, alsike clover, ladino clover, alfalfa, birdsfoot trefoil, orchardgrass,



smooth bromegrass, reed canarygrass, timothy, and quackgrass.

- **Cropland.** Turn cropland into MIG pasture by tilling and seeding with a nurse crop of oats and ryegrasses. Common species found in MIG pasture developed from cropland are red clover, alfalfa, orchardgrass, timothy, and smooth bromegrass, as well as many of the others mentioned previously.

DIVIDE AND CONQUER

With MIG, you divide the pasture into segments so that animals have access to fresh growth and pastures get a chance to recover from grazing. MIG farmers use rectangular paddocks or irregular strips based on productivity. These spaces are further restricted with lightweight fencing that you move to provide fresh forage. Some hints from the pros:

- **Size pasture and paddocks according to herd size and pasture productivity.** Although a rough rule of thumb is about one acre of MIG pasture per cow, the "right" ratio of cows to land varies depending on supplement use, pasture quality, herd characteristics, and so on. The goal is to be able to offer your herd fresh pasture after each milking while giving grazed areas adequate time to recover. You'll have to experiment to find out what works on your farm.

- **Consider logistics when laying out paddocks.** Include a lane that leads to the milking facilities to help keep cows from wearing trails across the grazing areas. Use a watering system that lets you provide water wherever the animals are. Minimize mud problems by locating lanes and heavy traffic areas on well-drained, higher ground.

PLAN YOUR ROTATION

The fun part of MIG is figuring out where and when to move animals. There are two main goals: 1) cattle get what they need, with milking cows getting the best food; and 2) the pasture stays healthy and productive. Some time-tested advice:

- **Move animals often.** Move your milking herd after each milking. Move other animals every three to seven days.

- **Size paddocks right.** You should have about 50,000 pounds of animal (about 40 cattle) per acre. This is dense enough that they'll eat competitively but not so dense that they don't get what they need.

- **Use plant height to plan your moves.** In spring, start grazing when plants are 3 to 4 inches high. After the first grazing, let plants grow back to 6 to 10 inches before you bring animals back in. When the plants are down to 3 to 4 inches, it's time once again to let them regrow undisturbed.

- **Consider the cows.** Have the milking herd graze the pasture first to get the high food value of the upper plant. When plant height is down to 5 to 8 inches, let dry cows and heifers finish off the job.

- **Be flexible.** Adapt your rotation to pasture, animal, and weather conditions. How well do the cattle eat where you have them? How is milk production? Is this the best forage available? Is the weather wet or dry? All of these affect when to move animals.

- **Plan adequate time for grazed areas to regrow.** Typical rests in between grazing are spring, 10 to 14 days; summer, 20 to 28 days, and autumn, 28 to 42 days. Even in the most favorable years, it is hard to maintain rotations during autumn.

MANAGE THE PASTURE

In addition to managing the rotation, you'll also need to manage the pasture. Key points:

- **Don't let plants mature.** Heading out slows plant growth. If your cows can't keep up, cut some paddocks for hay. Cut any pastures that head out.
- **Out-think the weeds.** You can control many

Why Graze? Management intensive grazing has a number of benefits:

- **INTERESTING WORK.** MIG farmers spend a greater proportion of their time strategically managing their farms and less on routine chores such as baling hay.
- **TIME.** Many MIG producers report that grazing has made them more available for family activities and other pursuits.
- **WISE LAND USE.** MIG can get good use out of land that is too hilly, rocky, or sandy to be prime cropland.
- **ENVIRONMENTAL SOUNDNESS.** MIG reduces the need for manure management and chemical inputs to cropland. It's also good for the soil, enhancing fertility and texture and reducing compaction due to machinery.
- **QUALITY.** The best pasture has relative feed values (RFV) of 140-220 and crude protein (CP) of 24%-35% (DM basis). That's the equivalent of grade 1 or prime hay.
- **IMPROVED PROFITABILITY.** Lower inputs for equipment, fuel, feed, and the like mean more money in your pocket.

Keys to Successful MIG

Thinking about adopting MIG? Here's how to make it work for you:

- 1) **DEFINE YOUR GOALS.** Write down what you hope to accomplish by making the change. Refer to the goals regularly so you can see if you're on track.
- 2) **PLAN.** An ounce of planning is worth a pound of trying to change your system after you've set it up. Think your pasture layout through thoroughly. Beware of assumptions about what equipment you need. Talk to others. Sources of information include the Minnesota Extension Service, local grazing discussion groups, and the Minnesota Institute for Sustainable Agriculture (612-625-8235 or 800-909-6472). If you can, connect with someone who's already practicing MIG.
- 3) **EXPERIMENT.** The best approach to intensive grazing is different on every farm. There's also a lot yet to be learned. Don't be afraid to take the guidelines and rules of thumb and adapt them to your own goals and circumstances.

weeds by planning rotations so they are grazed when the least desirable plants are most vulnerable. Clipping with a haybine or mower can also keep weeds down. Thistles in particular are difficult to control with grazing management alone.

- **Fertilize only when soil tests indicate.** Once appropriate levels of fertility are attained, P and K needs are likely to be met by manure. Pastures that do not include legumes are likely to benefit from supplemental N.

Much of the advice given here is adapted from Knee Deep in Grass: A Survey of Twenty-nine Grazing Operations in Minnesota, by Brian Loeffler, Helene Murray, Dennis Johnson, and Earl Fuller. For information on obtaining a copy of this publication, contact the Minnesota Extension Service Distribution Center at 800/876-8636 or your county extension office.



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*Initiatives*

Agricultural & Consumer Education Service • University of Minnesota

Dairy Initiatives is published quarterly by the Minnesota Extension Service, Dairy Initiatives Program, as an educational service to Minnesota dairy producers. Address correspondence to David Weinand, 126 Peters Hall, 1404 Gortner Ave., University of Minnesota, St. Paul MN 55108; 612/625-9757.

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This publication was printed on recycled paper using agribased inks.

Financial support provided by Dairy Partnership, Inc.