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UNIVERSITY OF MINNESOTA DAIRY Initiatives NEWSLETTER

PREMIER Issue

Six Steps to Success

Minnesota Dairy Initiatives Set New Partnership Between Farmers, University

As a dairy farmer, you know the road to success is neither short nor smooth. But you also know from experience that there are some things you can do to make that path easier or tougher to travel.

"Minnesota Dairy Initiatives: Strategies for Success" is a program introduced by the University of Minnesota last fall to repave the road to success for dairy farmers. The program marks a new commitment by the University to the state's dairy farmers. It comes at a time when declining milk checks, rising costs, and increased competition from outside the Midwest have created an urgent need for technical advice to increase profitability.

The University's plan consists of six steps, or "initiatives." Some are underway already, and others will kick off in the months ahead. Through these six initiatives, the University will help you improve your farm business while protecting the way of life that makes it all worthwhile.

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Hay Quality

For top milk production, you need to know what you have and how to use it

You've probably heard it said that what you get out of life depends on what you put in. Well, the same principle applies to cows. How much milk you get out of your herd is closely tied to the quality of the feed you put in.

In the case of hay, quality can vary substantially depending on the stage at which it was cut, the weather, the kinds of plants it contains, and other factors. And this variation can make a big difference in how your cows perform. Such a big difference, in fact, that paying better attention to hay quality is one of the main ways in which Minnesota dairy farmers can increase their ability to compete with producers in

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WELCOME TO DAIRY Initiatives !

Another newsletter??

YOU ALREADY GET A LOT of information—dairy journals, product sales pitches, market reports, farming magazines. But *Dairy Initiatives* is different. Its purpose is specifically to help you, the Minnesota dairy farmer, make a go of it in these uncertain times.

How is *Dairy Initiatives* different? For one thing, our roots are in the expertise of the University. We're the front line of a huge new effort by researchers, teachers, and extension experts to help make Minnesota's dairy industry among the best in the nation.

For another, we're *specifically* for family dairy operators. We're not going to give you advice that won't work for an operation your size. We're not going to ignore the nonmonetary reasons you chose farming in the first place, just to increase your profits. What we will do is provide solid, research-based information that you can apply to improving your farm operation.

We hope we can help make your job a little easier and more rewarding for you in the months and years ahead.

Gil Ward

Gil Ward
Editor

Hay Quality

Paying better attention to hay quality is one of the main ways in which Minnesota dairy farmers can increase their ability to compete with producers elsewhere.

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other parts of the country.

In other words, it's well worth your while to:

- Produce top-quality hay whenever possible.
- Have your hay tested so you know what you're working with.
- Give the best hay to your milk cows, supplementing as necessary to keep nutrient intake what it should be.

This article explains what hay quality is, how to find out how good your hay is, and how that information can help you optimize production while keeping feed costs as low as possible.

What is Good Hay?

You might think you can spot good or bad hay just by looking at it. But top producers recognize that hay quality goes beyond what meets the eye. In order to use hay wisely, you need to know how it rates in terms of four measurable components of hay quality:

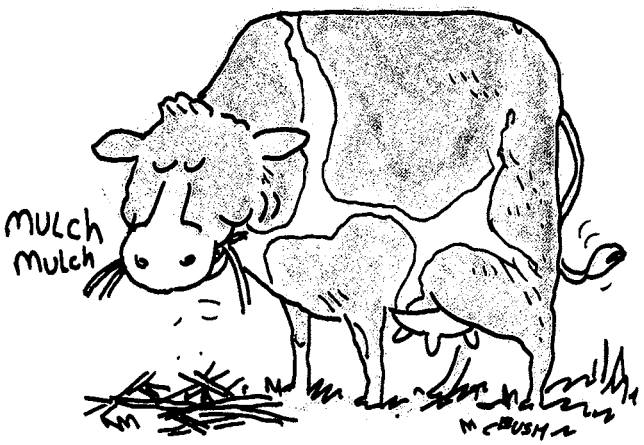
Intake—*how much the cow eats;*

Nutrient Content—*the amount of protein, energy, fiber, and nutrients in the hay;*

Digestibility—*the availability of the nutrients to the cow; and*

Anti-quality factors—*anything in the hay that inhibits intake, digestibility, or efficiency.*

Of these four, intake and digestibility are most closely tied to milk production. For this reason, hay quality often is measured as something called **relative feed value (RFV)**, which combines intake and digestibility into a single, easily compared number.



John Bush©92

The ABCs of Forage Quality.

DO YOUR HAY TEST RESULTS look a bit like alphabet soup? Here's a quick reference list to help you make sense of the abbreviations:

ACP (adjusted crude protein): The portion of the crude protein (CP) that cows can digest.

ADF (acid detergent fiber): The part of the hay that doesn't dissolve in a weak acid. ADF measures the hay's digestibility.

ADF-CP (acid detergent fiber-crude protein): The part of the crude protein (CP) in the hay that cows can't digest.

CP (crude protein): Total protein and nonprotein nitrogen.

DDM (digestible dry matter): The amount of the hay that the cow can digest.

DM (dry matter): The portion of the hay that is not water. Quality is determined on a DM basis to even out differences due to moisture content.

DMI (dry matter intake): The amount of hay the cow will eat if given nothing else.

NDF (neutral detergent fiber): The portion of the hay that doesn't dissolve in a neutral detergent. NDF is inversely related to intake—a high NDF means low intake, and vice versa.

RFV (relative feed value): A measure of hay value that takes into account both intake and digestibility. ●

Testing Hay Quality

What this all boils down to is that, if you want to make sure you're giving your cows the nutrients they need without wasting valuable supplements, it's worth your while to find out what's in your hay and how that compares to their overall nutritional requirements.

The first step in using your hay wisely is to have it tested. If you belong to a DHIA group, the local office can help you with this. Or, your county extension agent can put you in contact with a testing lab. Hay tests usually cost about $10 per sample; to get a good handle on what you have in your barn or silo, you'll need to run at least one test per forage per month.

Using Test Results

When you get your test results back, you'll have a list of how your hay rates in characteristics such as dry matter, fiber, protein, minerals, and relative feed value. The following table shows how those numbers translate into the six standard grades of hay quality:

Grade	RFV*	ADF	NDF	DDM	DMI
		% of DM		%	% of body weight
Prime	>151	<31	<40	>65	>3.0
1	151-125	31-35	40-46	62-65	3.0-2.6
2	124-103	36-40	47-53	58-61	2.5-2.3
3	102-87	41-42	54-60	56-57	2.2-2.0
4	86-75	43-45	61-65	53-55	1.9-1.8
5	<75	>45	>65	<53	<1.8

***abbreviations are defined in the accompanying box to the left.**

Use this table and your test results to find out your hay's grade. If you have several grades of hay, feed the top quality hay to your lactating cows and give the second best to dry cows and yearling heifers, adding supplements as needed to ensure adequate nutrient intake.

Even with prime hay, you need to add some supplements for optimum milk production. The table to the right shows how you would need to supplement various grades of hay to achieve a milk output of 60 pounds per day at 3.8 percent butterfat.

Going for the Green.

SOME of what determines the quality of your hay—the weather, for instance—are things you can't control. But according to extension specialists Jim Linn and Neal Martin, it pays to do everything you can to produce the best possible hay in the first place. Some things that increase the chances that you'll end up with a top quality hay:

- **Keep the proportion of legumes in your hay as high as possible. In most cases, the more grass, the lower the overall quality of the hay.**
- **Cut hay before the plants start to bloom. Immature crops make better hay than do crops that already have developed blooms or seeds.**
- **Avoid rain damage.**
- **Minimize weeds.**
- **Store the hay under cover. Conditions such as incorrect moisture that cause the hay to heat up or become moldy decrease hay quality.**
- **Consider using preservatives such as propionic acid. These may help maintain quality by letting you bale hay at moistures between 20 and 30 percent. You might also use a hay drying agent.**

For more information on maximizing the quality of your hay, contact your dairy specialized agent (see p. 11), Jim Linn (612/624-4995), or Neal Martin (612/625-3747). ●

	HAY GRADE					
	prime	1	2	3	4	5
	lb/cow/day (as fed)					
hay	28.8	25.4	21.3	19.3	17.7	16.7
corn grain	17.3	18.5	20.1	20.4	20.6	20.8
soybean meal	0.03	2.1	4.4	6.0	7.4	8.1
Dical (18% P)	0.3	0.3	0.2	0.2	0.3	0.3
salt, trace minerals, vitamins	0.25	0.25	0.25	0.25	0.25	0.25

Hay, corn, and soybean meal mixes for milk output of 60 pounds per day at 3.8 percent butterfat based on different hay qualities.

Should I Replace My Hay?

by JOE CONLIN and JIM LINN

"Should I replace my hay with better quality?" That's a question on the mind of many producers after a year of large hay quantities with little quality. The answer is not the same for everyone.

To be the best choice, replacing the hay on hand must provide a financial benefit. Key factors in making the decision include: the amount of hay you're feeding, the cost of replacing your hay with higher quality hay, the availability and price of substitute feeds, and your herd's milk production level.

How Much?

The first things to consider in making your decision is the quality of hay you have and how much hay you are feeding. Milk production will be more greatly affected by low-quality hay when hay is the only forage in the ration than when hay is fed at 3 to 5 pounds per cow per day and is only a small portion of the forage in the ration.

If you are feeding only small amounts of hay, it probably would not be cost-effective to buy better hay. Instead, compensate for the low quality by adjusting other components of the ration.

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Hay Quality and Milk Production

If, however, hay is the only forage or a major portion of the forage in the ration, the situation is different. For high milk production, cows must have a high intake of a nutrient-dense ration. Low quality forage reduces both intake and energy content of the ration.

TABLE 1		
Hay Quality	Peak Milk (lb/day)	DHA RHA (lb/cow)
Prime	100–110	20–21,000
1	90–100	18–19,000
2	75–90	16–18,000
3	65–75	15–16,000
4	55–65	13–14,000
5	35–45	10–12,000

TABLE 1. Estimated production limits relative to hay quality.

Table 1 shows the quality of hay needed in the ration to attain various milk production levels. The peak milk amounts correspond to annual DHI herd averages. The rations were based on hay being the sole forage fed with shelled corn and soybean meal. As an example, grade 2 hay will support production of 75 to 90 pounds of milk per day at peak, or an annual herd average production of 16,000 to 18,000 pounds per cow. It would be a challenge to get more milk without feeding a higher quality hay (prime or grade 1), or without adding other feeds such as corn silage or whole cottonseed to the ration. Similarly, it will be difficult to reach peaks above 65 to 75 pounds of milk per day (15,000 to 16,000 pounds per cow annually) with grade 3 hay unless all or part of it is substituted with better quality forage.

Pricing Hay

What is hay worth? How much can I afford to pay? The answer depends on the price of substitutes that will provide equal nutrients and on your production level. Knowing what hay is worth to you will help you know how much is too much to pay. The breakeven prices in the tables below can help you decide.

Hay can be priced in a couple of different ways. The simplest is to base the price on corn, soybean meal, and an average hay. The hay prices in Table 2 reflect what the various grades of hay are worth on an energy, protein, and fiber basis compared to corn at $2.35 per bushel, grade 3 hay at $60 per ton, and various soybean meal prices. Pricing hay this way gives you an indication of what hay is worth compared to corn (energy) and soybean meal (protein) substitutes in the rations, but gives no indication as to the amount of hay that can be replaced in the ration.

Note how the spread between poor (grade 5) and excellent (prime) hay widens as the price of soybean meal increases. The difference is $80–$29, or $51 per ton, when soybean meal is $180 per ton, and $107+$10, or $117 per ton when soybean meal is $320 per ton.

Your level of milk production also will affect what you can afford to pay for hay. Table 3 gives an estimate of what different quality hays are

TABLE 2				
Grade	price of soybean meal ($/ton)			
	$180	$240	$280	$320
Prime	80	92	100	107
1	63	65	67	69
2	60	60	60	60
3	54	50	47	44
4	38	28	22	15
5	29	12	1	–10

TABLE 2. Breakeven hay price ($/ton) based on nutrient value.

TABLE 3				
Grade	Pounds of milk per cow per day			
	40	60	80	100
Prime	80	91	91	95
1	81	83	83	88
2	69	71	72	*
3	60	60	*	*
4	50	*	*	*
5	*	*	*	*

TABLE 3. Breakeven hay price ($/ton) for various levels of production.
*** This production level is difficult to reach with this grade of hay**

worth in rations at various milk production levels. Rations consisted of hay, corn, soybean meal, minerals, salt, and vitamins, and were balanced to meet or exceed energy, protein, fiber, calcium, and phosphorus requirements for each production level. Price assumptions for the table are $60 per ton for grade 3 hay, $2.35 per bushel for corn, and $182 per ton for soybean meal.

You will notice that the hay prices are different in Tables 2 and 3. This is because the value of hay is not the same at all milk production levels. As production increases, the value of the hay in the ration increases.

However, as Table 3 shows, there is a minimum quality of hay that will meet nutrient requirements for each production level—no matter what price you put on it. If you expect your cows to milk 80 pounds per day, you can't feed anything less than grade 2 hay in a balanced ration.

Other Strategies

Whether or not you replace your hay, these strategies will minimize the impact of low-quality hay on production:

1. **Test your forages and inventory them by quality.** Match the qualities with the nutrient needs of your various animals.
2. **Feed the best hay to the highest producing cows.** Make sure you meet early lactation needs to achieve peak performance. Feed the yearlings and dry cows the poorer hay. By doing this, some operations may be able to lower the cost of production a dollar or more per 100 pounds of milk output.
3. **Balance rations separately for each category of animal.** Nutritional needs differ for high- and low-producing cows, dry cows, yearlings, and calves.
4. **Maximize dry matter intake.** You can do this by chopping low-quality forages or mixing them with other feeds. It also helps to keep feed fresh and feed bunks clean.

For more information about the economics of hay use, contact your dairy specialized agent (see p. 11).

Building Unity

Dairy Initiatives Program creates "Minnesota Dairy Leaders Roundtable"

More than thirty top executives and leaders of Minnesota dairy businesses and organizations came together January 29 to discuss how they might cooperate in revitalizing Minnesota dairying.

The blue-ribbon gathering was a first step toward the Dairy Initiatives goal of creating unified leadership in the dairy sector. The hope is that cooperation of key decisionmakers will create a powerful force to help repaint the picture of success for dairying in Minnesota.

Known as the Minnesota Dairy Leaders Roundtable, the group includes top leaders of all major parts of the dairy sector—producer groups, marketing and service industries, educators, and government agencies. Although the push to form the group came from the Dairy Initiatives program, group members themselves are responsible for defining their tasks and how they will approach them.

One of the first tasks the roundtable group faces is creating a clear picture of where the state's dairy sector should be going and how it best can get there. Once the vision is in place, the team will work as an advocate for the dairy sector throughout the state, giving it a clear, unified voice that can stand out amid the clamor of the many special-interest groups competing for public attention.

According to former University of Minnesota-Waseca chancellor Ed Frederick, coordinator of the leadership initiative, the Dairy Initiatives team was quite specific in its criteria for composing the roundtable in order to maintain a workable group size. Most members are industry chief executive officers or board chairs, presidents of major dairy organizations, or academic or government leaders.

"From a logistics standpoint, it was impossible to include all of Minnesota's dairy leaders at every level," he says. "However, by calling on the top person in each group with major interest in dairying in this state, we have given everyone a chance to provide input through a business or organization with which they have regular contact."

The roundtable group is expected to meet periodically during the months ahead to more clearly define its task and how it will go about accomplishing it. Watch for updates in this newsletter.

Beyond the Bottom Line:

Balancing a Tight Budget

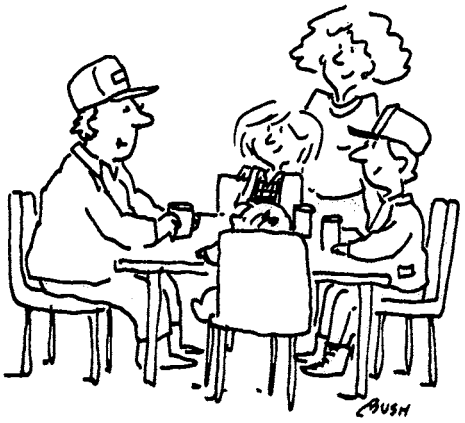
When the going gets tough, the tough get talking

If your milk check isn't what it used to be, you're probably starting to feel the pinch. According to extension family resource management specialist Sharon Danes, the best way to deal with reduced income is to carefully budget how you will spend the money you take in. And, Danes says, choosing the right way to do so can make a big difference in how well you and your family make it through tight times.

Right Way #1: Clear the Fog.

Someone once said, "If you don't know where you're going, you'll probably end up somewhere else." It's equally true that if you don't know where you are in the first place, it's pretty hard to end up anywhere useful at all.

One mistake people often make in trying to balance a tight budget, Danes says, is to start making cuts without a good notion of where money is going already. The solution? Invest time in getting a firm grip on your current spending habits first.



John Bush'92

"A lot of families don't know what they're spending on houshold expenses," Danes says. "When resources are plentiful, that may not be a problem. But when resources are less plentiful, you need to know what's going where so you can plan, so you can discuss your alternatives, so you can set goals. Before you can say, 'We're spending too much on household expenses,' you need to know what you *are* spending."

Getting a clear picture of current spending is especially challenging for farm families. It's tough to separate household and farm expenses when you buy toothpaste and tank cleaner at the same store—and it's even tougher when you have six people dropping cash in six different directions. Danes suggests this method for getting a handle on where the money goes:

1. Draw a one-month calendar on a big sheet of paper. Tape the sheet up by the door in a spot where kids and grown-ups alike can reach it. Tape a pencil there, too.
2. Each time you walk in the door, write down on today's date any money you've spent since you last walked by the calendar. Be sure to identify the general spending category, too—food, clothing, gas, whatever. If you spent $50 at a discount store, do your best to break it down into farm expenses and household expenses.
3. Once a week, review the calendar with the family to make sure it's complete. Did you include school lunch money? How about the fuel bill?
4. When the month is over, tally up expenses in the various categories.

You'll need to keep this process up for at least three months to be sure periodic expenses get covered. But if you stay with it, you'll have a priceless tool for your budgeting discussions: a clear picture of where your money goes now.

Right Way #2: Involve Everyone.

Another mistake families in a financial bind make is to have one or two people decide how to cope without getting input from the rest. "When you're talking about changing lifestyles and cutting back, if it's going to be effective at all, it

FOR GOOD communication, start by setting ground rules. Agree at the outset on basic principles that will help make the process easier for everyone—perhaps that none of the information be discussed outside the family, or that everyone is expected to listen to everyone else, or that children's opinions will be respected but parents have veto power.

If you hesitate to share the dollars-and-cents details with your kids, you can still use the calendar method. Just make a separate calendar for them, and combine it with your "grown-up" expense tally at the end of the month.

has to include all family members," Danes says. This means including children in discussions about how to make ends meet—a notion that bucks tradition for some.

"If you involve children, it's amazing the support you can get," Danes says. "They feel like they are part of the process, so they want to be part of the solution, too. And they can be a source of some good ideas, too."

Including children in financial discussions doesn't necessarily mean baring your economic souls to the world, even if your kids have never been able to keep their lips zipped. You can be selective about the parts of the discussion they are in on—for instance, save the specific money figures for you and your spouse, but include the entire family when you talk about which categories might be trimmed.

If you would like more information on helping your family through tight times, contact your county extension office. Next issue: If you're thinking about getting another job to make ends meet, be sure to look at all angles.

How Do You Decide Where the Milk Check Goes?

THERE ARE LOTS OF WAYS to allocate money between farm and household expenses—and some are definitely better than others, says Extension family resource management specialist Sharon Danes. Maybe you set aside a percentage or a fixed amount of your income for household expenses. Perhaps you use off-farm income to pay non-farm bills. Or, you may simply dole out the money to individual expenses as they come up.

"This last is the one too many people use, and it doesn't work very well," Danes says. "When you use this method, you really don't know what's going where, so when it comes time to cut, you end up playing a guessing game with your money." Danes recommends that families instead allocate income based on known expenses—put aside $350 a month for groceries because you know from experience that's what you spend. Then, if you have to cut down on spending, you have a good idea just how much is available for trimming in individual categories. ●

Six Steps to Success

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WORK ON these six initiatives is well underway. You'll be seeing and hearing more about them in the months to come—through this newsletter, through your dairy specialized agent (see p.10 & 11), through suppliers and other people you contact every day. And if all goes well, you'll be seeing the *results* of the initiatives, too—in better decision-making for your operation and increased milk production, profitability, and competitiveness for Minnesota's dairy sector as a whole.

If you have any questions or comments about the Dairy Initiatives program, contact your dairy specialized agent (see p. 11) or Blake Peterson, 612/625-9757. ●

"Our goal is to help Minnesota farmers increase their profitability," says program coordinator Blake Peterson. "By that, I don't just mean larger. It might mean producing less milk with fewer cows, more milk with more cows, or more milk with the same number of cows. The solution will be different for each producer. But with milk prices where they are—and they're likely to remain there for a while—it's pretty obvious that many farmers will need to change how they do things in order to stay profitable."

A look at these six initiatives will give you an idea of how the University's plans translate into better farming for you.

1 County Workshops.

The first initiative, which was carried out last fall, focused on defining why Minnesota dairying is in trouble and what can be done about it. At workshops held in every dairy county in the state, extension agents, dairy producers, and dairy sector representatives began answering some key questions: How can we lower costs? How can we increase profits? What's being done already to improve today's dairy situation? These workshops increased awareness of problems and solutions. They also set the stage for developing action plans, local networks, and educational opportunities. County task forces will be selecting county demonstration farms and planning future programs.

2 Training Your Contacts.

Every day you come in contact with people who are valuable resources to you. Through the second initiative, the University is teaching dairy sector professionals—Extension agents, veterinarians, bankers, co-op managers, feed dealers, agribusiness teachers, and others—how they can work with you to improve your business.

These contacts are attending workshops throughout this winter. Come spring, they will use the things they've learned to help you diagnose and solve problems in the areas of economics, nutrition, crop production, reproduction, genetics, and farm management.

3 Making Informed Decisions.

You've heard all the latest ideas. But how are you to know which ones work? The third initiative provides workshops and conferences to help you decide things such as whether to expand your operation, adopt new technologies, or change the way you manage your finances.

To support the person-to-person contact, the University also is creating a dairy reference manual, a dairy encyclopedia, and a diagnostic manual to help you analyze your operation and find ways to correct shortcomings.

4 Mustering Resources.

The University of Minnesota has always been a leader in dairy research, teaching, and extension. Today's dairy situation demands that we expand our work in this area. The fourth initiative responds to that need by developing a strong, unified Dairy Resource Group of University experts who can give you the state-of-the-art information you need to run your farm well.

This newsletter is one tool which will spread the good news about ideas and techniques that can make your operation better than ever.

5 Unity in Vision and Voice.

A unified voice and vision is critical for the future success of Minnesota's dairy farmers. In the fifth initiative, we are creating a Minnesota Dairy Leaders Roundtable consisting of top leaders of all major parts of the dairy sector—producer groups, processors, service industries, educators, and government agencies.

This group will be the strong, central voice that stands up for *your* needs. It also will be the

source of a thought-out vision for dairy farming, ensuring a solid future for your children and grandchildren, the dairy producers of tomorrow.

6 Hands-On Learning.
Part of creating better ways of farming is to take a good look at the way things are being done now and to test—right on the farm—methods that may work better. In the sixth initiative, dairy operations around Minnesota will become demonstration farms, where University researchers can bring new ideas to real-life farming.

Field days will be held periodically at each farm to give area producers a chance to see what's new. As an added part of this initiative, a research team will study how farmers decide to adopt new technologies.

Antibiotic Residues in Milk

If you feed antibiotics, it pays to do it right

by JEFF RENEAU

If you've ever had to dump a load of milk because of antibiotic contamination, you know it's well worth your while to avoid the problem. But did you know that medication used to treat sick animals is just one possible cause of antibiotics in milk? Feed contamination or improper use of antibiotics as a feed supplement also can cause problems.

Unless you pay careful attention to antibiotics in feed, the drugs absorbed by the cow can show up in her milk—and as a slash in your profits, too.

Feeding Antibiotics.
Some dairy farmers give their cows low doses of antibiotics in their feed to prevent disease or increase milk production. Unless you are very sure you can do so properly, your best bet is to avoid the practice completely. Scientific studies have not proven there's any health benefit, and the risk of contaminating your milk may outweigh the value of any milk production increase.

If you do choose to feed antibiotics, do so carefully. Two antibiotics are available for use in feed for lactating dairy cows—oxytetracycline and chlortetracycline. The official "safe level" for these drugs in milk is 30 parts per billion (ppb). If you feed these antibiotics, do not exceed the levels listed in the table below

ANTIBIOTIC DOSES

Drug	Dose	Use
chlortetracycline	0.1 mg/lb body weight/day	to reduce bacterial diarrhea, foot rot, respiratory infections
chlortetracycline	70 mg/head/day for use more than 30 days	to reduce respiratory infections
oxytetracycline	75–100 mg/head/day	to prevent bacterial diarrhea
oxytetracycline	75 mg/head/day	to reduce bloat
oxytetracycline	75 mg/head/day	to increase milk production

Approved Antibiotic Doses for Feeding Lactating Dairy Cows

Questions on antibiotic milk contamination? Contact your dairy specialized agent (see p. 11) or extension animal scientist Jeff Reneau, 612/624-4995.

Handle with Care

THE MAIN cause of contamination is CARELESSNESS. If you feed antibiotics:

➤ Read the label right. Check the product type, the concentration, the recommended dose, and the instructions—then check them again. Be sure you have what you think you have. Don't guess.

➤ Mix carefully. Be sure you understand mixing instructions. Measure accurately.

And finally, *even if you aren't feeding antibiotics*—

➤ Deal with reliable feed suppliers. Unless you can be sure your feed hasn't been contaminated before you get it, all your own efforts could mean little.

➤ Keep it clean! Milk contamination has been traced to not cleaning feed mills after grinding and mixing poultry feed, and to hauling dairy feed in trucks not cleaned after hauling poultry feed. ●

Introducing... Your New Partners

Over the years, your county extension agent has been a good source to turn to for reliable advice. Now, the Dairy Initiatives program has made a good idea even better by designating dairy specialized agents who can concentrate their efforts on boosting dairy operations.

The 15 newly designated agents began last fall to meet with farmers around the state to look at the current crisis and pinpoint ways to cut costs and increase profits. They are helping develop detailed action plans for counties and for individual farms. They are creating networks of experts and resources. Dairy specialized agents also will designate demonstration farms as hands-on resources for farmers in search of solid proof that improved methods really work.

These agents are people who are working as extension agents already. Their reassignment means that they each will commit a quarter—in a few cases a half—of their time just to helping people in the dairy sector.

If you have a specific question about your operation, you can still turn to your regular county agent for advice, if you'd like. But remember that your dairy specialized agent is a new and potent source of one-on-one information as well as a leader in region-wide training for dairy farmers and other members of the dairy sector. To find your dairy specialized agent, see the accompanying map.

Following is a brief introduction to the new agents:

Neil Broadwater has held a variety of positions in the dairy sector, including work with a feed company and as a dairy milk plant fieldman. He holds a bachelor's degree in animal science and a master's in adult education. As ag agent for Winona County, he has worked extensively with dairy farmers for the past 13 years.

Leo Brown, a former dairy farmer, managed one of the top herds in the state until he sold out in 1987. He has a B.S. in ag economics/animal science and is working on a graduate degree in vocational education. He has been a Becker County ag agent for four years.

Denzil Cooper holds a bachelor's degree in agriculture with minors in agronomy and ag economics. He has been an extension agent for Otter Tail County since 1964, with emphasis on 4-H production, DHI records, and dairy herd environment.

Timothy Dolan showed dairy cattle for 10 years in 4-H as an active member of a Swift County dairy farm family. He taught vocational agriculture for 12 years before joining the Minnesota Extension Service in 1990. He earned his bachelor of science degree in ag education.

Sheldon Erickson holds a bachelor's degree in animal science and has had a lifelong involvement in the operation of what is now a fourth-generation family farm. He has been an agricultural fellow with the Minnesota Extension Service for three years.

Frances Januschka has been an extension agent for 35 years, specializing in livestock with a dairy emphasis. He grew up on a dairy farm near Little Falls, Minn., and has a bachelor's degree in agricultural education.

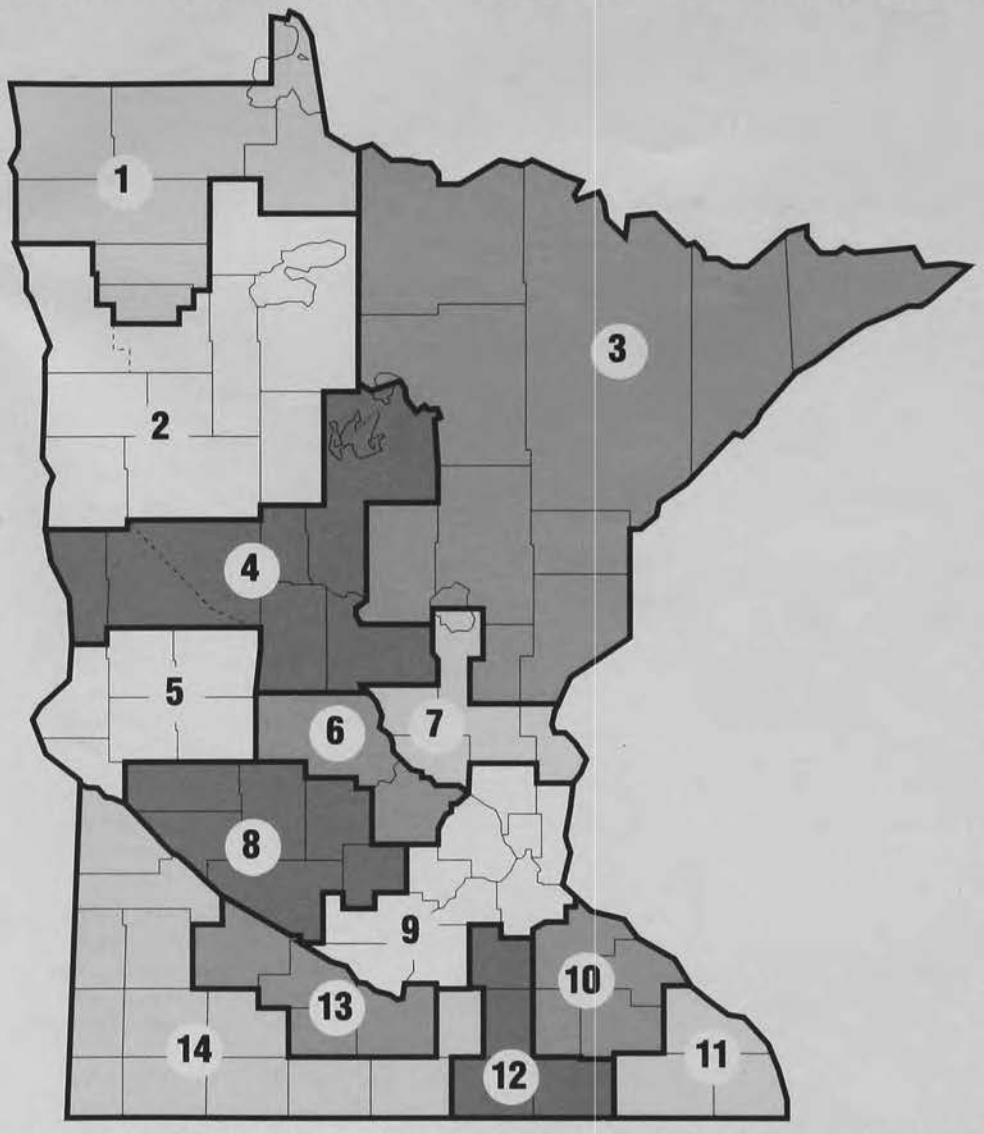
David Kjome has a bachelor's degree in dairy science and a master's in dairy farm management. Raised on a Minnesota dairy farm, he has been a county extension agent in Winona and Olmsted counties for a total of 20 years.

Kendall Langseth has served as a county agricultural agent for nearly seven years. In that position, he has worked primarily with dairy concerns, especially nutrition and dairy policy. Raised on a farm in Nobles County, he received his B.S. in animal science.

Dan Martens was born and raised on a dairy farm, and continues a lifelong emphasis on dairying today as Benton County ag agent. He works closely with the DHIA board, and says he believes the DHIA approach is a key to improving herds. He holds a B.S. in ag education from the University of Minnesota.

Vern Oraskovich has18 years' experience as a county extension agent and also has worked as a feed and livestock specialist. He has a bachelor's degree in dairy science and is now working on a master of education degree with dairy emphasis. He grew up on a Minnesota dairy farm.

Lee Raeth grew up on a dairy farm, and has a long-standing commitment and concern for dairy farmers. He holds a bachelor's degree in animal science and a master's degree with emphasis in dairy reproduction and health. He is county extension agent-agriculture for Carlton County.



Wayne Schoper farmed and worked as a crop/feed consultant before joining the Minnesota Extension Service in 1985 as a county extension agent. The product of a Cottonwood County dairy/crops farm, he holds a B.S. in agronomy and a master's degree in ag education.

Warren Sifferath has been a Dakota County extension agent for 30 years. In that position, he has done an extensive amount of work with dairy issues, most recently focusing on marketing and public policy. He holds bachelor's and master's degrees in animal science.

Harmon Wiltz has been with the Minnesota Extension Service for two years, specializing in dairy issues. He has degrees in agricultural business administration and ag education, and has taught dairying courses at the high school level.

Larry Zilliox grew up on a Stearns County dairy farm and has traveled extensively throughout the world working with agricultural issues. A county extension agent for the past 20 years, he holds a B.S. in animal science.

Extension Specialized Dairy Agents

1. Sheldon Erickson, 507/283-4446
Roseau County Extension Office, 308 Center St. W., Roseau, MN 56751

2. Leo Brown, 218/847-3141
Becker County Extension Office, 809 Eighth St. S.E., Detroit Lakes, MN 56501

3. Lee Raeth, 800/862-3760, ext. 123
Carlton County Extension Office, Carlton Civic Center, P.O. Box 307, Roseau, MN 55718

4. Denzil Cooper, 218/346-5750
E. Ottertail County Extension Office, 222 Second Ave. S.E., Perham, MN 56573

5. Larry Zilliox, 612/762-2381
Douglas County Extension Office, Courthouse, 305 Eighth Ave. W., Alexandria, MN 56308

6. Francis Januschka, 612/255-6169
Stearns County Extension Office, 2700 First St. N., Suite 205, St. Cloud, MN 56303

7. Dan Martens, 612/968-6254
Benton County Extension Office, Courthouse Building, 531 Dewey St., Foley, MN 56329

8. Harmon Wiltz, 612/235-1485
Kandiyohi County Extension Office, 905 W. Litchfield, P.O. Box 977, Willmar, MN 56201

9. Vern Oraskovich, 612/442-4496
Carver County Extension Office, 609 W. First St., Waconia, MN 55387

Warren Sifferath, 612/463-3302
Dakota County Extension Office, Fairgrounds, 4100 220th St., Farmington, MN 55024

Tim Dolan, 612/237-5531
Sibley County Extension Office, Courthouse, P.O. Box 207, Gaylord, MN 55334

10. David Kjome, 507/285-8250
Olmstead County Extension Office, 1421 S.E. Third Ave., Rochester, MN 55904

11. Neil Broadwater, 507/457-6440
Winona County Extension Office, 202 W. Third St., Winona, MN 55987

12. Kendall Langseth, 507/373-1475
Freeborn County Extension Office, 308 Center St. West, Roseau, MN 56751

13. Wayne Schoper, 507/794-7993
Brown County Extension Office, 300 Second Ave. S.W., Sleep Eye, MN 56085

14. No designated agent
Contact your county extension office.

Attention All Dairy Producers!

Within the next couple of months, 1,200 of you will be asked to respond to a University of Minnesota survey. The purpose of the survey is to determine why some dairy practices are adopted, while others are not. The results will give the University information it needs to improve its educational programs and better help you and other farm owners and operators increase your economic rewards.

We encourage you to complete this important survey as soon as possible. Your input is important! ●

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