

Initiatives



N E W S L E T T E R

Contents

- 1
The Smart Way to Grow
- 4
Practical Tips for Managing Young Calves
- 7
Dairy Profile: Calf Housing, Mastitis Control Boost the Jetsons' Operation
- 8
Choosing Bedding Material
- 10
Cool Ideas for Hot Cows
- 13
Communicating for Success
- 15
Dairy Profile: Rotational Grazing Fits Hansons' Goals

The Smart Way to Grow

If you're planning to expand your farm, this step-by-step guide can help you make sure you cover all of the bases

Are you thinking about increasing the size of your dairy operation? If so, it's important to recognize that a successful expansion is more than building walls and adding cows. It's a complex process involving many steps. Unless you take the time to go through each of the steps, you could find yourself immersed hand, foot and bank account in a project that takes twice the time and thousands of dollars more than you anticipated—or worse yet, that isn't even appropriate for achieving your desired family and business goals.

"There are lot of interdependent component parts to an expansion and there's a lot of depth in each component part. The result is that dairy farm expansion takes time, it takes a good financial statement, and it takes a sincere desire to bring the expansion to a successful completion," says veteran farm management expert Merv Freeman. "It's important to understand and be willing to follow the step-by-step process of expansion. By doing things in the correct order, you can look at various options and evaluate their consequences before your commit yourself to one or another. And it's a whole lot cheaper to make your mistakes on paper than in real life."

To help producers turn their dreams into reality, Freeman has put together the following "planning pathway" that describes the steps involved in expanding a dairy operation:

1. Identify Goals. Describe exactly why you want to expand. What do you hope to accomplish? What aspects of the current setup do you want to



change? What do you want to stay the same? If yours is a family operation, be sure that the goals you identify are family goals rather than just your personal ones.

2. Collect Information. Gathering information may seem like a waste of time when you're itching to start on that dream farm, but it will save you time and grief in the long run. Visit other farms at various times of the year to see how well

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

The Smart Way to Grow

Continued from page 1

Phasing

NO ONE WILL disagree that it's nice to finish what you start. But when it comes to a farm expansion, sometimes it makes sense to deliberately stretch out completion over a number of years.

Phased planning allows you to use income from early stages of expansion to help foot the bill for later add-ons. This makes the overall project more doable from many people's perspectives—not the least of whom is your banker.

systems work in different seasons. Pay attention to the management of the operation, not just to the physical facility. Chat with consultants. Read magazines and other publications. Go to workshops and conferences. It's better to find out now the way you want things to work on your new, improved farm than after you've invested all your time, money and energy in something else.

3. Select a Site. How you use what you have now depends on how big you are planning to go and on how well the existing structures fit into the overall plan. For a minor expansion, your current buildings probably will remain the focal point of the farm. But if you are making a major change, don't restrict yourself by assuming they have to be at the center of the production operation. A topographical survey can help you identify the best sites and orientations for various facilities.

4. Plan the Details. After you've done your research and chosen a site, it's time to get down to the nuts and bolts. For a major expansion, use consultants to help plan the various systems—housing, feeding, milking, waste management, cropping, etc. Continue to visit other farms to get additional ideas and work out weak spots as you draw up the blueprints and plan the phasing of your project.

5. Collect Cost Estimates. Once you have your

plans down on paper, it's time to find out what they will cost. After you think you have factored in all of the costs, look your list over carefully one more time to make sure you have all of the bases covered.

6. Project Cash Flows. Next, estimate how much money will go into the operation and how much you can expect to see coming back out at various stages—when you begin, during construction, and for each year of a phased expansion. You may

wish to develop several cash flow projections based on various sets of assumptions about costs and income to get a better idea of how your future financial success is tied to variations in predicted costs and income.

7. Obtain Permits. In order to go forward with your project, you will need to get permits, including zoning certificates, building permits, and Minnesota Pollution Control

Agency feedlot permits. This can be a time-consuming process, so plan to begin as soon as possible.

8. Arrange Financing. Only after completing all of these preliminary steps is it time to make financing plans. Be sure to include overrun costs and builder's risk insurance as you arrange to cover your expansion expenses.

“Success doesn't just happen. It's a result of a lot of careful planning, a lot of hard work, and a lot of good decisions made and carried out.”

—MERV FREEMAN

A Word of Caution

OVER THE YEARS, farm management expert Merv Freeman has watched many dairy producers take the plunge in expanding their operations. In the process, he has seen some of the same mistakes crop up repeatedly. Want to avoid joining the “Should've Done It Differently” Club? Freeman suggests the following:

- **ASK, “IS IT FOR US?”** Many of us automatically assume that bigger is better. But expansion is not for everyone. Before you commit yourself to shifting your farm from a family operation to a large-scale business, be sure that the lifestyle you are creating is one you want to live.
- **LOOK AT THE BIG PICTURE.** According to Freeman, many producers on the verge of expansion focus on one aspect of their project—increasing herd size or building a bigger barn, for instance—and neglect to pay attention to what's going on in the rest of the world around them. As a result, they discover complications and angles they hadn't thought of too late, or miss the opportunity to benefit from fluctuations in cost and availability of goods and services. That means paying more, making time-consuming adjustments and compromises, perhaps even having to drop the project entirely. Plan it all the way through first, and leave the detail work until later.
- **RESPECT SCHEDULES.** When dealing with a large project phased over a number of years, it's easy to assume that timing is flexible. However, because everything builds on everything else, it's critical that you emphasize staying on track throughout your expansion. Freeman's suggestion: call everybody together at the outset of construction to create a mutually agreed upon master calendar. That way, you're less likely to be sitting in the rain while your roofer waits for the cement block layer who's waiting for your electrician who can't do a thing until your plumber gets back from vacation.

Goals and Roles

AS YOU CONSIDER EXPANDING your farm, one of the most basic questions you need to ask yourself is just what it is about farming that makes it a worthwhile part of your life.

If it's the hands-on work you like, you may want to think carefully about how growth will

increase your management responsibilities. After a major expansion you will need to spend most of your time managing the operation, so much of the labor will need to be done by someone else. That doesn't mean you can't ever get your feet dirty. It does mean that you will be spending more time behind a desk and less behind a cow or out in

the field.

Only you can decide whether expansion is a change you'd like to make. The important thing is that you make a conscious decision early in the game, before you find that you've expanded yourself right out of the activities that made farming appeal to you in the first place.

9. Expand Dairy and Facilities. At last it's time to add cows and begin construction. As you accept contractors' bids, impress on each the importance of staying on schedule. Include start and finish dates in contracts.

10. Increase Herd Size. Now it's time to concentrate on cows. Buy cows and heifers according to the schedule you set for yourself during the planning stage. Follow your plan for hiring extra labor to do the increased work.

11. Monitor Actual Cash Flow. As your operation expands, keep close tabs on the cash flow. How does it mesh with your projections? If things are different than you had anticipated, you may need to adjust your plan and perhaps your timing for additional stages. Be sure to keep your lender posted if your financial situation shifts.

12. Use Consultants. Once you have your expanded operation up and running, be sure to regularly seek and use the advice of consultants. A management misjudgment that would cause a negligible loss of efficiency in a small operation can make a big difference on a larger scale because of the sheer size of the operation. The right advice from the right person is worth many times the price you pay for it in returns from better production and fewer problems.

If you would like more information on points to consider when planning a dairy expansion project, contact your specialized dairy extension educator (see listing at the end of this newsletter). ■

Help!??

IT'S A LITTLE HARD for some people to accept help. It's even harder when you have to pay for it. But if you're going to go big with your farm, paying for help is a basic part of the deal.

A large dairy operation is bigger than any one person. It requires specialized information inputs from consultants in a variety of areas—and that means paying someone else to do some of the thinking that you may be used to doing on your own right now. It also means hiring people to perform many of the day-to-day tasks so you have enough time and energy for increased management responsibilities.

Part of planning an major expansion is getting used to the idea of shelling out money to have something done that you once could have done yourself "for free." Think of it this way: The only reason your farm got to the production level it is now is that someone along the way was willing to pay for help in the form of fuel and electricity to run labor-saving machines. Similarly, to succeed in a major expansion, you have to be willing to spend a little money to increase the amount of brainpower and musclepower that goes into your operation.

Blinded by the Vision

THINK YOU'RE PRETTY GOOD at sizing things up? If you are, you're doing better than many expansion-minded dairy farmers. According to Freeman, producers eyeing growth almost inevitably underestimate three key aspects of the project: the overall scope, the time it will take to put it together, and the equity required to foot the bill.

His recommendation? First, use the points listed in the main article to ensure that you're covering all the angles. Second, as you're estimating the amount of time and money you'll need, take your "realistic" estimates up a notch or two to buffer yourself against the natural bias toward optimism.

MINNESOTA ALFALFA AND FORAGE EXPO

IF FORAGE CROPS ARE IMPORTANT to you, you won't want to miss the 1994 Minnesota Alfalfa and Forage Expo, to be held August 16-17 on the Tom and Rita Middendorf farm near Freeport, Minnesota.

The event will feature on-site displays and expert presentations in a number of areas. Exhibits include hundreds of alfalfa variety plots, examples of alternative grazing crops and mixtures, and displays and field demonstrations of forage machinery. Registration is free, and lunch will be available on the grounds.

For more information on the Minnesota Alfalfa and Forage Expo, call 612-625-8700.

Practical Tips for Managing Young Calves

First in a series of articles on raising replacement heifers

They may be small, but calves are a big deal for any dairy operation that raises its own replacement heifers. How well you manage those calves today plays a big part in the quality of your herd tomorrow.

During the next several issues of Dairy Initiatives Newsletter, we will provide some tips on raising replacement heifers based on a new reference manual developed by extension educator David Kjome. In this issue we focus on good management during the most critical part of a calf's development, the first two months of life.

Nutrition Basics

What and how you feed your young calves makes a big difference in their long-term health and conditioning. A little care in this area will pay off in lower mortality now and better growth later on.

A Good Start. Start new calves out right by feeding colostrum, the first milk a cow produces after calving. Colostrum contains important proteins that help fight disease. Born without natural immunities, calves are sitting ducks for germs unless they get the protection that colostrum provides. It's important that they get it as soon after birth as possible, too, because their ability to absorb the proteins that provide immunity drops drastically within the first 24 hours.

A calf should consume a total of 12 to 15 percent of her birth weight in first milking colostrum. Provide the first

feeding, about 4 to 5 percent of birth weight, as soon as possible—preferably within 30 minutes of birth. Another 2 to 3 percent of birth weight should be consumed within four to six hours. If colostrum is not available, you can use commercial colostrum supplements.

Milkings over the four to five days

ers may contribute to scours problems.

Extra Colostrum. Extra colostrum makes good food for the week-old calf also. You may feed it fresh, freeze it and then thaw it slowly before feeding, store it as sour (fermented) colostrum in clean containers away from heat, or preserve it by adding propionic acid at a rate of 1

Colostrum Quality

HOW WELL COLOSTRUM NOURISHES and protects a new calf depends on the quality. Colostrum from older cows has more of the disease-fighting proteins than that produced by a first-calf heifer. Rather than giving new calves inferior colostrum, you can freeze extra colostrum from older cows in plastic bags, then thaw it (slowly—heat destroys the value of the proteins) for use with the calves of first-calf heifers.

You can make sure the colostrum you use is of adequate quality by checking it with a colostrometer (it should read 66 mg/ml or higher). Do not use bloody, mastitic, or low-quality colostrum with a new calf.

after the first milking produce transitional milk. This is a good second food for your calf, because it is higher in nutrients than whole milk or milk replacers.

The Advanced Diet. After four to six days of colostrum and transitional milk, the calf is ready for a more advanced diet. Appropriate foods include milk replacers, excess colostrum, and mastitic or discard milk.

Milk Replacers. Milk replacers vary in quality, so read the feed tag carefully. A replacer with 22 percent protein, all derived from milk, is best. If you choose a replacer with soy protein, be sure the total protein level is higher—up to 24 percent. Fat is an important ingredient because it tends to reduce diarrhea problems and encourages growth. Choose a product with at least 10 percent fat, preferably animal fat or soy lecithin. Your choice of milk replacer is important—not all products on the market are good ones, and the poorer quality replac-

Read the Label!

Milk replacers may contain protein from a variety of sources. Before you buy a product, make sure that it is formulated with an acceptable protein source:

GOOD

- skim milk powder
- buttermilk powder
- dried whole whey
- delactosed whey

casein

- milk alumin
- whey protein concentrate

ACCEPTABLE

- chemically modified soy protein
- soy isolates
- soy protein concentrates

UNACCEPTABLE

- meat solubles
- fish protein concentrates
- soy flour
- distillers' solubles
- brewers' yeast
- oat flour
- wheat flour

Winter Wisdom

Just like people, calves need to eat more to stay warm. In extremely cold weather, increase feeding rates by one-fourth to one-half and feed three times a day to help calves cope with the added stress. A higher-fat milk replacer also will help boost a calf's ability to cope with cold. If a calf is extremely chilled or doing poorly, move it to a warmer place.

cup per 6 gallons of colostrum.

Mastitic/Discard Milk. Unless it is extremely bloody or watery, mastitic milk or milk from cows treated for mastitis, metritis, or other health problems can be used for older calves without causing health problems. You can preserve discard milk for later use by treating it with a chemical preservative or by fermenting it. However, milk from the first milking after antibiotic treatment will probably not ferment properly unless mixed with other milk.

A word of caution: House calves fed mastitic milk separate from cows to prevent the spread of mastitis by suckling.

Starters. Offer starter from about three days of age through about 12 weeks of age. A good starter is high in energy, free of excessive fines, and contains 18 percent protein (dry basis). Whole, coarsely ground, cracked or rolled grains and molasses are good ingredients. Limit intake to 3 to 5 pounds per day.

You can use a commercial starter or make your own. Table 1 shows three recipes for good calf starters.

Additives. You may wish to include coccidiostats as an ingredient in milk replacers and starters to reduce coccidiosis. Ionophores such as lasalocid may be added to starters to improve growth. Follow manufacturers' instructions when using any additive.

TABLE 1. Examples of Some Calf Starters

INGREDIENTS (air dry basis)	A	B	C
Corn (cracked or coarse ground), %	43.5	29.0	57.0
Oats (rolled or crushed), %	28.0	20.0	-
Barley (rolled or coarse ground), %	-	20.0	-
Soybean meal, %	20.0	14.3	16.0
Distiller's grains, %	-	9.0	-
Alfalfa, %	-	-	20.0
Molasses, %	5.0	5.0	5.0
Dicalcium phosphate, %	0.7	0.6	0.9
Limestone, %	1.7	1.8	0.8
TM salt and vitamins, %	0.3	0.3	0.3
COMPOSITION (dry matter basis)			
Crude protein, %	18.5	18.0	18.5
TDN, %	82.0	81.5	81.4
ADF, %	8.0	8.8	9.2
Calcium, %	0.4	0.9	0.9
Phosphorus, %	0.5	0.5	0.5
Vitamin A, IU/lb	1500	1500	1500
Vitamin D, IU/lb	500	500	500
Vitamin E, IU/lb	11	11	11

Note: hay may be offered free-choice with starters A and B

Hay/Silage. Start feeding forage when your calf is 8 to 10 weeks old. Do not feed extremely high-moisture silages or pasture before 3 months of age. Low moisture silage is okay if it is fresh.

Water. Begin offering free-choice water when calves are four days old. Be sure to keep water fresh and clean pails daily. Contrary to what you might think, young calves that are offered water tend to consume more starter and perform better

than calves that only get liquid feed.

Weaning. Although most producers wean between four and eight weeks, research has shown that weaning as early as three weeks can save time and money without harming long-term growth. (Calves weaned early may grow more slowly at first, but they catch up by 12 weeks of age.) Do not wean later than eight weeks, or you'll end up with fat calves.

Continued on page 6

How Much? How Often? Warm or Cold? Bottle or Bucket?

THERE ARE PROBABLY as many different ways to feed calves as there are Minnesota dairy operations. Go ahead and choose what works best for you—but keep the following in mind:

- A calf should get dry matter from liquid feed equal to 1 percent of its birth weight each day. You can get a pound of dry matter by feeding 8 pound of milk, 6 pounds of colostrum, 7 pounds of transitional milk, or 8 pounds (1 pound powder + 7 pounds water) of milk replacer.
- Warm water makes milk replacer easier to mix and more palatable to calves.
- Health and performance tend to be similar for bottle- and bucket-feeding.
- If you use an automated system, be sure to keep it clean.
- Once-a-day feeding is okay if calves are not exposed to excess cold or other environmental stresses. However, twice-a-day feeding is probably more satisfying to the calf and has the advantage of letting you keep closer tabs on the animals. If you do feed once a day you may need to reduce liquids in the food to avoid digestive upsets. Offer supplemental water, and observe the animals a second time during the day to check on their well-being.

Managing Young Calves

Continued from page 5

The best way to wean is to limit liquids so that calves eat 1 to 1.5 pounds of starter per day. Encourage starter intake by placing dry feed in the pail right after the liquid is consumed. If a calf is doing poorly, take it easy on the weaning process until performance improves.

Health Problems

Because calves are born without immunities, they are more vulnerable to disease problems than older cows. To avoid unnecessary losses, first work to prevent disease by proper feeding and housing. Second, be alert for problems and treat them promptly.

Scours. Scours can be caused by nutritional problems, bacteria, viruses, or protozoa. The best way to handle scours is to prevent it by properly feeding and housing calves. The accompanying box provides some specific strategies for preventing scours.

To treat a mild case of scours in a young calf, you'll need to use electrolyte therapy. Some veterinarians recommend withholding milk for 24 hours. Others suggest continuing to feed milk or milk replacer on the regular schedule, then feeding 2 to 3 quarts of an electrolyte solution two to three times between milk feedings. Check with your own veterinarian to determine what's right for you.

You can use a commercial electrolyte solution or mix your own by combining 4 teaspoons table salt, 3 teaspoons baking soda, 1/2 cup light corn

Scours Strategies

PREVENTION IS THE BEST medicine when it comes to scours. Use the following practices to minimize problems on your farm:

- **House calves in clean, dry, and well-bedded individual stalls.**
- **Allow adequate space for each calf—24 to 28 square feet of bedded area or 20 square feet of building floor space for calves raised in confined, elevated stalls.**
- **Be sure the barn is adequately ventilated, with at least 4 air exchanges per hour in winter and 15 in summer.**
- **Keep calves dry.**
- **Feed properly. Irregular amounts of feed, incorrect mixing, inappropriate diets, or poor quality milk replacers can cause scours.**
- **Give vitamins A, D, and E right after birth, either orally or by injection.**
- **Feed sufficient colostrum within the first hours and days of birth (see main article).**
- **Clean feeding utensils after each feeding and store them upside down so excess water drains out.**
- **Consider feeding commercially available antibodies within the first two hours of birth.**
- **Follow the vaccination program recommended by your veterinarian.**

syrup, and one gallon of water. Cut back on the electrolyte solution as the calf improves.

For calves with severe scours you may need to use an esophageal feeder or intravenous fluids. Contact your veterinarian if you are unable to control scours with home remedies.

Other Health Problems. Other health problems you may encounter with young calves include respiratory diseases, bloat, navel ill, pinkeye, white muscle disease, ringworm, and warts. As is the case for scours, your best management strategy is to prevent the disease from becoming a problem in the first place. In many cases, good sanitation is the key. Some additional hints for preventing specific problems:

- Help prevent navel ill by applying iodine to the navel at birth and providing colostrum within 30 minutes of birth.
- Minimize pinkeye problems by controlling faceflies.
- Prevent white muscle disease by injecting calves with selenium and vitamin E, or by injecting the dam with selenium and vitamin E during the dry period.

Housing

Because calves are born without natural immunity, it is important that housing minimizes exposure to disease and stress.

Some suggestions:

- House calves in an area that is walled off from other animals.
- Prevent contact between calves.
- Keep housing clean, dry, and draft-free.
- Use feeding containers that are easy to keep clean.
- Keep calves in an area where you can observe them frequently.

Methods for accomplishing these goals include calf hutches, solar calf kennels, individual pens, and individual stalls. Contact your county extension office if you would like more information on building or buying calf housing. 🐄

NEW MANUAL OFFERS START-TO-FINISH LOOK AT RAISING HEIFERS

If you'd like to improve your heifer-raising abilities, you may wish to obtain a copy of *Minnesota Dairy Heifer Management Reference Manual*, a new, comprehensive guidebook compiled by Olmsted County extension educator David Kjome. Contained in a handy loose-leaf binder, the book consists of ten separate sections on preweaned calves, goals, growth, health, housing, nutrition, reproduction, economics, custom rearing, and grazing.

To obtain a copy of the guidebook, send \$30 to Lisa Peterson, Dairy Initiatives Program, University of Minnesota, 126 Peters Hall, 1404 Gortner Ave., St. Paul, MN 55108.

DAIRY
PROFILE



Calf Housing, Mastitis Control Boost the Jetsons' Operation

BY LISA PETERSON

FARM FACTS: Harold, Louise, and Michael Jetson operate a 394-acre dairy farm near Spring Grove, Minn. The Jetsons milk 54 cows with an average production of 19,000 pounds per year. They grow corn, oats, hay and alfalfa.

The Jetsons became a Dairy Initiatives demonstration farm in March 1992. Since that time they have been working on herd health and on transferring the farm to sons Michael and Peter.

SMART MOVES: When the Jetsons first met with their diagnostic team in 1992 they set the goals of getting mastitis under control, completing a dry cow lot, increasing forage quality, and transferring the farm to the sons. Today they have completed the dry cow lot, and have taken steps to control mastitis and forage quality. With the advice of the diagnostic team they also built a free stall barn and a calf barn.

Harold says the calf barn was the cheapest building he has ever built and he would recommend it to anyone provided they have the ideal location on the farm site (the building must face east or south; theirs is on a sand hill with a foot of crushed rock). The building is comparable to calf hutches but the pens are bigger. The Jetsons can use a skid loader to clean it because it was built with 8-foot sheets of plywood that fit between each calf with swing gates. The stalls are 4 feet by 8 feet and there is a post every 8 feet so this makes it easy to open the gates and bring in the skid loader. Since the barn was built they have had snow in the back end of the building once.

The Jetsons have been battling with mastitis. They have purchased a quarter milker and a CMT paddle to help detect



Lisa Peterson

Harold and Michael Jetson appreciate the easy-to-clean design of their new calf facility.

.....
ADVICE:

Use your resources, especially the Minnesota Extension Service staff.

They can provide you with great information.
.....

a high somatic cell count. Since this purchase their SCC has dropped considerably. Now they are working to maintain and monitor the SCC. If there are flair-ups they can get cultures done immediately so they can take care of the problem and continue to get the premium milk check.

PLANS FOR THE FUTURE: The Jetsons have several areas they would like to work on. The main goal is getting the farm transferred to Michael and Peter in the next two years. Harold

would like to retire within that time to pursue other interests.

They plan to continue working with their diagnostic team to keep problems to a minimum and continue to run a successful dairy operation. 7

MARK YOUR CALENDARS!

Dairy Heifer Management Seminar

August 16 - Lewiston, Minn. August 17 - Wisconsin Dells, Wis.

August 18 - Dubuque, Iowa

9:30 a.m. - 3:30 p.m.

Join fellow producers and dairy industry professionals as experts from three universities and the private sector share the latest information on raising dairy replacement heifers. Topics to be discussed include contracting, health, breeding, housing, and nutrition.

Fee for the seminar, which includes a noon meal, is \$15 for dairy producers and \$35 for ag professionals (\$15 if registering with three or more producers). For more information contact Neal Broadwater (507-457-6440) or Jim Linn (612-624-6789).

Choosing Bedding Material

If you are making the transition to a free stall system, one of the decisions you face is what type of bedding to use. Here in the Midwest, sand and organic materials such as straw, sunflower hulls, wood shavings and sawdust are the most common choices today. However, with recent design improvements mattresses are drawing increasing interest. What's right for you depends on your individual circumstances—the availability of materials, the nature of your manure handling system, the relative weight you give to cost and convenience, and your personal preferences. Each option has its advantages and disadvantages.

The following information can help you in choosing the alternative that is best for your farm.

Sand

Sand is a popular bedding choice in free stall barns. It is usually installed over a clay or crushed stone base. Supports at the front and rear of the stall help to hold the sand in place. Some producers blend sand with soft crushed limestone or use crushed limestone alone.

Technique:

Spread 4 to 8 inches of clean sand free of very fine materials and small rocks over the floor, sloping from front to back. Add sand at the front of the stall when the bed levels out or becomes lower in back, about every one to four weeks. Use a light rake to smooth the stall surface and remove manure daily. Do NOT use any organic bedding over the sand—it tends to get mixed in and serves as a breeding ground for disease.

Advantages:

- Relatively inexpensive bedding.
- Comfortable—it can shift around to form a bed that distributes weight evenly.
- Poor growth medium for mastitis-causing microorganisms.
- Can help reduce slipperiness in alleys.

Disadvantages:

- Can be hard to remove from manure pits and storage areas because it tends to settle to the bottom. (Note, however, that some producers have designed their lagoons with concrete bottoms to allow settling and periodic removal of sand.)
- Waste management costs are often higher, so many producers haul manure to the fields daily or use a small storage to hold one to eight weeks of manure.
- Tends to cause excess wear on manure management equipment.
- Requires regular stall maintenance to correct pitting.
- May affect plant growth in fields where sand-containing manure is spread.

Mattresses

Mattresses consist of a sufficient amount of bedding to provide cow comfort (for example, 6 to 8 inches of rubber or 12 inches of straw, which will compress to 4 to 6 inches) covered with some type of fabric. When used over concrete, they reduce the amount of loose bedding needed. Over clay, they help to reduce pitting problems. Although the first mattresses developed earned the reputation of wearing out rapidly, mattresses being produced today are expected to last upwards of five years. The best covering is a 22-ounce polypropylene fabric. Materials used to fill mattresses include shredded or crumb rubber, shredded wiring insulation, or long straw.

Technique:

Mattresses can be constructed in a variety of ways. Figure 1 shows an example of the most common, the pillow design. Whatever mattress type you use, you will need to cover it with a thin layer of chopped straw, sawdust, rice hulls, sunflower hulls, or chopped newspaper—more during cold weather. Check the stall daily, sweeping manure and soiled bedding from the mattress with a light broom. Spread bedding over the mattress

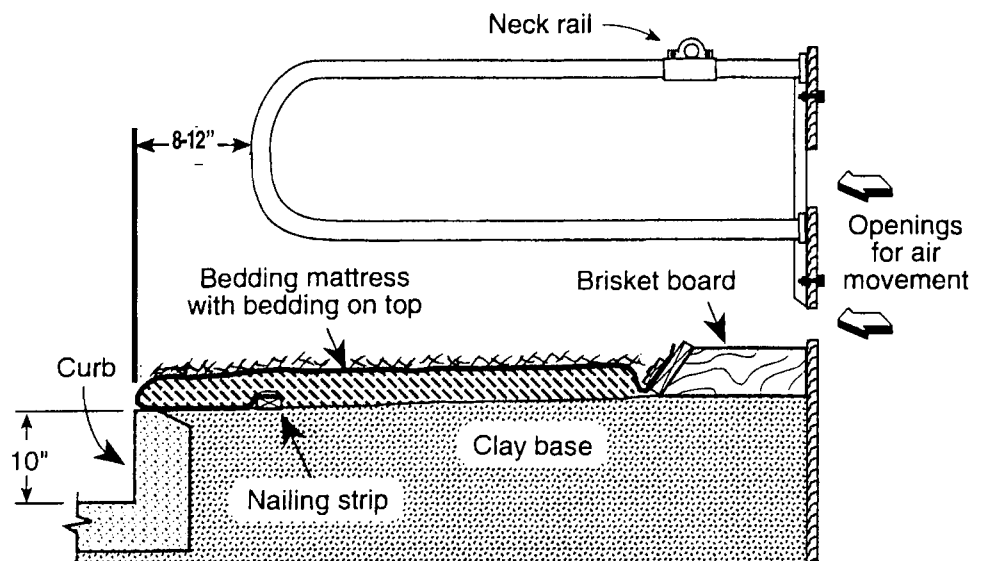
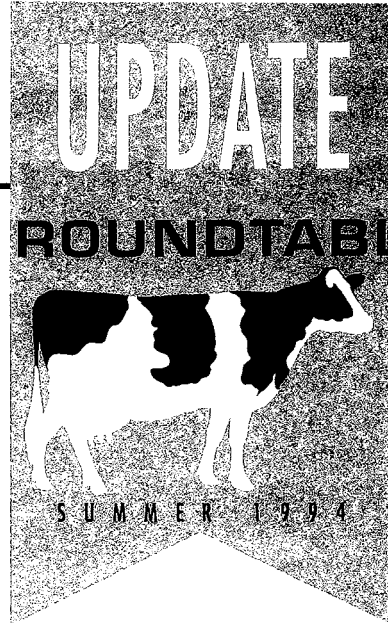


FIGURE 1. Construction of a free stall mattress.

MINNESOTA DAIRY LEADERS ROUNDTABLE

Two years ago, dairy farmer leaders and CEOs of 32 dairy-related businesses and organizations made a formal commitment to revitalize Minnesota's dairy industry by forming a vehicle for working together called the Dairy Leaders Roundtable. This newsletter highlights some of the accomplishments to date as well as ongoing projects and plans for the future.



Update on Dairy Financing Demonstration Project

In June, the Minnesota Dairy Leaders Roundtable announced that an insufficient number of candidates had completed the screening process for the 1994 Dairy Financing Demonstration Project and the program would be reconsidered for 1995.

In January 1994, the Roundtable solicited applications from farm families interested in making major changes in their operations but lacking sufficient equity to secure the needed financing to proceed. More than 50 producers expressed interest in the program prior to the early deadline for applications.

A screening process reduced the list to a dozen dairies that appeared to match the needs of the demonstration project and had begun the planning process for an expansion. These farms were visited and the list of candidates was further refined. Several of the remaining dairies found competitive

financing options and others decided to extend their planning period into 1995.

The remaining number of interested dairies fell below the minimum required to initiate a special funding mecha-

solicit a new round of applications in 1995.

Since the financing demonstration project was conceived more than a year

There is greater interest being shown by producers in planning for the future and many are looking at transitions, expansions and reinvestments.

nism agreed to by several Minnesota milk marketers. The funding would have guaranteed that portion of the financing needed to span the "equity gap" between what creditors were willing to lend and the financing producers needed to reach their goals.

The Roundtable will consider whether it will restructure the financing project and

ago, a number of positive signs have become evident in Minnesota's dairy industry. There is greater interest being shown by producers in planning for the future and many are looking at transitions, expansions and reinvestments. At the same time the financing industry has taken notice and is offering more competitive options.

EDUCATION COALITION ENCOURAGES COLLABORATION

The newly established Education Coalition, led by co-coordinators Gary Neubauer and Joe Conlin, will focus on five key activities as it pursues its goal of working with others to develop and implement creative and innovative education programs.

The five focus areas include:

1. Determine educational needs
2. Explore innovative ways to deliver educational information
3. Encourage development of needed educational materials
4. Develop and implement innovative education materials
5. Encourage collaboration and working together

Economic Development Task Force Highlights Opportunities

In recent months the Minnesota Dairy Leaders Roundtable's newest task force on Economic Development has established an aggressive agenda to push dairying as an economic and rural community development strategy through which jobs can be retained in Minnesota.

The task force is led by three co-chairs, Paul Hansen, Minnesota Department of Trade and Economic Development; George Morse, Department of Agriculture and Applied Economics; and Dennis Warta, New Ulm, Minnesota.

At the March meeting of the full Roundtable, Warta reported it was the goal of the task force to get people to understand what dairying could do for community development and then focus on retaining and enhancing dairying in one rural community after another.

Working with the University of Minnesota, a number of dairy retention and enhancement strategies have been identified and are being tested by the Extension Service. In addition, the task force is looking at a variety of ways in which to work with community and country economic development leaders to develop programs that help maintain a strong, local dairy industry, add value to locally grown feed grains and assure an adequate supply of milk for processing plants.

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."

1994 STEERING COMMITTEE:

Rhonda Amundson, *Minnesota Rural Futures*

Jim Bennett, *Minnesota Veterinary Medical Association*

Bill Dropik, *Minnesota Milk Producers Association*

Mark Furth, *Associated Milk Producers, Inc.*

Jack Gherty, *Land O'Lakes, Inc.*

Dick Goodrich, *University of Minnesota*

Jim Lefebvre, *Mid-America Dairymen, Inc.*

Elton Redalen, *Minnesota Department of Agriculture*

Vern Smith, *Minnesota Bankers Association*

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

FUNDING FOR ROUNDTABLE

The Roundtable's legislative coalition actively followed the progress on a number of bills during the Minnesota legislative session earlier this year including a proposal for the continued partial funding of the Dairy Leader Roundtable.

At the conclusion of the session the legislature approved a proposal that will provide \$50,000 in funding from private industry.

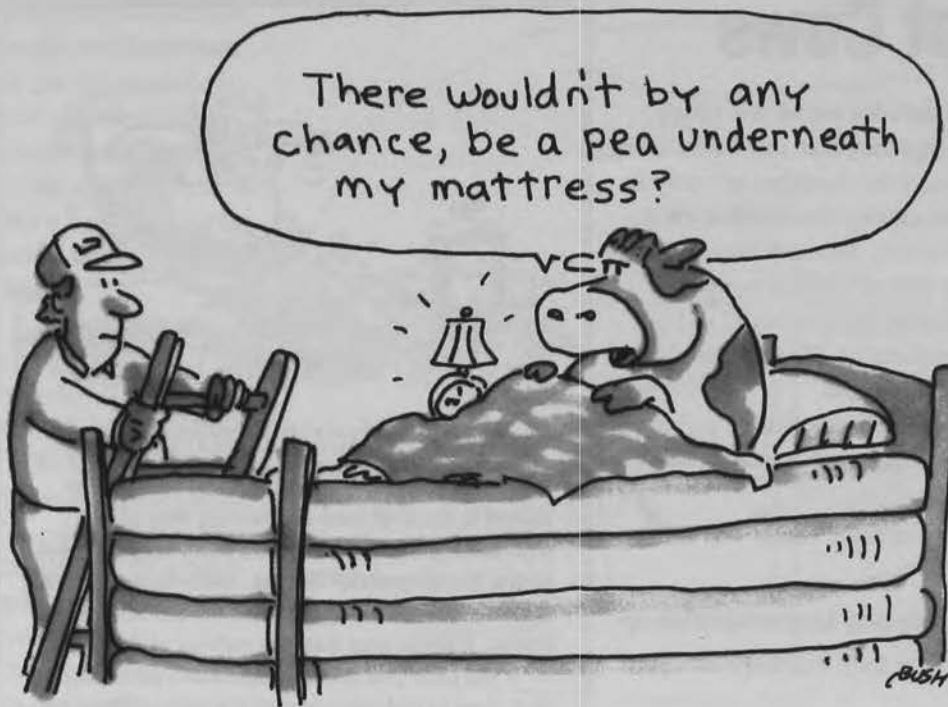
NEW BROCHURE ON ROUNDTABLE AVAILABLE. A new booklet describing the purpose and activities of the Minnesota Dairy Leaders Roundtable has been developed and is available by contacting Roundtable facilitator Ed Frederick (507) 835-3422, or Communications Coalition chair Terry Nagle (612) 481-2271.

Dairy Leaders Roundtable to Meet September 12

Using the theme, "Together, We Can," members of the Minnesota Dairy Leaders Roundtable will meet in the Twin Cities on September 12 to receive updates and participate in discussions with leaders of the various task forces and coalitions that are part of the Roundtable.

In addition, the expected 50+ dairy leaders in attendance will hear a report from a demonstration farm family which is part of a statewide program established by the University of Minnesota and in which the Roundtable has partnered. At previous Roundtable meetings demonstration farm families have reported on their efforts to produce better milk, more competitively, without losing sight of the values that drew them into dairying in the first place.

The Roundtable also has invited State Senator Joe Bertram and Representative Steve Wenzel to make comments at the September 12 meeting.



Organic Materials with Clay Base

Many producers who switch to free stalls choose to use organic bedding material such as chopped straw, sawdust, chopped newspaper, or kiln-dried shavings over a clay base or with a mattress. Organic materials work well with just about any kind of manure handling system.

Technique:

The technique varies somewhat with the choice of material. Remove soiled bedding as soon as possible, since organic materials are a good breeding ground for microorganisms. Add bedding at least three times a week—daily for optimal mastitis control. If you use newspaper bedding with a slatted floor and manure pits be sure there is enough liquid going into the pit or the bedding can cause agitation problems.

Advantages:

- Some of organic materials are inexpensive and easy to get. (Note, however, that some options—shavings, sawdust, and straw, for example—are becoming more costly and less available.)
- Works with a variety of manure handling systems.
- Familiar.

Disadvantages:

- Needs to be bedded more frequently.
- Encourages bacterial growth.
- Newspaper bedding can be messy to handle. 🐄

Mats vs. Mattresses

What about using plain rubber mats or carpeting instead of filled mattresses in concrete stalls? Not a good idea, says extension agricultural engineer John Chastain. Experience has shown that mats tend to pull loose from the concrete and lose their effectiveness. In addition, Chastain notes, they are less comfortable for the cows, can be slippery when wet, and may encourage mastitis. A large amount of bedding is still needed for animal comfort and to keep cows clean.

as necessary to keep it dry.

If straw or other organic bedding is used to fill the mattress, change the bedding once a year. Ground rubber can be used for the life of the mattress fabric.

Advantages:

- Very comfortable, so cows are more likely to use stalls.
- May reduce the likelihood of foot and leg injuries.
- Reduces total bedding costs.
- Requires less maintenance than other bedding over concrete.
- Tend to keep bacteria down.
- Works well with most manure handling systems.

Disadvantages:

- Organic fill (e.g., sawdust or straw) may deteriorate if it gets wet.

- High initial cost (about \$14 to \$28 per stall).
- Mattresses made with low-quality fabrics may wear out rapidly.



Lisa Peterson to Head Dairy Initiatives Office

Lisa Peterson, a member of the University of Minnesota Dairy Initiatives office staff since 1992, has taken over as community program specialist/Dairy Initiatives effective July 1. She replaces Blake Peterson, who retired from the Minnesota Extension Service after serving the organization for 27 years. Her responsibilities include working with the Dairy Initiatives Newsletter, providing coordination assistance for programs put on by the Dairy Initiatives staff, and helping to promote the Minnesota dairy industry through the Dairy Initiatives Program.

She replaces Blake Peterson, who retired from the Minnesota Extension Service after serving the organization for 27 years. Her responsibilities include working with the Dairy Initiatives Newsletter, providing coordination assistance for programs put on by the Dairy Initiatives staff, and helping to promote the Minnesota dairy industry through the Dairy Initiatives Program.

Cool Ideas for Hot Cows

If you'd like more detailed information about mechanical ventilation systems, ask your county extension office for a copy of Agricultural Engineering Update AEU-3, *Improving Mechanical Ventilation in Dairy Barns* (April 28, 1993).

Hot summer days can take a lot out of you physically. But did you know that they also can take a bite of your profits? For cows, warm weather not only is uncomfortable, it also can cause a measurable drop in milk quality and production, decrease breeding efficiency, and increase the risk of disease problems. And we're not talking hot the way you and I define it, either. A relatively comfortable 75° is threshold for heat stress in a typical Holstein.

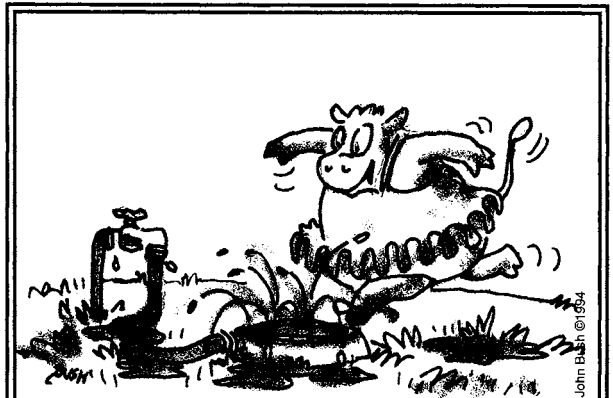
There are a number of relatively simple actions you can take to reduce the impact of heat stress in your herd. Among them:

- supply cows with plenty of fresh water
- keep the barn clean
- feed high-quality forage to help keep production up
- let the cows out, as long as they will have access to shade.

Perhaps the most important thing you can do, however, is to make sure you have adequate ventilation in your barn. Ventilation allows air to move through your barn, reducing the potential for heat stress. By taking time now to get your summer ventilation system up to par, you can not only make yourself and your cows more comfortable, you can reduce heat-related production losses for the rest of this summer and for years to come.

Mechanical Ventilation

With a mechanical ventilation system, you rely on inlets, fans, and controls to help keep your barn cool. You might be tempted to assume that a heat stress



John Bush © 1994

What About Sprinklers?

SOME PRODUCERS FIND that sprinkler systems installed in the feed bunk and holding area of free stall barns are useful in helping cows keep their cool during the hot summer months. These systems work by periodically wetting the cows. As the water evaporates, it draws heat from the surface of the animal.

If you have your eye on a sprinkler system, the first thing to remember is that it is no substitute for good ventilation. You're wasting your time and money if you install a sprinkler without meeting your barn's basic ventilation needs.

The second thing to remember is that a sprinkler system is only a good idea if you design and use it properly. Inappropriate installation can waste water and electricity, increase mastitis, and cause other management headaches.

If you are interested in learning more about sprinkler systems, ask your county extension office for a copy of the article titled "Evaporative Cooling of Swine and Dairy Cows Using Sprinklers" from the Summer 1993 issue of the Minnesota Extension Service publication *Engineering Notes*.

"DAIRY UPDATES" SERIES DESCRIBES FARM CHOICES

Management choices made by operators of 29 large dairy operations in Michigan and Wisconsin are described a series of six "Dairy Update" publications released recently by the Minnesota Extension Service.

Olmsted County extension educator David Kjome, author of the publications, surveyed the 29 farms in the fall of 1993 to identify trends in nine aspects of operations: general farm characteristics, housing, sidewall curtain characteristics, fly control, free stall design and management, grouping strategies, waste management, hired farm labor, and farm financial status. The publications should be useful to anyone who is looking at options for expansion and is interested in finding out more about what works or doesn't work for others.

Dairy Updates are available under the following titles:

- Survey: Herd Management Characteristics . . . (118A)
- Curtain Sidewall Characteristics (118B)
- Dairy Free Stall Design and Management (118C)
- Farm Financial Credit (118D)
- Hired Farm Labor (118E)
- Dairy Animal Waste Management Systems (118F).

For more information or to obtain a copy of any of the Dairy Updates, contact Bonnie Rae, Department of Animal Science, 101 Haecker Hall, 1364 Eckles Avenue, St. Paul, Minnesota 55108; 612-624-4995. Enclose 50¢ for each Update ordered or \$2.00 for the series of six.

problem in a mechanically ventilated barn is due to not enough fans. In many cases, however, the problem is not a lack of fans but a lack of adequate inlets to let fresh air into the barn.

Inlet needs for winter and mild weather were discussed in the Spring 1993 issue of *Dairy Initiatives Newsletter*. To calculate the additional inlet area needed for summer ventilation, first multiply the number of animals in the barn by the standard 500 cubic

feet per minute (cfm) of air needed per animal, then divide that by the required summer inlet velocity of 800 feet per minute. The result is the total square feet of inlet space. If you subtract off what you already have in place for winter and mild weather ventilation, the result is the amount of additional inlet space you need to meet summer demands.

To increase inlet space in a barn, you can use an existing slotted inlet system or existing windows, or add sidewall vents. Whatever the choice, be sure to draw air into the barn directly from outside rather than from the sun-baked attic space or hay mow. Be sure, too, that you distribute the inlets around the barn rather than concentrating them in one spot or another.

Existing Slotted Inlet System. If your barn has a slotted inlet system, adjust the slots to increase ventilation for summer. You can open large areas under the eaves to allow air to flow into the building. Remember, though, that the area of the openings must match your calculated air flow needs.

Existing Windows. To use windows to increase your inlet space, first calculate how much other inlet space you have and your total summer inlet needs. Then divide the difference into the total number of windows. The answer tells you the square footage of opening you need for each window.

Calculate the distance to open each window as follows:

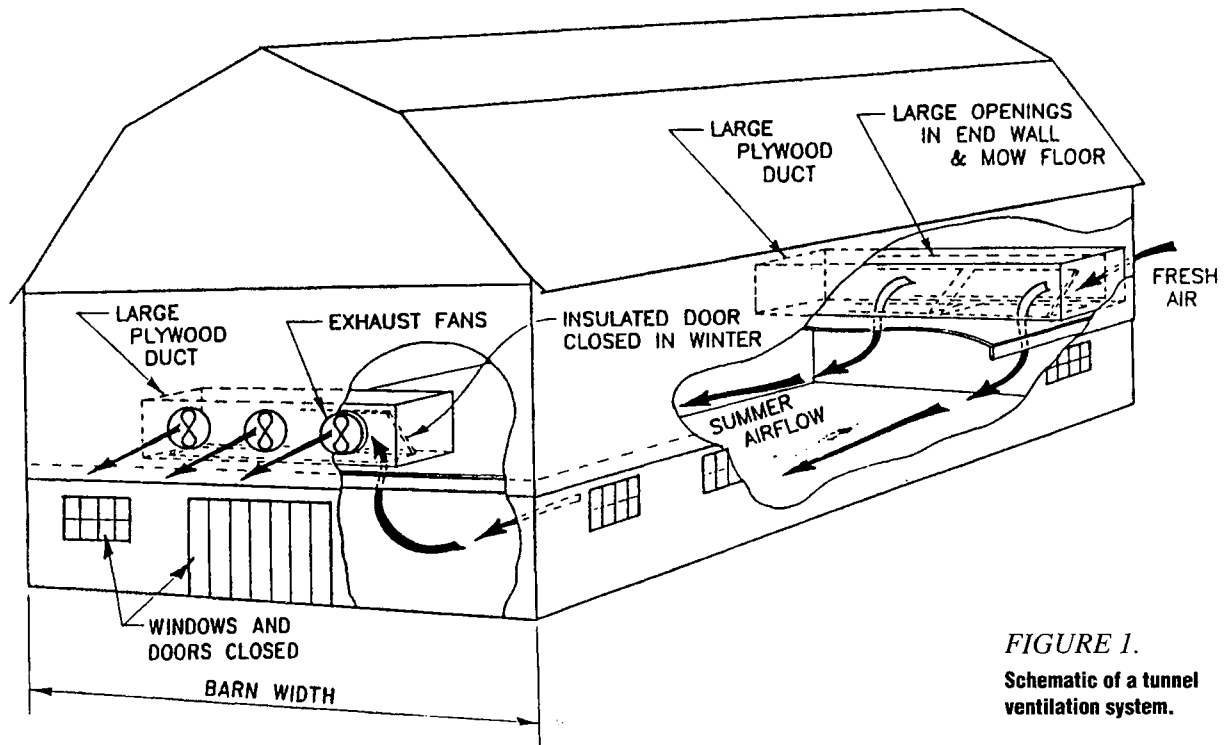


FIGURE 1.
Schematic of a tunnel ventilation system.

For double-hung and sliding windows: $D = 12 \times A/W$

For casement windows: $D = 12 \times A/(W+H)$

Where D = distance to open window, in inches

A = calculated per-window opening area

W = width of window opening

H = height of open portion of casement window

Adding Sidewall Vents. If your barn has nonmasonry sidewalls, you can install adjustable vents. These vents open like a pull-type casement window. Determine the opening thickness, D , as you would for a casement window.

Tunnel Ventilation

If your barn has masonry walls or is partially underground, you may need to use tunnel ventilation to get enough air circulation for summer.

A tunnel ventilation system consists of a bank of fans on one end of the barn and an intake duct, doors, or windows on the other. Tunnel ventilation takes more energy than conventional mechanical ventilation systems. *It also is not appropriate for winter or mild weather ventilation.* For these reasons, tunnel ventilation should be the choice of last resort for summer ventilation.

Sizing Fans. It's important that you use the right size fans for tunnel ventilation. To calculate the size you need, multiply the barn width by the ceiling height and then multiply that figure by the desired air speed of 220 feet per minute. A 35-foot wide dairy barn with an 8-foot ceiling thus would

Continued on page 12

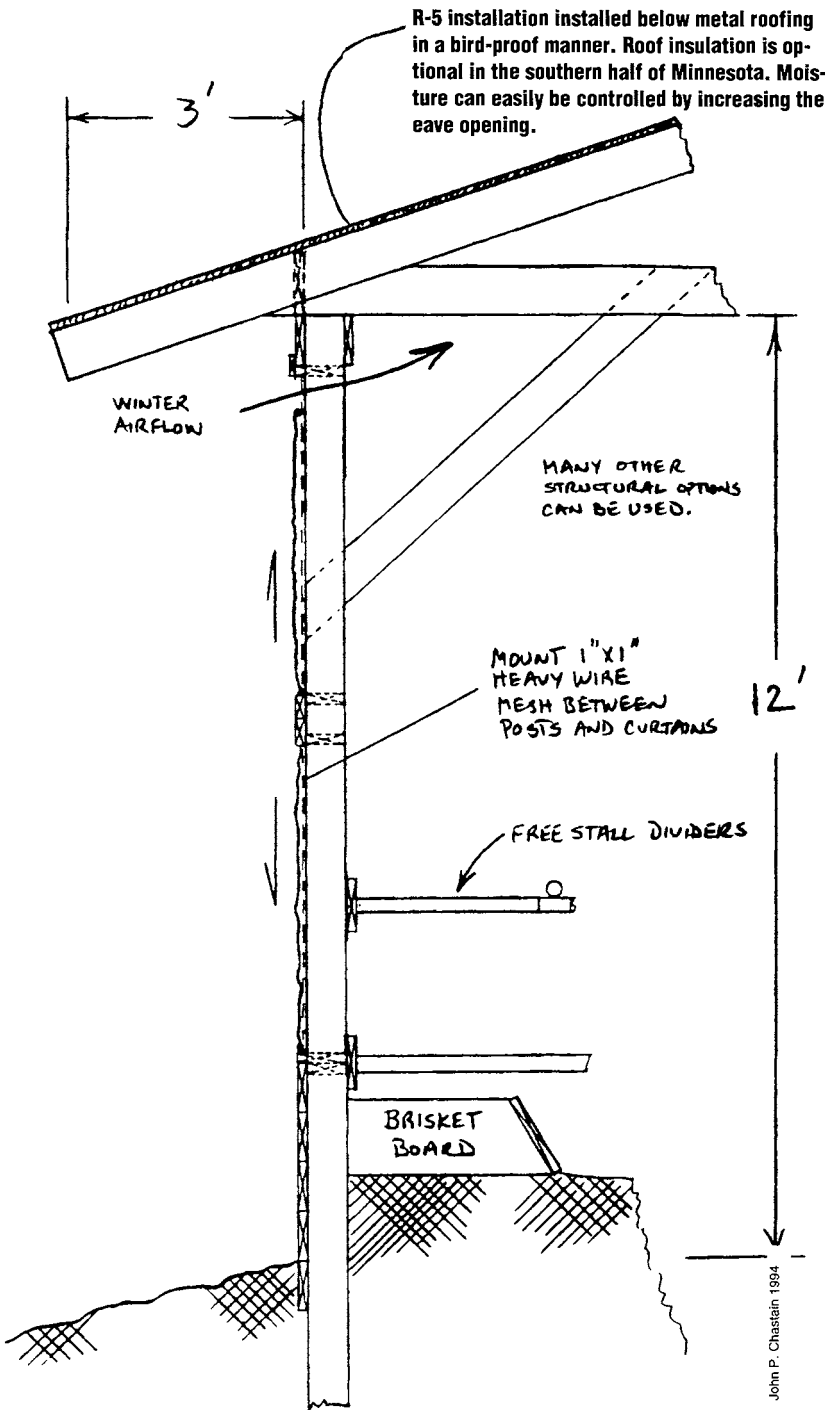


FIGURE 2. DOUBLE CURTAIN WALL FOR NATURALLY VENTILATED DAIRY BUILDINGS. The uninsulated top curtain (4 ft wide) is closed by raising with a hand operated winch. Use the top of the curtain as an adjustable eave vent. Use an eave opening of 1 inch per 10 ft of building width if daily high temperatures are in the teens and twenties. Reduce the eave vent to 0.5 inch per 10 ft of building width if lows are below zero. During severe winter weather (highs below zero) the eave vent can be closed to 1 to 2 inches. However, the eave vent must be restored to 0.5 to 1 inch per 10 ft of building width when the weather begins to warm or excess moisture will build up in the building. The curtain is supported during adjustment by restraining straps or counter-weighted cords.

The bottom curtain (4 ft wide) is also uninsulated and is closed by lowering. This curtain is closed all winter and open all summer. Secure the curtain with removable 2-inch by 2-inch nailing strips or raise and lower with a rotating pipe in a guiding track.

Both curtains remain fully open during late spring, summer, and early fall.

require 62,000 cubic feet per minute (cfm) of fan capacity.

Inlet Design. Determine the inlet area required for tunnel ventilation by dividing the fan capacity (calculated under "Sizing Fans" above) by 400 feet per minute. The barn in the example above would need an inlet area of 155 square feet.

Some producers just open doors and windows on the end of the barn opposite the fans to provide the needed intake area. However, this can cause problems with blowing rain and flies. A better method is to build a duct across the end of the hay mow that opens to the housing area through a hinged door (Figure 1). Provide external intake for the duct using louvers that provide the required inlet space.

Control. Manual control is common with tunnel ventilation systems. However, because tunnel ventilation can overventilate a barn in cool weather, some producers install a thermostat on one or two fans to shut them off when the barn temperature drops below 60°. Tunnel ventilation fans must be covered with insulation during fall, winter and spring. Also, fans used for these seasons must be turned off when the tunnel ventilation system is in use.

Natural Ventilation

Natural ventilation relies on wind and the difference in temperature between indoor and outdoor air to create air movement through the barn. In a naturally ventilated building, you should be able to open at least 60 percent of the sidewalls. The building also should have small continuous eave openings, no ceiling, and at least 2 inches of open ridge vent per 10 feet of building width.

If you have a free stall or loose housing barn with heat problems, consider creating a natural ventilation system by removing the metal and adding plastic or nylon curtains to the long walls of the building. In a free stall barn, you can use full wall curtains to maximize airflow through the building. If you choose this option, be sure to add a 3-foot overhang on the side walls near the free stalls to help keep the barn dry.

One possible natural ventilation scheme is shown in Figure 2. For more information on natural ventilation, see the Spring 1994 issue of *Dairy Initiatives Newsletter*. 🐄

Beyond the Bottom Line:

Communicating for Success

Your farm and family benefit when you learn and practice basic communication skills

If you're like most people, you yelled when you were born, learned to talk when you were two, picked up reading and writing in school—and haven't paid too much attention to polishing your communication skills since.

Well, it's time to shine them up now. Good communication is among your best allies when facing the challenges, choices, and changes in farming at the brink of the 21st century. Whether it's with family members, an employee, your banker, or the guy down the road, skillful communication can open doors as quickly as silence and misunderstanding can shut and bolt them.

Whatever your plans for your operation over the years ahead, they will go more smoothly if you take a little time to learn and practice better ways of communicating with the people around you. Following are some suggestions offered by extension family life specialist Ron Pitzer:

Not Just Talk

We all know how to talk, so it's easy to assume that we know how to communicate, too.

But in reality, talk is just a small part of the whole picture. The receiving end—listening—is at least as important, perhaps moreso. And the nonverbal signals provided by body language and actions are a big part of the overall message, too.

An improved ability to talk, to listen, and to send and understand nonver-

bal signals is to our relationships what WD-40 is to an old bolt. It loosens things up. It helps keep surfaces from grating against and damaging each

other. In general, it allows things to operate more smoothly. And in today's competitive farming, that could be the make-it-or-break-it difference.

Just Do It!

The first thing to remember about communication is to do it. The people around you are not mind readers. They will not know if something pleases you or concerns you or drives you crazy unless you let them know. It's okay to

talk about something that is on your mind. It's not okay to keep it inside and then get angry or frustrated because people seem to be ignoring what's important to you.

We all have a tendency to not share negative thoughts and feelings. The problem with that is that it doesn't give either us or anyone else a chance to do anything to resolve them. Being willing to talk about difficult things is the first step in finding the way through them. Research has shown time and again that the people who weather troubles most successfully are those who are willing to "talk it out" and see asking for help a sign of strength and maturity rather than weakness and overdependence.

Talk may be cheap, but not talking can be very, very expensive in the toll it takes on the quality of our relationships with those around us, be they business

Good communication is among your best allies when facing the challenges, choices, and changes in farming at the brink of the 21st century.

All Right! CONFLICT!

THAT'S PROBABLY NOT your first reaction when things get a little hot around the house or in a business relationship. But it's important to remember that conflict can be a positive opportunity to improve things—if we go into it with the right attitude and with a little knowledge of how to deal with it.

The first rule in dealing with conflict is to confront it correctly. Pick a time when both parties have the time, energy, and mental attitude to deal with the issue. Commit yourself to treating the other person with respect, in your words and in your behavior.

Next listen—REALLY listen—to his or her story. (Remember to listen to the nonverbal signals as well as words!) After you are sure you have heard the message thoroughly and correctly, give your position. Be brief, be respectful, and avoid loaded words.

Now you both know where each other stands, and it's time to find a solution. Try this:

1. State the problem. Be specific.
2. List players. Who is part of or affected by the problem? Who might be part of the solution?
3. Look at values. What is important to you and to others involved in the conflict? What is most important? What values do you have in common?
4. Brainstorm solutions. Make a big list of possible ways to work out the conflict. Don't get practical just yet—if you think a two-week vacation in Hawaii would do the trick, go ahead and write it down.
5. Rank solutions. Next, use the values list (Step 3) to rank the solutions. Which are best? Which could you accept if they ranked high to the others involved in the conflict? Can you create new solutions by combining some?
6. Identify solution. Talk over the possibilities until you agree on one. If you're working in a group, use consensus rather than voting. If you can't find an agreeable solution, take time out or go back to brainstorming.
7. Think through the solution. What are some of the reasons it might not work? Revise it as necessary until you feel confident in it.
8. Act. Use the feeling of strength you have found in creating common ground to put the solution in place. Be flexible, however. If the situation changes, your solution may need to shift, too.

Continued on page 14

Beyond the Bottom Line

Continued from page 13

or personal.

Learn to Listen

Good communication is a two-way street. That means that how well it works for you depends at least as much on your ability to listen as on your talent for talking.

But good listening is hard. We tend to get distracted, to let our minds wander, to use our energy judging rather than just hearing, to run words through the meat grinder of our personal biases without checking to make sure we understand the message the other person is trying to get across.

The solution? Seek feedback. As you listen, periodically ask questions or try rephrasing what you think the speaker is saying to make sure you are getting it right.

Don't Be Fooled by Words

When you talk with another person, it's important to remember that the message that leaves your mouth is not exactly the same as the message the other person receives. That's because it is tinted by that person's unique understanding of the world. And the same thing happens when you are the listener. To increase the odds that you are able to truly understand each other, keep in mind:

Words have different meanings to different people. That means it's important to not just focus in on a word someone uses and apply your own meaning to it. Listen to the context and ask for elaboration if necessary to make sure you understand what he or she means.

Words carry emotion. Many words bring out feelings in the listener. That can make it hard to listen because we're busy dealing with what those words are doing to our insides. It's important to try to stay "cool" enough to truly hear the message

The Secret of Strong Families



Keep lines of communication open.

When researchers take a look at strong families to find what makes them tick, they find many things. But the one thread that is woven consistently through families that work well together is their ability to communicate, says extension family life specialist Ron Pitzer.

"One feature characterizing strong families and distinguishing them from less competent families is that they communicate frequently, openly, clearly, and directly," Pitzer says.

According to Pitzer, three aspects of family communication are particularly important:

- **PERSONAL SHARING.** Members of strong families share their feelings, hopes, dreams, fears, joys, sorrows, experiences, growth, and needs.
- **LISTENING.** In strong families, members really listen to each other. They are aware of how their own interpretations change the message, and they ask questions to make sure they understand.
- **EXPRESSING WANTS AND NEEDS.** Members of strong families express their wants and needs clearly rather than assuming that others automatically know how they feel. When talking about their needs and wants, they check the listener's interpretation to make sure he or she understands.

Like to move your family into the "strong" category? Pitzer offers this advice:

- **TAKE TIME TO TALK.** Turn off the TV. Visit in the car or while doing chores. Research shows that the average husband and wife spend 27 minutes a week talking, and that parents spend less than an hour a day actively communicating with their children. It's critical that you find time to do the personal sharing that makes families strong.
- **COMMUNICATE ABOUT YOUR COMMUNICATION.** What are your family's communication strengths? What needs improving? Brainstorm ways you might improve communication—a family council or meeting, for example.
- **LEARN TO LISTEN.** Be willing to listen to the unpleasant as well as to things you want to hear. Listen without judging. Remember that words aren't the only message—look to body language and actions for clues to the meaning behind the words, too.
- **LISTEN TO YOURSELF, TOO.** Take a look at your own communication style. What works? What could you do better?
- **REMEMBER THAT YOU CANNOT NOT COMMUNICATE.** Whether you talk or not, you are sending messages. Be alert to what those messages might be and how they might be affecting your family.

before reacting.

Words can't be taken at face value. "I don't care" could mean "I care very much but I don't want you to know it" or "I can't handle thinking about this right now." As you hear a person's words, be open to possible interpretations that may become obvious as the conversation develops.

Learn to Understand Body Language

You've heard the phrase, "It's not what she said, it's how she said it." The "how" is the nonverbal communication. Gestures, eye contact, posture, eye-brows, clenched hands, tone of voice and other body language are as much a part of the message as the words. If you ignore nonverbal signals when you listen to another person, you hear only part of the story.

In the same way, when you are talking, be aware of the messages your body is sending, too. If you tell someone you care about what he or she is saying at the same time you watch the clock or edge your way out the door, guess what he or she really hears?

Consider Actions

Too often we ignore the day-to-day messages being sent by those around us. Getting up first to make the coffee every day might mean "I love you." On the other hand, if someone always seems too busy to deal with your concerns, it might mean that he or she doesn't really want you as a customer or a friend. You "tell" your kids that you care by setting limits. They "tell" you things by pitching in without being asked, by sulking, by showing respect, by pretending not to hear you. All of these are part of the overall message.

Too fuzzy for your liking? Then move them into the open by saying what you observe and describing your interpretation. Talk it through, listen it through. At first it may seem a bit uncomfortable, but you will soon find it was worth it in improved peace of mind and a better understanding of and relationship with the people in your life. 🐄

Rotational Grazing Fits Hansons' Goals

BY LISA PETERSON

FARM FACTS: Marilyn and Alton Hanson have been milking for 11 years and rotational grazing four of those years near Pine City, Minn. The Hansons milk 16 Jerseys with a rolling herd average of 13,000 pounds, and 36 Holsteins with a rolling herd average of 18,000 pounds. They have 50 acres of grazing land for the dairy cows and 30 acres for the youngstock.

The Hansons have based much of their rotational grazing on New Zealand's methods. They have found this to be very cost effective and have found many ways to cut costs to a minimum.

SMART MOVES: Four years ago the Hansons received a grant from the Minnesota Department of Agriculture to continue and demonstrate to other farmers their sustainable agriculture techniques. Since then, they have been working with specialists to learn how to be more productive and profitable while rotational grazing.

The Hansons have found that they have to adapt to the farm and work with nature. When they first started grazing they grazed their land from north to south and found that the soil was getting very compacted because of the different soil types in the pasture. This prompted them to begin grazing from east to west, which has worked out much better.

Alton uses portable fencing to block off the paddocks and the walkway. He has a separate walkway because otherwise the cows kill too much grass then they are walking to and from the paddock. The cows receive new grass every 12 hours; this makes them want to get in and out of the barn as soon as possible. They also get 5 to 7 pounds of coarse palatable hay to supplement them with energy and fiber that the grass is lacking. When the cows are in the pasture there is less work cleaning the barn and the manure makes a good fertilizer because it is fairly well distributed.

The Hansons have found that their cows last longer now that they are grazing. The cows hold up better from the exercise and their hooves are trimmed when they walk. However, Alton cautions that they should not walk more than a mile at a time or production will drop.

The Hansons have increased their profitability even though their milk production herd average has decreased, because their cow numbers are up and their input is down. Alton says he will sacrifice milk production to be less labor intensive.

PLANS FOR THE FUTURE: Alton plans to switch to a grass-based seasonal dairy much like the New Zealand model. He will quit milking around January 1 and start up again the first part of April. This will save money because the cows will be in the pasture all winter and they'll save on electricity, gas, fuel, etc.

ADVICE: Any family that wants to start dairying should look into rotational



For Alton Hanson, rotational grazing has increased profitability and reduced labor input.

Lisa Peterson



Specialized Dairy Extension Educators

Sheldon Erickson Roseau County	218/463-1052
Lee Raith Carlton County	800/862-3760, ext. 123
Denzil Cooper E. Otter Tail County	218/346-5750
Larry Zilliox Douglas County	612/762-2381
Jeff Kearnan Stearns County	612/255-6169
Harmon Wilts Kandiyohi County	612/235-1485
Vern Oraskovich Carver County	612/442-4496
Tim Dolan Sibley County	612/237-5531
David Kjome Olmsted County	507/285-8250
Neil Broadwater Winona County	507/457-6440
Kendall Langseth Freeborn County	507/373-1475
Wayne Schoper Brown County	507/794-7993
Vince Crary East Polk County	218/563-2465
Bill Crawford Martin County	507/235-3341



Initiatives

Volume 3 Issue 2 Summer 1994

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

Production Staff:

Editors: Gerald Steuernagel, Mary Hoff
Designer: Tara Christopherson
Illustrator: John Bush

Executive Board:

Richard Goodrich612/624-1205
Director
Lisa Peterson612/625-9757
Program Coordinator, Minnesota Extension Service
Edward Frederick507/835-3422
Coordinator, Dairy Leaders Roundtable

Extension Specialists:

John Chastain, Agricultural Engineering612/625-3701
Joe Conlin, Dairy612/624-4995
Earl Fuller, Farm Management612/625-1226
Dennis Johnson612/589-1711
James Linn, Dairy612/624-4995
Neal Martin, Agronomy/Forages612/625-3747
George Marx218/281-8606
Jerry Olson, Veterinary/Dairy612/625-0280
Jeffrey Reneau, Dairy612/624-4995
Gerald Steuernagel, Dairy612/624-4995

The University of Minnesota, including the Minnesota Extension Service, is committed to the policy that all persons shall have equal access to its programs, facilities, and employment, without regard to race, color, creed, religion, national origin, sex, age, marital status, disability, public assistance status, veteran status, or sexual orientation.

The information given in this publication is for educational purposes only. Reference to commercial products or trade names is made with the understanding that no discrimination is intended and no endorsement by the Minnesota Extension Service is implied.



This publication was printed on recycled paper using agribased inks.

Financial support provided by Dairy Partnership, Inc.

MINNESOTA EXTENSION SERVICE
UNIVERSITY OF MINNESOTA

Dairy Initiatives Program
126 Peters Hall
1404 Gortner Avenue
St. Paul, MN 55108

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