

UNIVERSITY OF MINNESOTA

DAIRY Initiatives



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INSERT FOR
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OF EVENTS

Growing a Three-Family Farm

JUL 24 2002

By JOSEPH KURTZ
University of Minnesota Extension Service

Sons reaching adulthood with the desire to become full-time business partners with their parents provided the impetus for new facilities and major changes in the Kieffer family dairy operation in Dakota County.

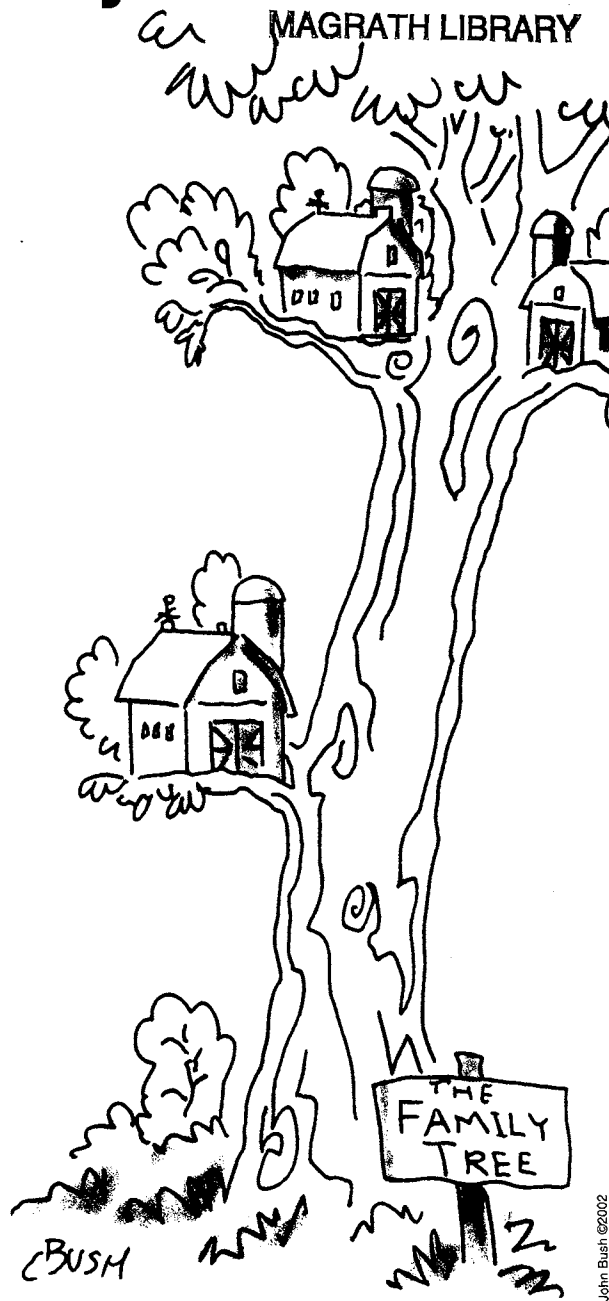
Wayne and Bernie Kieffer have four sons—Mark, 30; Kevin, 28; Tim, 25; and Nick, 19. Mark is not involved in the dairy operation, but Kevin and Tim joined the operation full time after completing college degrees in animal and plant systems at the University of Minnesota. Kevin completed his studies in 1996 and Tim in 1999. Nick recently finished his freshman year at the U of M.

The Kieffer farm, with a current herd of 200 Holsteins, was started by Wayne's great-grandfather in the late 1880s. Wayne began farming full time after graduating from high school in 1959. He and his brother bought heifers and established a herd of 24 Holsteins. In 1967 they remodeled the barn and put in a barn cleaner and bulk tank. They increased the herd to 40 cows and Wayne bought out his brother in 1969. Wayne and Bernie were married in 1970, and Bernie has taken care of bookkeeping and bills for the operation since then.

"From the time we were married until Kevin came back from college, we milked 40 to 45 cows," says Wayne. "In 1998 we built another heifer shed and bought 20 more heifers. We decided to put up a bigger building to house the cows."

The Kieffers considered converting their barn into a milking parlor and putting up a new free-stall barn. But they eventually decided to build new facilities about 150 yards from the existing farmstead. The new location was part of a 40-acre field, and would provide room to grow if the other sons wanted to join the operation.

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Growing a Three-Family Farm

Continued from page 1

"At our old location we were directly up against a neighboring farm," says Wayne. "We didn't have room to expand to more than 100 cows. The way the land was laid out, there was no room for future growth. And remodeling where we were would have taken a lot of money with the labor involved, and we still would not have had what we really wanted."

In addition to choosing a location for their new buildings, the Kieffers had to determine what kind of design to use. "We spent three years looking at other dairy operations," says Wayne. "We went to California, Michigan, Wisconsin, and southern Minnesota to look at a lot of different dairy setups."

After deciding on a design, they obtained the help of Arlo Habben of Southern Minnesota Agronomic and Environmental Services. Habben drew up the building layout and planned the manure-handling system to meet state environmental regulations. They selected Jim Kreofsky of Kreofsky Building Systems as their builder. Construction began in fall 1999 and continued through winter.

The free-stall barn is 110 by 176 feet with curtain-wall ventilation. It has 204 stalls in six rows with a drive-through alley for feeding. Next to the free-stall barn is a parlor and holding pen. The parlor is a double-8 parallel and is expandable to a double-12. The building with the parlor also has two business offices and a veterinarian room, break room, and bathroom.

The Kieffers moved cows into the new barn in May 2000. They had purchased heifers to calve after the new barn was ready, so they were milking



Photos: Don Breneman ©2002

Above: employee John Bauer with Kevin, Wayne and Tim Kieffer

Opposite page: Wayne, Bernie and Tim Kieffer in back row; Kevin Kieffer and John Bauer in foreground

160 cows by fall 2000 and were up to 200 by December.

They switched to milking three times a day soon after moving their cows into the new barn. "We were starting milking about 4:30 a.m., and by 2 to 3 p.m. a lot of the [first-lactation] heifers were leaking milk already," Kevin recalls. "So we decided we needed to milk three times a day. Production went up 10 pounds per cow per day just like that."

Milking now begins at 4 a.m., noon, and 7:30 p.m. Wayne says they have been fortunate to find part-time help for milking. Although one person can do the milking, they almost always have two people. A neighbor comes to do the early milking, and either Kevin or Tim milks at noon. They have had various people do the evening milking.

"Situations such as this can provide three to five hours of work a day for someone who just wants half-time work," says Wayne. "It works out well for a couple where one has a full-time job and the other wants a little extra work."

Before the Kieffers moved into their new barn, herd production averaged about 22,000 pounds of milk per cow

per year. With the new barn and three-times-per-day milking, production is averaging 27,400 pounds.

"We buy dry baled hay, along with cottonseed and a commercial protein mix from Hubbard," says Wayne. "We grow the rest of our feed, including corn silage and haylage." John Bauer, a full-time employee, does most of the feeding. Duane Fowler of Farmers Union in Miesville works with Kevin and Tim to formulate the rations.

Young heifers go to a grower about seven miles away. "He does an excellent job with the heifers," says Wayne. "Our heifers average over 1,300 pounds when they come back, and some are not yet two years old. We started sending them off in the fall of 1999, about the time we started construction on the new buildings. We didn't have room for them, and if you don't have room, you don't do a good job."

The Kieffers own 360 acres and farm more than 900. Crops include 450 acres of corn, 275 acres of soybeans, 110 acres of alfalfa, and 100 acres of sweet corn and peas contracted for canning.

Strong family relationships are a key to the success of the Kieffer family dairy

enterprise. Would the type of arrangement they have work for every family? "Probably not," says Wayne. "I think most could do it if they wanted to make the effort. But if you have really conflicting personalities to start with, it would be difficult. Kevin and Tim have always gotten along, and that's very important."

"We don't have regularly scheduled meetings," he adds. "But there are a lot

told us it wouldn't work—that you have to go to 400 cows. But we thought it would be better to have fewer cows produce more milk, so we've focused on production."

Wayne says going from 40 or 50 cows to 500 is too difficult mentally and financially for most people. "It's like trying to run before you know how to walk," he says. "I really feel that in two

with a skid-steer loader. The manure solids remain in the separator and are cleaned out periodically. The liquids flow into the storage basin and are pumped out through an irrigation system onto crop ground.

"The system had to be approved and certified by the Minnesota Pollution Control Agency," says Habben. "There are a lot of checks to protect the environment."

Kreofsky, the builder, recommends that producers do plenty of research on various building designs before going ahead with a new facility. "That way they'll get the end product they will be most satisfied with," he says.

He notes that moving to a new site, as the Kieffers did, is often the most economical. "Newer dairies take more room for manure storage facilities," he points out. "And it's generally a good idea to keep feed commodities nearby. Also, ventilation is typically improved by getting away from shelterbelts and existing buildings."

John Poepl, chief executive officer of the Vermillion State Bank in Vermillion, worked with the Kieffers on financing their new facilities. He says it can be a challenge for a family to successfully expand a business.

"In a family business, you have to know everyone is going to get along—father, sons, daughters-in-law, everyone," he says. "In the Kieffers' case, they're very confident in working with each other in terms of both work skill and desire to get work done. They're a close family, and they trust each other."

He said the Kieffers have banked at Vermillion State Bank for many years, going back to when his father was in charge of the bank. "They keep such good control of expenses and are so efficient," he says, "that they don't need as much revenue as others might need to succeed." 🐄

**"Change is never comfortable,
but if you can take it step by step,
it works better."** —Wayne Kieffer



of times we have breakfast or dinner together, and that is a good opportunity to talk. If you talk a little every day you kind of keep on top of things."

Kevin and Tim both live off the farm and are married, and both their wives work full time off the farm. Both wives grew up on dairy farms.

Bernie says the employees are "extremely important" to the success of the dairy. "We have a very good employee (Bauer) who has been with us on and off since high school and is now here full time," she says. "The part-time help is very important also. We've been very fortunate with employees. I think it's important that you pay them fairly, treat them fairly, respect them and honor their wishes for time off."

Wayne says the new site with the new barn and parlor have worked out well, but adds, "If you're operating on a shoestring, you definitely don't want to do what we did. You might want to build a free-stall barn and milk in the other barn, and get into the parlor when your free-stall barn is completely filled and you have a good supply of replacements."

Tim says that when they were planning their new facilities, "a lot of people

or three years they [his sons] could handle another barn and doubling the herd because of what we've learned. Some mistakes that weren't financially disastrous at 200 cows could have been at 400 or 500 cows. Change is never comfortable, but if you can take it step by step, it works better."

Wayne says adding another barn is a strong possibility if Nick wants to join the operation after finishing college. "Even if he doesn't, Kevin and Tim could still do it if they need to," he adds.

Tim says he and his brother work together in choosing bulls and most other aspects of the operation. "We take the work and split it up," he says. "But all of us know what to do and how everything works."

Kevin and Tim both say they like working in the family operation better than having an individual operation of their own. "It splits up the work," says Kevin. "And it helps a lot that we don't all have to be here all the time. Everyone gets a week or two of vacation every year."

The manure management system includes a liquid storage basin at one end of the free-stall barn. Manure is pushed into a passive sand-and-solids separator

Don't Just Blow Hot Air

By KEVIN JANNI
Department of Biosystems and Agricultural
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Fan Safety Tips

- **Make sure fan wiring meets all National Electrical Codes (NEC) and local requirements.**
- **Consider wiring the fans with a hook, cord, and plug to make it easier to remove the fan for maintenance.**
- **Mount fans where they won't get in the way of people, animals, or equipment.**
- **Screen or guard fans within reach of people or animals to prevent bodily injury.**

Supplemental cooling fans can help boost production during hot weather. They do so by increasing air movement past cows' bodies, helping remove the heat they generate.

Where?

Supplemental cooling fans can be used in stall barns, close-up pens, and holding areas, as well as over feeding alleys and free stalls. For cooling fans to be effective, adequate air exchange must be provided through either ventilating fans or natural ventilation. Air exchange is needed to get the hot air out of the building. Little cooling is gained by blowing hot air.

How Fast?

For cooling fans to do much good, they should move air past the cows at a minimum of 200 to 400 feet per minute (2.2 to 4.5 mph). Some researchers in warmer climates have suggested higher velocities, but there is no consensus. Excessive air velocities are not economical and add little additional cooling benefit. As air temperature nears a cow's body temperature (around 102°F), increased air movement becomes less effective at cooling.

Axial Fans

Axial fans with diameters between 24 to 48 inches (2 to 4 feet) are commonly used as supplemental cooling fans. In free-stall barns these fans are mounted 10 to 12 feet above the floor at a slight downward tilt to blow air across the cows' backs. The fans are spaced at distances 10 times the fan diameter (e.g., every 20 feet for 2-foot-diameter fans). Properly oriented, high-quality fans operating at the recommended spacing should provide sufficient cooling.

Axial fan orientation is very important. If fans are pointed too high, little increased air velocity occurs at cow level. One approach is to use fans that have detectable velocities 20 to 40 feet away, and point them at the ground below the next fan. In free-stall barns, orient all fans to blow in one direction, preferably in the predominant summer wind

direction.

Limited guidelines are available in the Midwest Plan Service (MWPS) Dairy Freestall Housing and Equipment handbook for selecting and installing axial cooling fans. Select energy-efficient fans with high airflow rates per electrical energy usage (cubic feet per minute per kilowatt hour) to minimize operating costs.

HVLS Fans

A new type of cooling fan being used in dairy facilities is the high volume low speed (HVLS) fan. These are fans with diameters ranging from 8 to 24 feet that move large volumes of air at much lower velocities than axial fans. They have $\frac{3}{4}$ to 1 horsepower motors and speeds ranging from 50 to 120 revolutions per minute (RPM), depending on fan diameter.


HVLS fans are mounted like home ceiling fans and blow air toward the floor. As the air nears the floor it spreads out in all directions to provide cooling and mixing.

University of Wisconsin–Madison researchers are currently evaluating cooling effectiveness and air velocities in free-stall barns with HVLS fans. Additional research will be needed to determine mounting height and spacing specifications. Preliminary observations and comments are available at www.bae.umn.edu/extens/ennotes/enaug01/hvls.htm.

Other Considerations

Poles, rough ceilings or joists in stall barns, walls, feed mangers, waterers, and other obstructions can block airflow, reducing the cooling effect. Locate and orient fans so there are minimal obstructions between the cooling fans and the animals to be cooled.

Wind in naturally ventilated buildings can decrease the cooling effect of both axial and HVLS fans. Wind can also impact HVLS fan flow. At low wind speeds, the effect is usually small and can be ignored. At high wind speeds, which usually increase ventilation, you can shut down the cooling fans to save energy. Be sure to turn the fans on again when wind speeds decrease.

The distance from a fan at which the air movement can no longer be detected is known as the fan's throw. No standards exist for measuring fan throw. Properly oriented fans with good throw can provide effective cooling. 

U of M Receives Top Honors in National Dairy Competition



The winning team (from left): Alicia Thurk, Rita Albrecht, Scott Miller, Marcia Endres (coach), and Joni Kunz Heins.

When it comes to dairy farm management, University of Minnesota students really know their stuff! Animal production systems seniors Rita Albrecht, Joni Heins, Scott Miller, and Alicia Thurk teamed up and earned top honors in the first National Intercollegiate Dairy Chal-

lenge, held in Lansing, Michigan, in April.

Fourteen teams of budding dairy management experts from around the United States were given this challenge: Visit a specified dairy farm; evaluate the operation through observation, interviews, and review of farm records; then summarize the situation and present recommendations. Judges rated the teams on their ability to identify critical areas for improvement on the farms they visited. The Minnesota team received one of two Champion Awards, the highest honor given in the contest.


Team coach Marcia Endres, assistant professor in the Department of Animal Science, attributes the students' success to their efforts in the classroom and to their ability to function as a team.

"They really worked well together—that's important," she says.

Albrecht credits the University of Minnesota's "excellent dairy management program" for preparing her and her teammates for the competition. And in her case, preparation for the contest was also preparation for life. In her current job as a large herd dairy consultant with Purina Mills, she says, the work is basically "the same thing I did the day of the contest—except it's not as nerve-wracking."

Endres says the search is already on for candidates for next year's team. "We're going to keep participating and plan to do well," she says.

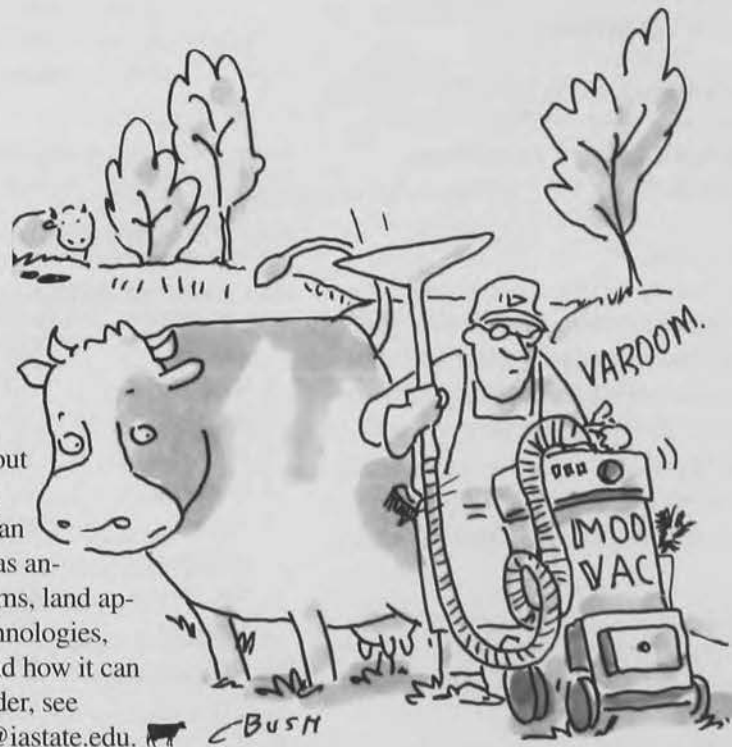
The National Intercollegiate Dairy Challenge was created by a group of industry representatives. Its goal is to improve and encourage the development of future dairy leaders at the college level.

Way to go team!!!! 

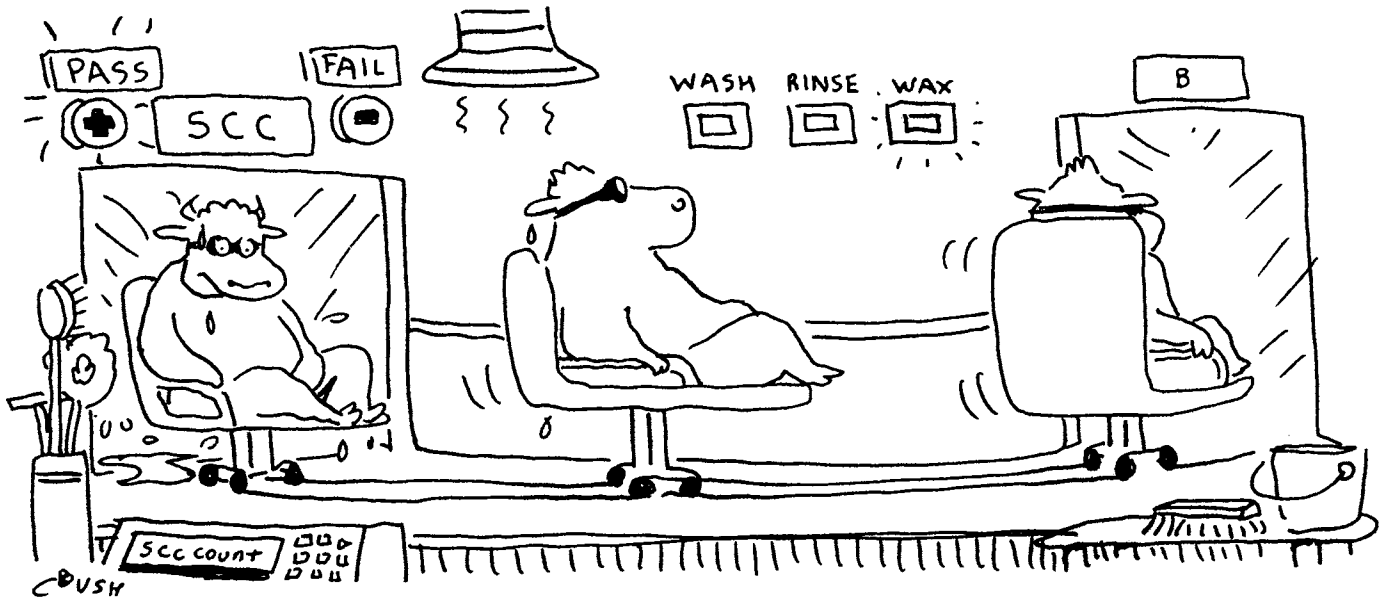
Is Your Operation Environmentally Friendly?

By LARRY JACOBSON
Department of Biosystems and Agricultural Engineering
University of Minnesota

Environmental stewardship is an important part of good farming practice. To see how you're doing and get tips on how you can be more environmentally responsible, check out the new Livestock and Poultry Environmental Stewardship Curriculum, available on searchable CD from MidWest Plan Service. The CD contains 26 lessons covering topics such as animal dietary strategies, manure storage and treatment systems, land application and nutrient management, outdoor air quality technologies, and mortality management. To learn more about the CD and how it can help you improve your operation, see www.lpes.org. To order, see www.mwps.org, phone 800/562-3618, or e-mail mwps@iastate.edu.



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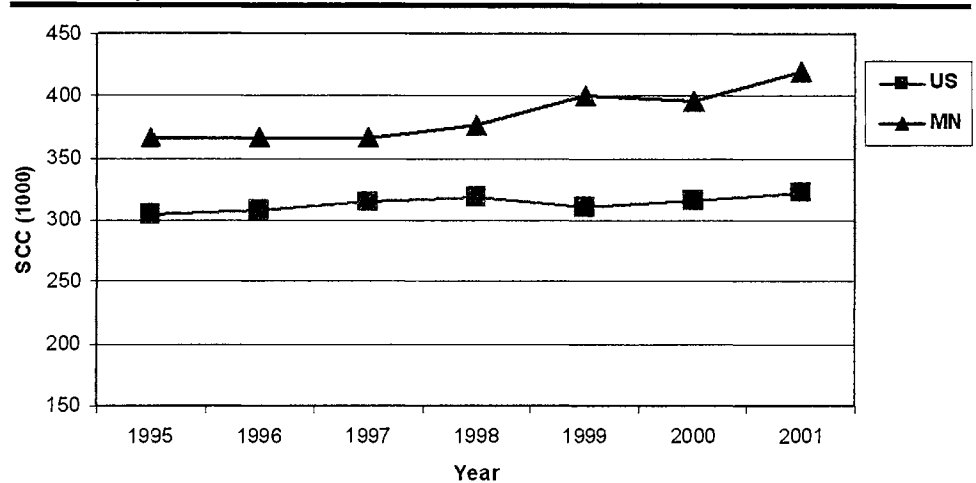
Minnesota DHI SCC is High and Getting Higher

By JEFF RENEAU, RUSS BEY, and RALPH FARNSWORTH
University of Minnesota

Nationwide, somatic cell count (SCC) has increased at an alarming average rate of 2,400 cells per ml each year since 1995. Worse yet, Minnesota has the highest DHI herd SCC average of the top 10 dairy states (Table 1). High SCC is bad news because it means lower milk production, lower farm profitability, lower product yield at the milk plant, and poorer product quality for the consumer. Everyone loses when milk quality is poor.

As a state, we think we need a kick in the pants. We need to turn this trend

DHI Test Day SCC: National vs. Minnesota



Source: R.H. Miller and H.D. Norman, Somatic Cell Counts of Milk From Dairy Herd Improvement Herds During 2001 (www.aipl.arsusda.gov/docs/dhi/dhi01/scc01.htm)

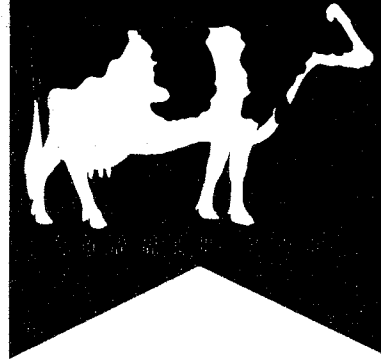
TABLE 1. Milk Quality in the Top 10 Dairy States, 2001

STATE IN ORDER OF MILK PRODUCTION	AVERAGE # TEST DAY MILKING COWS/HERD	AVERAGE TEST DAY YIELD (LB/COW)	AVERAGE HERD TEST DAY SCC (CELLS/ML)	PERCENT HERD TEST DAYS > 400,000 SCC
1. California	450	73.7	298,000	21.0%
2. Wisconsin	53	69.5	297,000	25.4%
3. New York	67	67.3	280,000	22.7%
4. Pennsylvania	47	66.7	317,000	27.2%
5. Minnesota	53	66.4	420,000	48.5%
6. Idaho	227	75.3	320,000	24.7%
7. Michigan	70	70.0	287,000	23.4%
8. New Mexico	584	74.2	311,000	29.5%
9. Washington	175	78.5	275,000	13.5%
10. Texas	223	64.8	342,000	32.0%

Source: R.H. Miller and H.D. Norman, Somatic Cell Counts of Milk From Dairy Herd Improvement Herds During 2001 (www.aipl.arsusda.gov/docs/dhi/dhi01/scc01.htm)

MINNESOTA DAIRY LEADERS

In 1992, dairy farmers, and CEOs of 32 dairy related businesses and organizations made a formal commitment to revitalize Minnesota's dairy industry by forming a structure to unite their effort. That structure is the Dairy Leaders Roundtable. This newsletter highlights Roundtable accomplishments and on-going projects and plans.



Livestock-Friendly County opens doors to cows, farmers

Fewer livestock producers ultimately leads to fewer purchases on Main Street, fewer schools and a decline of Minnesota's small towns.

That's the motivating factor behind "Livestock Friendly County," a concept developed by the Minnesota Department of Agriculture (MDA) in conjunction with the Minnesota Dairy Leaders Roundtable, farm organizations and government stakeholders.

Earlier this year, the Minnesota State Legislature passed a law giving the MDA authority to develop a process and criteria for designating counties as "livestock friendly." The program will encourage local communities to maintain and even expand their local livestock sectors by developing a more supportive environment for livestock production.

Program goals

The program has three main goals:

- to identify counties in Minnesota that recognize and value the economic importance of livestock production;
- to help those counties strengthen their local livestock sectors while continuing to protect the environment and provide for a high quality of life; and
- to promote the counties as good places for farmers to live and do business.

The Livestock Friendly County initiative is designed to encourage Minnesota's livestock producers and processors to stay in business and invest in their operations in Minnesota.

"Producers move west

"By developing Livestock Friendly Counties, we hope to persuade farmers to stay in Minnesota or even to relocate here from other states."

.....
Commissioner Gene Hugoson
Minn. Dept. of Agriculture

because they believe the social, economic and regulatory environment out there is better for farming," MDA Commissioner Gene Hugoson says. "By developing Livestock Friendly Counties, we hope to persuade farmers to stay in Minnesota or even to relocate here from other states."

Under the Livestock-Friendly County program, the MDA will publish a set of criteria for counties to meet in order to be designated as "livestock friendly."

For producers and processors, the designation will help them find communities that welcome livestock development. For counties, it will serve as a selling point, attracting farmers and the immense economic activity they can generate on Main Street.

For more information, contact the MDA at (651) 296-7686.

ENVIRONMENTAL CERTIFICATION BEGINS

Minnesota dairy producers may now participate in an Environmental Quality Assurance (EQA) certification program and access up to \$5,000 to participate in the that process.

The EQA certification program helps dairy producers demonstrate that their farm meets industry standards for environmental stewardship. The program addresses water quality, community, air quality, soil quality, and habitat quality and diversity.

Farms located in environmental priority areas are eligible for cost-share funds to help them with EQA certification, said Minnesota Milk Producers Association (MMPA) Executive Director Bob Lefebvre. He has been working with the Minnesota Dairy Leaders Roundtable to establish the program. To learn more, contact the MMPA at (877) 577-0741.



Lefebvre

DAIRY DEVELOPMENT GUIDE IS ONLINE

The latest addition to the MinnLink Web site is *The Dairy Development Guide* developed by the Minnesota Department of Agriculture's development and marketing services divisions. The guide is designed to provide dairy producers, educators and consultants with a document that addresses topics covered in a dairy business plan.

The guide is modeled after the written business plan outline used in the FINPACK Business Plan software developed by the Center for Farm Financial Management.

To access this guide, go to www.minnlink.org and click on the Dairy Development Guide folder. A table of contents will be listed. Click on each subject to open and read the articles of interest.

DAIRY PLANNING GRANTS AVAILABLE

Though Minnesota has awarded about 50 Dairy Business Planning Grants, funds are still available, said Minnesota Department of Agriculture Dairy Specialist David Weinand.

The grants can help pay for half of a comprehensive business plan that evaluates farm start-up, modernization and expansion. The grants are capped at \$5,000 per farm and cannot be used to purchase assets such as equipment or cattle.

To obtain a grant application, contact Weinand at the Minnesota Department of Agriculture, 90 W. Plato Blvd., St. Paul, MN 55107 or call (651) 215-3946.

Crunching state's dairy numbers reveals good, bad and ugly

Reporting on the state of the state's dairy industry at the June meeting of the Minnesota Dairy Leaders' Roundtable, Minnesota Department of Agriculture Dairy Specialist David Weinand chose to emphasize the positive: Minnesota's milk production is up, and so is the state's share of the nation's milk market.

Presenting information gathered by the U.S. Department of Agriculture's National Agricultural Statistics Service, Weinand said total U.S. milk production rose 3.5 percent in the first quarter of 2002. Minnesota dairy farmers managed to outpace the national totals, showing a 4.4 percent increase in the first quarter of this year. As a result, Minnesota's share of total U.S. milk production rose from 5.17 percent at the end of 2001 to 5.21 percent at the end of the first quarter 2002.

Weinand pointed out that these gains in productivity did not come from increased cow numbers, as Minnesota's total number of dairy cows dropped slightly over the first few months of 2002. As of April, the state had 490,000 dairy cows, compared to 511,250 at the end of 2001. The average herd size for Minnesota dairies remains steady at 71 cows, with average farm milk production coming in at 106,583 pounds for April 2002.

Unfortunately, Weinand noted that the number of farms continues to drop. The latest count shows Minnesota has 6,808 dairy farms, down 227 from the end of 2001. On average, the state has lost 38 farms per month in 2002. The silver lining, if any, is that Minnesota has lost only half as many farms in the first six months of 2002 as it did in the first six months of 2001.

Weinand also noted that after a period of relatively good milk prices in 2001, prices in all regions of the country have fallen in 2002. Minnesota's average price per hundredweight, which was at \$13.80 in January, was at \$12.50 in April.

"Cheese production is up and hasn't had anywhere to go, so it is going into storage," Weinand said. "With a larger supply on hand this year versus last year, prices will be depressed at least in the short term. I'd expect things to rebound somewhat this summer."

State's dairy producers fare well in new farm bill

Bob Cropp said Minnesota dairy producers will fare well under the 2002 Farm Bill.

"The upper Midwest comes out better than most because of the farm structure – our smaller herds," said Cropp, Wisconsin dairy marketing and policy specialist. He shared statistics that support his claims with those attending the June meeting of the Minnesota Dairy Leaders Roundtable.

About 93 percent of Minnesota dairy farms will be eligible to receive the farm bill's new countercyclical dairy payments on all of their milk production, Cropp said. Those herds generally have less than 140 cows and annual production does not

exceed the 2.4 million-pound cap.

The new program gives direct dollars to producers when the market price drops below a target price, providing the milk falls under the cap. Cropp said the maximum annual payment per farm



Bob Cropp, dairy policy specialist

could be more than \$20,000.

In Minnesota, about 66 percent of the milk will be eligible for the countercyclical payment. For those dairy producers marketing more than 2.4 million pounds, many questions remain unanswered.

"Those questions might not be answered for a while," said Linda Hockert with the Minnesota Farm Service Agency. She is a member of a national task force charged with carrying out the dairy provisions.

Questions such as, "How will the 2.4-million pound cap be applied monthly?" and "Will there be more than one cap applied to one farm?" are yet to be determined.

Dairy industry rides out stormy state legislative session

Minnesota's dairy industry fared reasonably well in a rough-and-tumble legislative session that lasted longer than many expected, said Bruce Kleven, Minnesota Association of Cooperatives (MAC) lobbyist. Kleven shared his thoughts on the recently concluded legislative session during the June meeting of the Minnesota Dairy Leaders Roundtable.

Kleven said the biggest victory of the session was that the state's dairy programs escaped major cuts during the rush by legislators to cope with a \$2 billion budget shortfall.

Ag victories

There were a number of noteworthy victories for agricultural issues followed closely by MAC and the Roundtable in 2002.

The list included passage of the "livestock-friendly counties" initiative and the establishment of a methane digester loan program at the Minnesota Department of Agriculture (MDA).

Kleven praised legislators for passing a measure that makes it a gross misdemeanor in Minnesota for radical activist groups to claim responsibility for crimes for which they have not been convicted. This law is designed to deter radical groups from damaging or destroying research labs or other projects they dislike.

Session setbacks

There were also a few setbacks for agriculture during the session. Among them was the failure to pass legislation

that would have protected livestock producers from liability for manure spills in the case of extreme rainfalls and other incidents they couldn't prevent.

In addition, the ag sector fell short in an attempt to secure \$1.5 million in funding for a new laboratory at the University of Minnesota for diagnosing livestock diseases.

Session surprises

Kleven said one surprise during the session was that the long-awaited Generic Environmental Impact Statement (GEIS) on animal agriculture was a non-issue. He expected the recommendations to generate more discussion. The study is currently at the state's Environmental Quality Board and may resurface in the future.

Calendar of Events

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

J U L Y 2 0 0 2

- 12 **Summer Field Day: Reduced Input Dairy Systems Tour** (and group discussion on environmental and social aspects of wintering yards). West Central Research and Outreach Center, University of Minnesota, Morris, Minn. Contact: Dennis Johnson (320) 589-1711.
- 12 **Minnesota Junior Holstein Show**, Hutchinson Fairgrounds, Hutchinson, Minn. Contact: Pauline Bratt (320) 259-0637.
- 13 **Minnesota Senior Holstein Show**, Hutchinson Fairgrounds, Hutchinson, Minn. Contact: Pauline Bratt (320) 259-0637.
- 14-17 **American Forage and Grassland Council Annual Meeting and Trade Show**, Best Western Thunderbird Hotel and Convention Center, Bloomington, Minn., and the UMore Park, Rosemount, Minn. Contact: Dana Tucker (800) 944-2342 or Marcia Endres (612) 624-5391.
- 30, 31, Aug. 1 **Upper Midwest Grazing Conference**, Midway Best Western Hotel, 3100 Dodge St., Hwy. 20 West, Dubuque, Iowa. Contact Larry Tranel (563) 583-6496, ext. 14.

A U G U S T 2 0 0 2

- 2 **Sustainable Agriculture Field Day: Rearing Heifers in Feedlot or Grazing Alfalfa** (includes pasture walk with presentations on economics of heifer raising systems and requirements of growing heifers. Roger Imdieke Farm, Elrosa, Minn. Contact: Dennis Johnson (320) 589-1711 or Jim Salfer (320) 255-6169 or (800) 450-6171.
- 22 thru Sept. 2 **Minnesota State Fair**, Fairgrounds, 1265 Snelling Ave. N., St. Paul, Minn. Contact: Minnesota State Fair (651) 642-2200.
- 22-24 **NAAB 56th Annual Convention and 19th Technical Conference**, Four Points Sheraton Hotel, Milwaukee, Wis. Contact: National Association of Animal Breeders, (573) 445-4406.

S E P T E M B E R 2 0 0 2

- 7 **Minnesota Holstein Field Day**, Happke Holstein Farm, Pierz, Minn. Contact: Pauline Bratt (320) 259-0637.
- 9 **Minnesota Dairy Leaders Roundtable Meeting**, Four Points Sheraton Hotel, St. Paul/Capitol, St. Paul, Minn. Contact: Ed Frederick (507) 835-3422.

Changes or additions to the calendar may be sent to Bonnie Rae, Department of Animal Science, University of Minnesota, 205 Haecker Hall, 1364 Eckles Ave., St. Paul, MN 55108-6118. Phone (612) 624-4995/ Fax (612) 625-1283/ bjr@umn.edu.

DAIRY GROUPS INVEST IN STATE

A group of Minnesota dairy organizations invested in Minnesota Dairy Partnership Inc. in 2001 and the first half of 2002. Those groups include: Associated Milk Producers Inc., First District Association, Foremost Farms USA, Land O'Lakes Inc., Midwest Dairy Association, Minnesota Agri-Women and the Minnesota Farm Bureau Federation.

The investments are utilized for partnership projects of the Minnesota Dairy Leaders Roundtable such as the *Dairy Initiatives* newsletter, Dairy Web site and scholarships for students attending the Roundtable meetings.

ROUNDTABLE MEMBERS THANK PEERS

At the March meeting of the Minnesota Dairy Leaders Roundtable, Pat Kearney and Al Gulbransen were recognized for their leadership. Both will be leaving their current positions in the dairy industry.

Gulbransen led the Roundtable Education Coalition since its inception. He is retiring from First District Association. Kearney, who is leaving the University of Minnesota Extension Service, led the Minnesota Dairy Extravaganza Planning Committee and the Roundtable task force focused on personnel issues for dairy farms.

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."

2002 STEERING COMMITTEE:

Bill Dropik, *Minnesota Milk Producers Association*

Paul Kent, *Land O'Lakes*

Jim Ridgeway, *Professional Dairy Producers of Minnesota*

Dave Scheevel, *Foremost Farms*

Clint Fall, *First District Association*

Mark Davis, *Davisco*

Mark Furth, *Associated Milk Producers, Inc.*

Ray Cherry, *Land O'Lakes*

Dave Daeges, *Minnesota Bankers Association*

Dan Little, *Minnesota Veterinary Medical Association*

Doris Mold, *Rural Women Organizations*

Gene Hugoson, *Minnesota Department of Agriculture*

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

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

Additional information may be found on the web at www.minnlink.org/

SCC Risk Quiz

Studies have shown the following are characteristics of low SCC herds (<150,000 SCC). Give your farm a score of 1–5 for each item, with 5 being the best and 1 the worst.

- Cows have no visible manure or dirt on flanks, udder, or lower rear legs and feet.
- Udder hair is removed every three months.
- Stalls are cleaned frequently. Soiled bedding is removed at each milking. Fresh organic (sawdust, straw, etc.) bedding is added daily, or fresh sand bedding is added weekly.
- Generous amounts of bedding are used.
- Dry cows are checked daily for evidence of clinical mastitis.
- Calving pens are clean. Pens are completely cleaned and fresh bedding is added between calvings.
- Milking parlors are clean. There is no buildup of manure or dirt on the milking equipment.
- Milk is kept out of the bulk tank at least 48 to 72 hours after calving.
- Post-milking teat dip is used consistently.
- All quarters of all dry cows are dry-cow treated.
- Transition diets and nutrient supplementation are used for springing heifers and dry and lactating cows.
- Producers and employees keep abreast of current practices to improve milk quality and udder health by reading and/or attending workshops.
- Detailed herd records, including clinical mastitis treatment records, are kept.
- Milkers enjoy milking cows.
- Emphasis is on getting the job done right rather than getting the job done quickly.

SCORE:

61–75: Excellent. Keep up the good work!

46–60: Good job. However, there is still room for improvement.

31–45: Fair. Time to get serious about milk quality.

<30: Get with it! Are you producing food, or running a summer camp for bacteria?

around!


What caused Minnesota's SCC to skyrocket during 2001? Likely explanations include last summer's heat, poor sanitation for dry cows, poor sanitation for the milking herd, poor premilking cow prep, retention of high-SCC cows that should have been culled, reduced premium incentive due to component pricing, and insufficient regulatory pressure (legal limit is 750,000).

What can you do about your high herd SCC?

- Use more "elbow grease"! Excellent sanitation and low herd SCC go hand

in hand. Keep teat surfaces clean and prevent bacteria from entering the teat end.

- Ask your veterinarian, milk plant field rep, milking equipment dealers, and Extension educator to help you reduce SCC.
- Do individual cow SCC tests monthly to identify herd trends and pinpoint the infected cows.
- Run a monthly bulk tank culture through a reliable laboratory to find out what kinds of bacteria are causing mammary infections.

- If your bulk tank culture shows you have a lot of contagious mastitis pathogens (staph aureus, strep ag, or mycoplasma), identify the culprit cows by individual cow culturing. Take steps to reduce cow-to-cow spread and remove the high SCC quarters from the milk supply.
- If your bulk tank culture shows you have a lot of environmental pathogens (non-ag streps, coliforms, or staph species), improve bedding management. Replace ALL bedding in every stall weekly with clean bedding. Every day, replace the bedding in the back half of the stall with fresh, clean bedding. If you use sand bedding, add fresh, clean sand at least once per week. Keep stalls leveled and remove soiled sand daily.
- Improve your milking procedures. Include a pre- and post-milking teat dip, 10 to 20 seconds of cleaning, at least 30 seconds of contact time for the teat dip, and a thorough teat end wiping before attaching the milking unit.
- Forestrip during cow prep to identify high SCC quarters and keep milk from these quarters out of the bulk tank.
- Improve herd reproduction and heifer replacement rearing so you can cull high-SCC cows that do not respond to therapy.
- Treat every quarter in dry cows with an approved dry cow intramammary tube.
- Consider using a dry-cow barrier dip.
- Provide dry cows with adequate space, ventilation, and clean bedding. (DHI records indicate that an average of 35 percent of cows and heifers calve with high SCCs.)
- Keep cows as cool and comfortable as possible during hot weather.
- Control flies. 

Do the “Little Things” Get Done on Your Dairy?

By LEE GROSS

University of Minnesota Extension Service
Stearns County

On a successful dairy, several thousand details need to be properly attended to each day. (Well, ok, maybe it’s more like hundreds, but I got your attention.) The single most common complaint I hear from dairy managers is that their workers (family members or employees) don’t pay attention to the little things that can lead to big problems if not caught early. They’re not alert to critical details that determine whether a cow stays or is culled. Whether the moldy silage goes into the mixer or gets put aside. Whether you’re informed that the teat dip from the new barrel looks different from the previous batch. Whether the cow in heat gets reported.

How can you make your workers do the detail work? Well, you can’t make people do anything. They have to want to do it! But there is a way you can help them want to pay attention to the small stuff. It’s called motivation and folks, that’s an internal act.

HERE ARE SOME IDEAS ON HOW TO HELP YOUR WORKERS DEVELOP THAT MOTIVATION:

- Regularly review your mission statement with your workers.
 - Tell them how important your business is to you and your family.
 - Let them know how important they are to the success of your business.
 - Let them know that they are important to you as individuals.
 - Tell them you need their skills and experience.
 - Tell them the business can only succeed with their help.
 - Tell them you want to see them grow in their job and achieve whatever they want and are capable of doing in your business.
 - Show them that your business is a fun place to work.
 - Tell them the “little things” are the most important things.
- *****

Easy? Far from it! It takes serious effort to convey these messages to your workers on a regular basis. But try it. Be sincere. Write reminders on your calendar. Smile!

People that are appreciated are motivated. People that are valued are motivated. People having fun are motivated. People that know they matter to the organization/dairy/family are motivated. Motivated people do great things. 🐄



Look Out for JHS

By SANDRA GODDEN, TREVOR AMES, ROD FRANK

College of Veterinary Medicine
University of Minnesota

Jejunal hemorrhage syndrome (JHS), a deadly digestive tract disease, has been reported with increasing frequency in adult dairy cows in Minnesota over the past three years. Also referred to as hemorrhagic bowel syndrome or acute hemorrhagic enteritis of the small intestine, the disease is uncommon but can have a serious economic impact on affected herds.

Cause

No one knows for sure what causes JHS. One hypothesis is that it's the result of *Clostridium perfringens* Type A bacteria multiplying rapidly and producing toxins under conditions of high carbohydrate and protein substrate availability in the digestive tract. These conditions can be caused by the same factors that lead to ruminal acidosis (feeding excess amounts of fermentable carbohydrates, insufficient effective fiber and/or inadequate rumen fiber mat, or ration sorting by cows). A second hypothesis is that cows get JHS from eating poor quality, poorly fermented silage that has accumulated harmful molds, clostridial or other harmful bacteria, and possibly their toxins.

Risk Factors

JHS has been diagnosed in every season and in every dairy region in the state, in big herds and small, in cows in free-stall and tie-stall facilities, and on farms with a wide variety of feeding systems. It seems to be more common in fall and winter, in herds of 100 cows or more, and in herds fed total mixed rations (TMR), but there have not been enough cases to show a strong correlation with any of these variables.

What Can I Do?

It's hard to control a problem when the cause is not clear. But based on the hypotheses about cause, there are some things you can do to prevent JHS or solve a JHS problem in your herd:

- Work with a nutritionist to ensure that rations include only high-quality, well-fermented forages.
- Manage feed to prevent slug feeding and sorting by cows.
- Feed a ration balanced with adequate effective



What it looks like

Cows with JHS may simply suddenly drop dead. Or they may:

- be down and semiconscious
- be standing, but very weak and pale
- stop eating
- show a severe drop in milk production
- bloat
- have decreased fecal output, tarry stools, or bloody diarrhea.

Some 85 to 100 percent of affected animals die within 24 to 36 hours of the onset of clinical signs.

fiber to maintain good rumen health and integrity of the rumen mat.

- Check silage for obvious spoilage or inadequate fermentation. Discontinue feeding poorly fermented or spoiled forages to close-up and milking cows if another source of higher quality forages can be located. If alternate forage sources are limited, dilute the poorer forage out with higher quality forages.

What About Vaccination?

Vaccination cannot be recommended at the present time. For one thing, we don't know whether *Clostridium perfringens* Type A is the causative organism, or which specific toxin is responsible for JHS. Additionally, vaccines can be expensive and can cause adverse reactions including milk drop and premature calving. There are no studies available to demonstrate efficacy of vaccination to prevent JHS. 🐮

John Bush ©2002

Tips for Trimming Machinery Costs

By WILLIAM LAZARUS
 Department of Applied Economics
 University of Minnesota

Have you noticed how much of your money goes into machinery? Research has shown that up to 60 percent of the cost of making corn silage and haylage is machinery-related. You can do a lot to improve your profitability simply by keeping machinery costs under control.

What Does It Cost?

The first step in controlling machinery costs is to know what they are. You probably have a good idea about what a piece of machinery costs to buy. But that's just part of the picture. There are also use-related costs (fuel, lubrication, labor, use-related repairs, etc.) and time-related costs (interest, insurance, housing, etc.).

University of Minnesota Extension Service publication *Minnesota Farm Machinery Economic Cost Estimates* (FO-6696) can help you estimate the true cost of owning and operating various types of machinery. You can download the publication from www.apec.umn.edu/faculty/wlazarus/machinery.html. The information it provides is useful for answering questions that can help you save on machinery costs, such as:

- “How can I estimate the cost of operating my equipment for use in my crop planning budgets?”
- “Should I purchase new equipment to replace a piece that is wearing out, or hire a custom operator instead?”
- “What’s a fair arrangement that a tenant and landlord can use to share the costs of new feeding or manure-handling equipment?”

Repair or Replace?

An important way you can save on machinery costs is to make smart choices as to whether to repair or replace an aging piece of machinery. You might think repair is cheaper because you don't have to drop a lot of dollars all at once. But at some point the time and expense involved in fixing an old machine is more than it's worth. How do you figure out what that point is?

The approach I use is to compare the cost of operating the current machine one more year with the cost of operating a replacement machine for an “average” year. If the current machine has some age on it, it will likely have higher repair costs than the replacement would. However, the overhead costs will probably be lower than they would be for the new machine because it has already been mostly depreciated out.

To make the comparison, first estimate the cost of operating the existing machine one more year. Look back at records of past repairs. Then look at the machine, decide what repairs it's likely to need in the next year, and estimate what the cost of those might be.

The second step is to calculate the cost of operating a replacement machine

for an “average” year. A spreadsheet template is available for purchase. Contact the author at 612-625-8150 or wlazarus@umn.edu.

As an example, say you are thinking of replacing your forage harvester with a \$38,300 pull-type forage harvester with a three-row corn head and a windrow head, expected to be used on 100 acres of corn silage and for two cuttings of haylage from 200 acres of alfalfa. Using the spreadsheet, you can determine that for a typical situation, total costs for the forage harvester plus a 160-horsepower tractor and an operator's wages work out to be \$47/acre for the corn silage and \$20/cutting/acre for the haylage. This means it would pay to trade the current harvester if you figure repairs and other costs of using it another year (including yield losses due to time lost in more frequent breakdowns) will be more than those amounts.

The replacement decision gets more complicated if technology changes make the replacement machine more productive than the current one. For example, if a kernel processor for a forage harvester improves digestibility of corn silage, you need to factor the benefit of that improved digestibility into the decision. At

TABLE 1. Impact of Annual Usage on Trade-in Age and Cost Per Acre to Own and Operate a Large Rectangular Baler

Annual use, hrs	Accumulated hours at trade-in			
	300	450	600	900
	—Expected years to trade-in—			
50	6	9	12	18
75	4	6	8	12
100	3	5	6	9
150	2	3	4	6
	—Cost/acre (not including tractor, fuel, or labor)—			
50	\$ 10.60	\$ 8.70	\$ 7.63	\$ 6.44
75	\$ 8.81	\$ 7.17	\$ 6.26	\$ 5.27
100	\$ 7.79	\$ 6.29	\$ 5.48	\$ 4.60
150	\$ 6.63	\$ 5.30	\$ 4.58	\$ 3.83

Tractor, fuel, and labor costs would add \$2.31/acre to the amounts shown.

18 tons/acre, the \$47/acre cost of harvesting corn silage mentioned above works out to be \$2.59/ton. The addition of a \$6,000 kernel processor would increase that cost to \$2.99/ton. The 40¢/ton increase can be compared to the digestibility benefits expected.

The Value of Sharing

In the 1950s, farmers often traded work with friends and neighbors. As equipment gets larger and more expensive, the concept of trading work may be coming back. I've been hearing more reports in the past few years about producers purchasing equipment jointly or using custom operators so they don't have to bear the costs of a big piece of machinery by themselves.

When you share machinery, in effect you are splitting the time-related expenses (insurance, housing, etc.) Because you fit more use into a year, the time-related expenses are less per hour of use. Of course, using the machine over more acres each year probably means trading it sooner than otherwise, but you will still probably come out ahead.

You can figure out how much further ahead using the spreadsheet template. Table 1 shows the results when the template is applied to the use of a baler for the large rectangular bales that are sometimes used where hay is shipped long distances.

The top part of Table 1 shows how increasing annual use by sharing shortens the expected trade-in age, if traded at a given number of hours. For example, if the baler covered 16 acres/hour and the farm had 815 acres to harvest each year (three cuttings x 272 acres/cutting), annual usage would be 50 hours. If traded at 600 hours, a baler used 50 hours/year would be traded at 12 years. If usage is increased to 100 hours/year, the 600 hours would be up after only 6 years.

The bottom part of Table 1 shows how the increased usage would affect the total cost per acre to own and operate the baler. (The costs shown are for the baler only, not including the tractor or operator



Tractor or Skid Steer?

By LARRY AMUNDSON
Excel Dairy, Thief River Falls

Excel Dairy prefers the versatility, safety, and economic advantage of using a small tractor rather than a skid steer to scrape free-stall barn alleys for our 1,100-cow dairy. Employees also prefer the tractor because getting on and off and visibility is much better. Each machine performs other operations at the dairy, with the tractor mowing lawns during the summer using a 48-inch, three-point PTO mower. Following are the pros and cons for each machine.

TRACTOR		SKID STEER
\$14,000	Cost	\$22,000
6,000-10,000? hours	Useful Life	4,000 hours
<i>Rating: 1 is good; 5 is poor</i>		
1	Operator Accessibility	3
1	Visibility Backing Up	4
1	Damage Control	5
2	Maneuverability	1
\$240	Tire Wear, Operator Cost	\$1,152

COST: There is a substantial difference in up-front investment and possibly trade-in value.

USEFUL LIFE: Our oldest tractor has almost 7,000 hours. At 6,000 hours we did some major work and now expect to get another 2,000 to 3,000 hours.

OPERATOR ACCESSIBILITY: The tractor is easier to get on and off than the skid steer. We have had three workers compensation claims from slips and falls getting on/off the skid steer and none for the tractor.

VISIBILITY: The tractor is very easy to turn and look behind while backing up. Our model of skid steer limits visibility when looking behind, and the safety belts prevent a lot of body movement.

DAMAGE CONTROL: Our main reason for switching to a tractor was the amount of damage that was done to gates, doors, walls, and mounted fans by the skid steer. The damage from tractor operation has been almost nothing.

MANEUVERABILITY: Our center alley in the lactating barn is 15 feet wide and we have no trouble turning into each alley to scrape out manure. In our prefresh barn the alley is only 12 feet wide and our tractor still turns fine. The skid steer can turn around in the alley but we see this as a negative because manure gets dripped onto the stall beds, free stalls get bent, and fans have been knocked off their posts.

TIRE WEAR: The tractor with 6,000 hours has had six front tires replaced at a cost of \$40 each for a total of \$240. We use regular car tires on the front. The skid steer with 4,000 hours has used 12 tires at \$96 each for a total of \$1,152.

One final note on the tractor is the modifications that we made. The Ford Boomer that we use needs two modifications to the three-point hitch arms to avoid bending and breaking the lower pin. This can be done for about \$100.



labor.) The cost per acre drops as the annual use increases. The actual differences are probably less than this because the formulas used by the spreadsheet template to estimate trade-in values don't factor in wear and tear for most implements. Nevertheless, there is still likely a benefit to sharing expensive implements that you use for a relatively

small amount of time.

For more information on sharing farm machinery, please see swroc.coafes.umn.edu/SWFM/Files/fin/sharing_machinery.htm.



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DAIRY Initiatives

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