# FARM INCOME WORKSHEET

This worksheet can help you make some cash flow projections about new systems you may be considering and compare them with your current setup.

<table>
<thead>
<tr>
<th>ITEM</th>
<th>CURRENT SYSTEM $/COW</th>
<th>PROJECTED NEW SYSTEM $/COW</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Farm cash income</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Milk sales</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cull cow sales</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Calf sales</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crop sales</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other income</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total cash income</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Farm cash expenses</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Veterinary medicine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dairy supplies</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Breeding fees</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Feed purchased</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Repairs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seed/chemicals/fertilizer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fuel/gas/oil</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Utilities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interest paid</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Labor hired</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rent, lease and hire</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Property taxes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Farm insurance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other cash expense</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total cash expense</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>NET CASH INCOME</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

To calculate net cash income, subtract total cash expense from total cash income.

Derived with permission from Dairy Trans 4.0 Dairy Total Return Analysis System, Larry Tranel, author (Tranel, 2002).
Now that you’ve considered the many production options — and combinations of options — that exist, consider how these match with the values, skills, and goals you identified at the beginning of this book.

**How comfortable are you with different types of risk?** *(Mark with an X.)*

<table>
<thead>
<tr>
<th>Risk Description</th>
<th>Comfortable</th>
<th>Can Tolerate</th>
<th>Not Comfortable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carrying a lot of debt</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Being highly leveraged</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Needing to push my buildings and animals to ensure profitability</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Investing in expensive milking equipment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exposing my animals to extreme weather conditions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Having limited market access for my type of operation</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**How would you like to be viewed by your neighbors and community?** *(Check all that apply.)*

- Don’t care
- As a leader
- As a steward of the land
- As a model, progressive dairy producer
- As an innovator who uses the latest, most up-to-date technology
- As a family farmer
- As a good community member
- As a successful business owner
- As an efficient business owner
- As a large business owner
- As having a close working relationship with my community

**Which issues are of concern to your community and might impact your choice of a dairy production system?** *(Check all that apply.)*

- Odor
- Environmental stewardship
- The farm is near housing development/urban sprawl
- Livestock concentration issues
- Dust
- Unsightly buildings
- Water quality/runoff
- Flies
- Hiring labor/purchasing equipment from outside the local area
### Take Stock

**How do the various systems fit your interests and preferences?**

*Rank the following with a score of 1 to 3 where 1 = no, 2 = somewhat, and 3 = yes*

<table>
<thead>
<tr>
<th></th>
<th>TIE STALL</th>
<th>FREE STALL</th>
<th>PASTURE</th>
<th>ORGANIC</th>
<th>HEIFER</th>
<th>VALUE-ADDED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Require the kind of work you find satisfying?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meet your definition of success?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fit with the location of your farm?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Make best use of buildings/land you have?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Address community concerns?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Suit your risk tolerance best?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Would meet your income requirements?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fit with your reason for staying in/getting into dairying?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Best use your family’s strengths and resources?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Match your vision for your farm’s future?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**What land resources are available to you?**

<table>
<thead>
<tr>
<th>TOTAL ACRES OWNED/LEASED</th>
<th>TILLABLE</th>
<th>PASTURE</th>
<th>OTHER</th>
</tr>
</thead>
</table>

**How do the various systems fit existing farm resources?**

*Rank the following with a score of 1 to 3 where 1 = no, 2 = somewhat, and 3 = yes*

<table>
<thead>
<tr>
<th></th>
<th>TIE STALL</th>
<th>FREE STALL</th>
<th>PASTURE</th>
<th>ORGANIC</th>
<th>HEIFER</th>
<th>VALUE-ADDED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Buildings</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equipment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parlor</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equity</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cows</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Begin to describe your vision for your farm and business 5, 10, or 20 years into the future.

Are there family members interested in joining the business? Who?
CITED REFERENCES\textsuperscript{3}


Chastain, John P. 2000. Milking center planning for the expanding dairy. Department of Agricultural and Biological Engineering, Clemson University. Clemson, SC. Available at: www.clemson.edu/agbioeng/bio/chastain.htm


Frank, Gary. 2000. You can make it, you can sell it. But can you make it selling it? Center for Dairy Profitability, University of Wisconsin. Madison, WI. Available at: cdp.wisc.edu Click on “Management.”


\textsuperscript{3}Every effort has been made to verify the accuracy of reference material web locations. Items on the Internet can and do move, however. If you can’t find a reference at the web address provided, please try entering its key words into an Internet search engine.


Haugen, Vance. 2005. Whether you milk 20 cows or 200, there’s a parlor for YOU. Graze. April/May. No Bull Press: Brooklyn, WI. Available at: www.grazeonline.com/parlor.html


Johnson, Dennis. 2005. Reduced input dairy farming may be an option. Dairy Extension. University of Minnesota, St. Paul, MN. Available at: www.extension.umn.edu/dairy/dairystar


Minnesota Department of Agriculture (MDA). 2004. Agricultural Diversification Compass. Minnesota Department of Agriculture, St. Paul, MN. Available at: www.mda.state.mn.us/mgo or (651) 201–6012.


Nott, Sherill. 2003. Evolution of dairy grazing in the 1990s. Department of Agricultural Economics, Michigan State University. Lansing, MI. Available at: www.msu.edu/user/nott


University of Minnesota Center for Farm Financial Management (UMN-CFFM). FINBIN. Available at: www.finbin.umn.edu


Wolf, Christopher. 2002. Custom dairy heifer grower industry, characteristics and contract terms. Michigan State University Department of Agricultural Economics. East Lansing, MI. Available at: www.animalag.msu.edu. Click on “Projects,” use the search tool and select “dairy.”

RESOURCE PEOPLE

Rick Adamski and Valerie Dantoin, profiled dairy producers
Full Circle Farm
W2407 Hofa Park Road
Seymour, WI 54165

Kathy Arnold, dairy producer (grazing)
3175 State Route 13
Truxton, NY 13158-3107

Ben Bartlett
Michigan State University Dairy and Livestock Extension
E3774 University Drive
Box 168
Chatham, MI 49816
(906) 439-5880

David K. Beede
Professor and C.E. Meadows Chair
Department of Animal Science
Michigan State University
2265-K Anthony Hall
East Lansing, MI 48824-1335
(517) 432-5400

William Bickert
Professor, Biosystems and Agricultural Engineering Department
Michigan State University
120 Farrall Hall
East Lansing, MI 48824-1323
(517) 353-8643
bickert@msu.edu

Ken and Chad Bohn, dairy producers (tie stall)
60312-150th Street
Litchfield, MN 55355

Herb Bucholtz
Professor of Dairy Cattle Nutrition
Department of Animal Science
Michigan State University
2265-H Anthony Hall
East Lansing, MI 48824
(517) 355-8432
bucholtz@msu.edu

Richard Cates
Director, Wisconsin School for Beginning Dairy Producers
University of Wisconsin–Madison
1535 Observatory Drive
Madison, WI 53706
(608) 265-6437
rlcates@wisc.edu

Hugh Chester-Jones
Associate Professor, Dairy and Beef Production Systems
Department of Animal Science
University of Minnesota Southern Research and Outreach Center
35839 120th Street
Waseca, MN 56093-4521
(507) 835-3620
chest001@umn.edu

Dave Combs
Professor of Dairy Science
Dairy Science Department
University of Wisconsin–Madison
934-F Animal Science Building
Madison, WI 53706
(608) 263-4844
dkcombs@wisc.edu

Joe Conlin
Professor Emeritus, University of Minnesota
Dairy herd health consultant
4850 Lakeview Drive
Shoreview, MN 55126-2021
(651) 484-4776

Dennis Cooper
Professor and Extension Dairy Specialist
Animal and Food Science Department
University of Wisconsin River Falls
410 S. 3rd Street River Falls, WI 54022
(715) 425-3704
dennis.p.cooper@uwrf.edu

Robert Craig
Director, Agriculture Development Division
Michigan Department of Agriculture
P.O. Box 30017
Lansing, MI 48909
(517) 241-2178
CraigR@michigan.gov
George Crave, grazing dairy and cheese maker
Crave Brothers
W11550 Torpy Road
Waterloo, WI 53594

Matt Drewitz
Water Quality Specialist
Minnesota Department of Agriculture
625 N. Robert Street
St. Paul, MN 55155
(651) 201-6520
matt.drewitz@state.mn.us

Darrell Emmick
State Grazing Land Management Specialist
USDA–Natural Resource Conservation Service
100 Grange Place
Cortland, NY 13045
(607) 756-5991 ext. 117

David Engel, dairy producer (organic, grazing)
53063 McManus Road
Soldiers Grove, WI 54655

John Fetrow
Professor of Dairy Production Medicine
College of Veterinary Medicine
University of Minnesota
1365 Gortner Avenue
St. Paul, MN 55108
(612) 625-3776
fetro001@umn.edu

Wyatt Fraas and Martin Kleinschmit
Center for Rural Affairs
145 Main Street
P.O. Box 136
Lyons, NE 68038
(402) 687-2100
info@cfra.org

Paul Fritsche, dairy producer (tie stall)
25733 County Road 12
New Ulm, MN 56073

Donna Gilson
Public Information Officer for
Food Safety and Animal Health Issues
Department of Agriculture,
Trade and Consumer Protection
P.O. Box 8911
Madison, WI 53708-8911
(608) 224-5130

Linus and Vern Goebel, dairy producers (conventional)
25368 385th Street
Albany, MN 56307-9868

Tim Griffin
National Milk Procurement Manager
Organic Valley® Family of Farms
CROPP Cooperative
One Organic Way
LaFarge, WI 54639
(888) 444-6455
www.organicvalley.com

Gary Hachfeld
Regional Extension Educator –
Agricultural Business Management
University of Minnesota Extension Service
1961 Premier Drive, Suite 110
Mankato, MN 56001-5901
(507) 389-6722
hachf002@umn.edu

Alan Haff
Procurement Assistant
Organic Valley® Family of Farms
CROPP Cooperative
One Organic Way
LaFarge, WI 54639
(888) 444-6455
www.organicvalley.com

Daniel Hall
Southwest Minnesota K-Fence
40133-620th Avenue
Butterfield, MN 56120
(507) 956-2657

Les Hansen
Morse Alumni Distinguished Teaching
Professor of Animal Science
Department of Animal Science
University of Minnesota
1364 Eckles Avenue
St. Paul, MN 55108-6118
(612) 624-2277
hanse009@umn.edu
Dairy Your Way

Vance Haugen
Dairy grazier and Extension Agriculture Agent
University of Wisconsin Extension
111 West Dunn Street
Prairie Du Chien, WI 53821
(608) 326-0223
vance.haugen@ces.uwex.edu

Dennis and Marcia Haubenschild,
dairy producers (free stall)
7201 349th Avenue NW
Princeton, MN 55371-5212

Karen Hoffman-Sullivan
Animal Scientist
USDA–Natural Resources Conservation Service
99 North Broad Street
Norwich, NY 13815
(607) 334-3231

Brian Holmes
Professor and Extension Specialist
Biological Systems Engineering Department
University of Wisconsin–Madison
460 Henry Mall
Madison, WI 53706
(608) 262-0096
bjholmes@wisc.edu

Roger Imdieke, custom heifer raiser
19560 – 68th Street NE
New London, MN 56273

Kevin Janni
Professor and Head
Department of Biosystems and Agricultural Engineering
University of Minnesota
1390 Eckles Avenue
St. Paul, MN 55108-6005
(612) 625-3108

Dennis Johnson
Professor and Dairy Scientist
West Central Research and Outreach Center
University of Minnesota
46352 State Hwy 329
Morris, MN 56267
(320) 589-1711
dairydgj@morris.umn.edu

Johnson served as the technical advisor for this publication.

Bruce Jones
Professor and Farm Management Specialist
Department of Agricultural and Applied Economics
Center for Dairy Profitability
University of Wisconsin Extension
516 Taylor Hall
427 Lorch Street
Madison, WI 53706
(608) 265-8508
bljones1@wisc.edu

David W. Kammel
Professor of Bio-Systems Engineering
and Extension Specialist
Biological Systems Engineering Department
University of Wisconsin–Madison
460 Henry Mall
Madison, WI 53706
(608) 262-9776
dwkammel@wisc.edu

Art Kerfeld, dairy producer (free stall)
7201 349th Avenue NW
Princeton, MN 55371-5212

Frank and Shari Konkel, Lance and Nancy Johnson,
profiled dairy producers, Silver Sky Dairy
9105 W Baseline Road
Hesperia, MI 49421-9405

C. Thomas Leitzke
Director, Bureau of Food Safety and Inspection
Wisconsin Department of Agriculture
Trade and Consumer Protection
P. O. Box 8911
Madison, WI 53708
(608) 224-4711

Jim Linn
Professor and Extension Dairy Nutritionist
Department of Animal Science
University of Minnesota
205 Haeccker Hall
1364 Eckles Avenue
St. Paul, MN 55108-6118
(612) 624-6789
linnx002@umn.edu

Johnson served as the technical advisor for this publication.
Ranee May  
Dairy Pilot Plant Manager  
Food Science Department  
University of Wisconsin–River Falls  
410 S. 3rd Street  
River Falls, WI 54022  
(715) 425-3704  
ranee.j.may@uwrf.edu

Florence and David Minar, dairy producers  
grazing and organic with on-farm processing)  
Cedar Summit Creamery  
25830 Drexel Avenue  
New Prague, MN 56071

Joe Molitor, dairy producer (grazing)  
8554 County Road 47  
Saint Cloud, MN 56301-9776

Norm Monsen  
Wisconsin Department of Agriculture,  
Trade & Consumer Protection  
Wisconsin Dairy Artisan Network  
P.O. Box 8911  
2811 Agriculture Drive  
Madison, WI 53708-8911  
(608) 224-5135  
Wisconsin Dairy Artisan Website:  
www.wisconsindairyartisan.com/why.html

Meg Moynihan  
Organic and Diversification Specialist  
Minnesota Department of Agriculture  
625 N. Robert Street  
St. Paul, MN 55155  
(651) 201-6616  
meg.moynihan@state.mn.us

Bob and Theresa Mueller, profiled dairy producers  
Robert Mueller Farm  
40974 County Road 170  
Melrose, MN 56352

Joe Pedretti  
Membership Services Manager  
Organic Valley® Family of Farms  
CROPP Cooperative  
One Organic Way  
LaFarge, WI 54639  
(888) 444-6455  
www.organicvalley.com

H. Christopher Peterson  
Professor and Director  
Michigan State University Product Center for  
Agriculture and Natural Resources  
Michigan State University  
83 Agriculture Hall  
East Lansing, MI 48824-1039  
(517) 355-1813  
www.aec.msu.edu/product/index.htm

Thomas Portner, free stall dairy (bedded pack)  
29042 – 240th Street  
Sleepy Eye, MN 56085

Doug Reinemann  
Professor  
Biological Systems Engineering Department  
University of Wisconsin–Madison  
460 Henry Mall  
Madison, WI 53706  
(608) 262-0223  
djreinem@wisc.edu  
www.uwex.edu/uwmril

Jeffrey K. Reneau  
Professor, Dairy Management  
Department of Animal Science  
University of Minnesota  
225D Haecker Hall  
1364 Eckles Avenue  
St. Paul, MN 55108-6118  
(612) 624-9791  
renea001@umn.edu

James Riddle  
Organic Consultant  
Organic Independents  
31762 Wiscoy Ridge Road  
Winona, MN 55987  
(507) 454-8310  
jriddle@hbci.com
Margot Rudstrom  
Regional Extension Educator, Farm Management  
West Central Research and Outreach Center  
University of Minnesota  
46352 State Hwy 329  
Morris, MN 56267  
(320) 589-1711

Jim Salfer  
Regional Extension Educator  
University of Minnesota Extension Service  
3400 1st Street N Suite 400  
St Cloud, MN 56303-4000  
(320) 203-6093  
salfe001@umn.edu

Chuck Schwartau  
Regional Extension Educator  
University of Minnesota Extension Service  
863 30th Avenue SE  
Rochester, MN 55904  
(507) 536-6301  
cschwart@umn.edu

Michael Sparby  
Project Development Director  
Agricultural Utilization Research Institute  
P.O. Box 599  
Crookston, MN 56715  
(800) 279.5010  
msparby@auri.org

Kevin Stuedemann, dairy producer  
(grazing and organic)  
29757–231st La  
Belle Plaine, MN 56011

Larry Tranel  
Dairy, Beef, and Forage Specialist  
Iowa State University Extension  
14858 W. Hwy 20 West  
Dubuque, IA 52003  
(563) 583-6496 ext. 14  
tranel@iastate.edu

Art Thicke, dairy producer (grazing)  
32979 Pier Ridge Road  
La Crescent, MN 55947-7710

Francis Thicke, dairy producer  
(grazing and organic with on-farm processing)  
Radiance Dairy  
1745 Brookville Road  
Fairfield, IA 52556-8903

Larry Webster and Family, profiled dairy producers  
Webster Ridge Dairy  
4100 E Ridge Road  
Elsie, MI 48831-9738

Dan and Ruth Vosberg, profiled dairy producers  
2295 Cisserville Road  
South Wayne, WI 53587-9744

Christopher Wolf  
Associate Professor  
Department of Agricultural Economics  
Michigan State University  
317B Agriculture Hall  
East Lansing, MI 48824-1039  
(517) 353-3974  
wolfch@msu.edu

Dave Wolfgang  
Senior Research Associate–Veterinary Science  
The Pennsylvania State University  
115 Henning Building  
University Park, PA 16802  
(814) 863-5849  
drw12@psu.edu

Dairy Your Way 93
SELECTED RESOURCES,
GROUPS AND PUBLICATIONS

— ARRANGED BY TOPIC —

• General Information • Adding or Upgrading Facilities or Processing Units •
• Entry/Exit Strategies • Grazing • Heifer Production • Milking Center Options •
• Manure, Feedlot, and Wastewater Management • Organic Production

GENERAL INFORMATION

Forage storage cost calculation spreadsheet
Available online: www.uwex.edu/ces/crops/uwforage/
   CSTFORST-5-1-03.XLS
Creator: Brian J. Holmes
University of Wisconsin–Madison
Biological Systems Engineering Department
460 Henry Mall
Madison, WI 53706
(608) 262-0096
bjholmes@wisc.edu

Dairy Initiatives Newsletter
Available online:
   www.ansci.umn.edu/dairy/dinews/di.htm
Editor, Jeffrey K. Reneau
Department of Animal Science
University of Minnesota
205 Haecker Hall
1364 Eckles Avenue
St. Paul, MN 55108-6118

Extension Dairy Web Pages:
Michigan: www.canr.msu.edu/rdmsue_thumb/pages/
   dairy_team/dairy_mgmt.htm
Minnesota: www.extension.umn.edu/dairy
Wisconsin: www.uwex.edu/ces/ag/teams/dairy

FINBIN – A farm financial and production database
that summarizes actual farm data from thousands
of agricultural producers who use FINPACK, a
comprehensive farm financial planning and analysis
software system developed and supported by the
University of Minnesota Center for Farm Financial
Management. You can create free benchmark reports to
compare the production and economic performance of
various dairy systems — including tie stall, free stall,
and grazing — at the FINBIN web site:
www.finbin.umn.edu/

ADDING OR UPGRADING FACILITIES
OR PROCESSING UNITS

Michigan Department of Agriculture
Sue Esser, Food and Dairy Division
P.O. Box 30017
525 West Allegan Street
Lansing, MI 48933
(800) 292-3939
www.michigan.gov/mda

Minnesota Milk Producers Association
Bob LeFebvre, Executive Director
413 South 28th Avenue
Waite Park, MN 56387
(877) 577-0741
mmpa@mnmilk.org
www.mnmilk.org

Michigan Milk Producers Association
Elwood Kirkpatrick, President
41310 Bridge Street
P.O. Box 8002
Novi, MI 48376-8002
(248) 474-6672
www.mimilk.com

Professional Dairy Producers of Wisconsin
P.O. Box 2
Fox Lake, WI 53933-0002
(800) 947-7379
mail@pdpw.org
www.pdpw.org

Wisconsin Milk Marketing Board, Inc.
8418 Excelsior Drive
Madison, WI 53717
(608) 836-8820
feedback@wmmb.org
www.wisdairy.com
ADDING OR UPGRADED FACILITIES OR PROCESSING UNITS (cont.)

Michigan Department of Environmental Quality
Constitution Hall
525 West Allegan Street
P.O. Box 30473
Lansing, MI 48909-7973
www.michigan.gov/deq
Land and Water Management: (517) 373-1170
Waste and Hazardous Materials: (517) 335-2690

Minnesota Department of Agriculture
625 N. Robert Street
St. Paul, MN 55155
(651) 201-6000
(800) 967-2474
www.mda.state.mn.us
Dairy, Food, and Meat Inspection Division,
(651) 201-6027
Meg Moynihan, Organic and Diversification Specialist,
(651) 201-6616
David Weinand, Project Consultant,
(651) 201-6646
Curt Zimmerman, Livestock Development Specialist,
(651) 201-6456

Minnesota Pollution Control Agency
520 Lafayette Road
St. Paul, MN 55155
(800) 657-3864
www.pca.state.mn.us
Representatives differ by county

Wisconsin Department of Natural Resources
Terry Donovan, Water Resources Engineer
101 South Webster Street
P.O. Box 7921
Madison, WI 53707-7921
(608) 267-2340
http://dnr.wi.gov

ENTRY/EXIT STRATEGIES

Beginning Farmer and Rancher Opportunities
A web page from the Center for Rural Affairs
www.cfra.org/issues/beginning.htm

Sharemilking in the Midwest — Sharemilking considerations for dairy farmers.
By Larry F. Tranel. 1996. Bulletin A3670. Cooperative Extension Publications and University of Wisconsin Madison, WI. Available to order or free online at:
http://ecommerce.uwex.edu (select "Agriculture" then "Farm Financial Management") or call (608) 262-3346

Wisconsin School for Beginning Dairy Farmers
Center for Integrated Agricultural Systems
University of Wisconsin—Madison
1535 Observatory Drive
Madison, WI 53706
(608) 265-6437 or (608) 588-2836
www.cias.wisc.edu/dairysch.html

GRAZING

American Grassfed Association
P.O. Box 400
Kiowa, CO 80117
(877) 774-7277
www.americangrassfed.org

ATTRA—National Center for Appropriate Technology
A sustainable and organic agriculture information service that offers free information resources—bulletins, fact sheets, etc.
P.O. Box 3657
Fayetteville, AR 72702
(800) 346-9140
www.attra.ncat.org
GRAZING (cont.)

Forage Resources
University of Wisconsin Extension Forage Resources
www.uwrf.edu/grazing/

Graze (a monthly publication)
P.O. Box 48
Belleville, WI 53508
(608) 455-3311
www.grazeonline.com

Grazing and Fencing Information Links
www.ibiblio.org/farming-connection/grazing/home.htm

Grazing Systems Planning Guide
University of Minnesota Extension Service, St. Paul, MN. Available to order or free online at:
www.extension.umn.edu/distribution/livestocksystems/DI7606.html or call (800) 876-8636.

Pastures for Profit: A Guide to Rotational Grazing
By Dan Undersander, Beth Albert, Dennis Cosgrove, Dennis Johnson, and Paul Peterson. 2002. Bulletin A3529. University of Wisconsin, Madison, WI. Available to order or free online at:
http://commerce.uwex.edu or call (608) 262-3346.

The Stockman Grass Farmer (monthly).
P.O. Box 2300
Ridgeland, MS 39157-9911
(800) 748-9808
http://stockmangrassfarmer.com/sgf

Grass Productivity

Sustainable Farming Association of Minnesota
Publishes the quarterly CornerPost newsletter
29731 302 Street
Starbuck, MN 56381
(866) 760-8732
www.sfa-mn.org

USDA Natural Resources Conservation Service (NRCS). Staff members provide technical assistance for planning grazing systems. This agency also offers cost share programs that defray the costs of fencing and watering systems. Contact the NRCS at your county USDA Service Center. www.nrcs.usda.gov

Wisconsin School for Beginning Dairy Farmers
Center for Integrated Agricultural Systems
University of Wisconsin–Madison
1535 Observatory Drive
Madison, WI 53706
(608) 265-6437 or (608) 588-2836
www.cias.wisc.edu/dairysch.html

HEIFER PRODUCTION

Professional Dairy Heifer Growers Association
801 Shakespeare, Box 497
Stratford, IA 50249
(877) 434-3377
www.pdhga.org

MILKING CENTER OPTIONS

Milking Parlors web page of the University of Wisconsin Research and Instruction Laboratory offers reports, plans, reviews, and calculators for planning parlor building or remodeling.
At www.uwex.edu/uwmril Click on “Milking Parlors.”

MANURE, FEEDLOT, AND WASTEWATER MANAGEMENT

Environmental Protection Agency National Agriculture Compliance Assistance Center
901 North 5th Street
Kansas City, KS 66101
(888) 663-2155
www.epa.gov/agriculture/

Frequently Asked Questions about Anaerobic Manure Digestion for Livestock Operations
Minnesota Department of Agriculture, Available at:
http://www.mda.state.mn.us/feedlots/digesterfaqs.htm
**RESOURCES, GROUPS, AND PUBLICATIONS**

**MANURE, FEEDLOT, AND WASTEWATER MANAGEMENT (cont.)**

Michigan Agriculture Environmental Assurance Program
A working committee that includes agricultural interest groups, agencies, commodity organizations, environmental groups, and producers
(517) 241-4730
www.maeap.org

Michigan Department of Environmental Quality
525 W. Allegan Street
P. O. Box 30473
Lansing, MI 48909
www.michigan.gov/deq

Minnesota Pollution Control Agency
520 Lafayette Road
St. Paul, MN 55155-4194
(800) 657-3864
Feedlot hotline: (877) 333-3508
County feedlot officers are located throughout the state
www.pca.state.mn.us/hot/feedlots.html

**ORGANIC PRODUCTION**

Midwest Organic and Sustainable Education Services
P. O. Box 339
Spring Valley, WI 54767
(715) 772-3153
www.mosesorganic.org

Midwest Organic Dairy Producers Alliance
Steve Pechacek
N6157 1145th Street
Prescott, WI 54021
(715) 262-5879

Bob Mueller
40974 County Road 170
Melrose, MN 56352
(320) 256-7337

Minnesota Department of Agriculture Organic Web Page
www.mda.state.mn.us/esap/organic

National Organic Program
USDA-AMS-TMP-NOP
Room 4008–South Building
1400 Independence Avenue SW
Washington, DC 20250-0020
(202) 720-3252
www.ams.usda.gov/nop

National Organic Standards Board
A body, appointed by the Secretary of Agriculture, that develops standards for substances used in organic production and handling and that advises the Secretary on implementing the National Organic Program.
www.ams.usda.gov/NOSB

Northeast Organic Dairy Producers Alliance
c/o NOFA—VT
P. O. Box 697
Richmond, VT 05477
www.organicmilk.org

*Organic Dairy Production*. By Jody Padgham.
Orang-utan Press. Gays Mills, WI. Available by calling (715) 772-3153

*The Organic Decision: Transitioning to Organic Dairy Production*
Cornell University Department of
Applied Economics and Management
305 Warren Hall
Ithaca, NY 14853-7801
(607) 254-7412 or (800) 547-3276
fsb1@cornell.edu

*Organic Livestock Production Workbook* and
*Organic Livestock Documentation Forms*
ATTRA Publication—National Center for
Appropriate Technology
P. O. Box 3657
Fayetteville, AR 72702
(800) 346-9140
www.attra.ncat.org

*Transitioning to Organic*
by Kathy Arnold. Northeast Organic Dairy Producers Alliance. Richmond, VT. Available at:
www.organicmilk.org/transitioning.html
Alley – A walking area for cattle within a barn (such as a loafing alley, feeding alley) or cross alley (walkway) from a barn to the milking parlor.

Alley scraper – A V-shaped mechanical blade that is dragged over an alley by chain or cable to pull manure to a collection channel at the end of the alley (or possibly the center of the barn). The blade then collapses and is drawn back to the opposite end of the alley.

Antibiotic – A metabolic product of one microorganism or a chemical that in low concentrations is detrimental to activities of specific other microorganisms. Examples include penicillin, tetracycline, and streptomycin. Not effective against viruses. Antibiotics kill microorganisms that cause mastitis or other infectious disease.

Automatic detacher or Automatic take-off – A device for sensing the end of milk flow in the milking machine. It shuts off the milking vacuum and releases the milking machine from the cow’s udder.

Barn cleaner – Usually a chain-linked system of paddles that moves manure from gutters, up a chute, into a waiting manure spreader. Most often seen in tie stall or stanchion barns.

Bedded pack – Open housing in a barn commonly used in conjunction with an outside feeding area.

Bedding – Material used to absorb moisture and provide cushion. A clean, dry surface reduces the incidence of mastitis. Possible bedding materials include: straw, sawdust, wood chips, sand, ground limestone, separated manure solids, shredded newspaper, corn stalks, bark, peanut hulls, sunflower hulls, and rice hulls.

Biosecurity – Any of a broad range of practices enforced at a dairy farm to prevent transmittal of pathogens from other sources by feed, cattle, people, or other animals.

Bull – A sexually mature, uncastrated bovine male.

Bulk tank – A refrigerated, stainless steel vessel in which milk is cooled quickly to 2º to 4º C (35º to 39º F) and stored until collected by a truck for shipping to the milk plant.

Bunk – A feed trough or feeding station for cattle.

Bunker silo – A flat rectangular structure with concrete floors and walls used to ensile and store forages.

Calf – A young male or female bovine. Usually referred to as calves until reaching sexual maturity.

Colostrum – First milk following calving. High in fat, protein, and immunoglobulins that may be directly absorbed by the newborn calf in its first 24 hours of life.

Cow – A mature female bovine. Usually referring to any dairy females that have borne a calf. Some may consider females having given birth only once as “first-calf heifers” until they have a second calf.

Crowd gate – A motorized or manual gate at the end of the holding pen that may be moved forward to guide cows toward the entrance to the milking parlor.

Cull – To remove a cow from the herd. Culling reasons include voluntary culling of cows for low milk production, or involuntary culling of cows for reasons of health or injury.

Dairy cow – A bovine whose milk production is intended for human consumption, or that is kept for raising replacement dairy heifers.

Distillers dried grains – feed (containing protein, fiber, vitamins and minerals) that is a byproduct of the dry-mill ethanol production process.

Direct Microscopic Somatic Cell Count (DMSCC) – Microscopic count of the actual number of somatic cells in milk. This system is used to check and verify electronic cell count machines used in DHI laboratories.

Dock – To remove a cow’s tail. This practice may keep cows’ udders cleaner.

Dry cow – A cow that is not lactating or secreting milk because it has completed a lactation period following calving.

Dry lot – An open lot that may be covered with concrete, but that has no vegetative cover.

Equipment sanitization – The removal of microorganisms and fat, protein, and mineral residues in milking equipment through use of water, heat, and chemicals.

Flat barn – An area for milking cattle where the person milking is on the same level as the cow. May be used with a pipeline or bucket milking system. Generally the same area is used for cow housing.
Flush system – A manure removal system in which an area is cleaned by high volumes of fresh water, or gray water that is recycled from a manure pit or lagoon.

Food and Drug Administration (FDA) – An agency of the U.S. Government responsible for the safety of the human food supply.

Forage – Feedstuffs composed primarily of the whole plant, including stems and leaves.

Forestripping – Expressing streams of milk from the teat prior to machine milking to determine visual quality and to stimulate milk letdown.

Free stalls – Resting cubicles or “beds” that dairy cows are free to enter and leave, as opposed to being confined in stanchions or pens.

Fresh cow – A cow that has recently given birth to a calf.

Greenhouse barn – A hoop-type barn consisting of a translucent or plastic cover over a tubular steel frame.

Gutter – A shallow to deep channel located behind cows in tie stall barns to capture manure and urine.

Hay – Dried feed consisting of the entire plant. Alfalfa, clover, grass, and oat hay may be used in dairy rations.

Headlocks – Self-locking stanchions along a feed alley that cows voluntarily enter when going to eat. Cows may be held until herd health work is completed, and released simultaneously. Headlocks may also be adjusted to remain open, allowing cows to come and go at will, when restraining the cows is not necessary.

Heifer – A bovine female less than three years of age who has not borne a calf. Young cows with their first calves are often called first-calf heifers.

Herringbone parlor – A milking parlor in which cows stand side by side, angled toward the pit. This allows milking from the side of the udder.

Holding pen – An area in which cows congregate prior to entering a milking parlor to be milked.

Hutch – An individual housing unit for young calves. Often made of white fiberglass or polyvinyl.

Immunity – The power an animal has to resist and/or overcome an infection to which most of its species are susceptible. Active immunity is due to the presence of antibodies formed by an animal in response to previous exposure to the disease or through live or modified-live vaccines. Passive immunity is produced by giving the animal preformed or synthetic antibodies as with killed vaccines.

Lagoon – An earthen pond used as a primary storage site for manure.

Legume – Any of thousands of plant species that have seed pods that split along both sides when ripe. Legumes have a unique ability to obtain much or all of their nitrogen requirements from symbiotic nitrogen fixation.

Loose housing – Facilities that allow cattle access to a large, open bedded area for resting (also known as free housing). Loose housing should provide at least 200 ft² per animal for feeding and resting (free stall housing uses only 90 ft² per animal).

Mastitis – An inflammation of the mammary gland (or glands), usually caused by bacteria.

Mattress – Bedding material compacted to 3 to 4 inches and sandwiched in a heavy-duty polypropylene or other fabric. Possible fillers include long or chopped straw, poor quality hay, sawdust, shavings, rice hulls, and shredded rubber.

Milk house – The area near a milking parlor where the bulk milk tank, cleaning units, and equipment are located.

Milk house waste – Water that has been used in cleaning the milking equipment and washing the parlor.

Milking pit – A sunken area that houses both the milker and some milking equipment during milking. A pit places the milker at shoulder level with udders and reduces physical demands.

Mycoplasma – An organism capable of causing mastitis.

Paddocks – Subdivision of a pasture designed to provide short-duration grazing followed by an appropriate (related to species, soil type, and weather conditions) rest period for regrowth and stand maintenance.
Parallel parlor—A raised milking area or platform where the cow stands perpendicular to the operator and milking units are attached between the rear legs. This may also be referred to as a “side-by-side.”

Parlor – The specialized area on the dairy farm where milking is performed. Parlors come in many types: flat barn, herringbone, parallel, and rotary.

Pasture – Plants, such as grass, harvested by grazing animals. Also serves as a place to feed cattle and other livestock.

Pathogen – Any microorganism that produces disease (bacteria, viruses, yeasts, molds, and parasites).

Pipeline – A stainless steel or glass pipe used for transporting milk.

Pit – A contained unit usually with concrete walls in which liquid or semi-liquid manure is stored.

rBST – Recombinant bovine somatotropin — also called bovine growth hormone (BGH). A synthetically produced growth hormone that stimulates milk production. Sold under the trade name Posilac®.

Replacement heifers – Heifers that are raised to replace the cows currently in the herd.

Rotary parlor – A raised, round rotating platform or carousel on which cows ride while being milked.

Sand separator – A mechanical device used to settle sand from sand-laden manure.

Silage – Chopped green forage (grass, legumes, field corn, etc.) that is stored in a structure or container designed to exclude air. The material then undergoes fermentation, retarding spoilage. Silage has a water content of between 60 and 80 percent.

Silage bags – Large plastic tubes in which forages are stored and fermented. Plastic is removed and discarded as the ensiled feed is fed.

Silo – A storage facility for silage. Usually refers to upright concrete or fiberglass structures.

Slotted floor – A concrete floor design in which slats are positioned in the floor so that cows work manure through the slats and into a pit beneath the floor of the barn.

Somatic cell count (SCC) – The number of white blood cells per milliliter of milk, a measurement of the number of somatic cells present in a sample of milk. A high concentration of more than 500,000 somatic cells per milliliter of milk indicates abnormal condition in the udder. Elevation above 200,000 is an indication of mastitis.

Somatic cells – The combination of the leukocytes (white blood cells) from blood and the epithelial cells from the secretory tissue of the udder which indicate the presence of infection or injury in the animal.

Springing heifer – A heifer within 2–3 months of her due date for calving.

Stall – A cubicle that houses a cow.

Stanchion – A device consisting of two rails that close around a cow’s neck after she enters a stall and keep her restrained there.

Step-up parlor – Cows step onto raised platforms for milking. The milking units are attached from the side.

Sterile – Clean, free of any living organisms. Also means unable to reproduce.

Superhutches – Calf housing structures, often open on one side, designed for a small number of calves when first grouped immediately after weaning.

Swing parlor – Parlor that has the milking units positioned in the middle of the parlor for use by cows on both sides.

Tie stall parlor – This kind of facility is frequently used for both housing and milking. Cows are tied and milked with the cow and operator on the same level.

Total mixed ration (TMR) – Feed mixtures that has been formulated to meet requirements of the cow. All of the ingredients are blended together in a mixer.

Source: Derived from Purdue University Animal Science Department’s glossary.