

# 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.

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

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).

# TAKE STOCK OF RESOURCES AND GOALS: PART 2

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.)*

	COMFORTABLE	CAN TOLERATE	NOT COMFORTABLE
Carrying a lot of debt			
Being highly leveraged			
Needing to push my buildings and animals to ensure profitability			
Investing in expensive milking equipment			
Exposing my animals to extreme weather conditions			
Having limited market access for my type of operation			

**How would you like to be viewed by your neighbors and community?**

*(Check all that apply.)*

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

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

<input type="checkbox"/> Odor	<input type="checkbox"/> Unsightly buildings
<input type="checkbox"/> Environmental stewardship	<input type="checkbox"/> Water quality/runoff
<input type="checkbox"/> The farm is near housing development/urban sprawl	<input type="checkbox"/> Flies
<input type="checkbox"/> Livestock concentration issues	<input type="checkbox"/> Hiring labor/purchasing equipment from outside the local area
<input type="checkbox"/> Dust	

# 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

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

## What land resources are available to you?

<b>TOTAL ACRES OWNED/LEASED</b>	<input type="text"/>	<b>TILLABLE</b>	<input type="text"/>	<b>PASTURE</b>	<input type="text"/>	<b>OTHER</b>	<input type="text"/>
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## 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

	TIE STALL	FREE STALL	PASTURE	ORGANIC	HEIFER	VALUE-ADDED
Land						
Buildings						
Equipment						
Parlor						
Equity						
Cows						

# TAKE STOCK

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?

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<sup>3</sup>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.

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Princeton, MN 55371-5212

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9105 W Baseline Road  
Hesperia, MI 49421-9405

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Wisconsin Department of Agriculture  
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P.O. Box 8911  
Madison, WI 53708  
(608) 224-4711

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## RESOURCE PEOPLE

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Cedar Summit Creamery  
25830 Drexel Avenue  
New Prague, MN 56071

Bruce and Cheryl Mohn, profiled dairy producers  
27605 Pillsbury Avenue  
Lakeville, MN 55044

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.wisconsinidairyartisan.com/why.html](http://www.wisconsinidairyartisan.com/why.html)

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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](http://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](http://www.aec.msu.edu/product/index/htm)

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

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University of Wisconsin–Madison  
460 Henry Mall  
Madison, WI 53706  
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djreinem@wisc.edu  
[www.uwex.edu/uwmril](http://www.uwex.edu/uwmril)

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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

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South Wayne, WI 53587-9744

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University Park, PA 16802  
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drw12@psu.edu

# 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](http://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](mailto:bjholmes@wisc.edu)

Dairy Initiatives Newsletter  
Available online:  
[www.ansci.umn.edu/dairy/dinews/di.htm](http://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/msue\\_thumb/pages/  
dairy\\_team/dairy\\_mgmt.htm](http://www.canr.msu.edu/msue_thumb/pages/dairy_team/dairy_mgmt.htm)  
Minnesota: [www.extension.umn.edu/dairy](http://www.extension.umn.edu/dairy)  
Wisconsin: [www.uwex.edu/ces/ag/teams/dairy](http://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/](http://www.finbin.umn.edu/)

Minnesota Milk Producers Association  
Bob LeFebvre, Executive Director  
413 South 28th Avenue  
Waite Park, MN 56387  
(877) 577-0741  
[mmpa@mnmilk.org](mailto:mmpa@mnmilk.org)  
[www.mnmilk.org](http://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](http://www.mimilk.com)

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

Wisconsin Milk Marketing Board, Inc.  
8418 Excelsior Drive  
Madison, WI 53717  
(608) 836-8820  
[feedback@wmmb.org](mailto:feedback@wmmb.org)  
[www.wisdairy.com](http://www.wisdairy.com)

## 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](http://www.michigan.gov/mda)

## RESOURCES, GROUPS, AND PUBLICATIONS

### ADDING OR UPGRADING 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](http://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](http://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](http://www.pca.state.mn.us)  
Representatives differ by county

Wisconsin Department of Agriculture, Trade and  
Consumer Protection  
P.O. Box 8911  
Madison, WI 53708  
<http://datcp.state.wi.us>  
Jim Cisler, agricultural innovation counselor,  
(608) 224-5137  
Carl Rainey, grant/funding information,  
(608) 224-5139  
Farm Center Helpline,  
(800) 942-2474

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](http://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://cecommerce.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](http://www.cias.wisc.edu/dairysch.html)

### GRAZING

**American Grassfed Association**  
P.O. Box 400  
Kiowa, CO 80117  
(877) 774-7277  
[www.americangrassfed.org](http://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](http://www.attra.ncat.org)

## RESOURCES, GROUPS, AND PUBLICATIONS

### GRAZING (cont.)

#### Forage Resources

University of Wisconsin Extension Forage Resources  
[www.uwrf.edu/grazing/](http://www.uwrf.edu/grazing/)

*Graze* (a monthly publication)

P.O. Box 48  
Belleville, WI 53508  
(608) 455-3311  
[www.grazeonline.com](http://www.grazeonline.com)

#### Grazing and Fencing Information Links

[www.ibiblio.org/farming-connection/grazing/home.htm](http://www.ibiblio.org/farming-connection/grazing/home.htm)

#### *Grazing Systems Planning Guide*

by Kevin Blanchet, Howard Moechnig,  
and Jodi DeJong-Hughes. 2005. BU-07606.  
University of Minnesota Extension Service,  
St. Paul, MN. Available to order or free online at:  
[www.extension.umn.edu/distribution/livestocksystems/DI7606.html](http://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://cecommerce.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*

by Andre Voisin. 1989. Island Press. Covelo, CA.

#### Sustainable Farming Association of Minnesota

Publishes the quarterly *CornerPost* newsletter  
29731 302 Street  
Starbuck, MN 56381  
(866) 760-8732  
[www.sfa-mn.org](http://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](http://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](http://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](http://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](http://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/](http://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](http://www.maeap.org)

Michigan Department of Environmental Quality  
525 W. Allegan Street  
P.O. Box 30473  
Lansing, MI 48909  
[www.michigan.gov/deq](http://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](http://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](http://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](http://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](http://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](http://www.ams.usda.gov/NOSB)

Northeast Organic Dairy Producers Alliance  
c/o NOFA—VT  
P.O. Box 697  
Richmond, VT 05477  
[www.organicmilk.org](http://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](http://www.attra.ncat.org)

*Transitioning to Organic*  
by Kathy Arnold. Northeast Organic Dairy Producers  
Alliance. Richmond, VT. Available at:  
[www.organicmilk.org/transitioning.html](http://www.organicmilk.org/transitioning.html)

# GLOSSARY

**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 2° to 4° C (35° to 39° 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.

## GLOSSARY

**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 ft<sup>2</sup> per animal for feeding and resting (free stall housing uses only 90 ft<sup>2</sup> 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 heavyweight 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.

# GLOSSARY

**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*

