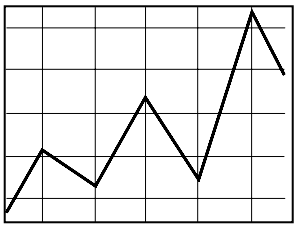
MARKETING AND POLICY BRIEFING PAPER



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Growth and Transition in Wisconsin Dairying

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Introduction

Between June 2002 and December 2004, the College of Agricultural and Life Sciences, UW-Madison, and Cooperative Extension, UW-Extension, published an 8-leaflet series with a common title, *Rethinking Dairyland*.[2] The tone of the leaflets was somber. Between 1985 and 2001, Wisconsin milk cow numbers had fallen from 1.9 million to 1.3 million, a loss of 38,000 cows per year. Quoting from the third leaflet in the series:[3]

> "Projecting (1985-2001) Wisconsin cow number and yield per cow trends to 2015 shows state milk production at about 16 billion pounds, about 8 billion pounds less than 2001. Cutting the annual cow loss in half, to 19,000 cows per year, would still result in 2015 milk production about 1 billion pounds less than 2001. If cow numbers held steady at the 2001 level, milk production in 2015 would be about 5 billion pounds higher than 2001. Yield increases above trend would not materially alter these projections – reducing the decline in cow numbers is much more important than increasing yield as a means of growing Wisconsin milk production. Stated differently, a continuation of the annual loss in dairy cows that has been experienced since 1985 cannot be offset by even very optimistic gains in milk per cow."

This paper is a brief follow-up to Rethinking Dairyland. In the way of a quick summary, the sobering trend projections of declining Wisconsin milk production did not materialize. Indeed, Wisconsin cow numbers have stabilized, yield gains have accelerated, and, as a result, the state is poised to break the previous annual milk production record of 25 billion pounds that was set 20 years ago. Wisconsin's dairy sector is in a positive state of growth and transition.

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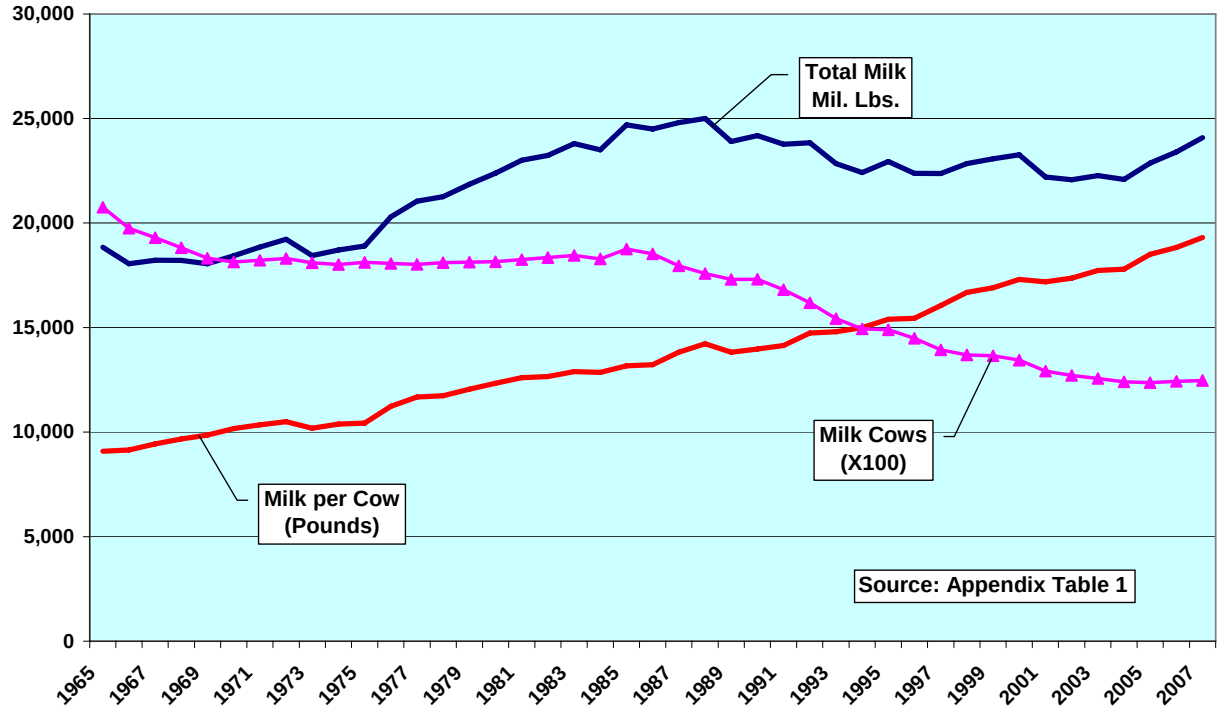
[2] The leaflets can be downloaded at http://www.aae.wisc.edu/pubs/dairyland/. Expanded background materials for the leaflets are also available at this site.

[3] Rethinking Dairyland, *Facing up to the Western Dairy Boom,* Leaflet #3, September 2002.

Changes in Milk Cows and Milk Production

Wisconsin cow numbers bottomed out in March, 2005, at 1.233 million head (Figures 1 and 2). In 2007, the average number of dairy cows on Wisconsin dairy farms was 1.247 million head. This is a modest gain from the trough, but monthly cow numbers continue to increase. Note from Figure 2 that the Wisconsin dairy herd expansion has been steady for 42 months. This kind of stability in cow numbers has not been observed in more than 20 years. Because of increasing cow numbers and a 1,500 pound gain in milk production per cow, total milk production increased by 2 billion pounds between 2004 and 2007, to 24.1 billion pounds. Production in 2008 will exceed 24.5 billion pounds

Figure 1. Wisconsin Annual Milk Cows, Milk Production and Milk Yield per Cow



Wisconsin milk production per cow increased an average 254 pounds per year between 1985 and 2001. Since 2001, the rate of increase has been 355 pounds per year—40 percent greater.

At 19,310 pounds in 2007 (compared to 13,166 in 1985), average Wisconsin per cow milk ranked 17th among states, falling well short of yields in rapidly-growing Western dairy states (Figure 3). The fastest-growing states in milk production—Arizona, California, Idaho, Texas and New Mexico—recorded yields ranging from 21,143 to 23,260 pounds per cow in 2007.

Figure 2. Wisconsin Monthly Dairy Cows

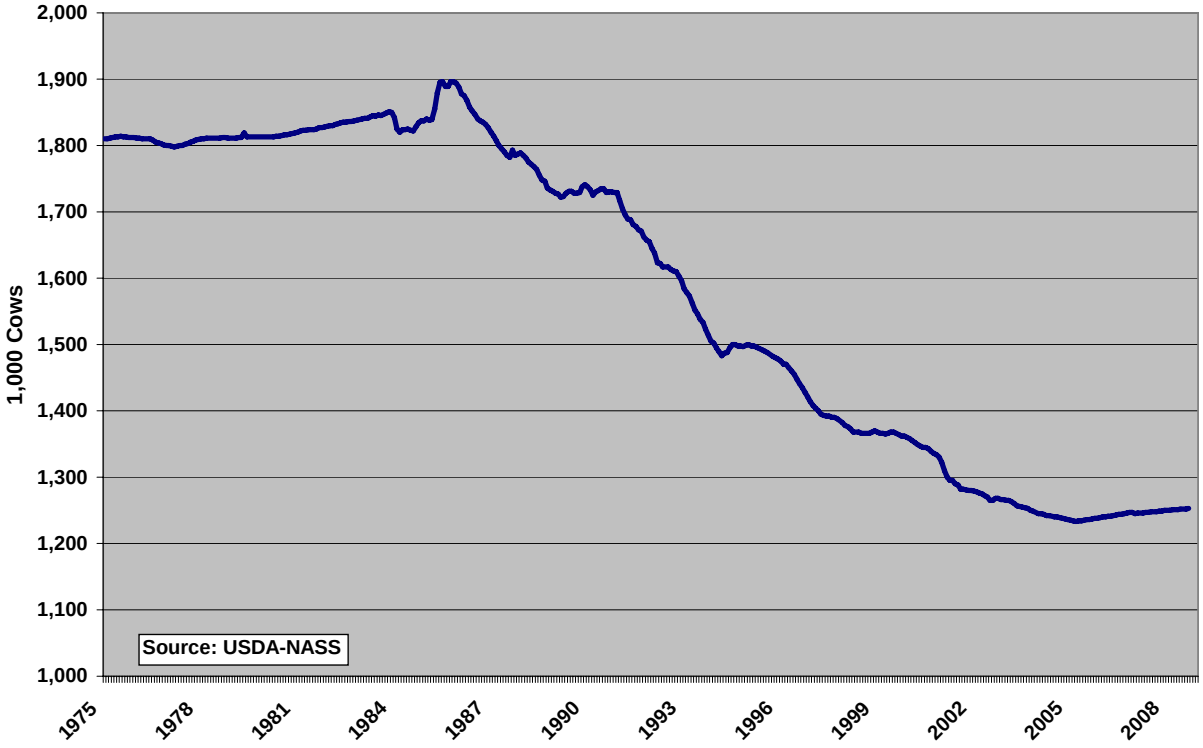
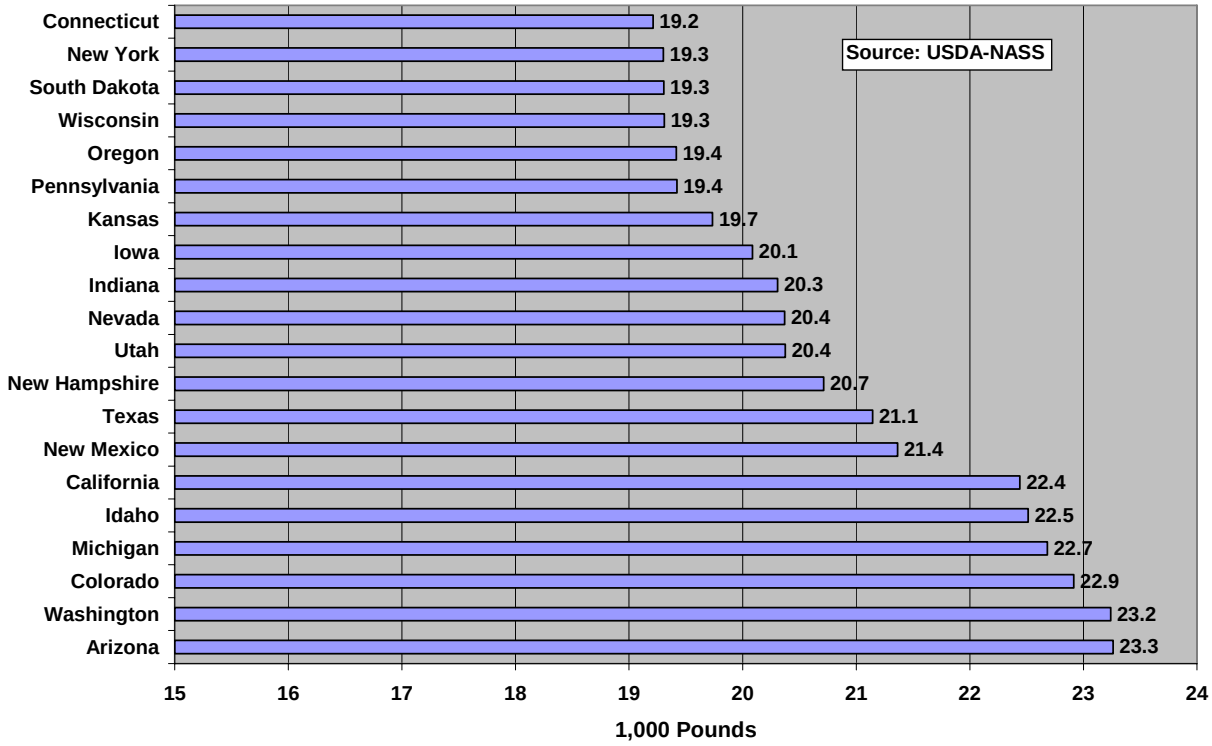


Figure 3. State Average Milk Production per Cow, 2007



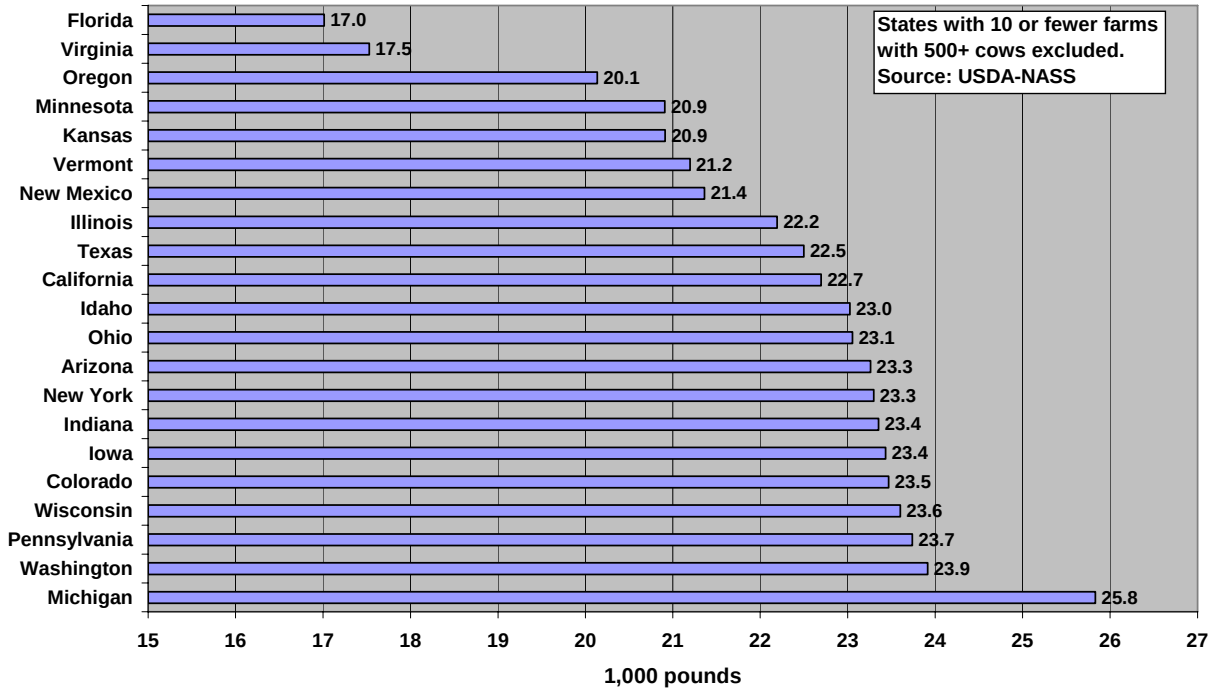
But comparing statewide average yields is an unfair comparison. Compared to Western states, where most of the milk comes from large-scale parlor-freestall/drylot systems, Wisconsin dairy systems are much more diverse. In the five Western states noted above, the percentage of milk produced by herds with 500 cows or more in 2007 ranged from 83 percent in Texas to 98.5 percent in Arizona. The comparable percentage for Wisconsin was 22 percent.

Many profitable smaller Wisconsin dairy farms employ low-cost production systems like management-intensive rotational grazing, systems that trade off higher milk yields for lower feed and other input costs. Wisconsin also has a large and growing number of organic milk producers who are restricted from using some yield-enhancing practices but who obtain a higher milk price to offset lower yields and higher feed costs.

To compare apples to apples, milk yields only for herds larger than 500 cows were calculated for the states that USDA reports production by herd size (Figure 4). These farms are relatively homogeneous across states in terms of production practices — virtually all of these large farms combine milking parlors with either freestall housing or shaded drylots.

The yield comparison for large leads to a different conclusion about Wisconsin milk yields. Wisconsin ranked fourth among states, and higher than any Western state except Washington. This says that when matched head-to-head with comparable dairy farms in other states, Wisconsin producers are very competitive.

Figure 4. Milk Production per Cow, Herds 500 cows or larger, 2007

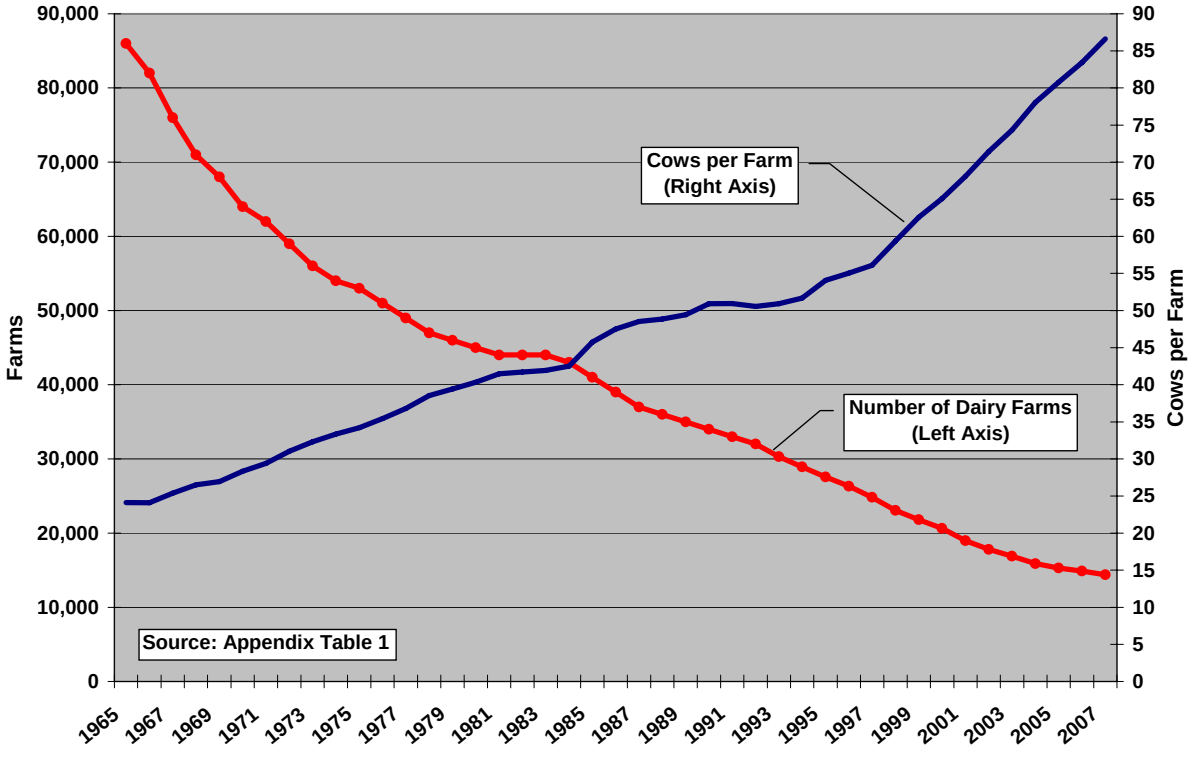


Changes in Dairy Farm Structure

As of October 2008, there about 13,500 Wisconsin dairy farms licensed to sell milk. This is down from about 40,000 dairy farms in the mid-1980s, when dairy herds temporarily stabilized due to abnormally high profitability during the earlier part of the decade (Figure 5).[4] Between 1985 and 2004, the state lost dairy farms at the rate of 1,355 per year. The attrition rate has slowed to 500 farms per year since 2004.

The average Wisconsin dairy herd was 86.6 cows in 2007.[5] Herd size grew by one cow per year between 1965 and 1997. However, the trend line for herd size took an abrupt upward turn starting in 1998—average herd size has increased by more than 3 cows per year since then.

Figure 5. Wisconsin Dairy Farms and Average Herd Size

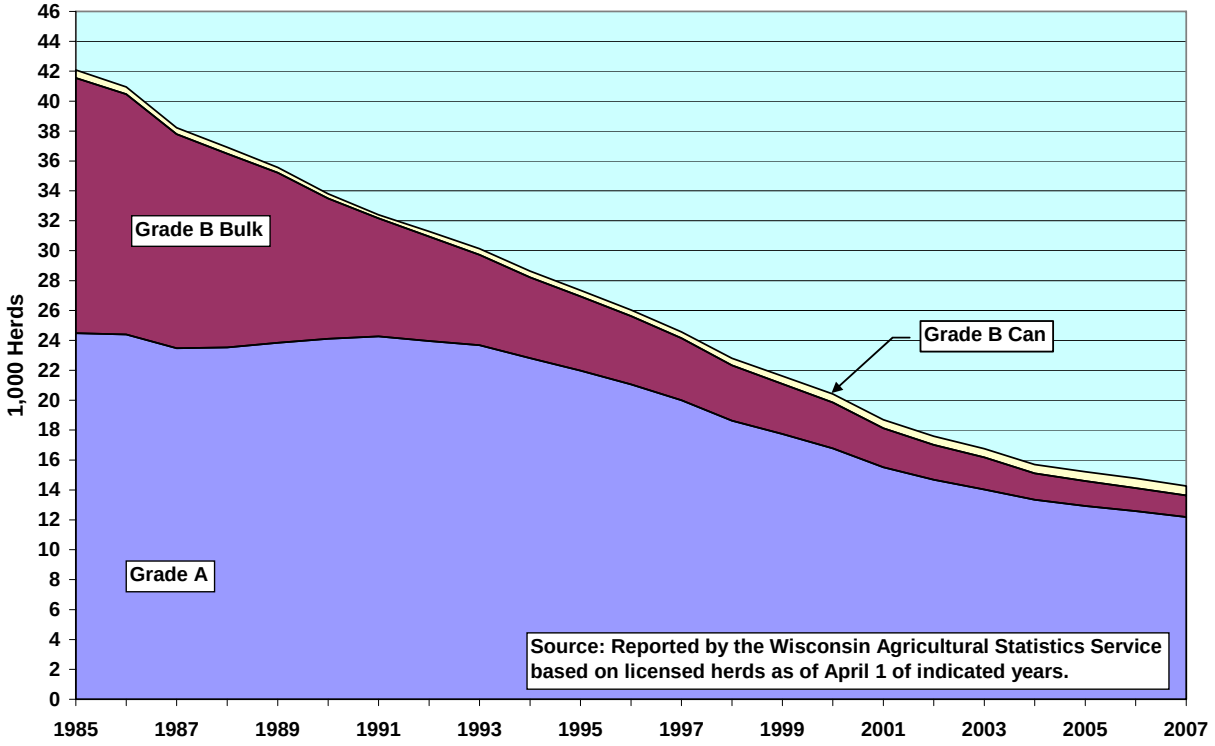


[4] Milk prices were artificially elevated by a change in the dairy price support program that required the support price to be maintained at 75 percent of parity and adjusted every 6 months.

[5] The average annual number of dairy farms in Figure 5 includes some farms with dairy cows that are not licensed to sell milk. Consequently, the average herd size is slightly smaller than the average calculated using only licensed herds (see Appendix Table 7).

The overall change in Wisconsin dairy farm numbers masks major differences in attrition between Grade B and Grade A herds. Note from Figure 6 that between 1985 and 1993, the number of Grade B bulk shippers declined precipitously, from 17,000 to 6,000 herds. Grade A herds remained nearly constant, indicating that attrition among Grade A herds was being largely offset by conversion of Grade B shippers to Grade A status. Since 1993, the rates of decline in Grade B bulk and Grade A herds have been more similar. Between 1993 and 2007, Grade A herds fell by about 50 percent; Grade B bulk herds by 75 percent.

Figure 6. Composition of Wisconsin Dairy Herds

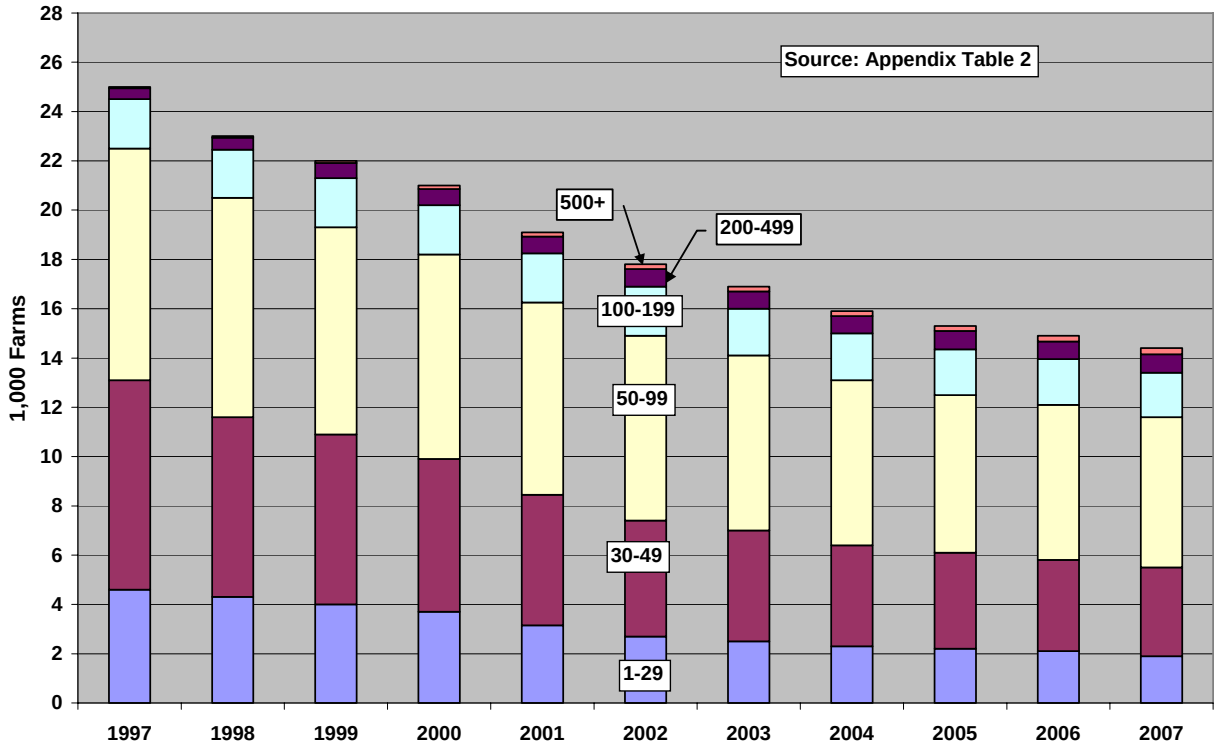


However, the number of licensed Wisconsin Grade B dairy farms water-cooling milk in cans has shown a significant increase over time. Grade B can herds fell to 239 in 1991, but grew steadily to 640 by 2007. Most of these herds are operated by Amish farmers whose religious beliefs prohibit them from using mechanical milk cooling. Clark, Vernon and Monroe Counties, where most Amish dairy farmers are located, accounted for 75 percent of the state's Grade B can shippers in 2007.

The 10-year evolution of Wisconsin dairy farm structure is illustrated in Figures 7 and 8. Between 1997 and 2007, dairy farm numbers declined by 10,600, with the largest reductions occurring among farms with fewer than 50 cows (Figure 7). These farms represented 52 percent of Wisconsin dairy herds in 1997, but only 38 percent in 2007.

The state added 500 herds in the 200+ cow size groups to bring the count to 1,000 herds, but these larger herds still only accounted for less than 7 percent of Wisconsin herds in 2007. Herd numbers in the middle size categories were relatively stable between 1997 and 2007. There was practically no change in the 100-199 cow group and a loss of 3,300 herds (35 percent) in the 50-99 cow group.

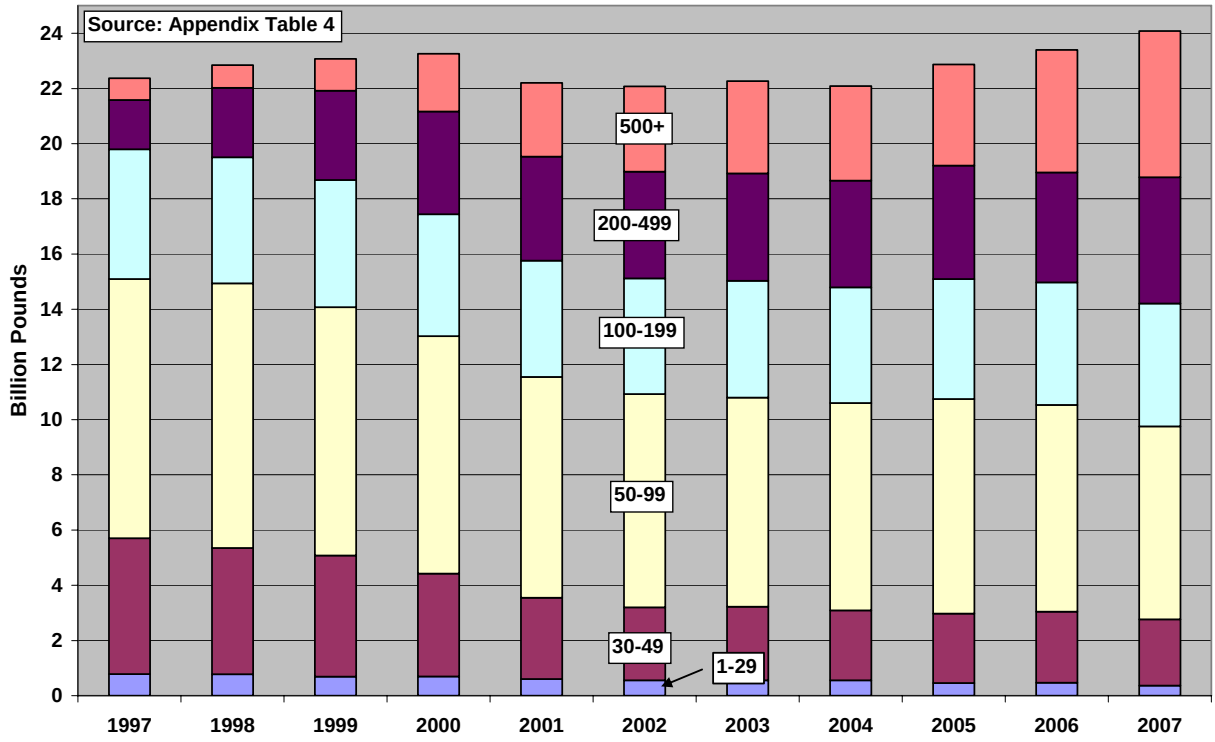
Figure 7. Wisconsin Dairy Farms by Herd Size



Changes in milk produced by herd size are more dramatic than changes in number of herds (Figure 8). Larger herds, while small in number, have accounted for a rapidly increasing proportion of Wisconsin's total milk output. Herds with more than 200 cows accounted for 11.5 percent of total milk production in 1997; 41 percent in 2007. The largest gain was from herds numbering more than 500 cows—from less than 800 million pounds in 1997 to 5.3 billion pounds in 2007. Milk produced from herds with fewer than 50 cows fell by more than 50 percent. Output from herds in the 50-99 cow category was 25 percent lower in 2007 compared to 1997, but that category continued to account for the largest share of total milk production (29 percent) among the six categories.

There was practically no change in output in the 100-199 cow category. The stability in number of farms and milk production in this category suggests it represents a transition category for smaller farms that have expanded their operations as well as an efficient size category for family farms that have elected to minimize their use of hired labor.

Figure 8. Wisconsin Milk Production by Herd Size



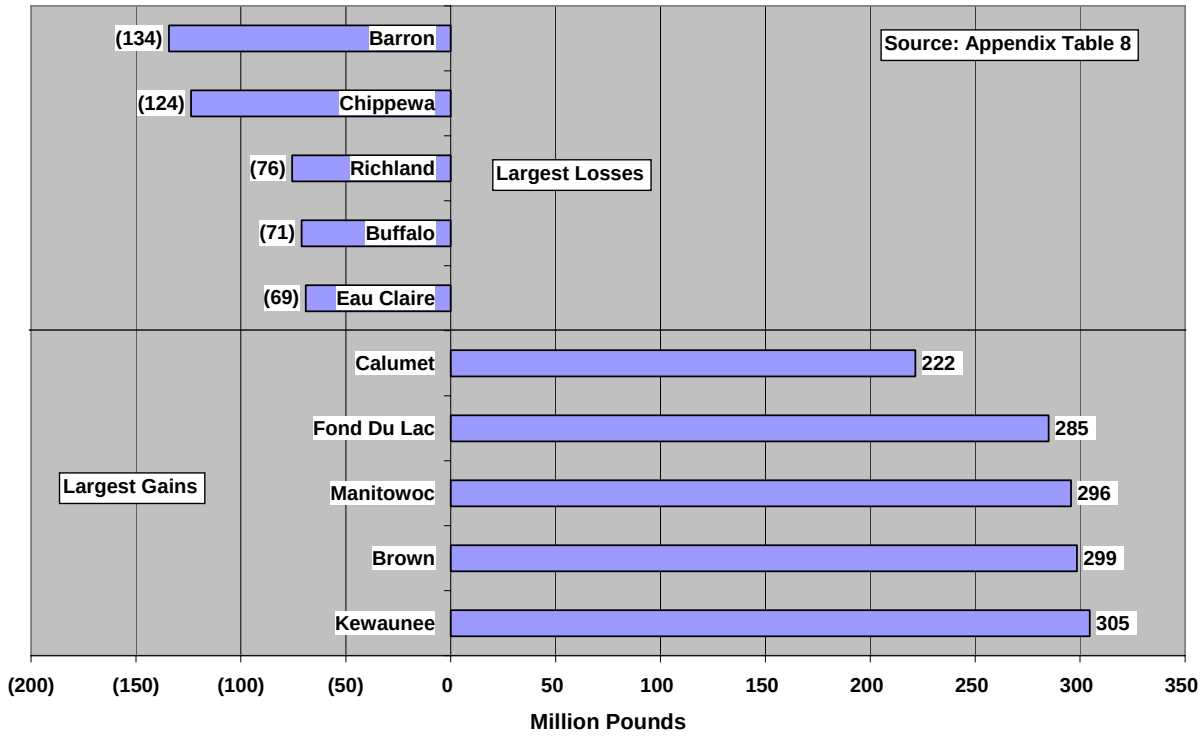
Changes in Location of Production

Appendix Tables 6-8 provide details on herds, cows, and milk production by Wisconsin county for 1997 and 2007. Marathon, Clark and Dane counties ranked first through third in total milk production in both years, and together accounted for 13 percent of 1997 state milk production and 14 percent of production in 2007. Milk production in the three top-ranked counties grew by nearly 500 million pounds between 1997 and 2007.

There were significant changes in milk production and related shifts in rankings among other counties in the state. Figure 9 isolates the counties that showed the largest positive and negative changes in milk production between 1997 and 2007. The largest losses were experienced in Northwestern Wisconsin. Adding Polk, LaCrosse and Dunn counties to the four Northwestern counties shown in Figure 9 shows a collective loss of 571 million pounds. These seven Northwestern counties also lost dairy farms at a relatively high rate during this period—48 percent compared to 41 percent for the state.

In contrast, the five counties showing the largest gain in milk production between 1997 and 2007 were contiguous counties in east central Wisconsin. Together, these five counties increased milk production by 1.4 billion pounds compared to an overall state gain in milk output of 1.7 billion pounds. The loss of dairy farms in these five counties equaled the state percentage loss.

Figure 9. Changes in Milk Production, 1997-2007



Adding Sheyboygan, Outagamie and Winnebago counties to the five east central counties showing the largest production gains forms a geographical "dairy donut" with Lake Winnebago as the donut hole. Dairy growth in this eight-county area is unique in several respects, as shown in Table 1.

The percentage loss in dairy farms in the combined dairy donut counties between 1997 and 2007 was about the same as the rest of the state. However, the region gained 19,000 dairy cows (7.6 percent) compared to an aggregate 14.4 percent loss of cows in other counties. Average herd size grew at more than twice the rate in other counties, increasing the difference in herd size from 15.6 cows per farm to 51.8 cows. Milk yield increased at nearly twice the gain in other counties, to more than 22,000 pounds per cow in 2007.

As a result of more cows producing more milk per cow than other counties, the dairy donut counties increased milk production by 42 percent between 1997 and 2007. Production in the rest of the state was flat. The share of the state's milk produced in the region increased from 23 percent to 33 percent.

Finally, farms in the dairy donut counties produced an average of nearly 3 million pounds in 2007, about double the per farm production of other counties. The 1997-2007 *increase* in milk per farm in the region was more than the average 2007 per farm production in the rest of the state.

Table 1. Change in Selected Dairy Statistics, Dairy Donut Counties and Rest of Wisconsin		
Item	***Dairy Donut Counties****	***Rest of State***
No. of Licensed Dairy Farms		
1997	3,521	20,134
2007	2,033	11,864
Absolute Change	-1,488	-8,270
Percentage Change	-42.3%	-41.1%
No. of Milk Cows		
1997	251,000	1,142,000
2007	270,000	977,000
Absolute Change	19,000	(165,000)
Percentage Change	7.6%	-14.4%
Average Herd Size		
1997	71.3	55.7
2007	132.8	81.0
Absolute Change	61.5	25.3
Percentage Change	86%	45.6%
Average Milk per Cow (Pounds/year)		
1997	16,666	15,924
2007	22,025	18,560
Absolute Change	5,359	2,636
Percentage Change	32.2%	16.6%
Total Milk Production (1,000 pounds)		
1997	4,183,200	18,184,800
2007	5,946,850	18,133,150
Absolute Change	1,763,650	(51,650)
Percentage Change	42.2%	-0.3%
Average Milk per Farm (Pounds/year)		
1997	1,188,072	903,189
2007	2,925,160	1,528,418
Absolute Change	1,737,088	625,229
Percentage Change	146.2%	69.2%

*Brown, Calumet, Fond du Lac, Kewaunee, Manitowoc, Outagamie, Sheyboygan and Winnebago Counties

Drivers of Change

The changes in Wisconsin dairying noted above can be attributed to several recent developments. Chief among these are the creation of dairy producer organizations that positively affected dairy producer attitudes and the actions of state government that positively affected the economic climate affecting dairy farmers and processors and provided incentives for growth and modernization.

New Producer Organizations

The ***Professional Dairy Producers of Wisconsin*** (PDPW) was formed in 1992 and has grown to more than 1,500 members. While dairy producer interests were and continue to be a major concern of Wisconsin's general farm organizations, PDPW is distinct in its exclusive focus on dairy and its exclusive dairy farmer membership base.

Among its goals and objectives, PDPW lists:[6]

- Provide educational based program that focus on the business-side of dairying,
- Build more profitable businesses,
- Foster a positive image for the dairy profession both within our industry and externally to the non-agriculture sector, and
- Provide an atmosphere for networking where producers can learn from one another.

PDPW sponsors and organizes educational workshops and conferences that cover a wide range of dairy management issues but that stress business and financial management of dairy farms. PDPW is not directly involved in political lobbying. However the organization actively communicates with members about legislative matters through its monthly *Capitol Links* newsletter. PDPW also aggressively seeks opportunities to provide input into public policy that affects dairying through membership on agency committees and other formal and ad hoc advisory groups.

The ***Dairy Business Association of Wisconsin*** (DBA), founded in 2001, has a mission similar to PDPW: To Promote the Growth and Success of all Dairy Farms in Wisconsin by Fostering a Positive Business and Political Environment.[7]

Like PDPW, DBA sponsors producer educational forums and provides opportunities for producer networking. But DBA is decidedly more politically active, lobbying for favorable legislation at the state and federal level and maintaining a Political Action Committee. As advantages of membership, DBA lists:

- Funding a dedicated environmental attorney and four DBA registered lobbyists who defend and protect our dairy industry;

[6] PDPW Web site: http://www.pdpw.org
[7] DBA Web site: http://www.widba.com

- Advising members regarding state statutes, regulatory rules and on-farm situations;
- Preparing and revising federal and state legislation; and
- Participating in legal reviews and interpretation of regulatory rules and state statutes.

PDPW and DBA have given Wisconsin dairy farmers a stronger voice in determining their own destiny. These new organizations have changed the focus of producers from a primary goal of getting a higher milk price to goals of improving business management capabilities and improving the competitive position of dairy farmers in the state.

Wisconsin Department of Agriculture, Trade and Consumer Protection (DATCP)

DATCP has recently spearheaded several initiatives supporting Wisconsin dairying, including those leading to the enactment of favorable tax policies (see below). In 2004, DATCP created the ***Value Added Dairy Initiative*** (VADI) which consists of three elements.

- The ***Grow Wisconsin Dairy Team*** is a multi-agency collaboration created to: (1) Coordinate and focus resources for dairy farmers modernizing their businesses and (2) Add value to milk produced in Wisconsin by focusing on new marketing opportunities.[8] Through 2007, the team had provided assistance to more than 800 dairy farmers. Besides offering consulting, the team has provided $3 million in grants to dairy producers, processors and local dairy groups for modernization, product development, and other dairy development projects.

- ***The Dairy Business Innovation Center*** supports specialty and artisan cheesemakers by offerring technical support through a network of 20 consultants. Technical services are provided in the areas of business planning, product development, facilities assessment, packaging and label development, and marketplace development.

- The ***Value Added Dairy Initiative Dairy Processor Grant*** program offers grants up to $35,000 on a competitive basis to fund projects that involve processor modernization or product or market development. Recipients must provide matching funds of at least 50 percent.

  DATCP was also a driving force in establishing uniform siting rules for dairy farms in the state. These rules, adopted by the state legislature in 2006, impose consistent state-wide procedures and standards for local governments' use in considering the permitting of new or expanding livestock operations with more than 500 animal units.[9] The standards apply to property line and road setbacks, manure storage facilities, and management of odors, manure, and runoff. The rules also create a state-wide siting review board to address appeals of local permitting decisions. The new rules make the permitting process predictable and guarantee the right to expand as long as standards are met.

[8] Grow Wisconsin Dairy Team web site: http://www.growwisconsindairy.org
[9] http://datcp.state.wi.us/arm/agriculture/land-water/livestock_siting/siting.jsp

Wisconsin Department of Commerce (DOC)

DOC administers two important dairy programs under its Dairy 2020 Initiative:

The ***Dairy 2020 Early Planning Grant*** (EPG) program is designed to, "…encourage and stimulate the start-up, modernization, and expansion of Wisconsin dairy farms."[10] EPG grants of up to $3,000 cover 75 percent of the cost of consultant fees to develop a business plan and other professional services for dairy farm start-up, modernization or expansion. Over the last 10 years, the EPG program has provided more than $2.5 million to more that 900 Wisconsin dairy farmers to facilitate dairy modernization.

The ***Milk Volume Production*** (MVP) program is a loan program specific to dairy expansions. Its intended purpose is to, "…support Wisconsin's dairy industry by easing the financial burden on dairy farmers who want to modernize and expand their herd size."[11] The MVP program provides low-interest loans of up to $500 per cow for the purchase of up to 400 cows. The loans are written at an interest rate of 4 percent for a 7-year term. Repayment is deferred in year one and interest only payments are required in year two of the loan.

Besides these dairy-specific programs, DOC also administers an ***Agricultural Development Zone*** program that provides state income tax credits to agribusinesses that locate or expand in four designated regions of the state. The stated purpose of this program is to, "…assist Wisconsin in regaining its prominence in the dairy industry and in dairy processing production."[12] Tax credits can be earned for 3 percent of investments in real and personal property and 50 percent of investments in environmental remediation. Credits for job creation depend on the number of jobs and wages and benefits paid. To be eligible for credits, one-fourth of new hires must be from designated target groups.

Favorable tax treatment

Dairy farmers received significant economic benefits from Wisconsin's adoption of ***Use Value Assessment***, enacted in 1995 and fully implemented in 2000. Use value assessment links farmland assessments to the earning power of the land in agriculture (the price of corn) instead of to the market value of the property. Prior to its adoption, assessments and related property taxes were heavily influenced by the potential residential and business development value of the land. A Wisconsin Department of Revenue report noted that in 2002, use value assessment resulted in total agricultural land taxes about half the level they would have been if farmland has been assessed at market value.

In 2004, the State enacted a ***Dairy Investment Tax Credit*** program that provided an income tax credit of 10 percent of dairy farmers' investment in working assets such as milking parlors, barns, manure handling equipment, and feed storage structures. The maximum investment eligible for the credit is $500,000 ($50,000 tax credit). The tax credits are applied to a dairy

[10] http://commerce.wi.gov/MT/BD-AG-Dairy2020EPG.html
[11] http://commerce.wi.gov/MT/BD-AG-MilkVolumeProduction.html
[12] http://commerce.wi.gov/MT/BD-ADZ.html

producer's annual Wisconsin income tax in the tax year the investment is made. Excess credits can be carried forward for up to five years.

The program has been used heavily by dairy producers. According to the Wisconsin Department of Revenue, in 2005 (the second year of eligibility), 8,796 dairy producers claimed Investment tax credits of almost $42 million.[13] $14.5 million was used to offset taxes owed in 2005, and the balance was eligible to be carried forward through 2010. The implied dairy farm investment in 2005 was about $420 million.

Mirroring the Dairy Investment Tax Credit applicable to dairy farmers, the ***Dairy Manufacturing Facility Investment Credit*** was authorized in 2007. It applies to dairy processors that are not organized as cooperatives. The credit is 10 percent of investment in modernizing and/or expanding dairy manufacturing facilities up to a maximum credit of $200,000. Unlike the Dairy Investment Tax Credit, there is an annual cap on total credits ($700,000 in 2008). Consequently, the Department of Commerce certifies eligibility and ranks and allocates tax credits according to specified criteria.[14] In 2007, 14 dairy processors applied for dairy manufacturing facility credits based on reported investments of $42.4 million.

Synopsis

The last four years have seen an encouraging reversal of the downward trend in Wisconsin cow numbers, accompanied by significant structural and regional changes in dairy farming. Recent industry growth has been stimulated by state actions to encourage innovation, modernization and expansion and producer actions to improve their personal management skills and their ability to be competitive. While it may be too soon to declare a permanent turnaround, the signs are uniformly positive.

[13] Reported by the Wisconsin Federation of Cooperatives: http://www.wisconsinagconnection.com/story-state.php?Id=1391&yr=2007

[14] http://www.commerce.wi.gov/BD/BD-DMFI.html

Appendix Tables

Appendix Table 1. Wisconsin Dairy Farm Statistics

Year	*Dairy Farms*	*Cows (1,000)*	*Cows per Farm*	*Total Milk (Mil. Lbs.)*	*Milk per Cow (Lbs.)*
1975	53,000	1,812	34.2	18,900	10,430
1976	51,000	1,807	35.4	20,296	11,232
1977	49,000	1,802	36.8	21,041	11,676
1978	47,000	1,811	38.5	21,252	11,735
1979	46,000	1,813	39.4	21,850	12,052
1980	45,000	1,815	40.3	22,380	12,331
1981	44,000	1,825	41.5	23,000	12,603
1982	44,000	1,835	41.7	23,230	12,659
1983	44,000	1,845	41.9	23,800	12,900
1984	43,000	1,828	42.5	23,501	12,856
1985	41,000	1,876	45.8	24,700	13,166
1986	39,000	1,853	47.5	24,500	13,222
1987	37,000	1,795	48.5	24,800	13,816
1988	36,000	1,758	48.8	25,000	14,221
1989	35,000	1,730	49.4	23,898	13,814
1990	34,000	1,731	50.9	24,187	13,973
1991	33,000	1,681	50.9	23,770	14,140
1992	32,000	1,618	50.6	23,844	14,737
1993	30,305	1,543	50.9	22,844	14,805
1994	28,910	1,494	51.7	22,412	15,001
1995	27,566	1,490	54.1	22,942	15,397
1996	26,329	1,449	55.0	22,376	15,442
1997	24,835	1,393	56.1	22,368	16,057
1998	23,054	1,369	59.4	22,842	16,685
1999	21,816	1,365	62.6	23,071	16,902
2000	20,645	1,344	65.1	23,259	17,306
2001	18,970	1,292	68.1	22,199	17,182
2002	17,800	1,271	71.4	22,074	17,367
2003	16,900	1,256	74.3	22,266	17,728
2004	15,900	1,241	78.1	22,085	17,796
2005	15,300	1,236	80.8	22,866	18,500
2006	14,900	1,243	83.4	23,398	18,824
2007	14,400	1,247	86.6	24,080	19,310

USDA-NASS Quick Stats web site: http://www.nass.usda.gov/Data_and_Statistics/Quick_Stats/index.asp

Appendix Table 2. Number of Wisconsin Dairy Farms by Herd Size							
Year	***1-29 Head***	***30-49 Head***	***50-99 Head***	***100-199 Head***	***200-499 Head***	***500+ Head***	***State Total***
1997	4,600	8,500	9,400	2,000	450	50	25,000
1998	4,300	7,300	8,900	1,950	490	60	23,000
1999	4,000	6,900	8,400	2,000	610	90	22,000
2000	3,700	6,200	8,300	2,000	660	140	21,000
2001	3,150	5,300	7,800	2,000	680	170	19,100
2002	2,700	4,700	7,500	2,000	710	190	17,800
2003	2,500	4,500	7,100	1,900	700	200	16,900
2004	2,300	4,100	6,700	1,900	700	200	15,900
2005	2,200	3,900	6,400	1,850	750	200	15,300
2006	2,100	3,700	6,300	1,850	720	230	14,900
2007	1,900	3,600	6,100	1,800	750	250	14,400

USDA-NASS Quick Stats web site: http://www.nass.usda.gov/Data_and_Statistics/Quick_Stats/index.asp

Appendix Table 3. Wisconsin Dairy Cows by Herd Size							
Year	***1-29 Head***	***30-49 Head***	***50-99 Head***	***100-199 Head***	***200-499 Head***	***500+ Head***	***State Total***
	---1,000 Cows---						
1997	63	334	599	251	107	39	1,393
1998	66	287	589	246	137	44	1,369
1999	61	273	546	246	177	61	1,365
2000	58	228	524	242	188	103	1,344
2001	48	181	491	245	194	133	1,292
2002	38	165	470	248	197	153	1,271
2003	38	163	452	239	201	163	1,256
2004	37	155	434	242	205	168	1,241
2005	37	155	420	235	216	173	1,236
2006	31	149	410	236	211	205	1,243
2007	31	150	393	231	218	224	1,247

USDA-NASS Quick Stats web site: http://www.nass.usda.gov/Data_and_Statistics/Quick_Stats/index.asp

Appendix Table 4. Wisconsin Milk Production by Herd Size							
Year	*1-29 Head*	*30-49 Head*	*50-99 Head*	*100-199 Head*	*200-499 Head*	*500+ Head*	*State Total*
	---Million Lbs---						
1997	783	4,921	9,395	4,697	1,789	783	22,368
1998	777	4,568	9,594	4,568	2,513	822	22,842
1999	692	4,383	8,998	4,614	3,230	1,154	23,071
2000	698	3,721	8,606	4,419	3,721	2,093	23,259
2001	599	2,952	7,992	4,218	3,774	2,664	22,199
2002	552	2,649	7,726	4,194	3,863	3,090	22,074
2003	557	2,672	7,570	4,231	3,897	3,340	22,266
2004	552	2,540	7,509	4,196	3,865	3,423	22,085
2005	457	2,515	7,774	4,345	4,116	3,659	22,866
2006	468	2,574	7,487	4,446	3,978	4,446	23,398
2007	361	2,408	6,983	4,455	4,575	5,298	24,080

USDA-NASS Quick Stats web site: http://www.nass.usda.gov/Data_and_Statistics/Quick_Stats/index.asp

Appendix Table 5. Wisconsin Milk Production per Cow by Herd Size							
Year	*1-29 Head*	*30-49 Head*	*50-99 Head*	*100-199 Head*	*200-499 Head*	*500+ Head*	*State Average*
	---Pounds per Year---						
1997	12,489	14,719	15,684	18,734	16,683	20,072	16,057
1998	11,819	15,891	16,297	18,539	18,354	18,771	16,685
1999	11,268	16,057	16,479	18,780	18,202	18,780	16,902
2000	12,074	16,288	16,418	18,267	19,778	20,228	17,306
2001	12,538	16,323	16,278	17,182	19,473	20,018	17,182
2002	14,473	16,031	16,429	16,922	19,608	20,262	17,367
2003	14,773	16,364	16,743	17,728	19,390	20,455	17,728
2004	14,830	16,372	17,288	17,340	18,875	20,433	17,796
2005	12,333	16,280	18,500	18,500	19,029	21,143	18,500
2006	15,059	17,255	18,253	18,824	18,824	21,676	18,824
2007	11,586	16,092	17,778	19,310	20,966	23,602	19,310

USDA-NASS Quick Stats web site: http://www.nass.usda.gov/Data_and_Statistics/Quick_Stats/index.asp

Appendix Table 6. Wisconsin Milk Cows by County, 1997 and 2007				
County	*Annual Average Milk Cows*			
	1997	*2007*	*Change, 1997-2007*	
			No.	*%*
Adams	2,000	1,100	(900)	-45.0%
Barron	34,500	24,600	(9,900)	-28.7%
Brown	37,000	41,000	4,000	10.8%
Buffalo	25,500	19,000	(6,500)	-25.5%
Burnett	3,800	3,300	(500)	-13.2%
Calumet	23,000	27,000	4,000	17.4%
Chippewa	43,000	32,500	(10,500)	-24.4%
Clark	62,000	62,000	0	0.0%
Columbia	18,000	15,300	(2,700)	-15.0%
Crawford	14,000	9,400	(4,600)	-32.9%
Dane	52,000	50,000	(2,000)	-3.8%
Dodge	49,000	42,000	(7,000)	-14.3%
Door	11,000	8,000	(3,000)	-27.3%
Dunn	28,000	22,300	(5,700)	-20.4%
Eau Claire	16,000	10,300	(5,700)	-35.6%
Fond Du Lac	42,000	45,000	3,000	7.1%
Grant	53,000	47,000	(6,000)	-11.3%
Green	38,000	31,000	(7,000)	-18.4%
Green Lake	10,000	8,800	(1,200)	-12.0%
Iowa	31,000	25,000	(6,000)	-19.4%
Jackson	15,000	13,300	(1,700)	-11.3%
Jefferson	18,000	15,300	(2,700)	-15.0%
Juneau	10,000	9,500	(500)	-5.0%
Kenosha	3,800	3,000	(800)	-21.1%
Kewaunee	26,500	32,500	6,000	22.6%
La Crosse	14,000	9,400	(4,600)	-32.9%
Lafayette	35,000	30,500	(4,500)	-12.9%
Lincoln	6,200	4,400	(1,800)	-29.0%
Manitowoc	44,000	45,000	1,000	2.3%
Marathon	64,000	61,500	(2,500)	-3.9%
Marinette	10,800	11,100	300	2.8%
Marquette	5,500	6,100	600	10.9%
Monroe	30,000	24,900	(5,100)	-17.0%
Oconto	21,500	19,300	(2,200)	-10.2%
Outagamie	35,000	37,000	2,000	5.7%

Continued on following page.

Appendix Table 6 (Cont.). Wisconsin Milk Cows by County, 1997 and 2007				
County	***Annual Average Milk Cows***			
	1997	***2007***	***Change, 1997-2007***	
			No.	***%***
Ozaukee	8,700	8,400	(300)	-3.4%
Pepin	9,000	8,500	(500)	-5.6%
Pierce	19,500	16,900	(2,600)	-13.3%
Polk	21,500	15,700	(5,800)	-27.0%
Portage	15,000	13,100	(1,900)	-12.7%
Price	4,900	3,600	(1,300)	-26.5%
Richland	20,000	13,900	(6,100)	-30.5%
Rock	15,000	12,400	(2,600)	-17.3%
Rusk	13,500	11,200	(2,300)	-17.0%
Sauk	31,000	27,000	(4,000)	-12.9%
Sawyer	2,800	2,300	(500)	-17.9%
Shawano	38,000	36,000	(2,000)	-5.3%
Sheboygan	27,000	26,600	(400)	-1.5%
St. Croix	24,000	21,600	(2,400)	-10.0%
Taylor	20,500	16,300	(4,200)	-20.5%
Trempealeau	27,000	22,800	(4,200)	-15.6%
Vernon	34,000	26,200	(7,800)	-22.9%
Walworth	12,500	12,700	200	1.6%
Washburn	3,300	2,900	(400)	-12.1%
Washington	16,000	14,800	(1,200)	-7.5%
Waukesha	5,200	2,900	(2,300)	-44.2%
Waupaca	25,500	25,100	(400)	-1.6%
Waushara	6,500	5,300	(1,200)	-18.5%
Winnebago	16,500	15,900	(600)	-3.6%
Wood	22,500	21,000	(1,500)	-6.7%
Other Counties	21,500	16,500	(5,000)	-23.3%
State Total	***1,393,000***	***1,247,000***	***(146,000)***	***-10.5%***

Reported by USDA-NASS, Wisconsin Office, based on data from the dairy producer license list as of July 1 of the respective years, Division of Food Safety, Wisconsin Department of Agriculture, Trade and Consumer Protection.

Appendix Table 7. Wisconsin Dairy Herds and Herd Size by County, 1997 and 2007								
County	*Herds*				*Cows per Herd*			
	1997	*2007*	*Change, 1997-2007*		*1997*	*2007*	*Change, 1997-2007*	
			No.	*%*			*No.*	*%*
Adams	43	21	(22)	-51.2%	46.5	52.4	5.9	12.6%
Barron	697	342	(355)	-50.9%	49.5	71.9	22.4	45.3%
Brown	441	251	(190)	-43.1%	83.9	163.3	79.4	94.7%
Buffalo	394	203	(191)	-48.5%	64.7	93.6	28.9	44.6%
Burnett	84	49	(35)	-41.7%	45.2	67.3	22.1	48.9%
Calumet	350	191	(159)	-45.4%	65.7	141.4	75.6	115.1%
Chippewa	833	469	(364)	-43.7%	51.6	69.3	17.7	34.2%
Clark	1,252	997	(255)	-20.4%	49.5	62.2	12.7	25.6%
Columbia	308	155	(153)	-49.7%	58.4	98.7	40.3	68.9%
Crawford	331	168	(163)	-49.2%	42.3	56.0	13.7	32.3%
Dane	654	387	(267)	-40.8%	79.5	129.2	49.7	62.5%
Dodge	725	421	(304)	-41.9%	67.6	99.8	32.2	47.6%
Door	211	117	(94)	-44.5%	52.1	68.4	16.2	31.2%
Dunn	516	252	(264)	-51.2%	54.3	88.5	34.2	63.1%
Eau Claire	357	215	(142)	-39.8%	44.8	47.9	3.1	6.9%
Fond Du Lac	646	391	(255)	-39.5%	65.0	115.1	50.1	77.0%
Grant	884	553	(331)	-37.4%	60.0	85.0	25.0	41.8%
Green	647	370	(277)	-42.8%	58.7	83.8	25.1	42.7%
Green Lake	170	114	(56)	-32.9%	58.8	77.2	18.4	31.2%
Iowa	519	290	(229)	-44.1%	59.7	86.2	26.5	44.3%
Jackson	288	187	(101)	-35.1%	52.1	71.1	19.0	36.6%
Jefferson	274	148	(126)	-46.0%	65.7	103.4	37.7	57.4%
Juneau	198	105	(93)	-47.0%	50.5	90.5	40.0	79.1%
Kenosha	58	35	(23)	-39.7%	65.5	85.7	20.2	30.8%
Kewaunee	416	254	(162)	-38.9%	63.7	128.0	64.3	100.9%
La Crosse	238	118	(120)	-50.4%	58.8	79.7	20.8	35.4%
Lafayette	537	323	(214)	-39.9%	65.2	94.4	29.3	44.9%
Lincoln	118	67	(51)	-43.2%	52.5	65.7	13.1	25.0%
Manitowoc	546	318	(228)	-41.8%	80.6	141.5	60.9	75.6%
Marathon	1,193	805	(388)	-32.5%	53.6	76.4	22.8	42.4%
Marinette	177	95	(82)	-46.3%	61.0	116.8	55.8	91.5%
Marquette	85	56	(29)	-34.1%	64.7	108.9	44.2	68.3%
Monroe	677	414	(263)	-38.8%	44.3	60.1	15.8	35.7%
Oconto	361	195	(166)	-46.0%	59.6	99.0	39.4	66.2%
Outagamie	499	281	(218)	-43.7%	70.1	131.7	61.5	87.7%

Continued on following page.

Appendix Table 7 (Cont.). Wisconsin Dairy Herds and Herd Size by County, 1997 and 2007								
County	***Herds***				***Cows per Herd***			
	1997	***2007***	***Change, 1997-2007***		***1997***	***2007***	***Change, 1997-2007***	
			No.	***%***			***No.***	***%***
Ozaukee	102	72	(30)	-29.4%	85.3	116.7	31.4	36.8%
Pepin	166	94	(72)	-43.4%	54.2	90.4	36.2	66.8%
Pierce	357	206	(151)	-42.3%	54.6	82.0	27.4	50.2%
Polk	400	180	(220)	-55.0%	53.8	87.2	33.5	62.3%
Portage	273	170	(103)	-37.7%	54.9	77.1	22.1	40.2%
Price	118	65	(53)	-44.9%	41.5	55.4	13.9	33.4%
Richland	398	208	(190)	-47.7%	50.3	66.8	16.6	33.0%
Rock	261	136	(125)	-47.9%	57.5	91.2	33.7	58.6%
Rusk	291	175	(116)	-39.9%	46.4	64.0	17.6	38.0%
Sauk	496	283	(213)	-42.9%	62.5	95.4	32.9	52.7%
Sawyer	53	23	(30)	-56.6%	52.8	100.0	47.2	89.3%
Shawano	691	423	(268)	-38.8%	55.0	85.1	30.1	54.8%
Sheboygan	351	205	(146)	-41.6%	76.9	129.8	52.8	68.7%
St. Croix	391	199	(192)	-49.1%	61.4	108.5	47.2	76.8%
Taylor	480	309	(171)	-35.6%	42.7	52.8	10.0	23.5%
Trempealeau	442	250	(192)	-43.4%	61.1	91.2	30.1	49.3%
Vernon	828	504	(324)	-39.1%	41.1	52.0	10.9	26.6%
Walworth	170	106	(64)	-37.6%	73.5	119.8	46.3	62.9%
Washburn	65	31	(34)	-52.3%	50.8	93.5	42.8	84.3%
Washington	248	139	(109)	-44.0%	64.5	106.5	42.0	65.0%
Waukesha	78	39	(39)	-50.0%	66.7	74.4	7.7	11.5%
Waupaca	436	245	(191)	-43.8%	58.5	102.4	44.0	75.2%
Waushara	136	68	(68)	-50.0%	47.8	77.9	30.1	63.1%
Winnebago	272	142	(130)	-47.8%	60.7	112.0	51.3	84.6%
Wood	425	268	(157)	-36.9%	52.9	78.4	25.4	48.0%
Other Counties	384	197	(187)	-48.7%	56.0	83.8	27.8	49.6%
State Tot/Avg	***24,039***	***14,094***	***(9,945)***	***-41.4%***	***57.9***	***88.5***	***30.6***	***52.7%***

USDA-NASS Quick Stats: http://www.nass.usda.gov/Data_and_Statistics/Quick_Stats/index.asp

Appendix Table 8. Wisconsin Milk Production by County, 1997 and 2007				
County	*Annual Milk Production*			
	1997	*2007*	*Change, 1997-2007*	
	1,000 Lbs	*1,000 Lbs*	*1,000 Lbs*	*%*
Adams	31,600	18,040	(13,560)	-42.9%
Barron	545,100	410,820	(134,280)	-24.6%
Brown	599,400	897,900	298,500	49.8%
Buffalo	413,100	342,000	(71,100)	-17.2%
Burnett	56,620	54,780	(1,840)	-3.2%
Calumet	388,700	610,200	221,500	57.0%
Chippewa	666,500	542,750	(123,750)	-18.6%
Clark	979,600	1,147,000	167,400	17.1%
Columbia	286,200	309,060	22,860	8.0%
Crawford	203,000	148,520	(54,480)	-26.8%
Dane	910,000	1,095,000	185,000	20.3%
Dodge	798,700	810,600	11,900	1.5%
Door	170,500	143,200	(27,300)	-16.0%
Dunn	456,400	408,090	(48,310)	-10.6%
Eau Claire	243,200	174,070	(69,130)	-28.4%
Fond Du Lac	714,000	999,000	285,000	39.9%
Grant	869,200	860,100	(9,100)	-1.0%
Green	589,000	567,300	(21,700)	-3.7%
Green Lake	154,000	157,520	3,520	2.3%
Iowa	492,900	440,000	(52,900)	-10.7%
Jackson	226,500	234,080	7,580	3.3%
Jefferson	282,600	289,170	6,570	2.3%
Juneau	156,000	175,750	19,750	12.7%
Kenosha	61,940	63,600	1,660	2.7%
Kewaunee	426,650	731,250	304,600	71.4%
La Crosse	222,600	155,100	(67,500)	-30.3%
Lafayette	528,500	536,800	8,300	1.6%
Lincoln	93,000	73,920	(19,080)	-20.5%
Manitowoc	734,800	1,030,500	295,700	40.2%
Marathon	1,017,600	1,156,200	138,600	13.6%
Marinette	179,280	224,220	44,940	25.1%
Marquette	90,750	124,440	33,690	37.1%
Monroe	450,000	445,710	(4,290)	-1.0%
Oconto	348,300	395,650	47,350	13.6%

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Appendix Table 8 (Cont.). Wisconsin Milk Production by County, 1997 and 2007				
County	***Annual Milk Production***			
	1997	***2007***	***Change, 1997-2007***	
	1,000 Lbs	***1,000 Lbs***	***1,000 Lbs***	***%***
Outagamie	595,000	773,300	178,300	30.0%
Ozaukee	141,810	180,600	38,790	27.4%
Pepin	146,700	161,500	14,800	10.1%
Pierce	317,850	300,820	(17,030)	-5.4%
Polk	335,400	277,890	(57,510)	-17.1%
Portage	240,000	231,870	(8,130)	-3.4%
Price	70,070	62,640	(7,430)	-10.6%
Richland	316,000	240,470	(75,530)	-23.9%
Rock	252,000	238,080	(13,920)	-5.5%
Rusk	187,650	185,920	(1,730)	-0.9%
Sauk	511,500	510,300	(1,200)	-0.2%
Sawyer	42,560	37,490	(5,070)	-11.9%
Shawano	627,000	720,000	93,000	14.8%
Sheboygan	459,000	561,260	102,260	22.3%
St. Croix	415,200	419,040	3,840	0.9%
Taylor	317,750	270,580	(47,170)	-14.8%
Trempealeau	423,900	412,680	(11,220)	-2.6%
Vernon	489,600	440,160	(49,440)	-10.1%
Walworth	196,250	279,400	83,150	42.4%
Washburn	51,480	53,940	2,460	4.8%
Washington	264,000	304,880	40,880	15.5%
Waukesha	87,360	60,610	(26,750)	-30.6%
Waupaca	430,950	469,370	38,420	8.9%
Waushara	104,000	98,580	(5,420)	-5.2%
Winnebago	265,650	343,440	77,790	29.3%
Wood	357,750	363,300	5,550	1.6%
Other Counties	335,330	309,540	(25,790)	-7.7%
State Total	***22,368,000***	***24,080,000***	***1,712,000***	***7.7%***

USDA-NASS Quick Stats: http://www.nass.usda.gov/Data_and_Statistics/Quick_Stats/index.asp