

Maryland's Dairy Industry: 2010

**A Report
To
Governor Martin O'Malley**

**From
The Maryland Dairy Industry Oversight and Advisory Council**



December 1, 2010

Members of the Dairy Advisory Council

Robin Breeding – *Chairman*, Dairy Farmers of America Cooperative
Don Breiner – Land ‘O Lakes Dairy Cooperative
Bob Cooksey - Maryland & Virginia Milk Producers Cooperative
Jim Cella – Cloverland-Greenspring Dairy, Baltimore
James A. Vona – Dairy Maid Dairy, Frederick
Fred Calvert – Marva Maid Dairy, Landover
Kim Young – Milk hauler, Frederick
William Chomicki – Milk lab, Maryland & Virginia Milk Producers Cooperative, Laurel
Mary Kay Patterson – Consumer, Anne Arundel Medical Center
Jane E. Libby – Consumer, Annapolis
Janet Stiles Fulton – Dairy farmer, Boonsboro
Robert S. Ramsburg – Dairy farmer, Walkersville
Samuel G. Tressler III - Dairy farmer, Mount Airy
Allen L. Stiles - Dairy farmer, Westminster

Non-voting members

Delegate Paul Stull, Frederick
Senator David R. Brinkley, Frederick
S. Patrick McMillan, Assistant Secretary, Maryland Department of Agriculture
Dr. Robert Peters, University of Maryland College of Agriculture and Natural Resources
Laurie Bucher, Chief, Center for Milk Control, Office of Food Protection and Consumer Health Services, Maryland Department of Health and Mental Hygiene
Barbara Brookmyer, Health Officer, Frederick County Health Department

Staff

Cheryl Eichelberger, Maryland Department of Health and Mental Hygiene
(240) 313-3540; cheryle@dnhmh.state.md.us
Mark S. Powell, Maryland Department of Agriculture
(410) 841-5775; powellms@mda.state.md.us

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Executive Summary

Dairy Farms Still Struggling With Profitability in 2009-10

The Maryland Dairy Industry Oversight and Advisory Council is charged with reporting annually to the Governor on strategies to support Maryland's dairy industry. This is the Council's fourth report since being established in July 2006.

The financial losses suffered by Maryland's dairy farmers in 2008-09 have been alleviated somewhat by a modest rebound in milk prices, although feed (input) prices have also increased, leading to a situation that is historically, still below "normal" levels for profitability (see Attachment A for more information). The number of dairy farms in the State also continues to decline, from 555 in 2009, to 521 currently. This continues a discouraging loss of almost 64% of the dairy farms that existed in 1990 (1,432), with 10% of the farms that existed when this Council presented its first report to the Governor in 2007 having been lost. The continuing loss of Maryland's mostly small dairy farms mirrors a national trend outlined in a September 2010 dairy industry report released by the U. S. Department of Agriculture (USDA) (Attachment B). This report compares current data with 2001 data, finding a significant reduction in the number of smaller dairy farms nationwide, in favor of the consolidation of fewer and larger operations, particularly in the western half of the United States.

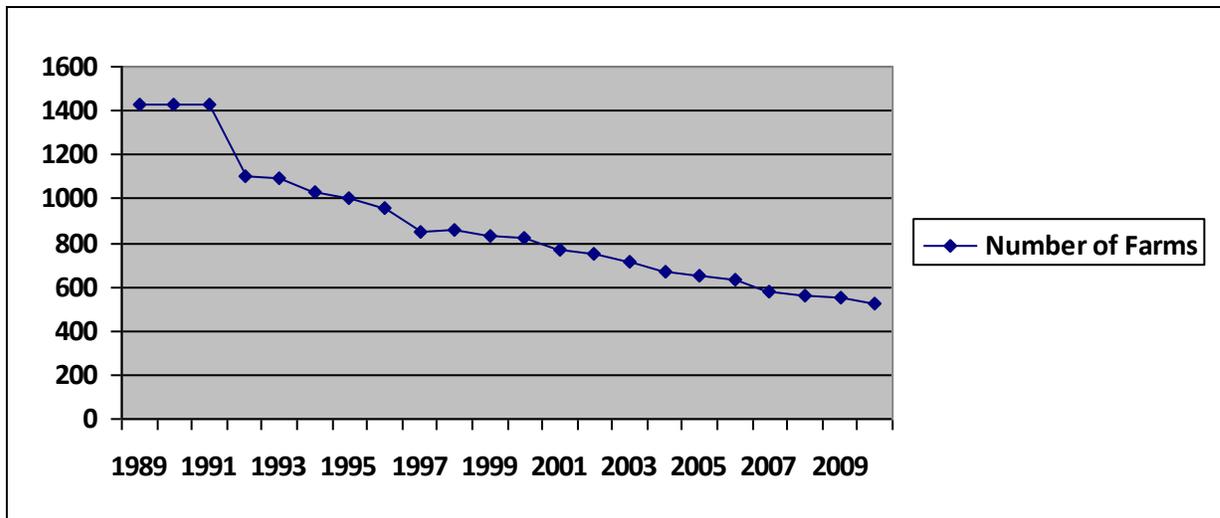
Price volatility of both milk prices received by farmers, and input (feed grain) costs paid, continue to be a primary concern for not only Maryland's dairy farmers, but dairymen nationwide. There are a number of policy ideas currently being discussed at the national level to fundamentally alter the federal safety net system for dairy, and there is considerable pressure for reform from the nation's dairy industry. What remains to be seen however, is whether agreement can be reached on a model of reform that will provide equitable benefits to farmers in different parts of the nation that may have very different models of production.

The Advisory Council will continue to monitor and contribute to these national discussions, which may be introduced to the U.S. Congress in legislative form in 2011, or as part of the 2012 Farm Bill. As the current policy proposals are fluid, with discussions ongoing, the Council is not prepared to back one plan over another at this point. As the proposals are refined over the next year or so, we will have better information to recommend backing a particular proposal, at which point the Council will present those recommendations to the Governor.

As Maryland's dairy industry continues to work through issues of price volatility, industry consolidation, and proposals for potential fixes, the continued support of the Governor, the State's Congressional delegation, and the Maryland General Assembly will be essential for the survival of the State's dairy farmers. The Advisory Council urges the State's leadership to make preserving Maryland's remaining dairy industry a priority. This will require staying engaged with the national efforts to reform the milk pricing system currently in place, and finding ways to begin funding the State's Dairy Farmer Emergency Trust Fund. This Council will continue to advise MDA and the Department of Health and Mental Hygiene on these issues.

State of the Dairy Industry in 2010

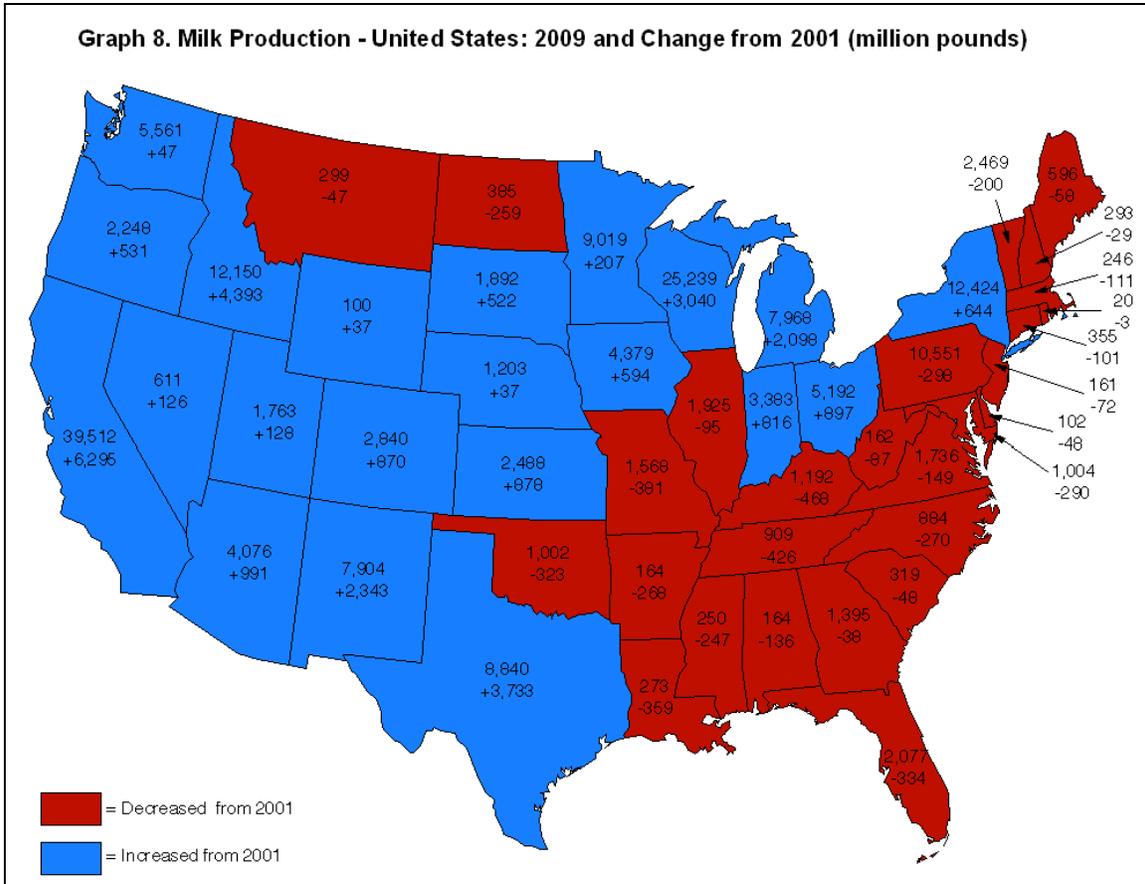
The Maryland dairy industry is coming out of one of the toughest economic climates it has ever encountered. Plummeting milk prices in 2008-09 decimated the finances of the State's dairy farmers, with many forced to borrow against their farms to stay afloat. Now, as milk prices are rebounding to some extent, farmers are working to pay down that debt and repair balance sheets. However, rising input costs in the form of feed grains and energy prices are looming large and threatening profitability. The state has lost 34 dairy farmers since 2009, continuing a longstanding trend of farmers leaving the industry. Since this Advisory Council presented its first report in 2007, over 10% of the State's dairy farmers have left the business.



Source: MD Department of Health and Mental Hygiene

According to a recently released USDA report (Attachment B), the loss of Maryland's dairy farms is a trend seen throughout the eastern United States, as milk production has shifted to the western half of the U.S. over the past several decades. The report shows that smaller dairy farms have been disappearing, with the result being a consolidation in the industry, of fewer, and larger dairies. This consolidation accompanies a shift in a model of production for those newer western dairies that involves the concentration of large numbers of cows (500-3,000 generally), relying heavily upon feed grains purchased off the farm, while generating large volumes of milk. This stands in contrast to the

smaller dairy farms in existence in Maryland (often fewer than 100 cows) that may not be as heavily dependent upon inputs purchased off farm.



Source: USDA, National Agricultural Statistics Board, Released 9/22/10.

The change in the model of production, along with the regional shift, will make a difference with regards to the proposed reforms to the federal milk pricing system. Agreement will need to be reached amongst producers nationwide (and the policy makers representing them) who may be affected in different ways by certain proposals. The current proposals being discussed are working through issues such as caps on payments, incentives for decreasing production, and access to markets. The Advisory Council is closely following these discussions and will be prepared to endorse one plan over another as these plans become finalized and introduced as federal legislation. At that point, the Council would request the support of the Governor and the Congressional delegation in favor of the proposal that best helps Maryland's dairy industry.

Although the national discussion will be very important, the continued support of the Governor and the Maryland General Assembly at the state level is also essential to a strong dairy industry in Maryland. The loss of dairy farms can have far-reaching consequences, as economists estimate that agriculture can have a 5-7 economic multiplier effect on related industries, with each dairy cow generating roughly \$16,000 of economic activity. Such industries include dairy processors and distributors, those that produce and repair machinery and parts, feeds processors, and high-tech firms such as genetics labs, animal pharmaceutical companies, and those that produce pesticides, herbicides, and fertilizers, to name a few. Maryland's dairy industry is also an essential part of the social fabric of the State, with full-time family farms playing a vital role in communities and supporting other small businesses. The industry is particularly important to the State's central, northern, and western counties.

In light of the importance of maintain a healthy dairy industry in Maryland, the Advisory Council recommends the following actions be undertaken by the State's leadership.

2010 Recommendations

In 2010, the Advisory Council has six recommendations to Governor Martin O'Malley that would be beneficial to the goal of retaining and encouraging a healthy dairy industry:

Recommendation 1:

This Council urges the Governor to make preserving the State's dairy industry a priority with the Maryland Congressional delegation.

The national policy discussion over fundamental reform of the federal milk pricing and safety net system will begin in earnest as legislation is introduced in Congress either in 2011, or as part of the 2012 Farm Bill. This will potentially involve sweeping changes to the federal system and will require the support of our members in Congress. As the various policy proposals are still being discussed, analyzed, and tweaked, prior to introduction as legislation, the Council is not able to back a particular proposal until more information is available. The Council will provide a follow-up recommendation to the Governor upon endorsement of a plan.

Recommendation 2:

As soon as it is fiscally possible, this Council recommends full funding for the Maryland Dairy Farmer Emergency Trust Fund (Subtitle 14. Agriculture Article, Annotated Code of Maryland).

This program, passed in 2008, would help maintain a local dairy industry and help protect the 250,000 acres of land associated with dairy farming. Roughly 64% of Maryland's dairy farms have been lost in the past 20 years, while 10% of the farms that existed when the Governor established this Council in 2007 have also left the industry. The Emergency Fund would support farmers during times of economic crisis, helping to prevent borrowing against the farm to remain in business, and/or the sale of farmland. As proposed originally, this fund would be maintained at \$15 million and be distributed by

the Secretary of Agriculture. It would be triggered by the current federal Milk Income Loss Contract safety net system, supplementing its shortcomings.

Recommendation 3:

Maryland state and federal leaders should work with their counterparts in the Mid-Atlantic and Northeast region to establish uniform gross weight limit rules for raw milk haulers on state and federal highways. Gross weight limits in excess of 80,000 pounds should be allowed where reasonable precautions can be taken to address safety concerns. Allowing haulers to transport more milk will reduce truck traffic, fuel consumption, and transportation costs that are ultimately borne by dairy farmers and consumers.

As discussed in the 2008 report to Governor O'Malley, and repeated in 2009, Maryland's dairy farmers, milk processors and consumers rely upon the ability of milk haulers in the State to transport milk from farms to processing plants. The efficiency of this process is hampered by laws which prevent trucks from carrying more than 80,000 pounds. This problem has become more acute as diesel fuel prices have risen. There is a patchwork of varying milk truck hauling weight limitations on highways and state and federal roads throughout the Northeast. A number of Northeastern states allow milk haulers to run up to 95,000 pounds on designated state roads. Meanwhile, New York and Maine allow for gross weight limits up to 99,000 pounds on some Interstate highways. In Maryland, haulers may run up to 85,000 pounds but only in certain areas of the state. Elsewhere in the region, milk haulers are limited to 80,000 pound gross weight limits on interstate highways.

Because of the regional nature of the milk market, milk trucks have to cross state lines as they pick up milk at farms along their routes and transport to processing facilities. Thus the various rules and Maryland's lighter load limits, create inefficiencies for milk haulers on their routes to the State's 521 dairy farms. Further complicating this issue is the seasonality of milk production, with large swings in production volume varying depending upon the season, heat, feed quality and other factors. This can make it hard to

predict the volume of milk (and thereby the truck's weight) that will be picked up at each farm. Working to create uniform standards can help address transportation inefficiencies, whose costs are passed on to dairy farmers and consumers.

Recommendation 4:

The Governor and the General Assembly should not allow the sale of raw milk in the State of Maryland. This is currently the law in our State and this Council believes that it should remain the law.

As discussed in the 2009 report to Governor O'Malley, there is a push from some quarters for the sale of raw milk in the State. The Council however, strongly believes that the health concerns associated with raw milk sales are well documented, and repeats its recommendation against allowing the sale of raw milk. Milk that is processed and pasteurized is a healthy, wholesome food product. However, in its raw form, there are potential health risks. Attachment C to this report, prepared by the Maryland Department of Health and Mental Hygiene, is provided in support of this recommendation.

Recommendation 5:

The Maryland Department of Agriculture should work with the Maryland Farm Bureau, the Veterinarian Board, and other relevant animal health experts to develop protocols for the humane treatment of cows.

Maryland dairy farmers work hard to ensure that their cows are well-cared for and therefore support a statewide effort to develop guidance on the humane treatment of farm animals. There is concern within Maryland's dairy industry with certain national groups that have sought to discredit animal agriculture by seeking out and highlighting isolated incidents of animal cruelty at operations nationwide. It is therefore important that Maryland's dairy farmers counter these efforts by encouraging the development of ethical standards for the treatment of animals, highlighting and promoting the humane practices that have long been part of the industry. These efforts should include highlighting voluntary animal welfare programs already encouraged by dairy farmers, such as the

National Milk Producers Federation's Farmers Assuring Responsible Management program. Maryland's dairy farmers support fostering openness about their animal husbandry practices, as it is important that the public understand that cruelty is far from being the norm, as farmers' very livelihoods depend upon healthy cows that receive the care and attention needed for a high level of milk production.

Recommendation 6:

New environmental regulations have the potential to drastically impact farm profitability in a negative way. The Governor and the General Assembly should work to ensure that any new regulations are reasonable, equitable, achievable, and based on sound science.

Maryland farmers want to be a part of the solution in improving environmental quality. We commend Governor O'Malley for treating farmers fairly in the first phase of the Watershed Implementation Plan for the State's Total Maximum Daily Load for the Chesapeake Bay. At a time when farmers are being asked to do more to protect water quality, we are concerned that the State has reduced the assistance it offers farmers to help in this area. The state needs to increase its commitment toward helping farmers with nutrient management plan writing. Regulations regarding animal waste/manure should not cripple our ability to utilize manure in our operations in a manner that does not harm water quality.

Attachment A

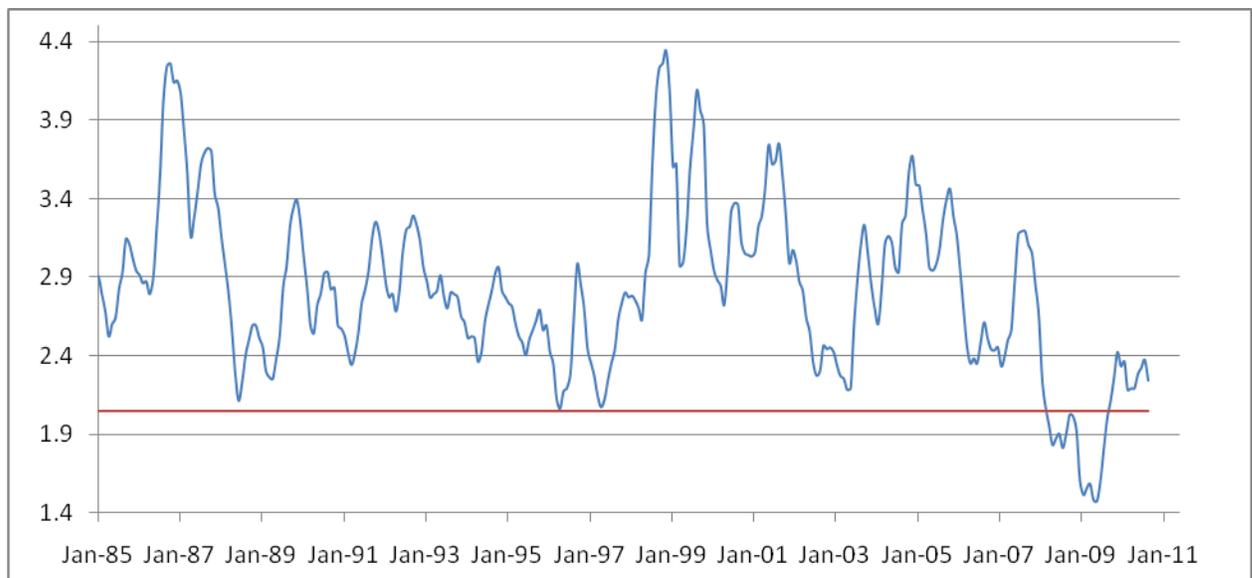
Dairy Economic Situation and Outlook, October 2010

Dr. Howard Leathers
University of Maryland, College Park, MD.

The financial situation of America's dairy farmers has made a modest turnaround from the historically difficult months of 2008 and 2009. However, the price situation is still far from comfortable, and is still worse than "normal."

One commonly used measure of economic health of the dairy industry is the milk-feed price ratio which shows the ratio of milk price to the price of a feed cost ration. A high ratio means that milk prices are high relative to feed prices, and therefore times are good for dairy farmers. A low ratio means times are bad. In the 22 years from January 1985 to March 2008, the milk-feed price ratio had never fallen below 2.06. But in the 18 months from April 2008 to September 2009, the milk feed price ratio was never above 2.02. In the year that followed, from October 2009 to September 2010, the milk feed price ratio has stayed in a tight range between 2.11 and 2.37. While this is a definite improvement from the prior year and a half, it is still at the low end of the historical distribution, and well below the 25 year average of 2.8.

Milk Feed Price Ratio by month 1985-2010



The 2007 Governor's report contained a prediction that 100-220 Maryland dairy farmers would exit the industry between 2006 and 2015. Now at the halfway point of that projection, we find that the number of farms registered with the state Department of Health and Mental Hygiene as licensed to sell milk has fallen by 107, from 631 in 2006 to 524 in 2010.

Year	Number of dairy farms in Maryland
2002	750
2003	710
2004	667
2005	649
2006	631
2007	582
2008	561
2009	555
2010	524

Source: Maryland Department of Health and Mental Hygiene

Given the milk-feed price situation of 2008 and 2009, the rate of exit from dairy farming might have been expected to accelerate even more than it did. The general state of the nation's economy may have left dairy farmers without attractive alternatives to dairy farming, and thus slowed the rate of exit from the dairy sector. As expected, the reduction in numbers of farms comes primarily from consolidation of existing herds: 2010 state milk production in the July-September quarter is slightly higher than production for the same quarter of 2009.

The short term outlook is for continued squeeze on dairy farmers. Milk prices are expected to increase modestly in the final three months of 2010, but by 2011 the prices will likely be back to the levels experienced in spring and summer of 2010. Although milk prices are expected to be 25-30% above the trough of 2009, feed prices are also expected to be higher with corn prices being up as much as 40% over their 2009 levels. Therefore dairy farmers will continue to face challenging financial times in the year ahead.

The federal Milk Income Loss Contract (MILC) program is designed to provide a safety net payment to dairy farmers in periods when milk prices are low relative to feed prices, using a specific formula. This program has made payments in only two months in 2010 (April and May), and projections of future prices indicate that it is unlikely to make payments in the remainder of 2010, although payments may occur in 2011.

In 2009, the Risk Management Agency of USDA announced the availability of Gross Margin (LGM) insurance for dairy farmers. This insurance pays policy holders an indemnity if their gross revenue (milk revenue minus feed costs) falls below the insured level for the insurance period. In the face of lack of farmer interest in this insurance

product, RMA has recently announced that insurance premiums will be subsidized for contracts issued after December 17, 2010. The premium subsidies may result in an uptick in interest among Maryland's dairy farmers, giving them an additional source of protection against economic hard times.

Attachment B



Overview of the United States Dairy Industry

ISSN:

Released September 22, 2010, by the National Agricultural Statistics Service (NASS), Agricultural Statistics Board, United States Department of Agriculture (USDA).

Large Operations Increase Share of Inventory and Milk Production

The dairy industry in the United States has undergone significant structural change over the past eight years. Total milk cow operations have declined significantly, while the number of large operations has increased. This report compares 2009 production year data to the 2001 data released in the *U.S. Dairy Herd Structure* report, published in September 2002. Changes in milk cow operation size groups will be discussed, along with trends in the all milk price and the milk-feed ratio.

The number of milk cow operations continues to decline in the United States. There were 65,000 milk cow operations in 2009 compared to 97,460 in 2001, a decline of 33 percent. Despite the large decrease in milk cow operations during this time period, both milk production and milk cow numbers have been on the rise. Milk production increased 15 percent, from 165,332 million pounds in 2001 to 189,320 million pounds in 2009. Milk cow inventory showed a smaller increase of 1 percent, from 9.10 million head in 2001 to 9.20 million head in 2009.

The milk cow operation estimates as illustrated in Graphs 1 through 3 show a break in the series from 2006 to 2007. In preparation for the 2007 Census of Agriculture, NASS exerted extensive efforts to build a comprehensive list of producers, which allowed NASS to capture more limited-resource and small farms. The break in the series reflects the fact that newer information for years prior to 2007 was not available to make revisions.

Although the overall number of milk cow operations has declined since 2001, the number of operations with 500 or more head of milk cows has increased. Since 2001, the number of operations with 500 or more head increased by 20 percent, from 2,795 to 3,350 in 2009 (Graph 1). The largest size group, places with 2,000 or more head, showed the greatest percentage change from 2001, increasing from 325 places in 2001 to 740 in 2009, a gain of 128 percent (Graph 2). While larger operations were growing in number, smaller operations declined in number. Places with less than 500 head went from 94,665 in 2001 to 61,650 in 2009, a decline of over 33,000 operations, or 35 percent (Graph 3).

As large operations have become more numerous, the share of inventory accounted for by large operations has also increased. In 2009, operations with 500 or more head accounted for 56 percent of total milk cow inventory compared with only 35 percent in 2001. Operations with 2,000 or more head accounted for 30 percent of inventory in 2009, up from only 12 percent in 2001. Places with less than 500 head accounted for 44 percent of total milk cow inventory in 2009, down from 65 percent in 2001 (Graph 4).

As with inventory, the share of milk production accounted for by large operations has steadily increased. Operations with 500 or more head accounted for nearly 60 percent of all milk produced in 2009, up from 39 percent in 2001. Production on places with 2,000 or more head has increased from only 13 percent in 2001 to 31 percent of total milk production in 2009. Smaller operations continue to produce a smaller share of production. Places with less than 500 head accounted for nearly 41 percent of milk production in 2009, down from 61 percent in 2001 (Graph 5).

Production per cow on both larger and smaller operations continues to increase as lower producing cows are culled from herds and less efficient operations exit the industry. The Cooperatives Working Together (CWT) program, which was developed by the National Milk Producers Federation (NMPF), was implemented in 2003. Since the inception of CWT, nearly a half million milk cows were removed from production and slaughtered through 2009. This program may have hastened the process of culling poorer producing cows from the dairy herd, thus helping to raise the average milk production per cow.

The annual average rate of milk production per cow for operations with more than 500 head rose from 20,342 pounds in 2001 to 22,019 pounds in 2009, an increase of 8 percent. Milk per cow for operations with less than 500 head increased 10 percent, from 16,989 pounds in 2001 to 18,769 in 2009 (Graph 6). However, despite the increase in milk per cow, total production in the less than 500 size group has declined 24 percent during this period, as milk cow operations decreased 35 percent and inventory declined 31 percent. A strong increase in milk production from operations with 500 or more head (up 74 percent) more than offset the production decline from operations with less than 500 cows, resulting in an overall production increase (Graph 7). The increased production from operations with 500 or more head is due to the increase in number of operations, greater share of inventory, and increased milk production per cow.

Milk production continues to move to the western half of the United States, primarily from the southeastern and northeastern States. Looking at 2009 production, States showing the largest increases compared to 2001 were California, Idaho and Texas (Graph 8). The only northeastern State with a production increase was New York. Production has also migrated to the upper mid-west, with Wisconsin, Michigan, and Ohio showing the largest increases in that region. States with the largest declines in production were Kentucky, Tennessee, and Missouri. The ten largest milk producing states accounted for nearly 74 percent of the total production of milk in the United States in 2009 (Graph 9).

For most States, the increase in production was due to an increase in milk cow inventory and greater milk production per cow. For example, California, the leading milk producing State, produced 39,512 million pounds in 2009, up 19 percent from 2001. The increase in production was due to a 13 percent increase in the number of milk cows and a 5 percent increase in average milk per cow. Wisconsin, the second largest milk producing State, produced 25,239 million pounds in 2009, up 14 percent from 2001. The production increase in Wisconsin was a result of a 17 percent increase in milk produced per cow, which more than offset a 3 percent decrease in milk cow numbers. The three States with the largest production increases compared to 2001 (California, Idaho, and Texas) had inventory increases of 207,000 head, 184,000 head, and 97,000 head, respectively (Graph 10).

Over the last decade, the United States average annual all milk price has fluctuated between \$12.18 to \$19.2 per cwt (Graph 11). Since 2005, the general trend in the annual milk-feed ratio has been down due in large part to increased feed costs, although low milk prices in 2006 and 2009 were a major factor (Graph 11). The price of corn increased by 110 percent from 2005 to 2007, while the price of alfalfa hay increased by 59 percent from 2005 to 2008 (Graph 12). Corn, alfalfa hay, and soybeans are common ingredients of a typical dairy ration. Corn and alfalfa hay are the primary feed items used to calculate the milk-feed ratio, while soybeans are a smaller component of the ratio calculation. The milk-feed ratio is the pounds of 16 percent protein mixed dairy feed equal in value to one pound of whole milk. In other words, the milk-feed ratio is an indicator of the quantity of 16 percent mixed dairy feed that can be purchased with a pound of milk. The milk-feed ratio is considered an indicator of the profitability of milk production. If the ratio is equal to 3.0 or greater, it is generally considered profitable to buy feed and produce milk. The last time the annual milk-feed ratio was at 3.0 or greater was in 2005. In 2007 and 2008, despite an all milk price that reached historically high levels, the milk-feed ratio still remained below 3.0 because of high feed prices (Graph 12). The milk-feed ratio dropped again in 2009, despite lower feed prices. The decline in the milk-feed ratio was primarily due to a 30 percent drop in the all milk price from 2008 to 2009.

Since 2001, the overall trend in the United States dairy industry has been toward more large operations (places

with 500 or more head of milk cows) that have a greater share of total milk cow inventory and a greater share of total milk production. In 2009, operations with 500 or more head accounted for 5 percent of the total milk cow operations, 56 percent of the milk cows, and 60 percent of the milk production. Contrast this with 2001, when large operations only accounted for 3 percent of operations, 35 percent of milk cows, and 39 percent of production. The most dramatic increases occurred in the largest size group (places with 2000 or more head of milk cows). These operations increased from only .3 percent of the operations, 12 percent of the milk cows, and 13 percent of milk production in 2001 to 1 percent of the operations, 30 percent of the milk cows, and 31 percent of the milk production in 2009. Milk production continues to shift to the western half of the United States., although the upper mid-west region has experienced greater milk production also. The milk-feed ratio, an indicator of the profitability of milk production, has been on a general downward trend since 2005 due to a combination of higher feed prices and lower milk prices.

Statistical Methodology

Survey Procedures: The monthly Milk Production reports are based primarily on the monthly and quarterly milk production surveys, while the biannual Cattle reports are based on the January and July Cattle surveys. The milk production and cattle surveys are probability surveys. A probability survey assumes everyone in the target population has a positive probability of being selected. These probabilities do not have to be equal but they must be known and used in the sample selection and survey estimation process. Because a sample is used in the survey process, sampling errors are associated with the numbers. However, since the probabilities of selection are known, sampling errors can be calculated to determine levels of precision. In other words, it allows an objective evaluation of the reliability of a statistic.

Data collected on the milk production and cattle surveys were obtained from a sample of producers. Large producers were sampled more heavily than small operations. Individual States maintain a list of all known milk and cattle producers and information on the size of their herd. States use all known sources of producers to ensure that their lists are as complete as possible.

All known milk producers are the target population for the monthly and quarterly milk production surveys, while all known cattle producers are the target population for the January and July cattle surveys. The sampling universe for the Milk Production surveys is all operations with at least one milk cow. For the cattle surveys, the sampling universe is all operations with at least one head of cattle. To ensure complete coverage on the cattle surveys, a sample of cattle operations from the list frame maintained by NASS is supplemented by a sample of area tracts. The milk production survey is a list frame only survey.

The milk production survey is conducted on a quarterly basis in all 50 states in January, April, July, and October. In 8 states, the survey is conducted on a monthly basis. The remaining 15 states that set monthly estimates rely on administrative data in the months when a survey is not conducted. The cattle survey is conducted in 49 states in January and in 48 states in July.

Estimation Procedures: Estimates of milk production and percent of production by inventory size group are based primarily on the monthly or quarterly milk production surveys. However, in addition to survey data, state and federal administrative data are used, where feasible, to estimate milk production. Data used to determine milk cow inventory and operations estimates, operations by inventory size group, and percent of inventory by size group were obtained primarily from the January and July cattle surveys and milk production surveys. State field offices prepare these estimates by using a combination of survey indications, historic trends, and any available administrative data. Individual State estimates are reviewed by the Agricultural Statistics Board for reasonableness.

Published Estimates: The monthly Milk Production report contains estimates of average milk cows, milk

production, and milk produced per cow for the 23 major milk producing states and the United States. Estimates of average milk cows and milk production are published for all 50 states in the January, April, July, and October Milk Production reports. Annual average milk cows, annual milk production, and milk produced per cow, as well as revisions to the prior two years' monthly and quarterly milk cow and production estimates, are published in the February Milk Production report. January 1 and July 1 milk cow inventory estimates are published in the biannual Cattle reports, typically published in January and July. Estimates are published for all 50 states in the January report; United States only estimates are published in July. Estimates of milk cow operations, size groups, percent of inventory, and percent of production are published in the February Farms, Land in Farms, and Livestock Operations report. The milk cow operations and size group estimates are only published at the United States level.

Revision Policy: Milk production, rate per cow, and number of cows are subject to revision the following month for monthly States or the following quarter for the quarterly States. Normally, Federal Market Order sales and other administrative data are the main basis for revisions. However, data for all orders are not available in time for this revision. Estimates are again subject to revisions in February each year based on additional administrative data. In the event that additional changes are necessary, a third revision is possible in February the following year. Estimates are again reviewed after data from the five-year Census of Agriculture are available. No revisions are made after that date.

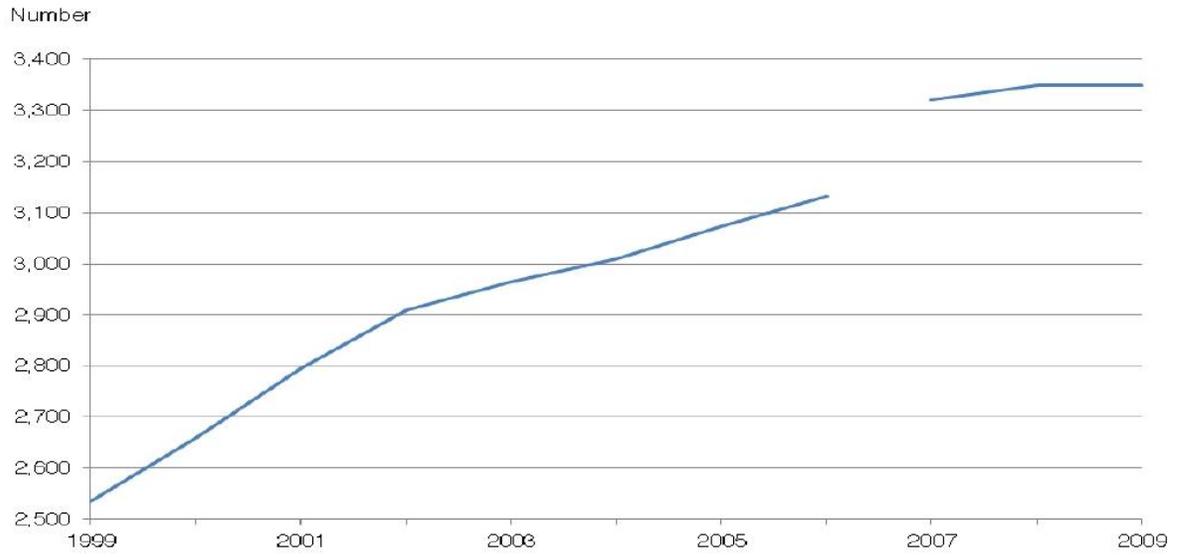
Revisions to the January 1 and July 1 milk cow inventories are made to improve year to year and item to item relationships. Estimates for the previous year are subject to revision when current estimates are made. The reviews are primarily based on livestock slaughter and additional foreign trade and survey data. Estimates will also be reviewed after data from the five-year Census of Agriculture are available. No revisions will be made after that date.

Milk cow operations, size groups, percent of inventory, and percent of production are subject to revision the following year and following review of the five-year Census of Agriculture. The basis for revision must be supported by additional data which directly affects the level of the estimate.

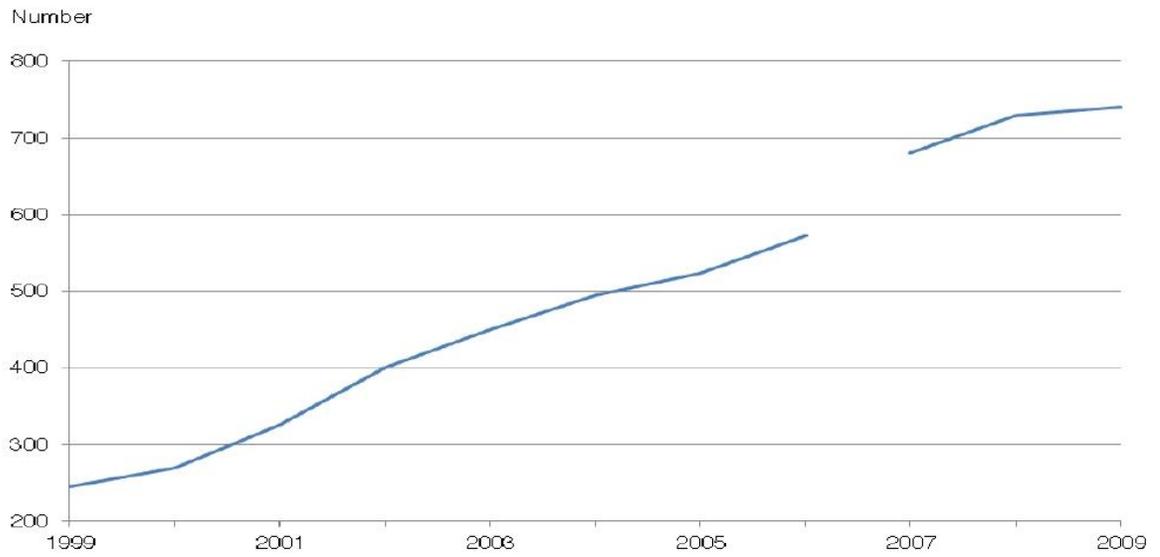
Note:

This special release is only available on the NASS website at: www.nass.usda.gov

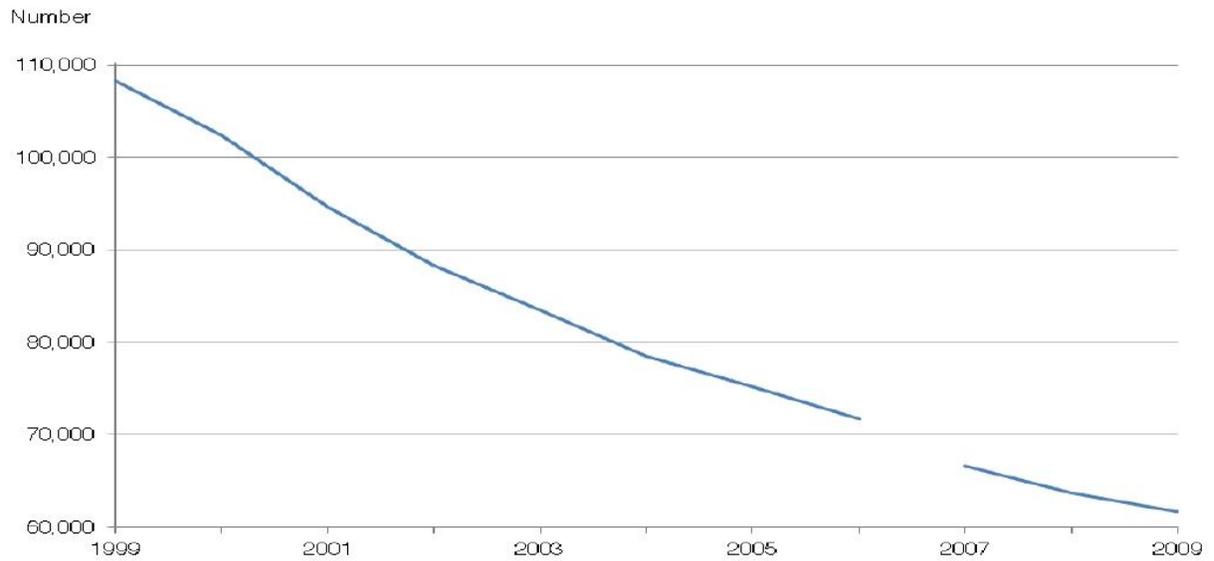
Graph 1. Dairy Operations 500+ Head - United States



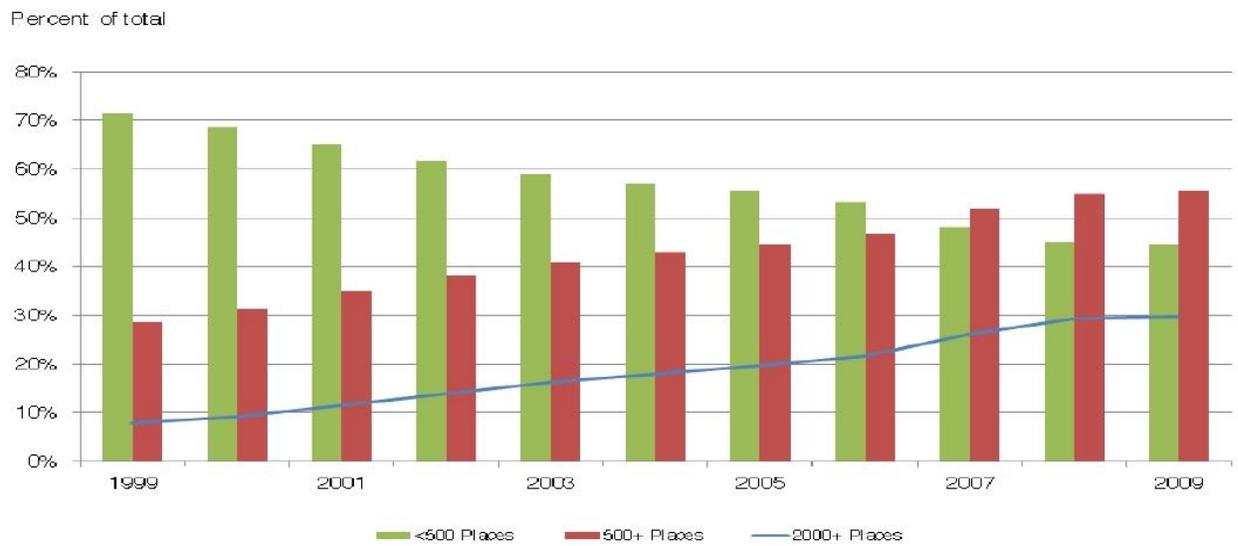
Graph 2. Dairy Operations 2000+ Head - United States



Graph 3. Dairy Operations <500 Head - United States

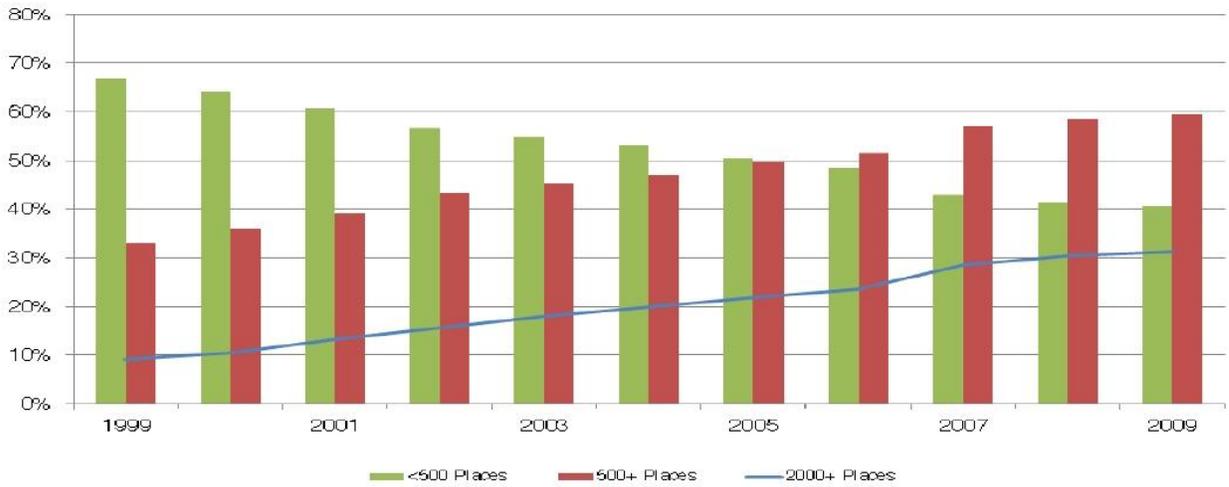


Graph 4. Milk Cow Inventory Distribution - United States



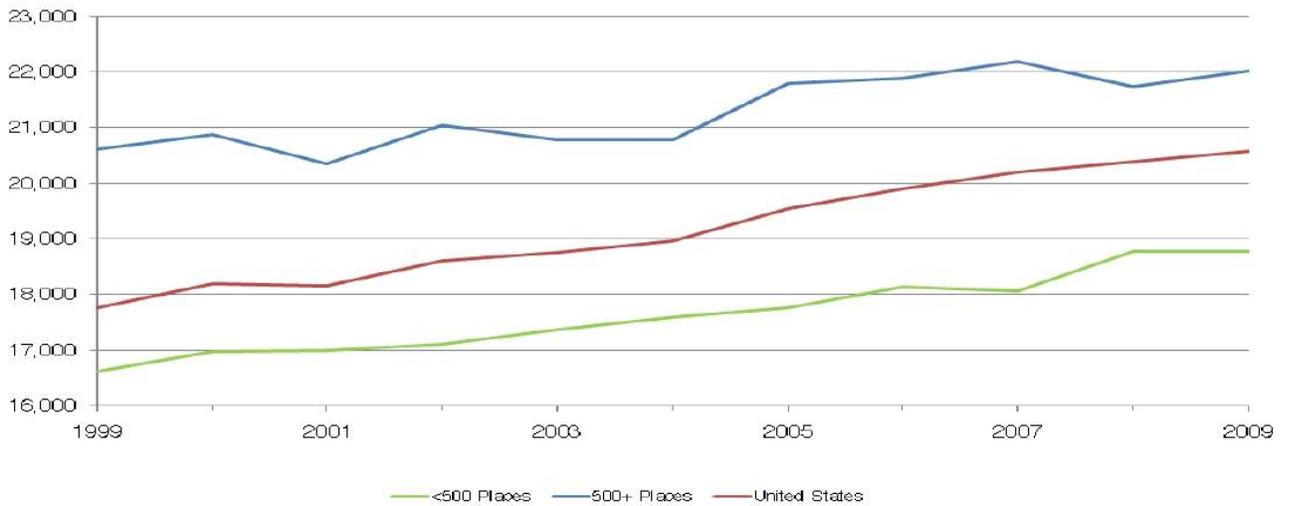
Graph 5. Milk Production Distribution - United States

Percent of total

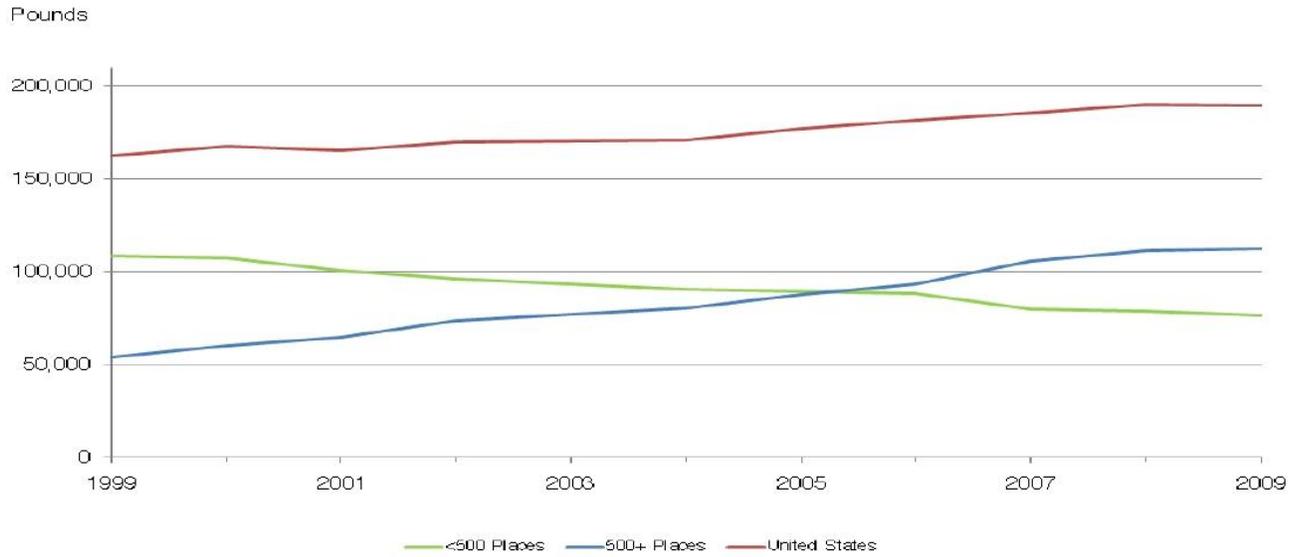


Graph 6. Milk Production Per Cow - United States

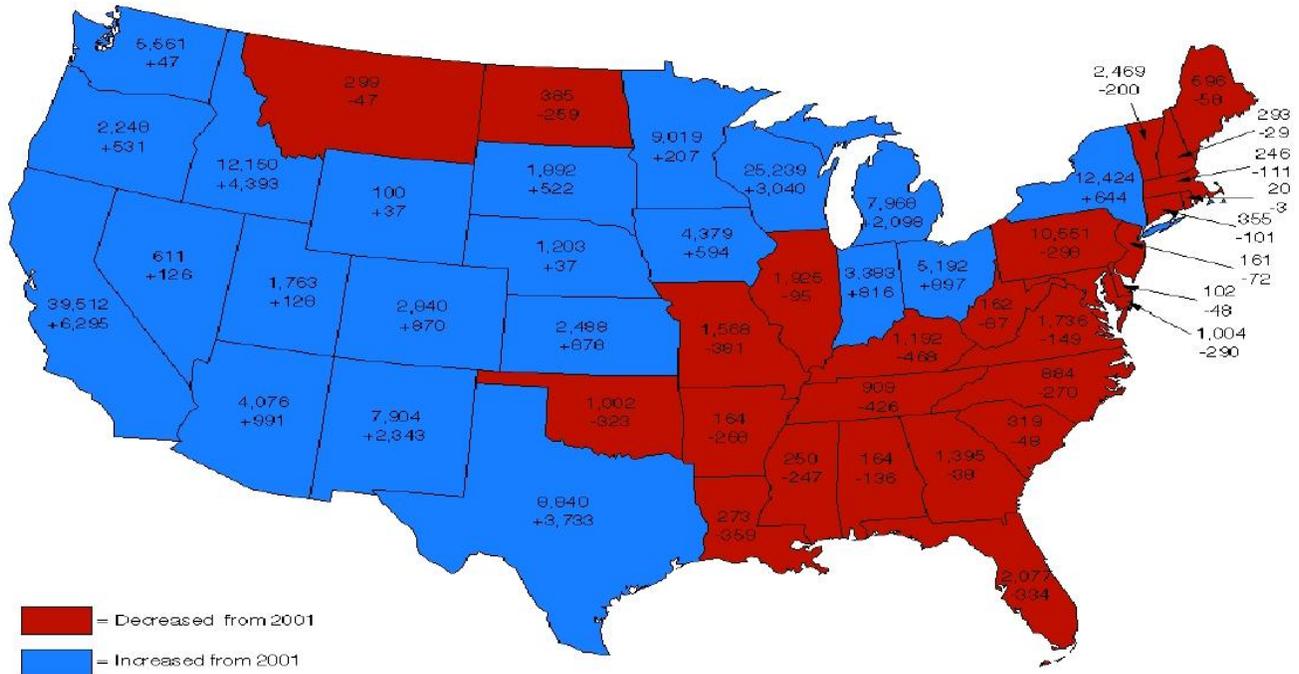
Pounds



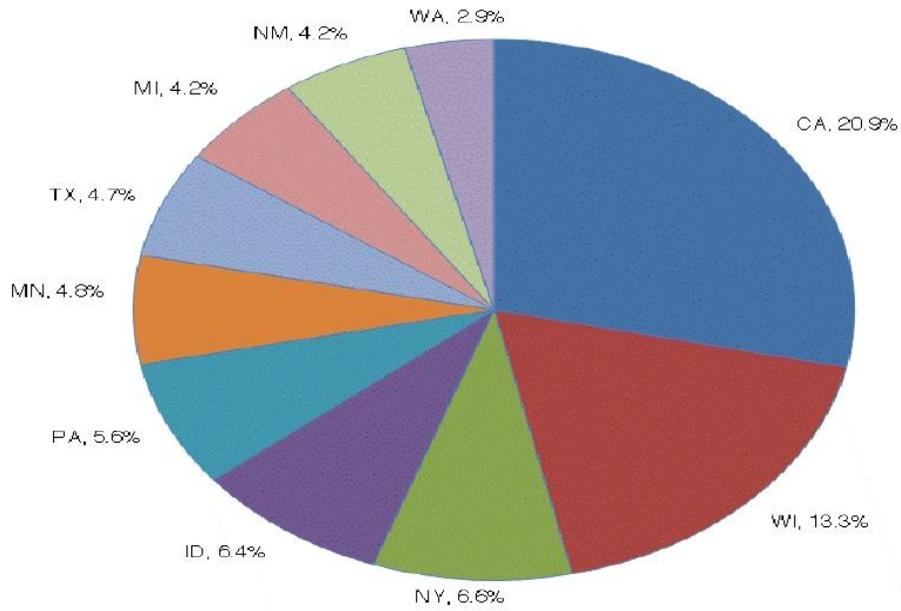
Graph 7. Milk Production - United States



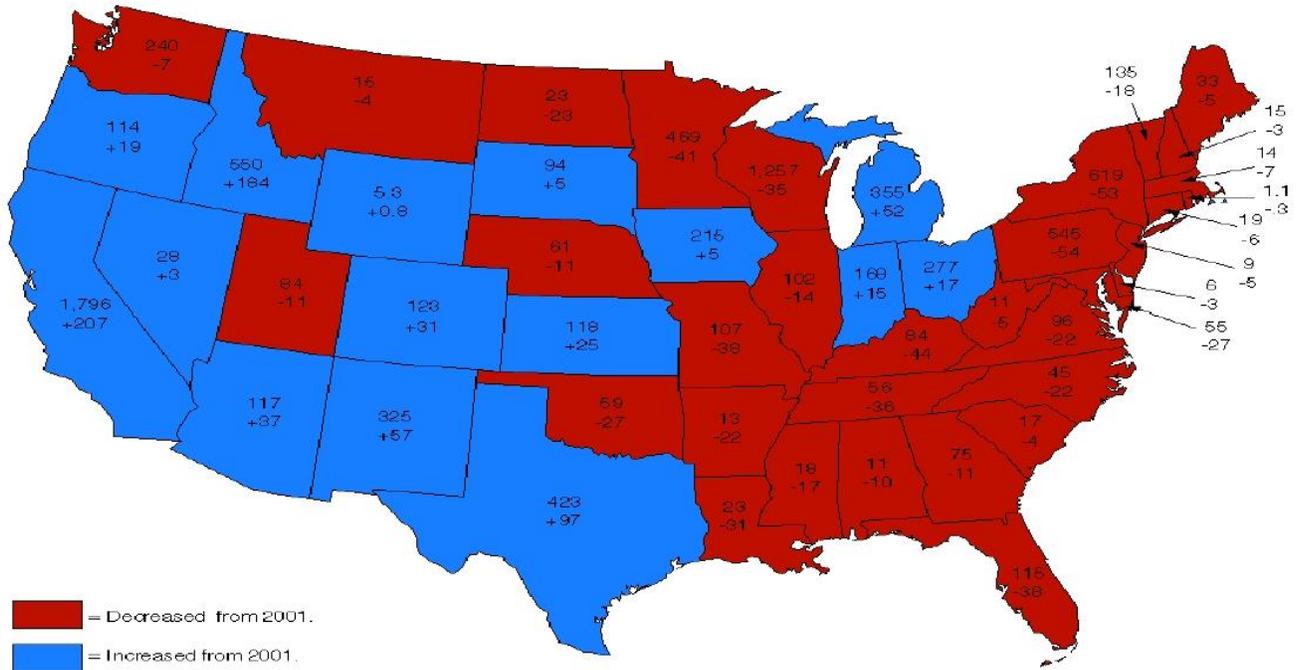
Graph 8. Milk Production - United States: 2009 and Change from 2001 (million pounds)



Graph 9. Percent of United States Milk Production - Top 10 States: 2009

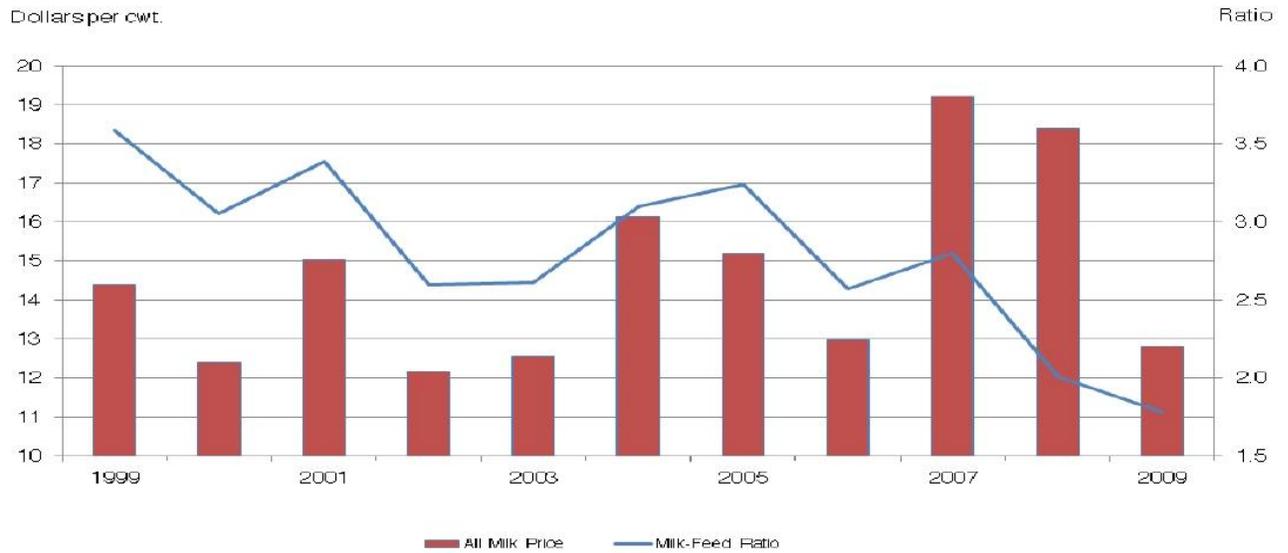


Graph 10. Milk Cow Inventory - United States: 2009 and Change from 2001 (1,000 head)

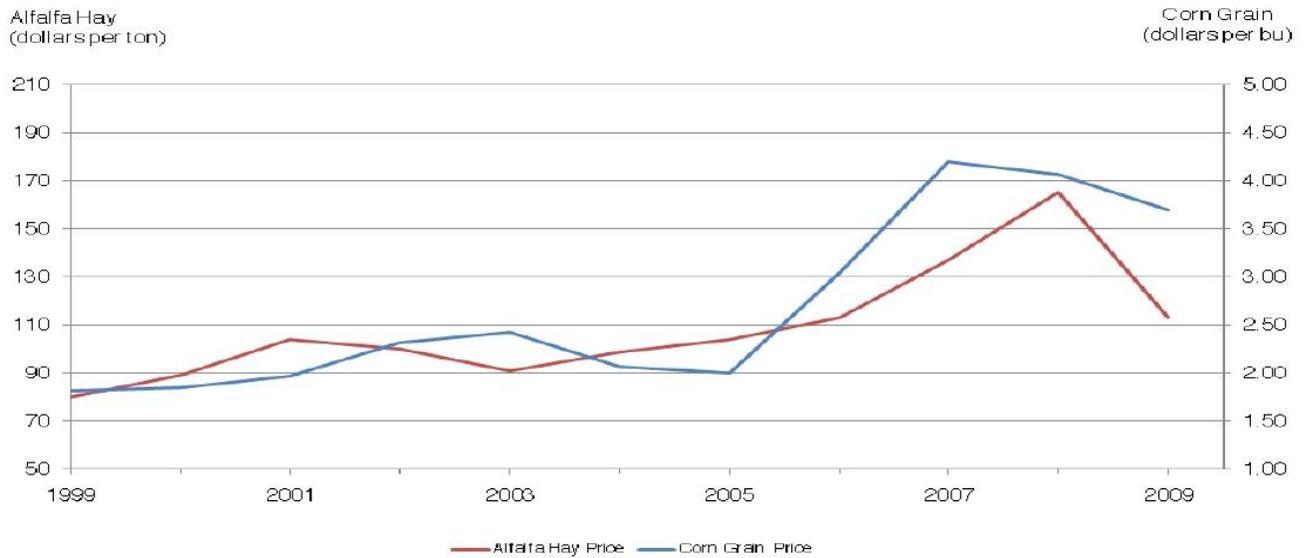


■ = Decreased from 2001.
■ = Increased from 2001.

Graph 11. All Milk Price and Milk-Feed Ratio - United States



Graph 12. Alfalfa Hay and Corn Grain Prices - United States



Information Contacts

Listed below are the commodity specialists in the Livestock Branch of the National Agricultural Statistics Service to contact for additional information. E-mail inquiries may be sent to nass@nass.usda.gov

Dan Kerestes, Chief, Livestock Branch	(202) 720-3570
Scott Hollis, Head, Livestock Section	(202) 690-2424
Vacant - Dairy Products	(202) 690-3236
Joe Gaynor - Dairy Products Prices	(202) 690-2168
Jason Hardegree - Cattle, Cattle on Feed	(202) 720-3040
Sherry Bertramsen - Livestock Slaughter	(515) 284-4340
Everett Olbert - Sheep and Goats	(202) 720-4751
Mike Miller - Milk Production and Milk Cows	(202) 720-3278
Nick Streff - Hogs and Pigs	(202) 720-3106

Attachment C



STATE OF MARYLAND

DHMH

Maryland Department of Health and Mental Hygiene

Martin O'Malley, Governor – Anthony G. Brown, Lt. Governor – John M. Colmers, Secretary

Infectious Disease and Environmental Health Administration

Heather L. Hauck, LICSW, MSW, Director
Angela M. Wakhweya, MD, MSc., Deputy Director
Clifford S. Mitchell, MS, MD, MPH, Acting Assistant Director
David Blythe, MD, MPH, Acting Assistant Director/State Epidemiologist

DHMH RAW MILK POSITION PAPER

POSITION AND RATIONALE:

The Department of Health and Mental Hygiene (DHMH) opposes the sale of raw milk for human consumption for the following reasons:

First, raw milk is a potentially high-risk food for all persons, particularly for pregnant women and young, elderly or infirmed persons.

Raw milk may contain human pathogens, the consumption of raw milk and raw milk products increases the risk of gastrointestinal illness caused by those pathogens. The only reliable method to reduce the level of human pathogens in milk and milk products is for milk and its products to be produced and processed under sanitary conditions and subsequently pasteurized. The FDA, using science-based epidemiological evidence, has determined that pasteurization is the only means to ensure the destruction of pathogenic microorganisms that might be present in milk.

The State of Maryland and other federal and state health agencies have documented a long history of the risks to human health associated with the consumption of raw milk. Raw milk contains bacteria that are present on the cow's udder and teats and can be infectious to humans. Further, the intrinsic properties of milk, including its pH and nutrient content, make it an excellent vehicle for the survival and growth of bacteria.

In the court case *Public Citizen v. Heckler*, 653f. Supp. 1229 (D.D.C. 1986), the federal district court concluded that the record presents "overwhelming evidence of the risks

associated with the consumption of raw milk, both certified and otherwise". The court stated that the evidence FDA has accumulated concerning raw milk "Conclusively shows that raw and certified raw milk are unsafe" and "There is no longer any question of fact as to whether raw milk is unsafe".

Illnesses related to raw milk range from minor gastrointestinal upset to kidney failure and death. Raw milk has been implicated in illness outbreaks in many states. In December 2002, a raw milk dairy in Ohio sickened 62 people due to *Salmonella* in the raw milk. An outbreak attributed to drinking raw milk in December 2005 in Washington State sickened 17 individuals because of *Escherichia coli* in the raw milk, and in March 2005, raw milk cheese sold in New York was linked to dozens who became ill with tuberculosis in the raw milk—a 14-month-old child died as a result. In California, where raw milk can be purchased in retail outlets, an outbreak of *E. coli* O157:H7 resulted in 6 cases of illness in children in 2006; one of the children was exposed to the contaminated milk only once, when he was served it as a snack while visiting a friend.

Consumption of raw milk has been found to account for less than 1% of total milk sold in those states that permit the sale of raw milk. Although consumption is relatively low, raw milk continues to cause outbreaks of illness disproportionate to its presence in the market. Legalizing raw milk sales will increase the amount of raw milk available in the marketplace, and thus, the incidents of illnesses will also increase.

Second, no process can guarantee that raw milk is safe for consumption.

It is not feasible to perform routine bacteriological tests on the raw milk itself to determine the presence or absence of all pathogens and thereby ensure that it is free of infectious organisms. The pathogens of concern to human beings that exist in cows and are found in raw milk do not necessarily affect the health of cows. In Pennsylvania, where the sale of raw milk is legal and regulated, the number of outbreaks associated with raw milk has increased as the number of certified raw milk dairies has increased. In 2008, three of the seven campylobacter outbreaks investigated by the Pennsylvania Department of Health were associated with raw milk consumption. In 2007 in Pennsylvania, individuals were sickened by *Salmonella* after consuming raw milk purchased directly from a dairy. Additional cases occurred after eating queso fresco made from the same contaminated milk that was given "free to anyone" by the dairyman after the implicated dairy was shut down.

The Department discussed non regulation of raw milk with legislators earlier and promised to study the matter. Our study confirms that there are a number of "second-hand" issues that come about if you allow raw milk to be sold. Examples include: milk rejected for commerce for presence of drugs or high bacterial counts could be sold as raw milk, milk that has been diluted with water to increase profits could be offered for sale, milk that was out of temperature, and/or otherwise adulterated through mishandling, lack of cleaning, or poor animal health could be sold to an unsuspecting consumer. There are no requirements to assure that containers which are provided are food grade, clean and non toxic and of suitable materials to hold milk.

Finally, the Department analyzed a number of regulatory applications such as warning labels, waivers, disclosures and registration to see if they might assure public health concerns. The Department concluded that no warning or consumer right to know strategy can guarantee that raw milk is safe for consumption.

In summary, since raw milk may contain human pathogens, the consumption of raw milk products increases the risk of gastrointestinal illness due to the likelihood that it may contain infective doses of human pathogens. The only method proven to be reliable in reducing the level of human pathogens in milk and milk products is by those milk products being produced and processed under sanitary conditions and subsequently being properly pasteurized. The Department therefore, strongly advises against the consumption of raw milk.

Epidemiologic Evidence Supporting the Ban on the Sale of Raw Milk

Prepared by Katherine A. Feldman, DVM, MPH
State Public Health Veterinarian
Maryland Department of Health and Mental Hygiene

How Does Milk Become Contaminated And Why Is Pasteurization Important?

Contamination

- Milk can become contaminated both preharvest and postharvest.
- Milk in the mammary gland typically does not contain bacteria.
- As milk is excreted it can become contaminated with commensal microflora on the teat skin or on the lining of the teat canal.
- Animals with subclinical mastitis produce milk that is not noticeably different from the milk produced by uninfected animals and may be added to the bulk tank.
- Animals with clinical mastitis or systemic disease may shed organisms into milk, but typically milk from these animals will have a changed appearance and is withheld from human consumption.
- The dairy farm environment is an important reservoir for many foodborne pathogens and contamination of milk by this route has been documented.
- Milk may also become contaminated during processing, distribution and storage from environmental or human sources.

Controls to minimize contamination

- To minimize the risk of contamination, controls must be applied at all stages along the continuum.
- Enhanced animal health (such as eradication of certain zoonotic diseases from the US dairy herd) will reduce the opportunity for shedding of pathogens in milk.
- Improved milking hygiene and cow cleanliness may not be able to completely eliminate the risk of contamination but can reduce contamination of milk.
- Enhanced animal health and improved milking hygiene **cannot** fully eliminate the risk of contamination of milk, hence the need for pasteurization.

- Controls can also be applied during processing, distribution and storage (post-pasteurization) to ensure reduced opportunity for milk contamination from the environment or from those handling the product.

Pasteurization

- Pasteurization is the process of heating milk for a predetermined time and temperature combination to destroy pathogens.
- Pasteurization is the *cornerstone of milk safety*
 - It improves the safety and lengthens the shelf life of milk by destroying pathogenic and spoilage organisms.
 - It is not the same as sterilization of milk.
- **The incidence of milkborne illness in the United States has been sharply reduced as a result of pasteurization.**
 - In 1938, milkborne outbreaks constituted twenty-five percent (25%) of all disease outbreaks due to infected foods and contaminated water.
 - The most recent information reveals that milk and fluid milk products continue to be associated with less than one percent (<1%) of such reported outbreaks.

Reference

LeJeune JT and PJ Rajala-Schultz. Unpasteurized milk: A continued public health threat. *Clinical Infectious Diseases* 2009;48:93-100.

Policy Analysis conducted by the CDC: Do restrictions on raw milk sales reduce outbreaks associated with raw milk?

Approach: All reported outbreaks associated with dairy products (raw or pasteurized) during 1973-1992 included in analysis.

- Outbreaks associated with raw milk were compared to the outbreaks associated with pasteurized dairy products.
- The number of outbreaks and the number of cases associated with unpasteurized products were compared between states that permit the sale of raw milk and states that do not permit the sale of raw milk.

Findings:

- From 1993-2006, 122 outbreaks associated with dairy products

	Outbreaks	Number of patients	Number of Hospitalizations	Hospitalization Rate	Deaths
Pasteurized	48	1223	30	2.45%	1
Unpasteurized (raw)	73	1571	202	12.86%	2

Conclusion: Disease associated with raw milk outbreaks is more severe than disease associated with milk products contaminated post-pasteurization.

- The incidence of outbreaks and cases associated with raw milk in states where raw milk sales are allowed is 2.85 times and 1.91 times greater (respectively) than in states where raw milk sales are not allowed.

For all reported outbreaks associated with dairy products, 1993-2006	Incidence Density in States where Sale Permitted	Incidence Density in States where Sale Prohibited	Incidence Density Ratio (95% Confidence Interval)
Outbreaks	55/2.2B = 2.5*	15/1.7B = 0.88*	2.85 (1.67-5.2)
Cases	1016/2.2B = 46.14*	414/1.7B = 24.18*	1.91 (1.7-2.14)

* per 100 million person-years

Conclusion: Outbreaks associated with raw milk are more likely to occur in states where raw milk sales are legalized.

Reference

Adam Langer, DVM, MPH, DACVPM

Centers for Disease Control and Prevention

Presented at the International Association of Food Protection Timely Topics Symposium:
Raw Milk Consumption: An Emerging Public Health Threat? February 17, 2009

Available at: <http://www.foodprotection.org/meetingsEducation/TimelyTopics09.asp>