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Milk Pricing and the Vermont Dairy Industry

History of Dairy Pricing

The history of dairy pricing in Vermont is, in large part, a study of federal dairy policy. The federal government plays a primary role in managing the production, pricing and distribution of dairy products. In part, the large role of the federal government in dairy pricing is because of the difficulty in pricing milk with regards to production costs and consumer needs. Furthermore, milk is a flow commodity and is difficult to price efficiently. Price models for milk are very different than ones used for other agricultural products. [1]

As early as 1900, milk producers directed their combined efforts towards establishing a uniform price for milk. With the drastic changes in the milk market following the Civil War, cooperative associations increased in number and changed their focus. Due to new technology, milk became a transport product. Dairy farmers could now produce more milk and keep milk fresh for longer periods of time. With the rise of urban areas, dairy producers were able to expand their markets; however, these new markets led to increased uncertainties, milk prices were now influenced by "seasonal fluctuations in supply and use."[2] Dairy associations banded together to address these issues and by the 1920s, they had developed a classified price system. This system priced milk according to its use, accounted for production costs and supplied producers with a flat rate despite seasonal variability.[3]

During the Great Depression these pricing systems collapsed and the federal government stepped in to "stabilize milk marketing conditions."[4] Congress passed the Agricultural Adjustment Act in 1933, which subsidized dairy farmers as they produced less milk. In 1935 and 1937 Congress continued to expand the role of government in dairy pricing with legislation that created a role for the Secretary of Agriculture in overseeing marketing agreements between dairy producers and distributors. The Agricultural Marketing Agreement Act of 1937 created the

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[1]Don P. Blaney and Alden C. Manchester, "Milk Pricing in the United States: How the Pricing System Evolved," The United States Department of Agriculture Economic Research Service, February 2001. Retrieved 19 April 2010 from http://www.ers.usda.gov/publications/aib761/aib761c.pdf.
[2]Don P. Blaney and Alden C. Manchester, "Milk Pricing in the United States: How the Pricing System Evolved."
[3]Don P. Blaney and Alden C. Manchester, "Milk Pricing in the United States: How the Pricing System Evolved."
[4]Don P. Blaney and Alden C. Manchester, "Milk Pricing in the United States: How the Pricing System Evolved."

Federal Milk Marketing Order (a system still in place) that "stabilize[s] the marketing relationship between dairy farmers and handlers and to ensure a sufficient quantity of fluid milk."[5] In 1949, the Agricultural Act created a "permanent milk price support program" and continued milk-marketing orders. These orders have changed over the years as new ways for producing, processing, and marketing milk have been discovered.

In 1996, the Federal Agricultural Improvement and Reform Act changed federal dairy policy dramatically. It established a new public pricing system with the creation of the Northeast Interstate Dairy Compact. This compact was established in order to "restore authority of the six New England states to set prices for Class I milk sold in the region."[6] It was governed by representatives from participant states who were responsible for "assuring there was an adequate supply of milk, recognizing the cultural and economic benefits of a viable dairy industry in the region, and facilitating the Constitutional rights of individual states to act collectively in order to regulate milk prices."[7]

The effects of the Northeast Interstate Dairy Compact on milk prices were studied by Kenneth Bailey in 2003. Bailey, in a study published in the *Review of Agricultural Economics*, found an increase of 30.5 cents per gallon in retail milk prices in Boston and an increase of 31.4 cents per gallon in Hartford between July 1997 and December 2000. According to Bailey's analysis, seventy percent of this rise in retail milk price could be attributed to the Compact.[8] Additionally, in July 2000 the federal minimum price for fluid milk was $15.71 hundredweight whereas the Compact price was $16.94 per hundredweight. This Compact expired in September 2001.[9]

Milk Pricing and the Dairy Industry Today

Milk Prices

Milk production fluctuates seasonally and daily. There is generally a higher supply in spring and early summer, and less of a supply during the winter months. The pricing system in the United States today is a product of 125 years of evolving public and private institutions. This has led to a fairly complicated milk pricing system determined simultaneously by the market and public administrations.[10]

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[5]The United States Department of Agriculture Farm Bill Forum Comment Summary and Background, "Dairy Policy." Retrieved 19 April 2010 from, http://www.usda.gov/documents/DAIRY_POLICY.pdf.
[6]The Northeast Dairy Compact Commission, "The Northeast Dairy Compact." Retrieved 19 April 2010 from http://www.dairycompact.org/.
[7]The Northeast Dairy Compact Commission, "The Northeast Dairy Compact."
[8]Kenneth W. Bailey, "Impact of the Northeast Interstate Dairy Compact on Consumer Prices for Fluid Milk." *Review of Agricultural Economics* 25.1 (2003): 108-22. Retrieved 19 April 2010 from http://www.jstor.org/stable/1349866.
[9]Joseph Holstead, "Northeast Interstate Dairy Compact," Connecticut General Assembly Office of Legislative Research, 2003. Retrieved 19 April 2010 from http://www.docstoc.com/docs/28648427/NORTHEAST-INTERSTATE-DAIRY-COMPACT.
[10] Don P. Blaney and Alden C. Manchester, "Milk Pricing in the United States: How the Pricing System Evolved."

The Milk Price Support Program, mandated in the 2002 farm bill through the Commodity Credit Corporation, supports the price of fluid milk received by dairy producers through purchases of dairy products. The current milk price support rate is $9.90 per hundredweight (cwt) for milk testing 3.67 percent butterfat (milk fat). The Milk Income Loss Contract (MILC) is another program that supports dairy producers. MILC payments are made when the Federal Class I milk price in Boston, MA falls below $16.94 per hundredweight (cwt), and amount to 34 percent of the difference between $16.94 and the Boston Class I price of the month. Another Federal program that affects dairy prices is the Federal Milk Market Order (FMMO), which is operated by the Agricultural Marketing Service (AMS). The FMMO classifies raw milk into four different classes for which minimum handler prices are determined. These classes include fluid milk, cheese, butter, non-dairy milk, and whey. Fluid milk is the highest value, and the only one that fluctuates based on region.[11]

Grades of Milk

Federal milk marketing orders were set up to stabilize the milk market by establishment of orderly marketing conditions. This benefits both producers and consumers by ensuring an adequate supply of milk at all times, as well as assuring dairy farmers reasonable minimum prices. Federal milk marketing orders are established through hearing processes that give those who are interested a chance to advocate on behalf or against an order. Each order consists of a classified price plan, a system of minimum prices, and terms and provisions for administrating the order. [12]

Dairy Farms in Vermont

Vermont has a long history with dairy farming, dating back to the 1700s when settlers first brought dairy cows to the area. Since then, the industry has grown and become a vital part of the Vermont economy. Governor Douglas stressed the importance of the dairy industry in 2006, when he said, “It’s part of our culture, our way of life” the farmers he said, are “the stewards of the land, and they maintain the working landscape that's so important to our natural beauty and our tourism.”[13]

Dairy farming directly supports an estimated 7,500 jobs, and indirectly supports an additional 7,500 jobs. The industry contributes $2 billion to the state’s economy, which produces about

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[11] The United States Department of Agriculture Farm Bill Forum Comment Summary and Background, “Dairy Policy.” Retrieved 19 April 2010 from, http://www.usda.gov/documents/DAIRY_POLICY.pdf.

[12] The United States Department of Agriculture: Agricultural Marketing Service, “Industry Marketing and Promotion: Dairy Federal Milk Marketing Orders- Program Overview.” Retrieved 19 April 2010 from http://www.ams.usda.gov/AMSv1.0/ams.fetchTemplateData.do?template=TemplateO&navID=IndustryMarketingandPromotion&leftNav=IndustryMarketingandPromotion&page=FMMOProgramObjectives

[13] Pam Belluck, "Soggy Weather Compounds Misery of Beleaguered Dairy Farmers in Vermont." *The New York Times* 2 July 2006. Retrieved 19 April 2010 from http://www.nytimes.com/2006/07/02/us/02vermont.html?_r=1.

$68 million in state and local taxes.[14] In 2008, the value of cash receipts for dairy products was $499,200,000, equivalent to 72.6% of the state's total farm receipts.[15] In 2008, dairy products were the number one agricultural export, reaching a value of 44 million dollars. Vermont's other top agricultural exports are far from this value. They have a combined value of 17.5 million dollars.[16]

Recent crises in the dairy industry have had devastating affects on Vermont farms. Over the past fifty years the number of functioning dairy farms in Vermont has been steadily decreasing. In 1947 there were 11,206 dairy farms and in July 2009 there were 1,046 dairy farms. Furthermore, most dairy farmers do not survive on their farm income alone. In 2002, 37.8% of Vermont dairy farmers did not have any source of income outside of the farm.[17,18]

The number of dairy farms continues to fall, and recently in rather alarming rates. In January 2009 the Times Argus reported that 11 of the state's dairy farms went out of business in the previous month. A dairy industry specialist for the Vermont Agency of Agriculture noted that these losses are more than half of the total losses in 2008. [19] As reported in an April 2010 *Burlington Free Press* article, the Vermont Department of Agriculture has concluded that due to "volatile milk prices" 200 Vermont dairy farms could "be forced out of business by the year's end." The Secretary of Agriculture, Roger Albee is quoted saying that while these predictions are for the worst-case scenario, "this is absolutely the worst situation [he's] seen in the dairy industry in [his] lifetime."[20]

Much of the losses in the dairy industry are linked with milk prices. Farmers note that as production costs rise, the average price of milk has been falling steadily. In 2007, the average price of milk was $18.00 per hundredweight[21] and in 2009 it was between $11.00 and $11.25 per hundredweight. [22]

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[14]Vermont Agency of Agriculture, "Status of Vermont Dairy Industry: Why it is important to Vermont, open space, and rural economy." Retrieved 19 April 2010 from http://www.vermontagriculture.com/news/2009/dairystatus/documents/DairyStatusMeetingRAllbee.pdf

[15] United States Department of Agriculture, Economic Research Service, "State Fact Sheets: Vermont." Retrieved 19 April 2010 from http://www.ers.usda.gov/StateFacts/VT.htm

[16] United States Department of Agriculture, "State Fact Sheets: Vermont." Retrieved 19 April 2010 from http://www.ers.usda.gov/StateFacts/VT.htm.

[17] Vermont Dairy, "Dairy Farm Numbers." Retrieved 19 April 2010 from http://www.vermontdairy.com/dairy_industry/farms/numbers.

[18] Vermont Agency of Agriculture, "Vermont Milk Commission Meeting Minutes" July 23, 2009. Retrieved 19 April 2010 from

[19] Peter Hirshfield, "Vermont Dairy Industry Facing Crisis." *The Times Argus* 30 January 2009. Retrieved 19 April 2010 from http://www.timesargus.com/article/RH/20090130/NEWS04/901300366/0/SPORTS.

[20] Dan Mclean, "Up to 200 Vermont dairy farms could fail soon, state says." *The Burlington Free Press* 24 April 2010. Retrieved 26 April 2010 from http://www.burlingtonfreepress.com/article/20100424/NEWS02/100424003/Up-to-200-Vermont-dairy-farms-could-fail-soon-state-says.

[21] A hundredweight is 11.6 gallons

[22] Vermont Agency of Agriculture, "Update on The Dairy Industry in Vermont and Nationally." Retrieved 19 April 2010 from

The Vermont Milk Commission, a quasi-judicial body, was established in order to document and assess the Vermont dairy industry. The Commission "has authority over milk prices as well as equitable minimum producer prices and will hold public hearings in order to be informed of the status of the state's dairy industry."[23]

The Commission plays an important role in tracking the dairy industry, combating falling milk prices and in supporting Vermont dairy farmers. Dairy farmers have also received economic assistance in recent years when milk prices have been especially low. This occurred as recently as December of 2009, when Senator Bernie Sanders reported that $5.7 million dollars in emergency assistance had been secured for Vermont dairy farmers, meaning each dairy farmer in the state will receive close to $8,000. [24]

In addition to the economic problems the Vermont dairy industry faces, there are also large social and economic effects the trade has on the state. It estimated that there are about 2,000 undocumented immigrants (primarily from Mexico) who do the bulk of the dairy farming in Vermont, most of them making around $8.00 an hour.[25] The environmental impacts of dairy farming are exhibited in the form of greenhouse gas emissions and eutrophication of waterways. Methane is the main gas emitted by cows, which occurs due to enteric fermentation in all ruminant animals. Eutrophication is the process of the nitrogen levels of nearby waterways increasing rapidly as the feces and urine of the cows leach into the groundwater. This leads to an explosion of plant and algae growth in the waterways, which can be toxic. [26]

Future of Vermont Dairy Industry: Possible Paths Forward

One of the main issues that the Vermont dairy industry faces is the imbalance in supply and demand of dairy products. The United States Department of Agriculture outlines the basic economic necessities for dairy markets to have balanced supply and demand in three points:

1. producer prices must be high enough to maintain production, yet not so high as to encourage surplus production;
2. there must be a willingness of consumers to pay for dairy products; and,

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http://www.vermontagriculture.com/milkcommission/documents/07-23-09VMCDairyStatus.pdf.

[23]Vermont Office of Governor Jim Douglas, "Milk Commission, Vermont." Retrieved 19 April 2010 from, http://governor.vermont.gov/tools/index.php?topic=BoardsAndCommissions&id=116&v=Article.

[24] Dan MacLean, "Vermont dairy farmers receive 5.7M in federal aid." *Burlington Free Press* 3 January 2010. Retrieved 19 April 2010 from http://www.welch.house.gov/index.php?option=com_content&view=article&id=796%3Avermont-dairy-farmers-receive-57m-in-federal-aid&catid=36%3Ain-the-news&Itemid=21.

[25] Iowa Public Television, "Vermont Dairy Farms Count on Illegal Immigrants" 15 May 2009. Retrieved 19 April 2010 from http://www.iptv.org/mtom/story.cfm/news/1483.

[26] S. J. Wang, et. Al, "Impact of Dairy Farming on Well Water Nitrate Level and Soil Content of Phosphorus and Potassium." Journal of Dairy Science, 9 October 1999. Retrieved 19 April 2010 from http://jds.fass.org/cgi/reprint/82/10/2164.pdf.

3. there needs to be an interest of producers and handlers in the efficient flow of products from the farm to the consumer.[27]

There are a few different options that the Vermont dairy industry and individual dairy farmers have pursued in order to combat the decline in milk prices.

Vermont Milk Commission Suggestions

Governor Douglas convened the Vermont Milk Commission in 2008. This commission sought ways in which the current primary dairy market could survive and flourish in the future. The Commission released the following suggestions as means to bolster the Vermont dairy industry in the coming years:

1. Establish an over-order premium (revenue generated and pooled to be paid back to producers from added charges to the minimum regulated class price) on fluid milk.
2. Create a minimum dairy producer price for Vermont milk (if NY and PA pass similar provisions).
3. Create a fund to stabilize milk prices, funded by farmer and business donations and a bottling premium.
4. Have purchasers of milk pay for hauling costs.[28]

The Option of Supply Management

One of the problems contributing to the current Vermont dairy crisis is the issue of overproduction. This concern was raised at the Vermont Dairy Summit, held on March 31, 2010 in Burlington. Summit attendee and agricultural economist Bob Wellington stated that even a small rate of dairy overproduction causes a large, disproportionate drop in overall dairy prices. Overproduction by even 2 to 3 percent causes an overall price fall of 20 to 30 percent.

One of the attendees, John Wilson (vice-president of Dairy Farmers of America) suggested that national supply-management relief could soon be initiated.[29] One national-level plan would be the creation of a National Milk Market Board, which would be governed by twenty-four elected dairy farmers from six national regions. One function of the board would be to create a $400 million fund for herd reduction and other methods of managing production.

The Vermont-based Dairy Farmers Working Together (DFWT) agrees that over-production must be curbed via federal legislation. This group proposes the Dairy Price Stabilization Program (DPSP), which, like plan proposed by Dairy Farmers of America, would include a board of dairy

[27] United States of America. USDA. *The Milk Pricing System in the Future*. 2008. Print.
[28] Vermont Agency of Agriculture and Food Markets, "Vermont Milk Commission Issues Final Decision." Retrieved 19 April 2010 from http://www.vermontagriculture.com/news/2008/milkcommissionJan14.html.
[29] McLean, Dan. "Vermont Dairy Summit Talks of Milk Production Limits." *Burlington Free Press* 31 Mar. 2010. Print.

farmers.[30] The Secretary of Agriculture and an economist would also oversee the project. DFWT stresses that this program would not use tax-payer money, but rather offer dairy farmers benefits like tax incentives for reducing their herd count and overall milk production.

The Organic Market

Many dairy farmers in Vermon**t** and other states have opted to operate within the organic niche market, where milk can usually be sold at higher prices. Former dairy farmer James Maroney of Leicester, VT advocates small dairy farmers filing for Chapter 12 bankruptcy.[31] This form of bankruptcy allows filers to propose ways to repay their debts; he believes it provides an opportunity for farmers to switch to the higher-paying organic market.

Recently there has been a sharp decline in the demand for organic milk, following a decline in demand for milk in general. A projected 15% decline in the demand for milk in 2009 affected the nation's organic farmers to an even greater degree because of the smaller number of operations. This downturn may simply be a result of the larger economic recession; organic dairy farmers must decide for themselves whether the long-term market for organic dairy products will remain strong enough.

Another possible niche market for Vermont farmers is in raw milk sales. As of last summer, Vermont farmers can sell up to 160 quarts of milk without requiring a milk handler's license.[32] The consumption of raw milk has been cautioned against by the Food and Drug Administration, the Center for Disease Control, and the American Medical Association but as a farmer's advocacy spokesman noted, raw milk can mean a "minimum of $5 per gallon for raw milk, triple the price they [farmers] get in the commodity market." Additionally, the sale of raw milk is restricted to the farm, meaning consumers "buy local" and farmers enjoy all of the profits.[33]

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[30] Dairy Farmers Working Together, "Stabilization Plan." Retrieved 19 April 2010 from http://www.dfwt.org/?page_id=14.

[31] Flagg, Kathryn. "Dairy in Crisis - Part 3: Farmers Seek Lifeline for Dairy Industry." *Addison County Independent* 26 Mar. 2009. Print.

[32] Vermont Agency of Agriculture: Division of Food Safety and Consumer Protection, "Vermont Rules for Selling Raw Milk From the Farm." Retrieved 19 April 2010 from http://www.vermontagriculture.com/fscp/dairy/rawMilk.html

[33] The University of Vermont: Vermont Legislative Research Shop, "Raw Milk" 21 May 2008. Retrieved 19 April 2010 from http://www.uvm.edu/~vlrs/Agriculture/rawmilk.pdf.