

AFBF Dairy White Paper
Supply Management
AFBF Department of Economic Analysis

After setting all-time highs in 2007 and 2008, milk prices fell precipitously in 2009, whipsawing producer revenues. In response, several dairy organizations are resurfacing milk policy options that have been debated several times in the past. One of these, the Dairy Price Stabilization Program (DPSP) authored by HolsteinUSA, a breed association of approximately 30,000 members, has gotten the most traction. This paper will evaluate supply management as a future option and provide implications to consider. The Holstein proposal, as of September 2, can be found here: <http://www.holsteinusa.com/association/dpsp.html>.

Summary of Major Provisions

HolsteinUSA's DPSP plan would assign base milk production to individual operations and provide large economic disincentives for producers who exceed their bases as well as creating significant barriers to the establishment of bases by new producers. This program would be administered by USDA with the assistance of a Board consisting of 12 producers and one representative from the following entities: a consumer group, a dairy products manufacturer, a fluid milk bottler, and a dairy economist.

USDA with assistance from the Board would be responsible for forecasting total domestic commercial disappearance, exports, government purchases, and cost of production for the upcoming year. USDA and the Board would then be responsible for estimating "the market needs for each quarter of the next 12 months allowing for a producer raw price that is positive over operating costs as determined by the Board."

Dairy producers who do not exceed their bases will not be impacted. However, producers who exceed their bases will have to pay a "market access fee" of \$6-\$9 per hundredweight on milk produced in excess of their base ("new milk") in the following quarter. The only flexibility on new milk is that producers would not have to pay a market access fee if the overall milk production for the year is at or less than production during the previous year. (Market access fees would have to be reimbursed to the producer at the end of the year because the market access fees would be drawn in the quarter following new milk production according the September DPSP draft.)

Producers who decide to expand and pay a market access fee on new milk will be allowed to use that production level as their historical bases for the upcoming year. It is not clear whether the program accounts for seasonality by comparing quarters on a year-over-year basis or a quarter-by-quarter basis in the current calendar year.

New producers are defined as "people who have no interest in milk cows at the time of the bill's enactment" in the DPSP. New producers would not be given a break on paying the market access fee unless they are able to procure a base from another producer. New producers could defer up to half of their market access payments to the following year.

Recent Analyses

Cornell GMP Study. Cornell University conducted on a study on the impact of a growth management/base program on producer price volatility based on a plan submitted by the Milk Producers Council of California.¹ The Cornell study utilized a dynamic simulation model to forecast milk prices under various policy and market conditions, including feed price and demand shocks. The study did find that a growth management plan could stabilize the domestic market prices; however, one should be cautious when applying the Cornell study to the Holstein proposal.

First, the Cornell dairy model does not reflect the international state of the industry. The model does not link international supply and demand relationships with the domestic market. Most dairy analysts would agree the price run-ups in 2007 and 2008 were a reflection of international demand influencing domestic dairy markets. Thus, in considering policy options, international market dynamics should be included.

Further, the study's assumptions differ from the latest Holstein proposal. Cornell assumes there would be an allowable increase in milk production of 2.5% per year per farm not subject to a market access fee. The current draft Holstein plan does not allow this increase. Second, the Cornell modelers assumed at \$0.25/cwt. market access fee on **all** milk production in a given quarter – not just new milk. The Holstein plan calls for the market access fee to be in the \$6-\$9 range for milk exceeding the historical marketings. This difference in market access fee structures would change the overall impacts. The GMP analyzed by Cornell also examines marketing on a quarterly, year-over-year basis rather than an annual basis like the Holstein DPSP.

The Cornell team readily admits forecasting producer decisions would be difficult, so they set a certain percentage of farms at various size categories to increase production. Most importantly, the study does not fully capture the constraint in the Holstein plan that the producer board must determine a production level that will make milk prices cover operating costs. While this constraint might reduce volatility in milk prices, it has the potential to dramatically increase the price levels to a point where they no longer align with world markets which could cause significant levels of dairy imports into the U.S.

Supply Management in a Global Marketplace. The U.S. Dairy Innovation Center, Dairy Management Inc. (DMI), and the U.S. Dairy Export Council recently commissioned a study by the consulting firm Bain & Co. on the impacts of globalization on the U.S. dairy industry. The August 2009 report's conclusions suggest there will be increasing globalization in the dairy sector, and demand will grow faster than available supply, especially in emerging markets. The U.S. can capture some of these opportunities if they leverage their existing capacities and invest and strengthen areas of weakness. Should the U.S. not take this approach, it will be less competitive.

¹ Nicholson, C. and M. Stephenson. Cornell Program on Dairy Markets and Policy. <http://www.cpdmp.cornell.edu/>

The study also examined a “Fortress USA” scenario where the U.S. would adopt a supply management system. “Short-term benefits of Fortress USA are unlikely, and long-term implications are disastrous.”² Should the U.S. decide to go down this road, tariffs and non-tariff trade barriers will be critical to maintaining prices in the domestic markets. It is also likely that dairy consumption will drop, dairy substitution will occur, and investment and technological innovation will subside. While supply management is intended to reduce volatility, uncertain feed prices, problematic forecasts, and trade complicate the supply/demand balancing effort.

Concerns with DPSP

While the crafters of the DPSP genuinely want to provide stability and certainty to the marketplace – which are admirable goals – the plan as written has a few glaring holes.

- 1) **Forecasts** – Markets change, input costs go up and down, and unforeseen weather conditions can dramatically alter the outlook. The supposition that USDA with assistance of a Board of producers can accurately predict market conditions over the following year is questionable at best. As read, USDA and the Board also will have to forecast input costs in order to determine a milk production level which will result in a producer price that exceeds operating costs. The Board is also asked to estimate government purchases (one would hope no government purchases under this plan) and exports for the upcoming year. Any dairy economist knows that a forecast is just that – a forecast. They are tools for planning purposes and are rarely accurate.
- 2) **Latent Demand Impacts** – U.S. dairy producers need consumers. We in the dairy industry often believe that U.S. consumers have the privilege of purchasing our products. This is true to an extent. Yet, the dairy industry – from farm to retail – has the responsibility to provide the products that consumers *want*. If we do not provide consumers with innovative and quality products at reasonable prices, the U.S. dairy sector will lose ground to foreign dairy products and other substitutes.

High dairy product prices in 2008 led to the first year-over decrease in cheese consumption in the U.S. according to estimates from USDA’s Economic Research Service (ERS). U.S. per capita cheese consumption in 2008 was 32.5 pounds compared to 33.2 pounds in the prior year. Driving up the costs of dairy products in the U.S. to unsustainable levels could threaten our domestic market demand. Once food processors shift away from an ingredient it will be difficult to bring them back. A high-priced supply management program will signal food companies to look for non-dairy alternatives.

- 3) **Imbalance of Domestic and International Markets** – As mentioned above, domestic milk prices that are significantly different from the world price will likely spur substitution of dairy products. Processors will have greater incentive to import foreign dairy products to displace domestically-produced content.

² U.S. Dairy Export Council. <http://usdec.files.cms-plus.com/secure/index.cfm?FileID=117995&token=26525&userID=102749>. Slide 21.

The largest increases in dairy consumption will be in emerging markets in the coming years. Places like China have constraints on significantly expanding dairy production. The U.S. is uniquely positioned to participate in these markets as traditional exporters like New Zealand reach their production capacities. Instituting a supply management system would leave these opportunities on the table.

- 4) **Regional Inequities** – Several areas of the country are working hard to ignite growth in milk production. This plan would severely hamper efforts to expand dairy production in underserved areas. Additionally, setting milk production levels which will result in a producer price that exceeds operating costs would conceivably favor low-cost producing regions of the country compared to higher-cost producing regions of the country. In total, average is average. There will not be uniform benefits for all producers.
- 5) **Limits on New Producers** – The financial constraints market access fees would place on new producers are excessive. New producers would be required to pay a \$6-\$9 market access fee on all their production unless they were able to procure a base from another producer. This effectively sets a per-animal quota value like in Canada. The capital requirements for new producers entering dairying are already high. Buying quota or paying a market access fee would disproportionately hurt young producers. Some have mentioned that new producers need to “earn” their places in the industry by paying the market access fee. This is akin to a small hardware producer paying Wal-Mart to access the market.

Implications and International Lessons:

Supply management has always been a contentious policy option. Managing the growth of an agricultural sector is usually best accomplished by the markets by letting supply and demand determine a price. However for dairy, a higher regulated pricing system with the current suite of support options limits the market’s ability to a) find a price, and b) transmit that price in a timely manner.

This experience of state-sanctioned quotas has not been universally positive. Supply management programs are currently operating in the European Union (EU-27) and Canada. The EU’s Common Agricultural Policy (CAP) created the milk quota in 1984 and has largely been advantageous to established dairy producing nations like France and Germany. In order to allow dairy development in newly-acceded nations and to move the dairy industry in a more market-oriented direction, the EU decided to do away with caps in 2015. This move has been met with great protest and resistance from dairy producers. The suite of EU dairy programs, including quotas and subsidies, has led to a glut of European dairy products on world markets that are driving down international prices.

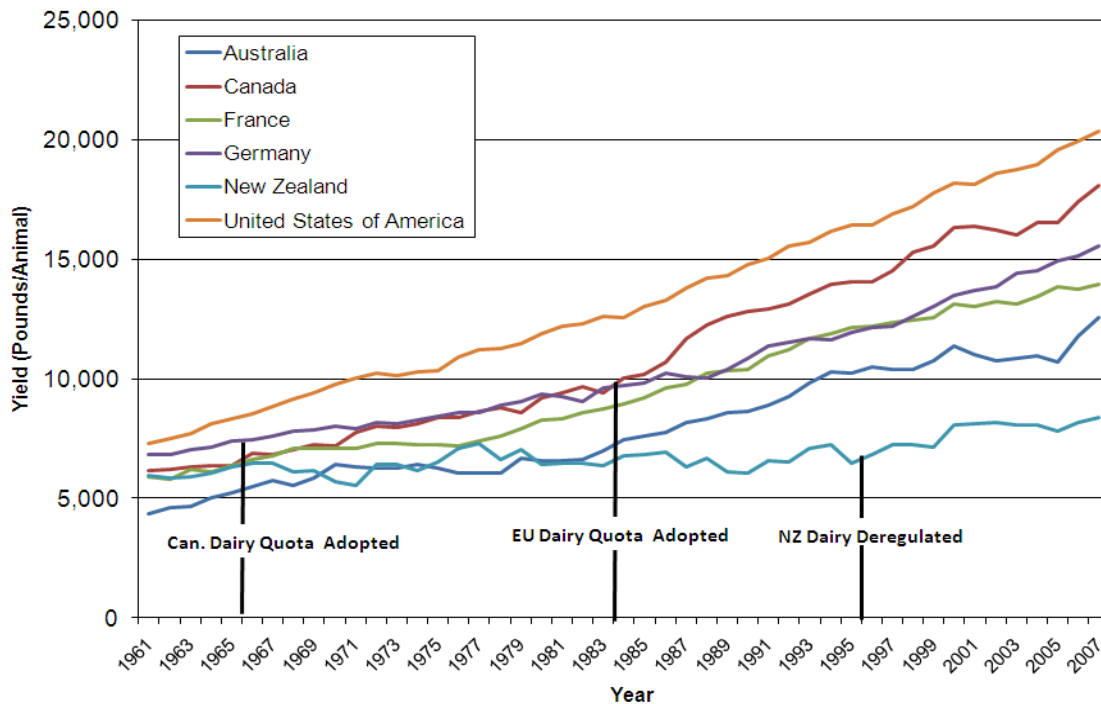
The Canadian quota system is the one most U.S. producers are probably most familiar with. It is cited by some as an approach to balancing supply and demand. However, there are significant differences between the industries in the two countries. First, the Canadian dairy industry supports a much smaller population than the U.S. – 33.5 million people reside in Canada

compared to 307.2 million in the U.S.³ This together with the production constraints, means Canada has a much smaller dairy herd of 978,000 cows compared to less than 9.2 million in the U.S.⁴ Annual increases in milk yields under a strict quota system means that Canadian dairymen must reduce productive as the quota is based on milk production, not on animals. Any excess heifers often find their way across the southern border into the U.S.

The protectionist attitude of the Canadian dairy sector makes it an importer of dairy products on the world market. Recently, the Canadian government began the process of enacting new cheese identity standards that are tantamount to non-tariff trade barriers on imports. The U.S. would have to take similar steps to maintain its domestic market should it adopt a supply management system

The deregulation of the New Zealand dairy sector has been a boon for Kiwi dairy producers. A single Federal entity also controlled the New Zealand milk industry until the mid-1980s when the NZ Milk Board was dissolved. Fonterra cooperative was created by Kiwi producers shortly after. Open dairy markets, a focus on an exports as a source of demand and the conversion of sheep operations to pasture-based dairy production has lead to an increase in cow numbers and a thriving dairy industry. While New Zealand will likely be able to maintain current export relationships, it will likely be unable to fill expanding export orders in the long-term that come with globalization due to significantly lower yields than other major developed dairy nations.

Global Milk Yield - Selected Countries
(1961-2007)

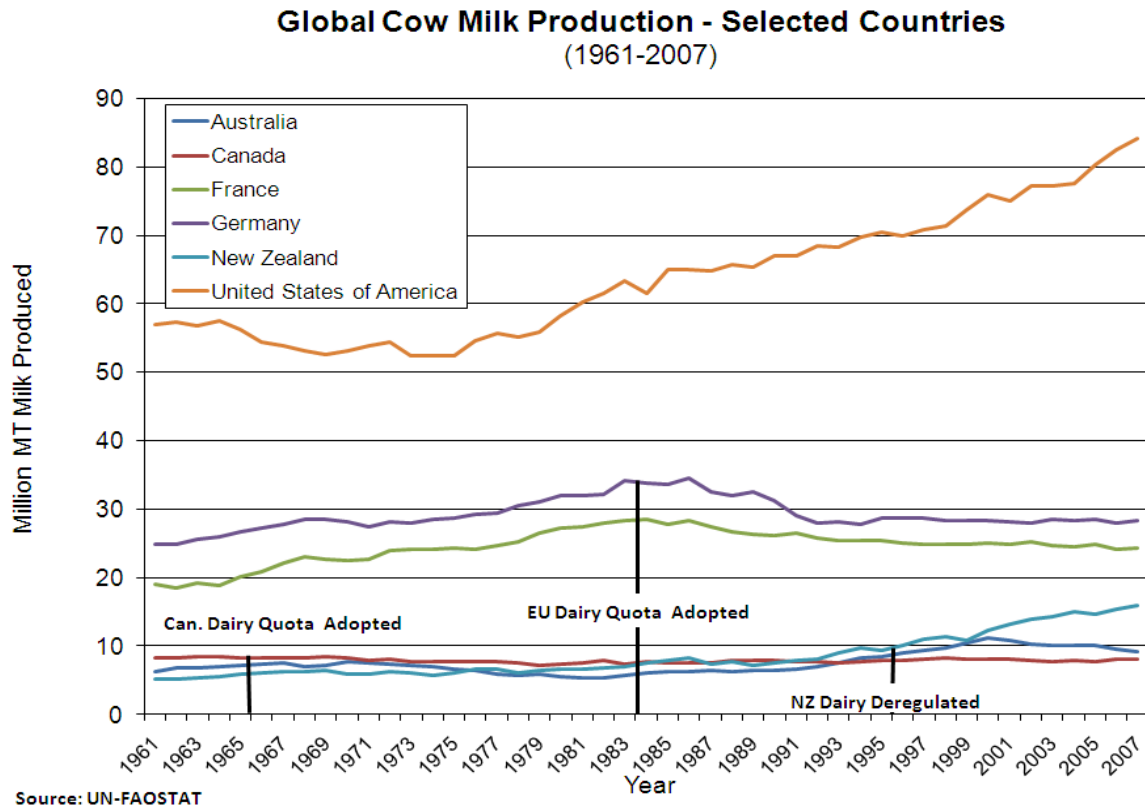


Source: UN-FAOSTAT

³ CIA World Factbook. <https://www.cia.gov/library/publications/the-world-factbook/>

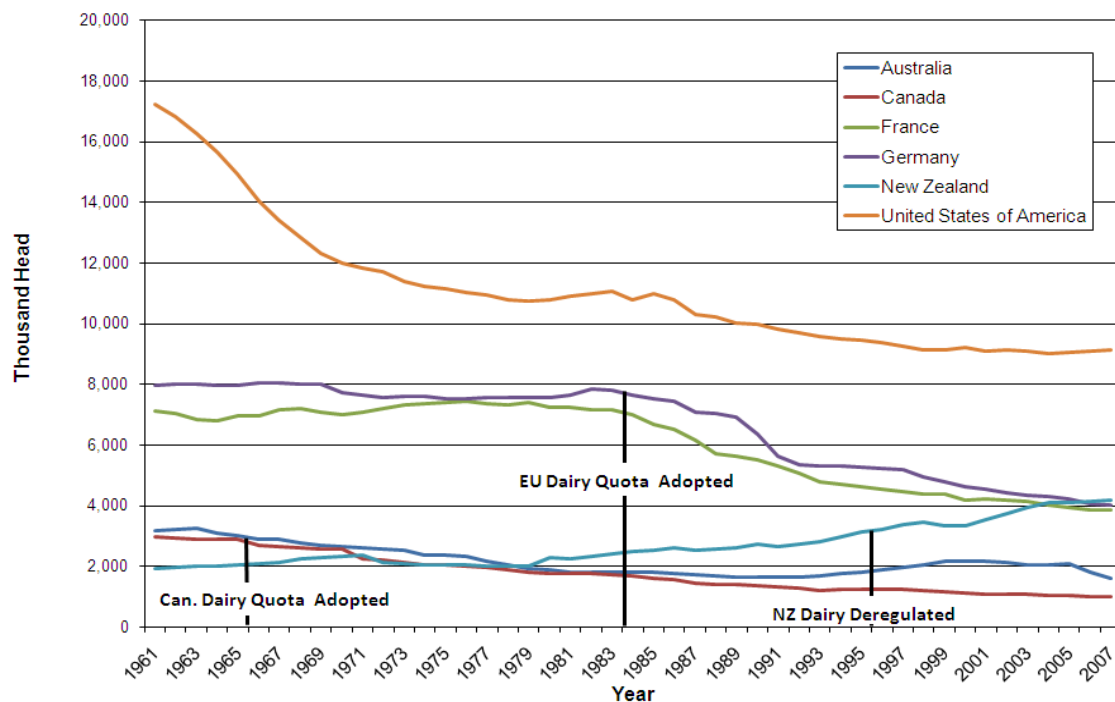
⁴ Canadian Dairy Information Center. http://www.dairyinfo.gc.ca/index_e.php?s1=dff-fcil

What is clear is that countries with quotas/supply management have not experienced growth in the sector compared to countries without it. Of the countries presented in the graph below, the U.S. and New Zealand dairy sectors have grown compared to countries like France, Germany, and Canada that have instituted strict production limits.



During this time almost all major dairy producing nations have shed cow numbers with New Zealand as the exception. This can be seen in the second chart. With or without supply management, cow numbers have declined in the U.S., Canada and EU. The declines in cow numbers in developed dairy economies can also be attributed to the increase in yields per cow. We need fewer cows to produce the same amount of milk.

Global Cow Population - Selected Countries (1960-2007)



Source: UN-FAOSTAT

Conclusion

Supply management is a radical departure for the U.S. dairy industry. While the current low milk price situation is placing many producers in precarious financial situations, supply management is not necessarily the best solution for the future of the U.S. dairy industry. Like it or not, U.S. dairy operates in a global marketplace. This provides upside opportunities and downside risks. Managing the downside risk does not have to be done with a supply management program. Problematic forecasts, potential to decrease U.S. consumers' demand for dairy products, imbalances in domestic and international dairy markets that could lead to increased imports and reduced export opportunities, regional inequities in the program, limitations placed on new producers, and mixed experiences with supply management in other countries should give U.S. dairymen pause before pursuing this path.