

# International Agri Insights

with Professor Bill Bailey

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## US fluid milk sales running dry

In this latest edition of *International Agri Insights*, our US-based expert, Prof. Bill Bailey, discusses lessons for the global dairy sector from declining US milk consumption.

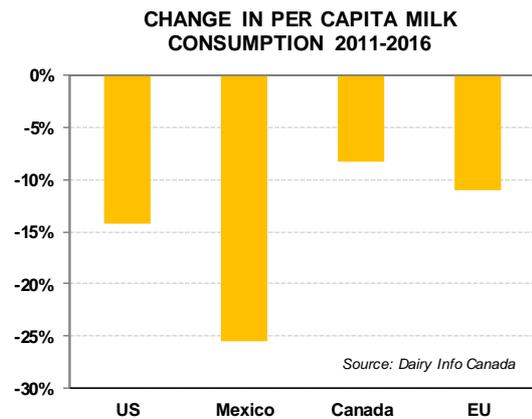
- With the US dairy market often leading industry trends, there are lessons for the global dairy sector from steadily declining US fluid milk consumption.
- Without change, declining US demand for fluid milk may increase industry efforts to grow US exports of dairy products at the expense of other exporting countries and/or induce US farmers to reduce dairy production.
- However, new supply chain technology such as blockchain could help industry address consumer concerns and give US fluid milk a new lease on life.

### Fluid milk is rapidly going out of fashion in the US and other key markets

**Per capita consumption of fluid milk is on the decline.**

Notably, per capita consumption declined in the US, Canada, the EU and Mexico by between 8% and 26% over the five years to 2016.

**A number of reasons for the decline have been suggested** – fewer children eating cereal for breakfast, changing adult breakfast preferences, competition from plant-based protein drinks, health concerns among adults, animal welfare and environmental concerns associated with milk production. One leading US dairy expert has wondered if, given the clear trend in declining fluid milk consumption, fluid milk may eventually become irrelevant to the consumer.



**Over the past 18 years, the percent of total US dairy milk production devoted to fluid milk has declined, steadily.**

According to US Department of Agriculture (USDA), in 2017, daily fluid milk sales in the US reached their lowest level since USDA began keeping records. The record low level of 2017 fluid milk sales is the eighth straight year of record low sales. In 2000, 35% of total US milk production ended up in fluid milk. For 2018, fluid milk is forecast to take 26% of US production.

### The US dairy industry will adjust and could look to export markets to pick up slack

**The consequences of such a shift in consumer preferences away from fluid milk to alternatives are significant for the global dairy sector, not just for US dairy.** Those consequences centre on the response of the US dairy sector to

such a long-term and significant shift in fluid milk demand. Further, as trade issues continue to be very contentious and create considerable uncertainty, steady reductions in the demand for fluid market will force the US dairy industry to act. Steps that might be taken include reducing milk production, increasing exports, accepting lower farm level prices as the new reality or attempting to blend together a combination of these three.

### Plant-based alternatives are filling the gap

In addition to consumer concerns listed above, over the past several years, **fluid milk has experienced new, and significant, competition from plant-based alternatives.** The plant-based competition facing fluid milk is coming from – among other sources – milk made from almonds, soy, rice and even hemp. Recent estimates put the global plant-based milk market at US\$16 billion. While this is a fraction of the global dairy milk market, the plant-based market is growing with one projection seeing almost a 40% increase in sales over the next several years. In response to changing consumer preferences for plant-based milk, Starbucks has put almond milk on the menu in its UK stores. In addition to plant-based alternatives, a broad range of sports drinks have appeared to meet the protein demand for those who wish to switch from away from fluid milk. These changes have consequences for the US dairy industry.

In the US, non-dairy milk sales have increased more than 50% over the past 5 years, with 2017 sales exceeding US\$2 billion. While that is about 10% of the total US fluid sales market, the non-dairy share is growing while conventional dairy milk sales are shrinking.

### Blockchain technology has potential to give fluid milk a new lease on life

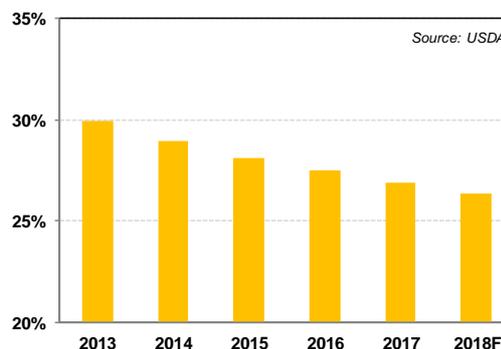
**One new idea to help rebuild consumer fluid milk demand,** and potentially demand for all US dairy products, **is the use of blockchain technology to assure traceability of the fluid milk purchased by consumers.** Such a move would permit the dairy industry to answer questions consumers often ask: Where was the milk in this product produced? Is it from the US or imported? How healthy are the cows that produced the milk? How much of the price I pay for the milk will go to the farmer? Was the milk properly handled during its travel? How old is the milk? Such questions would be answered, if blockchain technology were to be implemented, when the consumer scans a barcode, placed by the manufacturer on each container of fluid milk, that details all of the above information plus more.

For example, blockchain technology could easily identify if Canadian or Mexican milk was used in products sold in the US. While Canadian fluid milk imports into the US are limited, more than 50% of Mexico's fluid milk exports go to the US. A number of US businesses, primarily in the auto industry, have recently started to restructure their supply chains as tariffs on imported products used during a final product's assembly in the US are imposed. The blockchain technology, through assuring traceability, could potentially follow the tracking of not only the product but of all products used in its manufacture. Underscoring the possible broader use of blockchain technology, France-based retailer Carrefour has announced it will implement the use of blockchain technology on a broad range of its private label food products, including dairy, over the next several years. And the US dairy industry is actively discussing designer milk, with dairy products produced using milk from specific breeds or locations.

**Blockchain for the dairy sector provides a way for traditional fluid milk processors to effectively differentiate their product.** The effort, as demonstrated by Carrefour, needs to be processor led, with the dairy production side responding to buyer requirements. But the potential benefits of improved traceability may be a very effective method for dairy farmers to help regain fluid milk sales lost over the past number of years.

**Change is taking place in the US dairy industry which indicates change for the global dairy sector.** That change is driven, in part, by current trade tensions. Canada and Mexico are important markets, but significant uncertainty for dairy trade with those two markets exists as North American Free Trade Agreements negotiations drag on. Change is

US FLUID MILK DEMAND AS % OF TOTAL MILK PRODUCED 2013-2018



also driven by consumers who increasingly want more information, than they are currently provided, about characteristics of the product they are consuming. Adaption of blockchain technology, to revive fluid milk sales, would be one way to address a broad range of challenges faced by the US dairy industry.

### About the author

William C Bailey was Chair of Agribusiness at Massey University for 13 years. He has written weekly world dairy market columns for ASB Bank for almost 15 years. He currently is President of Topker Consulting, specializing in agricultural market research and supply chain issues relevant to agriculture. He retired as Dean, College of Business and Technology, at Western Illinois University, in Macomb, Illinois, in July, 2017. Bill spent 5 years in the US Marine Corps and received his PhD in Agricultural Economics from the University of Missouri. Before shifting to New Zealand, Bill was Chief Economist for the US Senate Committee on Agriculture, Nutrition and Forestry, served as Deputy Undersecretary of Agriculture and was Vice President and Director of Research for World Perspectives in Washington, DC. His beer of choice is Tui. Contact Bill: [topkerconsulting@gmail.com](mailto:topkerconsulting@gmail.com) Phone: +1 309 333 5117



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