



FCC Ag Economics  
The Canadian Dairy Sector  
Looking Forward

Spring 2016



**Farm Credit Canada**  
Advancing the business of agriculture



## Introduction

In 2014, Canada's agriculture and agri-food system provided 2.3 million jobs and contributed C\$108.2 billion (6.6 per cent) to Canada's gross domestic product (GDP) (Agriculture and Agri-Food Canada – AAFC). The Canadian dairy sector played a large role achieving that success, with total cash receipts from dairy amounting to C\$6.1 billion in 2014, a 9.9 per cent increase over five years. The dairy sector's contributions to total farm receipts differ across provinces, ranging from 1.4 per cent (Saskatchewan) to 36.2 per cent in Newfoundland and Labrador. In the three largest dairy producing provinces, they made up 18.9 per cent (British Columbia), 15.4 per cent (Ontario) and 26.7 per cent (Quebec) of total farm receipts.

Canadian dairy consumption has grown slowly over the last decade. It is projected to continue increasing, largely driven by positive trends in consumption of butter, yogurt and specialty cheeses. Yogurt consumption is expected to increase 21.6 per cent and specialty cheeses, 9.2 per cent between 2015 and 2024. By late 2015, already depleted Canadian butter stocks were hit further during the Christmas baking season, illustrating Canadians' renewed demand for butter.

Domestic consumption growth represents an opportunity for Canadian dairy producers. It also highlights a challenge for the industry. As the production needed to meet the increasing demand for butterfat grows, both more butterfat and "non-fat milk solids" (SNF) are produced. The additional production of SNF is marketed lower in the supply chain. The price of milk in these lower value classes is often driven by world dairy market conditions – which most recently have been depressed.

Processors' demand for SNF to be used in high value milk classes has been weaker in recent years due to increasing imports of milk protein concentrates and isolates from the United States. These imports displace SNF towards lower value milk classes, resulting in a lower overall farm price in 2015.

Similar pressures on the price of milk could emerge in 2016. The global outlook for dairy markets is mixed. World dairy prices are expected to improve in 2016, despite recent increases in both global production levels and yields that have outpaced a slowing rate of global dairy consumption growth.

The evolution of the Canadian and world dairy markets, combined with the Comprehensive Economic and Trade Agreement (CETA) and Trans Pacific Partnership (TPP) are producing complex trends in the Canadian dairy sector. Complexity implies challenges, yet there's room for optimism. For one, the uncertainty of waiting for trade deal negotiations to be completed has been lifted. Trade texts are now available, providing some clarity around the potential impacts for the sector.

As well, the growth in butter and yogurt consumption presents real opportunities to Canadian producers. The industry is currently looking to leverage the surplus of SNF through a national ingredients strategy, changing the landscape for milk marketing while maintaining the supply management framework.

Within this increasingly complex environment, Canadian dairy producers must manage increasing costs and new trends in milk prices to remain competitive. Our analysis illustrates that pursuing efficiency through better management and higher productivity can be achieved by dairy operations of all sizes. That will support a healthy dairy sector in the long-term.

### Highlights

- Canadian dairy consumption is projected to increase, largely driven by positive trends in consumption of specialty cheeses, yogurt and butter
- With texts now available from recently signed trade deals, the sector has clarity on potential market access for foreign dairy products
- Canadian dairy producers must manage increasing costs in light of new trends in milk prices to remain competitive
- The top 20 per cent of Canadian producers have operating costs of no more than \$0.55 for every \$1.00 in revenue. The top 50 per cent have an additional \$0.10 for every \$1.00 in revenues.

## Dairy consumption in Canada to pick up speed – slowly

Consumption of dairy products continues to evolve, shifting away from traditional sources such as ice cream towards yogurt and specialty cheeses. Growth in total Canadian consumption of fluid milk has been on a downward trend over the last ten years, (Figure 1). In 2014, overall consumption was 3.8 per cent lower than 2005. That trend is expected to reverse in the next decade. AAFC's long-term projections suggest Canada's fluid milk consumption will slowly climb, with a 6.8 per cent overall increase between 2015 and 2024.

## Canada's dairy star of the last ten years: yogurt

Dairy consumption has stagnated in Canada overall, with some categories hit hard. Between 2005 and 2014, overall consumption of ice cream experienced the biggest decline of all dairy products (16.2 per cent). But consumption of several other product segments has exploded in recent years.

Yogurt consumption has recorded the biggest growth – a 34.2 per cent increase. According to AAFC, yogurt consumption will likely continue to increase, with 2.2 per cent annual growth between 2015 and 2024.

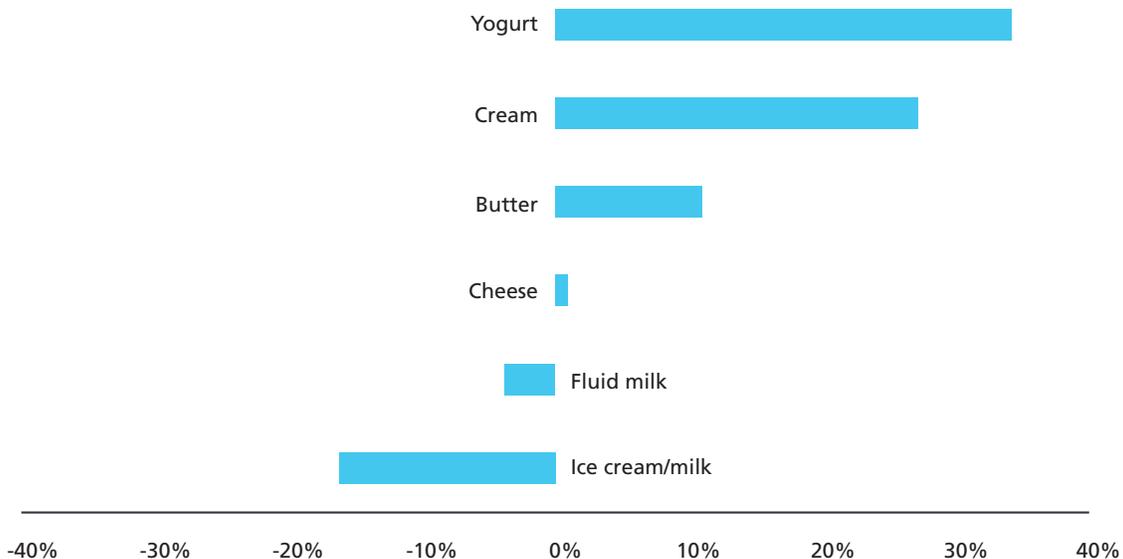
Between 2009 and 2014, consumption of specialty cheeses increased 6.4 per cent, and is expected to grow by a further 9.2 per cent by 2024. Consumption of butter is also increasing due to shifts in Canadians' preferences for healthy foods. Between 2005 and 2014, total consumption increased 11.0 per cent.

## Resolution required to deal with growing imbalance between butterfat and SNF

Milk can be split into essentially two components: butterfat and SNF, which includes proteins and other solids.

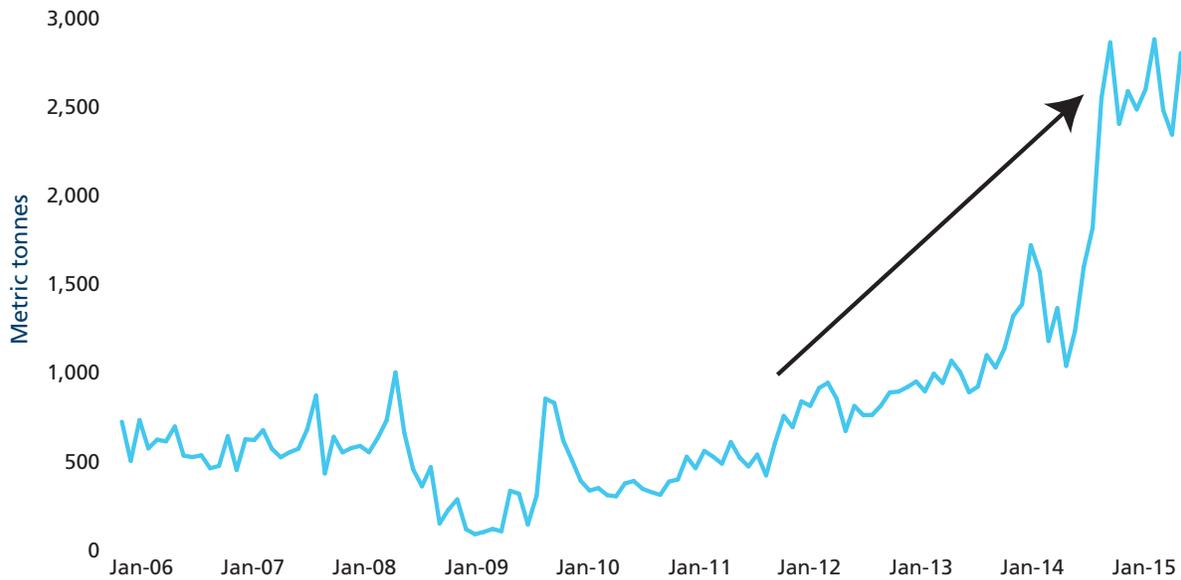
When butter production increases to match increases in its consumption, the demand for butterfat increases disproportionately compared to the demand for SNF. Butter yield standards are 81 per cent butterfat and one per cent proteins. SNF are often processed into skim milk powder and sold in markets that generate lower revenues (e.g., animal feed).

**Figure 1: Mixed growth trends in Canadian dairy consumption, 2005-2014**



Source: CANSIM 002-0010

**Figure 2: By January 2016, Canada's imports of U.S. protein isolates grew 10.4 times their 2011 levels**



Source: USDA Foreign Agricultural Services

Because each component is sold at different prices for processing into different products, the mix of consumption and production matters a great deal when pricing milk.

There is currently a surplus of SNF in the supply chain as demand has increased for those dairy products with a large butterfat component. The surplus arising from increasing Canadian production is compounded by increasing imports of proteins from the U.S. (Figure 2). As of January 2016, imports had grown to 10.4 times their 2011 levels. The imported proteins are displacing Canadian SNF, typically used in the production of cheese, yogurt, etc., to be used in the processing of products in lower value milk classes.

## Within an evolving world market, there is greater clarity around the Canadian dairy sector

Canada must resolve the issue of the growing imbalance in a domestic market bound to face increasing global pressures:

1. The Comprehensive Economic and Trade Agreement (CETA) with the European Union (EU) was signed in late 2014. Once ratified, CETA is expected to increase EU access to Canada's high-value cheese market, potentially displacing some Canadian production. Future growth in consumption, made possible through industry innovation and investment, could offset the impact of the additional imports from Europe.
2. The Trans Pacific Partnership (TPP) is a strategic agreement to free up trade and investment among 12 countries. Signed in February 2016, its ratification process is likely years in the making. TPP membership includes large dairy producing countries (New Zealand, Australia and the U.S.). The text of the agreement suggests that dairy market access concessions to exporters will amount to 3.25 per cent of Canada's current annual production. It is important to note that both TPP and CETA, once ratified, will extend unrestricted entry to milk proteins.
3. A 2002 World Trade Organization (WTO) decision deemed Canadian dairy exports to be subsidized. As such, Canadian dairy exports are subject to WTO disciplines, with limits on volume. The WTO December 2015 agreement further implies that Canadian exports contingent on export subsidies are bound to be eliminated by January 2021. This amounts to approximately one per cent of annual production.

4. A growing proportion of Canadian production is impacted by world dairy prices. According to the OECD–FAO Agricultural Outlook 2015-2024, world dairy prices are likely to remain subdued. World prices started to decline in 2014 as the world demand for dairy products emanating from emerging markets started to slow. Prices are expected to pick up slightly in 2016 as demand increases, but will continue to be pressured somewhat by growing production in both developed and developing markets.

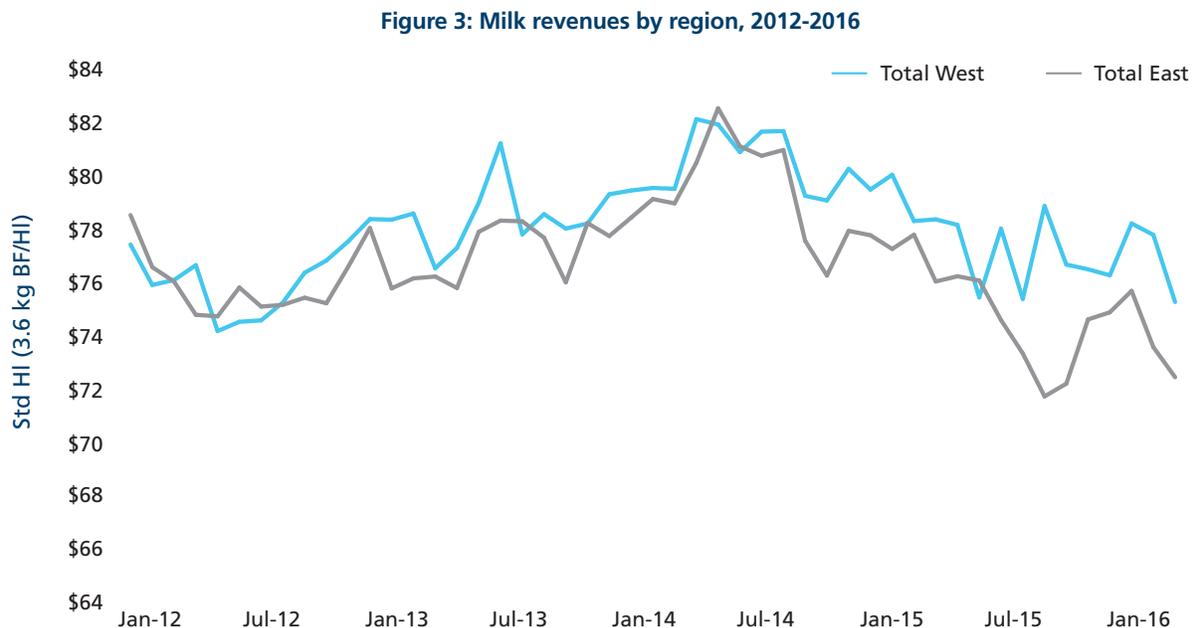
## Dairy production expected to be profitable in 2016

Canada's milk market is segmented into two different pools. The Western Pool covers B.C., Alberta, Saskatchewan and Manitoba. The P5 pool includes Ontario, Quebec, Nova Scotia, New Brunswick and PEI. Milk revenues from sales of fluid and industrial milk are pooled among its members. Pool revenues, while remaining slightly more robust in the West, have been under pressure lately in both regions because of the growing imbalance between butterfat and SNF as well as the low world price of milk (Figure 3).

Canadian dairy producers' profitability is expected to be tight but steady throughout 2016. While production costs will benefit from stabilized feed costs, revenues could be pressured by new pricing trends. In December 2015, the Canadian Dairy Commission changed the support prices for skim milk powder and butter: the price for butter increased 5.0 per cent as the price for skim milk powder declined by 30.0 per cent. The decision is expected to translate into a revenue increase of 2.2 per cent for milk processed into yogurt, ice cream, cheese, and butter. This will support the increase in the cost of producing milk, estimated at 3.1 per cent.

## The way forward

The landscape of Canada's dairy market is evolving, possibly resulting in a decline of the price producers receive. Increases in quota and production incentive days used to respond to the growing demand will improve overall dairy cash receipts in 2016. The outlook for feed costs is also steady, providing some relief to profitability.



Source: Canadian Dairy Information Centre

If there is a silver lining in the global trade developments, it is that they help to answer some questions the sector has recently faced.

The latest adjustments and reforms in pricing are now known. Canada's dairy producers can use this information to position their business to sustain profits in the long-term.

## Efficiency remains the key strategy in an evolving environment

No matter the scale of operation, efficiency helps to generate profits. And the dairy sector can boast of efficient farms at every size.

Efficiency can be defined as minimizing production costs using the right mix of farm inputs. Of the multiple ways to measure efficiency, an operating expense ratio is one of the most common. It compares operating expenses (i.e., variable expenses such as feed) to overall revenues. A lower ratio means an operation uses fewer variable resources to earn a dollar of revenue.

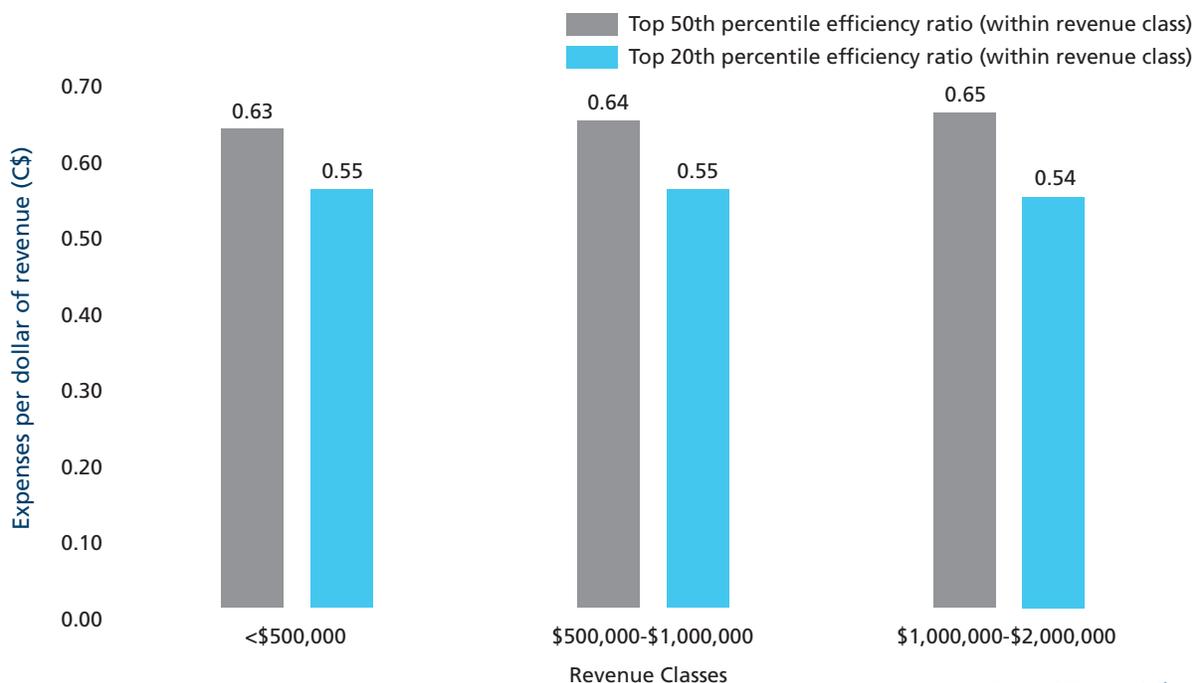
Figure 4 breaks down Canadian dairy operations according to three revenue classes with a focus on operations at the

20th percentile and the 50th percentile (the "median" operation). At the 50th percentile, 50 per cent of producers in the same revenue class have higher operating expense ratios and 50 per cent have lower ratios.

Within each of the three revenue classes, Canada's median dairy operations have roughly the same ratio. This does not mean that all operations are similarly profitable: larger operations generate higher volumes and more profits. It does suggest however median operations in each revenue class are equally efficient. The top 50 per cent of Canadian producers spend no more than \$0.64 on operating expenses for every \$1.00 in revenue (fixed costs are additional expenses). This means producers with the smallest revenues are as likely to be as efficient as those with the highest revenues, a sign of a resilient industry.

As in all sectors of the economy, the ability to find ways to cut costs varies across enterprises, especially in a sector as widely dispersed as Canadian dairy. Operations at the 20th percentile are in a select group. Only 20 per cent of dairy farms are more efficient than these operations, while 80 per cent are less efficient. Focusing on the 20th percentile operations in each revenue class shows the difference amounts to roughly ten cents per dollar of revenues. That is, the median operation in each revenue class spends about \$0.10 more on operating costs per \$1.00 in revenue than the producer operating at the 20th percentile.

**Figure 4: Canada's most efficient dairy producers earn C\$1.00 for every C\$0.55 spent on operating costs**



This is a significant amount when multiplied by overall revenues.

The challenge for dairy operations: find ways to lower variable costs while keeping revenues constant, thereby moving closer to the most efficient operating expense ratio.

This can be accomplished through the careful, and sometimes extended, learning of on-farm technologies (e.g., robotic milking machines) or by ensuring products appeal to consumer preferences. Specific initiatives are helping to assure consumers the industry is committed to meeting their needs.

The further development of unique Canadian dairy products (e.g., dairy genetics in international markets) and domestically, of varied responses to consumer demands (pre- and probiotics, lactose-free, etc.) will help sustain consumption in a mature market.

## Conclusion

There is reason to look ahead with optimism in the Canadian dairy industry. There are significant growth segments in a few dairy product categories. Solutions are being implemented to eliminate a growing imbalance between milk components which lately resulted in pricing pressures for producers. Some uncertainties around trade negotiations have been lifted, allowing the sector to plan for the long term.

The industry is set to enter a new era, in which continued modernization of both dairy production and management practices will be key. Innovation will be the primary driver of productivity in Canada's dairy sector.

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