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The Cattle Cycle – Global Impacts and Domestic Indicators

A cycle implies a series of events, regularly repeated in the same order. Between the double dip recession in 1980 and today, irregular activity within the cattle cycle has led some to call the concept into question. The cattle cycle here describes the repeatable series of consolidation, expansion, peak and liquidation in the Canadian cattle herd. The traditional assumption has been that over a period of 7-13 years, this cattle cycle repeats – influenced by price, production and profit – recognizing that other variables such as weather, major economic shifts, equity positions and interest rates may delay or accelerate the cycle. Livestock sectors have historically been constrained by the biological capabilities of the reproductive cycle as it interacts with consumer demand, the price cycle and other domestic or local factors. A biological lag from when the price signal reaches producers until the production response will always exist to some extent. The question is: how much can market information shorten this lag?

Canadian Total Cattle & Calves

Source: Statistics Canada

In the last 15 years however, the cattle cycle has lacked a cyclical pattern, having consolidated twice and liquidated three times. Predictable peaks and trough lines have become harder to identify.

How do global events impact the cattle cycle? Are conventional micro-economic indicators enough for producers making production decisions today? In this fact sheet, we explore these questions by adding international insight to domestic analysis of the cattle cycle.

PART 1: A WAVE OF GLOBALIZATION

Communication and transportation technologies converged in the most recent wave of globalization impacting commodities markets late in the 20th century. Refrigerated transport evolved in the 1960s, the first cellular phone call was made 45 years ago in 1973, the World Wide Web went public in 1991. An emerging knowledge economy created rapid fire information exchange. Round the clock intelligence and market information is widely disseminated.

A communication revolution catalyzed international connectivity and trade. Communication and trade since the late 1980s thrust a stable domestic cattle market and passive consumer into a charged arena on the world stage. Companies were required to become increasingly agile to compete and adapt production decisions in a globalized world. Corporate consolidation, export markets, trade barriers, exchange rates and global economy shift from day to day. These are major factors in all export-oriented production systems. The outcome creates disruptive waves in the Canadian cattle cycle as it swims in an ocean of globalized information and exchange; yet are still limited to the biological ability of livestock.

PART 2: DEMANDS INFLUENCE ON DECISIONS

Demand and profitability drive producer decisions on whether to expand or contract their herd. Biology limits the sector's responsiveness. These forces are behind the traditional cattle cycle dialogue. Demand drives profits, signaling the supply chain to adjust production levels. As the portion of production that is exported increases, both domestic and international demand are key to the cattle cycle discussion.

Domestic Demand

Retail beef demand in Canada had been decreasing since 2016 when the index was at 123 (2000=100). In 2020 however, retail beef demand is projected to switch direction, up 3.6% over 2019 to 117. Sustained at these levels or higher, demand for beef would match levels seen pre-1990. Since 1990, sustained declines in domestic demand from an index of 191 in 1980 to a low of 91 in 1997 coincided with opportunities to trade.

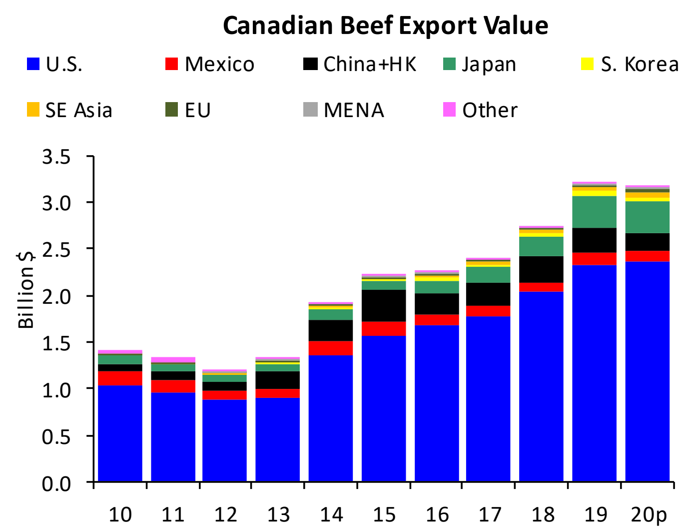
Still, domestic demand will contribute to expansion decisions as the domestic market is the largest, most stable market for Canadian beef. Canadians consumed 60% of domestic production in 2019. Established domestic tastes are shifting post-COVID-19, but demand remains steady or elevated. Per capita consumption has been steady 2018 to 2019 and demand in 2020 supported the price of beef to CDN$22.82/kg this June. Ongoing government programs following the COVID-19 pandemic will support consumer purchasing power amidst very high unemployment rates, at 10.2% this August.

Overall, the Organization for Economic Development and Cooperation (OECD) paints a moderate recovery for Canada with real GDP down 5.8% in 2020 and 4% real GDP growth projected for 2021.

International Demand

Beef exports have averaged nearly 40% of Canadian domestic beef production throughout the last 20 years. Today, the U.S., Japan, Hong Kong, Mexico and China are Canada's largest trade markets. The industries' reliance on the domestic consumer is significantly less today than in the 1980s, making the same level of demand not as noticeable. It is activities that occur within the global economy that will drive demand for Canadian beef moving forward.

Canadian beef and beef product exports last year were valued over CDN$3.2 billion. Depending on the demand of our largest trading partners, this number is projected steady to down slightly for 2021.

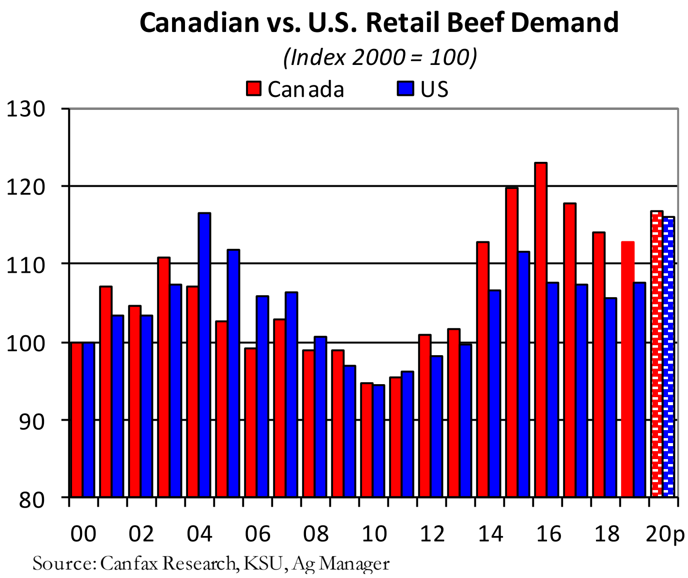


Source: Statistics Canada, CanFax

The United States (U.S.)

The U.S. is Canada's largest beef export market, representing 72% of total export volumes in 2019. Beef has proven to be a staple in the American diet amidst the COVID-19 pandemic. The beef demand index in the U.S. is projected to increase 8% to 116 (2000=100) in 2020 to near levels not seen since 2004.

A phenomenal rush to retail beef buying that occurred during the COVID-19 lockdown certainly contributed to a large increase in retail beef demand projected for 2020. It is not certain whether this level of demand will be sustained with a permanent shift in eating trends or if it is a single year occurrence as a result of the pandemic.



U.S. consumers are sensitive to price spreads, therefore rising beef prices will certainly encourage consumers to switch their protein purchases. The all-fresh retail price of beef skyrocketed to US$7.38/lb in June 2020 (26% higher than June 2019) but is slowly returning back to more historical levels. Moving forward, large supplies of market ready cattle are expected to pressure prices down.

U.S. demand, like in many parts of the world, will depend on economic performance over the next 12 months. A November 3 election could also result in, significant policy shifts and gradual changes to the face of U.S. demand.

Unemployment in the U.S. is down to 8.4% in August 2020 from 14.7% April 2020, but still higher than the 3-4% unemployment rate from 2019. The latest OECD Economic Survey of the U.S. projects a gradual recovery after the COVID-19 pandemic, with real GDP down 3.8% in 2020 with 4% real GDP growth in 2021.

Continued inflation could reduce consumer purchasing power and per capita consumption. Food at home prices (grocery and supermarkets) year to date 2020 are 3.3% higher than 2019. Away from home food prices (food service) have increased 2.6%. Any new stimulus approved by Congress, could counter-act the impact of rising prices – but would also contribute to inflation. Retail spending over the fourth quarter 2020 and first quarter 2021 will help calibrate the demand impacts of the recession.

Japan

Year to date (Jan-July), Japan makes up 11% of Canada's beef export market, steady with 2019. Export volumes to Japan were up 11% in the first quarter, however trailing behind 2019 levels since May 2020 and down 8% to date (July) with spring production slow-downs.

Meat product sales in Japan grew consecutively January to July with demand for chilled short plate and chuck-eye roll at retail. U.S. beef and veal exports to the Japan increased 4% year to July, making up for reduced volumes from Canada. Consumers in Japan showed sensitivity to upswings in beef prices, shifting to Australian grain-fed product in June and July. In the food service sector, middle cuts are struggling.

Japan may experience a prolonged recovery given its economic position as the clock turned 2020. According to the OECD, Japan is currently experiencing its worst recession since the 1940s. Real GDP in 2020 is expected to be down 5.8% from 2019 with modest 1.5% growth in 2021.

The government has disseminated US$1,000 in household stimulus to every Japanese resident, offered debt protection loans at 0% and cash transfers to affected businesses. With fiscal aids to businesses and consumers, and Japan's unemployment rate projected to perform between 3-4% for the next two years, its arguable that short-term demand for

Canadian beef will remain steady in 2021 as long supply and price do.

Mexico

Mexico has become a smaller percentage of Canada's beef export market. Mexico made up 4% of Canada's beef market in 2019 and 3% year to date (Jan-Jul) in 2020. Exports to Mexico in 2020 are down 21% year to date (Jan-Jul). First quarter exports to Mexico were trending 4% higher than 2019 then lagged from April to July 2020. Mexico has been feeling the pinch of high beef prices and unfavourable peso exchange as imports from the U.S. exports to Mexico are also down 40% year to date.

The USDA projects that domestic consumption of beef will decline 2% to 1.87 million tonnes in 2020 due to negative impacts on consumer's purchasing power, then be steady into 2021. The OECD projects that Mexico's real GDP will decline by 10.2% in 2020; but is expected to grow by 3% in 2021. An unemployment rate expected around 3.4%, minimum wage increase and declining inflation will help consumer purchasing power.

Consumers have recently been interested in a variety of versatile cuts with a lot of flavor, as well as smaller portions, more convenience meals and certified products. Mexico's tastes have been pivoting more toward grain-fed cattle than grass-fed cattle and the country has been ramping up domestic fed-cattle production

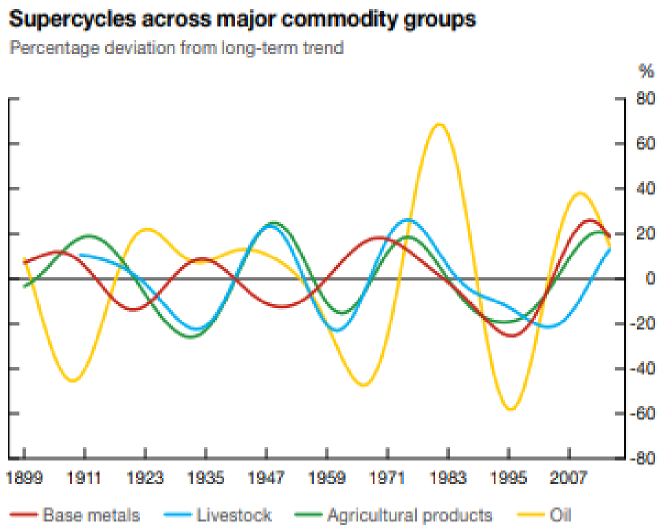
Beef and veal export volumes to Mexico have declined as Mexico has ramped up domestic production capacity. Export volumes from Canada that were relatively steady since 2012 at around 18,000 tonnes per year, are down from an average 40,000 tonnes per year from the previous 8 years period between 2005-2011. While Mexico remains the U.S.'s second largest export market, yearly volumes over 225,000 tonnes, that had been a regular occurrence post-2000 have not been reached since 2011, indicating less dependence on their North American trade partners for supplies.

China and Hong Kong

China and Hong Kong together made up 7% of Canada's beef export market in 2019, and 5% in 2020. This decrease despite a 21.3% decline in domestic pork production in China in 2019 due to African Swine Fever. In first half of 2020, China increased its total imports of pig meat and pork offal by 153.3% and 33.2% respectively. North American beef does not appear to be filling that protein gap. Canadian beef exports to Hong Kong are down 11% (Jan-July), and exports to China are down 57%. U.S. beef exports to China are also down 5% (Jan-July).

China has suspended or banned meat from Australia, Germany, Canada, Brazil and the U.S., leaving little indication of a Chinese resurgence in protein demand. There has never really been a sustained demand from China for Canadian beef, not enough to influence domestic production decisions. A slight resurgence in Canadian beef imports from Hong Kong in July following the supply issues this spring indicates that demand could remain steady in Hong Kong.

China just experienced a massive industrial expansion phase that began in the 1990s and has been the primary driver of the latest commodity supercycle propping up world trade. Commodity supercyles are extended periods during which commodity prices are well above or below long-run trends. These cycles are driven by large, unanticipated demand shocks and slow-moving supply responses. Commodity supercycles last anywhere from 20-30 years, putting the most recent commodity supercycle currently in a downsizing phase since 2011. We can see from the inventory graph the entire cattle cycle may have picked up and floated up with this supercycle, which is now diminishing.



Source: Bank of Canada

The OECD reports that China is the only one of the G20 countries that was not in recession in 2020, having been an exceptional economic position moving into the pandemic. Real GDP growth of 1.8% is projected for 2020, with 8% growth projected for 2021.

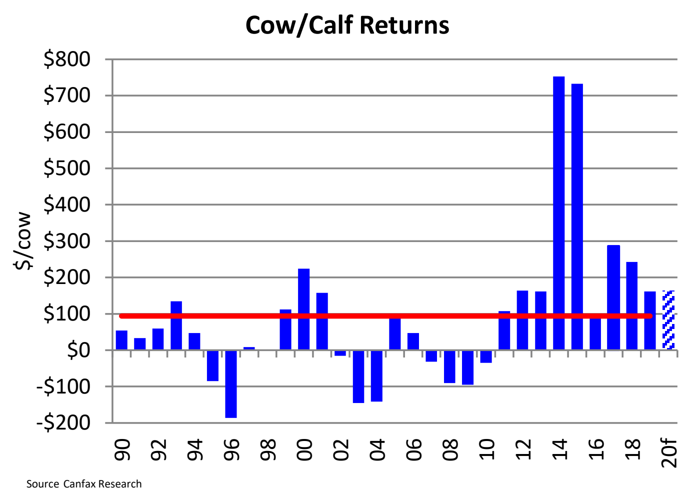
China is set to stabilize and focus less on importing natural resources for industrial expansion and more on domestic consumption needs, as is the trend with emerging economies. The global middle class is expected to have grown from 1.8 billion people in 2009 to 3.2 billion today and is projected to grow to 4.9 billion by 2030. Notable expansion is expected in Brazil and sub-saharan Africa with the emerging middle-class increasing spending on refrigeration, communication and transportation. This emerging middle class could result in a prolonged impact on the current supercycle, similar to the effects that China's middle class had on the cattle cycle.

PART 3: DOMESTIC INDICATORS

Domestic and international demand can provide context for future production decisions. When combined with an overview of micro-economic domestic cattle cycle indicators, namely cow-calf profitability, beef cow inventories, cow-marketings and heifer retention ratios - clear sign-posts for production decisions emerge.

Cow-calf profitability

At $224/cwt year to date, the Alberta 550 lb steer price is historically strong and in line with prices over the last three years (2016-19) but dwarfed under record prices set in the last five-years. As a result, annual cow-calf profits in 2014 and 2015 were 400% greater than the average three-year's prior.

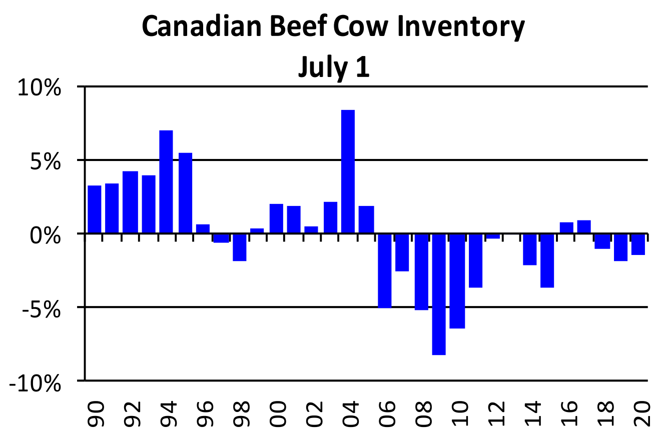


These profits followed a resurgence of international beef demand. In 2014, the international wholesale beef index was up 27% over 2013. Domestic demand was also up 11%. As cutout values moved steadily higher in response to strong demand on the world stage, prices rose throughout the supply chain to support the profitability in the cow-calf sector.

The average return on a calf in 2020 is still expected to be higher than the average cost of production. Cow-calf margins are expected to be steady with year ago at $163/cow. This year presents the 10th year in a row with positive margins in the cow-calf sector. Profitability has ranged between $97-287/head since 2016 and there have been no negative years since 2010. The cow-calf sector is in a strong equity position. Demand and profitability are both signaling growth, but the beef cow inventory continues to diminish, responding with less than 1% annual growth over the same time period.

Beef cow inventories

Beef cow numbers haven't peaked since 2005 when they were at 5.4 million head. This peak was followed by several iterations of beef cow liquidation and consolidation into the present day. This series of false starts to the expansion phase of the cattle cycle have left beef cow inventories down 33% from 2005 to 2020. Under conventional wisdom, expansion could have been expected to begin in either 2013, with the onslaught of international demand, or 2017 following years of cow-calf sector profitability. Yet expansion never occurred. In 2013, young producers entered into a profitable market space, but their growth was constrained by equity positions on recent capital investments like land and cattle. Older producers were investing in new technologies and infrastructure to improve their operations, investments that were delayed by the disruption of BSE.



Source: Statistics Canada

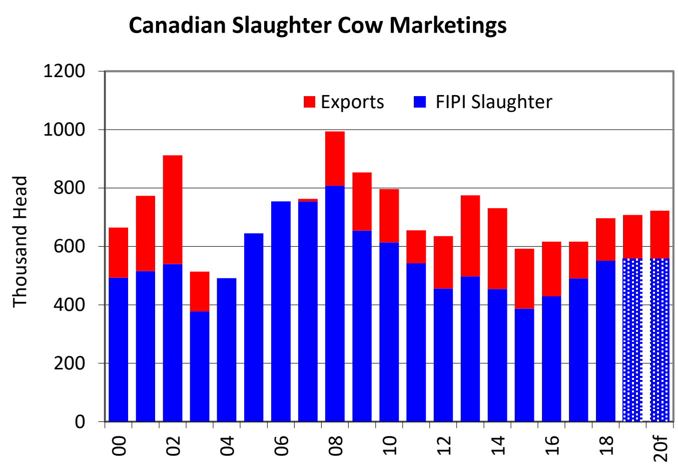
Total beef cow inventories on July 1st 2020 were down 1.4% from 2019 at 3.6 million head. This is the third year of decline following a two-year steady period spurred by massive profitability in the cow-calf sector in 2014 and 2015.

Following the cycle logic, the last three years of declining inventories should have been a period of expansion, especially when considering that beef exports rose from 2012-19 by 62%.

Instead, drought conditions developed in 2017 with the southern half of Alberta, Saskatchewan and Manitoba being impacted. Eighty-three per cent of Canada's beef cows reside in this region, resulting in culling due to inadequate pasture and hay. Meanwhile U.S. cow herd expansion surged ahead. And strong demand for hamburger supported cow prices as cows were being marketed.

Beef Cow Marketings

Cow marketings in 2019 (slaughter plus exports) were up 1.9% from 2018, 1.8% higher than the 10-year average and the highest number since 2014. Cow marketings were up 0.5% in the west and 4.7% in the east. This contributed to the reduction in 2020 beef cow inventories. Cow marketings have increased every year since the 2015 low.



Source: CBGA, AAFC, Statistics Canada

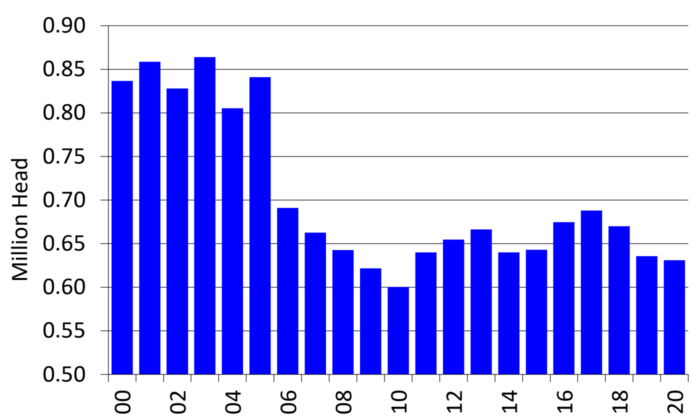
Total cow marketings in the first quarter of 2020 were down 0.7% from first quarter 2019. In the second quarter marketings dropped to be 14.8% below last year as plants closed down and fed cattle were prioritized. Year to date (Jan-July) cow marketings are down 7.2% from 2019, but are up 5.4% from the five year average suggesting continued liquidation.

Cow exports to the U.S. in 2020 have been greater than 2019 in every month. Supported by cow prices that rebounded in the third quarter to within 4% of 2019 in Alberta and have been 2 to 5% higher than 2019 in Ontario, this further suggests that another year of liquidation was just briefly interrupted by COVID-19. Canadian cow slaughter has lagged due to plant capacity and fed cattle carry over, but U.S. demand for lean trim has skyrocketed.

Breeding Heifers

Bred heifer numbers will need to increase substantially in conjunction with a real reduction in cow marketings before increases in the beef cow inventories will occur. Beef breeding heifer numbers are the lowest since 2010, down 0.8% from last year to 630,800 head. The decline was slower this year compared to the previous two years. From 2017-18 and 2018-19, beef breeding heifer numbers fell 2.6% and 5.1%, respectively. Between 2006 and 2020, replacements have ranged steadily between 600,000 and 700,000 animals.

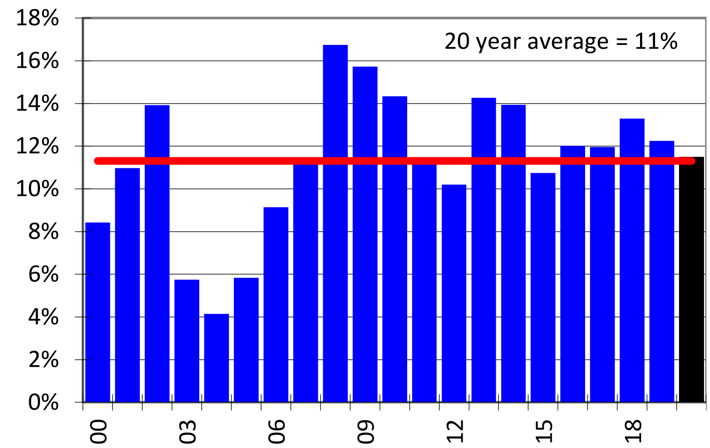
Canadian Beef Heifers (Breeding)
July 1



Source: Statistics Canada

While still lower than 2019, retention may have been supported by this year's moderately improved moisture conditions. The prairies have been experiencing relative drought conditions for the last three years which may have been a defining biological imperative for cow culling, combined with strong prices for cows, driven by increasing demand for lean trim.

Canadian Beef Cow Culling Rate



Source: Canfax Research

The beef cow culling rate has moved down from 13.2% in 2018 to 12.2% in 2019 to a projected 11.5% in 2020. This would be lower than the five-year average of 12% and be the lowest since 2015.

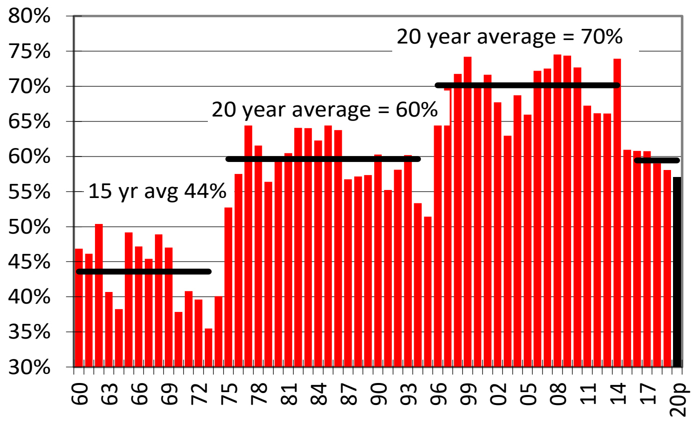
Heifer Slaughter Ratio

Decreased heifer slaughter alongside increased heifer imports are significant enough to present a 2.5% increase in the beef slaughter heifer inventory and a 0.4% increase in dairy heifer inventory in July 2020, the only categories where Canadian inventories increased this year.

The heifer to steer slaughter ratio has been in decline since 2014 and would indicate that producers have been increasingly retaining heifers for the last five years to accommodate increased culling of cows.

The heifer to steer slaughter ratio averaged 70% between 1996 and 2014; then dropped to average 59.5% between 2015 and 2019 to be back in line with the 1975-1995 average. It is projected to drop to 0.57 in 2020.

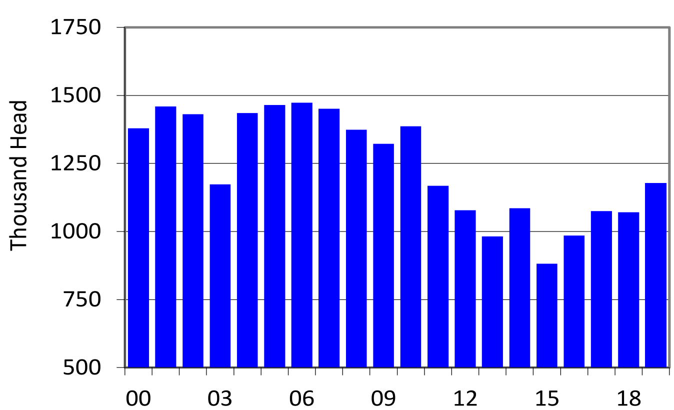
Canadian Heifer Slaughter Ratio



Source: AAFC, CBGA, CanFax, Stats Canada

But total heifer marketings have increased 33.5% from 2015 to 2019, with heifer slaughter up 25% and heifer exports up 112% from 2015 to 2019. From January to July 2020 heifer marketings are below 2019 levels due to a sizeable drop this spring, but have surged since June to surpass 2019 numbers month over month. This indicates a COVID-19 disruption in marketings as producers made decisions about how to manage heifers this year. But does not point to a shift in retention trends.

Canadian Heifer Marketings



Source: CBGA, AAFC, Statistics Canada

A resurgence of feeder heifer ***imports*** explains how marketings have increased alongside a decreasing heifer slaughter ratio. Heifer imports had not been reported since 2003, but 84,000 head were imported in 2017, followed by 130,000 head in 2018 and 194,000 head in 2019. More heifers seem to be imported, fed and exported than domestically slaughtered or retained for breeding purposes.

CONCLUSION

Producers are looking to put themselves in the best financial position possible as we move into a period of economic uncertainty. Globalization and volatility of trade have added complexity to the market signals for domestic production and the cattle cycle. International demand can provide macro-economic market signals for producers making decisions about retention this fall. Signs point to stable exports to the U.S., Japan, and Hong Kong, with demand from Mexico and China potentially in retreat and uncertain. Growing middle classes still have the potential to provide new exports markets for the 40% of domestic production that gets consumed internationally.

The domestic indicators speak to a prolonged consolidation phase long overdue for expansion on increasing international and domestic demand. While some factors are favourable for expansion with interest rates low and equity dollars available to invest. Yet heifer slaughter and cow-slaughter have been trending up over the last five years. Only time will tell if decreased cow and heifer slaughter in 2020 are true signs of consolidation, or a mask from the global pandemic supply disruptions this year.