

### Canadian Cattle Slaughter

Year to date as to the week ending September 6, Western Canadian slaughter is 1.7 million head, up 5.9% compared to 2018.”

Western Canada slaughter volumes, shows that year over year:

- steers are up 6.9% at 873,000 head
- heifers are up 4.8% at 545,000 head
- cows are up 5.4% at 271,000 head
- bulls are down 9.3% at 8,000 head

Canada slaughter rates are up 5.5% at 2.17 million head with:

- steers up 5.9% at 1.165 million head
- heifers up 6.1% at 647,000 head
- cows up 3.9% at 347,000 head
- bulls down 9.8% at 10,000 head

### Western Canada Cull Cow Market

Year to date, the Western Canada cull cow market is averaging \$88.15 per cwt in 2019,” Wood says. “It is 3% below 2018 and 19% lower than the 5-year average.”

The D1-2 cow price was \$86.50 per cwt the week ending September 13, 2019, or \$1,211 per head.

Seasonally, the cull cow market moves lower into the fall before modest gains into December.

If the cull cow market follows the seasonal trend, then estimated prices could be in the mid \$70s in November. However, prices may see resistance from increased competing meat supplies and weaker grind prices due to increased culling in U.S.”

“The Western Canada cull cow market continues to trade at a premium to the U.S. cull market. The Western Canada cull cow market was \$6.50 per cwt over the U.S. cash cow price last week - about \$3.50 per cwt lower than the same week a year ago.

### **Cattle Production: Production & Management Practices that Drive Profitability**

A study by Western Beef Development Centre (WBDC) found that there is big difference in cost of production between the average and low-cost producers (top 25%) – at least \$100/cow or >20% difference.

What are the top 25% of producers doing differently from other producers? And what are the top production practices that drive profitability? As cow-calf returns realign with the long-term average, this 20% difference is crucial for a producer as it could make a difference between being profitable or unprofitable.

#### **GENERAL MANAGEMENT**

General management practices such as record keeping, benchmarking, marketing strategies, and risk management were among the top-ranking practices in all production systems.

1. Record Keeping and Benchmarking “You cannot manage what you cannot measure.” Record keeping and benchmarking was named as one of the most important management practices that drives profitability. Record keeping includes a wide range of information, which can be categorized into three groups: production records, operational records, and financial records. Production records track the age of the cow, inventories, reproductive efficiency, growth performance, pasture or feed usage, animal health, etc. Operational records include overhead, unpaid labour hours, etc. Financial records track all expenses, revenue, overall profitability of the operation, per unit COP by commodity, etc. It is important for producers to identify the information they need when making management decisions, and tailor their record keeping system for their needs.

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While collecting, maintaining, and analyzing these records requires an investment in time, the ability to make decisions based on a known history is invaluable. By comparing against the operation's own history, producers can identify the key factors that influence profit and concentrate on improving those areas. By comparing and benchmarking against other operations, producers can identify the gaps and learn from top performers.

A study at the University of Saskatchewan (Manglai, 2016) found that the use of benchmarking and record keeping lead to increased beef production efficiency. Cow-calf producers who use benchmarking could increase total beef production by roughly 60 lbs per exposed female. This translates into \$12,600 additional revenue for a 100-head cow herd, assuming current calf prices of \$2.10/lb.

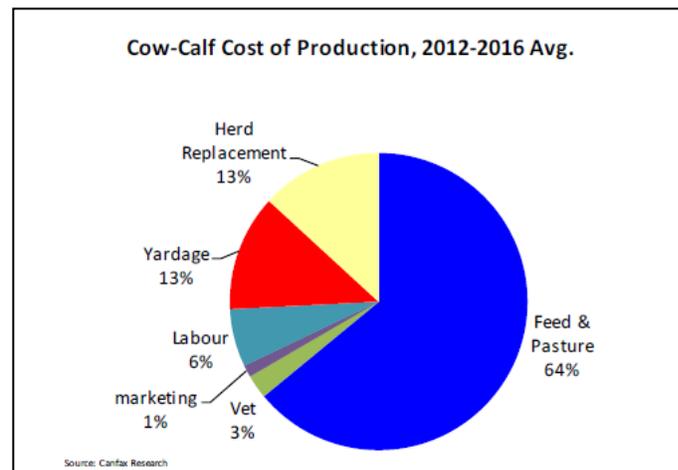
The study also shows that market oriented cow-calf producers who focus meeting their customers' needs and monitoring competitors' actions, and learning oriented cow-calf producers who are open-minded and committed to learning, are most likely use record keeping and benchmarking.

Based on a survey of 67 cattle producers in the prairie provinces, only 40.6% of the respondents keep detailed production records, and only 36.7% indicated that they were familiar and used benchmarking (Manglai, 2016). Jeff Millang of Alberta Agriculture pointed out in "Key Success Factor in Cow Calf Enterprise Profitability" that *a major challenge facing North American cow calf producers is the development, understanding, and use of their own farm production cost and returns information. It is critical for producers to use their 'own farm facts' in making knowledgeable business management decisions.*

### 2. Cost Management

Feed is the largest cost of maintaining a cow herd. It is estimated that on average feed and pasture costs account for more than 60% of total production cost of cow-calf enterprises in western Canada. Managing feed cost is critical to the profitability of a cow-calf operation.

Typically, a longer winter feeding period associate with higher costs. Extending grazing season, utilization of forage throughout the grazing season and the use of alternative feeds are reported as some of the key production practices that drive profitability in western Canada.



Feeding cows according to the productive status is also a crucial production practice that drive profitability. Low cost producers tend to pay more attention to addressing the feed/nutritional needs of various groups within the herd (i.e. first calvers, mature cows, etc.) providing more opportunity to target animal nutrient needs. Feeding the entire herd as one group instead of feeding in separate groups results in managers targeting the 'average' cows' needs and often leads to over-feeding, under-feeding and waste of feed all at the same time, according to Kaliel (2004).

On the other hand, feeding cows in separate groups could result in higher labour costs, more fence to build and maintain, and more management expenses. It is important for producers to find the balance between meeting the cow herd's nutrition needs and controlling additional costs.

As forages can vary wildly in nutritional quality from year to year and even within the same field. Feed testing enables producers to make informed management decision and optimize animal performance.

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Near infrared reflectance (NIR) spectroscopy is a rapid, reliable, low-cost, computerized method to analyze feeds for their nutrient content.

Knowing the exact nutrient contents allows producers to match feed quality with the animals' needs. It can also help reduce costs or generate additional profits by making the right decision on buying or selling forage. If an operation produces high quality forage, while their animals have relatively lower nutrient needs - selling these high-quality forage and buying lower quality forage for winter feed could bring extra revenue.

Labour cost and labour efficiency is an important part of cost management. It was noted that cow-calf operations of similar size could have very different costs. For example, if a 300 cow/calf operation may have 1-2 employees, while another operation of the same size has 3-4 employees. This means labor cost per cow in one operation is two to four times higher than that of the first operation (Taylor and Field, 1995).

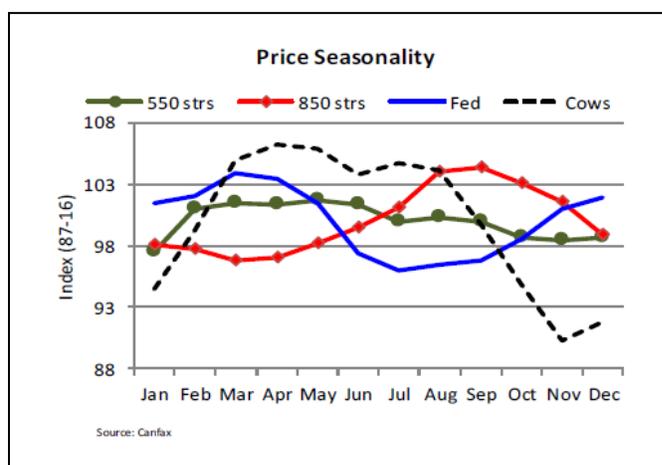
A study based on AgriProfit\$ data (Millang J., Key Success Factor in Cow Calf Enterprise Profitability) showed that total production costs, value of production, and total labour hours per cow are closely related to profitability. Specifically, labour hours per cow has an R2 value of 0.267, meaning that 26% of the variation in profitability could be related to labour hours.

According to *agri benchmark* data, Canada has some of the highest wages in all major beef producing countries at US\$18-30/hour. A higher wage means that Canada must produce more tonnage of beef per labour hour than other countries to be competitive. This can be done with fewer hours or by producing more pounds through increasing labour efficiency or spreading the costs over a larger herd.

### 3. Marketing Strategy

Having a marketing strategy, meeting market specification, and using risk management tools were some of the practices identified as areas that are underutilized and have potential of improving competitiveness.

A marketing strategy plays a key role in profitability as it identifies the breakeven price for every group of cattle and encourages producers to be disciplined in selling. Selling cattle without a clear strategy and goal may result in lost income opportunities selling cattle at less than desirable price level. Using the five-year (2012-2016) average calf prices, and assuming a 90% calving rate, the difference in total revenues between selling at annual low vs. annual average is estimated at nearly a \$3,000 for a 100-head cow herd.



A good selling strategy is not just topping the marketing with the highest price and highest weight, other factors such as production costs, opportunity costs, and price slides should also be considered.

For example, at culling time, producers have the options of either to sell cull cows immediately, overwinter the cows with the rest of the herd and sell them in spring in anticipation of increased cow prices, or separate and feed them a high grain diet before sale. Depending on current price trend, winter feeding costs, and cow performance, the result of these marketing options could be different every year and for different producers.

Opportunity costs is a factor that is often overlooked when producers make marketing decision. For example, when it comes to selling or keeping a breeding heifer, in addition to the cash value of the heifer, it is important to consider the net present value of the potential returns from the calves this heifer may produce based on cost of production and expectation of calf prices.

## Cattle Production: Production & Management Practices that Drive Profitability

In general, the key is to explore various pricing strategies, and compared the pros and cons of alternative marketing methods based on current market situations.

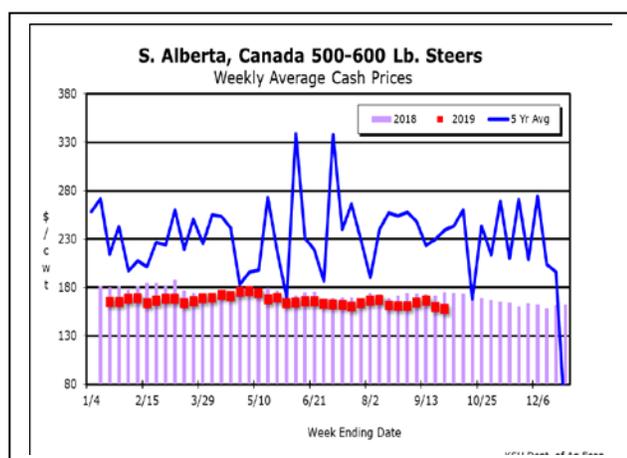
### 4. Marketing Channels and Market Specifications

Profitable cattle marketing is not only about getting the highest price, but also about choosing the market that is most suitable and profitable for the cattle, and producing cattle to consistently meet market specifications for the target market.

This is especially true for producers who target at niche markets. As production costs for these products are typically higher, it is important to choose the right marketing channels that provide premiums. Raising cattle at a higher cost targeting a specific market, but fail to meet the specifications and end up selling them at conventional channel was reported as one of the reasons for the poor margins of the least competitive producers.

### 5. Risk Management

Beef producers are exposed to market risks caused by unexpected change in market prices. The last few years have been a roller coaster ride for the cattle market with big swings in prices and profitability. The large swings in prices have created volatility in potential profitability, and makes it challenging for producers to manage the market risks they face.



Risk management is about protecting equity. Tools that are available for price risk management include price insurance, futures hedging, electronics sales with forward delivery and contracting.

**Price insurance** is a risk management tool that allows producers to lock in a floor price, while taking advantage if prices move higher. In Canada, the Western Livestock Price Insurance Program (Western LPIP) is available in British Columbia, Alberta, Saskatchewan, and Manitoba.

For calves, insurance is available to purchase between the start of February and the end of May for coverage between September and December. The settlement index is based on the average price of a 600 lb steer.

The feeder insurance is available to purchase year-round except holidays; but there are no settlements in June, July as there is not a sufficient volume of feeders to generate a settlement index. The feeder insurance coverage and settlement is based on the average prices of an 850 lb steer. For calves and feeders, prices insurance coverage and settlements are based on two separate markets. One is combined Saskatchewan and Manitoba insurance price, while the other is mainly Alberta prices.

Fed cattle insurance is available to purchase year-round except holidays, and the settlement is based on a finished animal at the Canfax fed cattle price.

Using **futures** contracts can protect against major swing in prices, but capital requirement for hedging activities can be high and producers have to be aware of exchange rate and basis risk.

The use of **forward contracting** is commonly used between feedlot and packers, and cow-calf producers are beginning to explore this option. Producer can use forward contracting to set prices months before delivery and eliminate the downside risk of the market, but it also removed the opportunity to taking higher prices in the cash market.

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For producers, it is important to know the market value of their cattle and their risk tolerance, identify and understand the risks they face, and explore all available options to determine the best solution for risk management. More information about marketing options and risk management tools can be found at the CRS Fact Sheet: Marketing Calves & Culling Cows

### **B. REPRODUCTIVE EFFICIENCY & GENETICS**

Reproductive efficiency has a large impact on cow-calf profitability. According to Alberta Agriculture's AgriProfit\$ 2011 data low-cost producers have a higher conception rate (90.9% vs. 88%), higher calving rate (98.3% vs. 97.7%), higher weaning rate (97.3% vs. 96.2%), and calf crop percentage (86.7% vs. 82.5%) in their herds compared to the overall sample. Having a good reproductive evaluation and control strategy is a key for high levels of reproductive efficiency.

The productivity of beef cows depends largely on the amount of fat they carry. A herd of cows maintained in the right condition with an ideal layer of fat cover will have more calves than a herd of thin or over-fat cows. **Body condition scoring (BCS)** is a low cost, hands-on method to determine the condition (amount of fat cover) of cattle. According to the Western Canadian Cow-Calf Survey (2014) only 19% of respondents regularly BCS their cows.

Research has shown that up to 46% of cows in Western Canada may be copper deficient. Cows with blood copper levels below 0.4 ppm prior to breeding are at increased risk of not becoming pregnant, particularly young cows less than four years of age. Therefore, having a **year-round mineral program** is also crucial for ensuring higher reproductive performance.

Proper selection and culling of individual animals supports ongoing genetic improvement in the herd and profitability.

A clear **culling strategy** also supports reproductive efficiency as the most reproductive animals are kept. Tracking reproductive performance of individual cows, culling defective, low-producing and older cows can help improve overall herd reproductive rates and reduce per unit production costs.

**Managing first-calf heifers** is a key aspect in ensuring high reproductive efficiency as these young breeding females represent the future genetics of the cattle herd and profitability of the operation moving forward. The physical and nutritional stresses associated with parturition, lactation and continuing her own growth, create a challenge for the first-calf heifers. Close attention during calving, providing good quality nutrition, separate management from mature cow herd, weaning calf from first-calf heifers early, and monitoring BCS are some of the practices recommended in managing first-calf heifers.

In terms of **genetic selection**, bull selection, maternal traits and calving ease are traits that drive profitability through labour costs and animal performance.

When it comes to selection for cow reproductive efficiency, there has been a trend of producing heavier cows, as heavier cows tend to produce heavier calves. However, weaning weight as a percentage of mature cow weights at 43% in 2013-15 was below the average in the late 1990's at 44% in Alberta, but above the low of 42% in 2005-07.

If cow size increases without the corresponding increase in calf size, it would mean a higher cost of production and lower margin. On the other hand, if a producer can reduce cow size without negatively impacting calf weight, it will positively affect profitability. Based on the 2012-2016 average, the estimated cost of production per 1200 lb cow at \$684/cow is 15% lower than the a 1500 lb cow at \$772/cow. If these cows produce calves with the same weaning weight (550 lb), the net return of the lighter cow would be \$88 or 23% higher the heavier cows, assuming calf prices at \$2.10/lb.

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While *weaning weight as a percentage of mature cow weight* is an important productivity measure for cow/calf producers, from a profitability stand point, it is important to ask whether the potential increases in weaning weight and salvage value from larger cows offset the costs of increased feed and decreased carrying capacity, and select cows that are the best fit for their environment, available resources and marketing strategy will optimized efficiency and improved profitability (Schmid, 2013).

Despite the importance of reproductive efficiency, improving reproductive efficiency may require addition labour, time and investment. It is important to find the balance between improving reproductive efficiency and the associated addition costs (e.g. labour, feed and veterinary costs). If the cost of increasing reproductive efficiency is high, the increased revenue may not be able to offset the additional cost.

### C. ANIMAL HEALTH

Sickness of cows and calves is very costly for cattle producers as it causes lower reproduction rates, reduced weight gain, poor feed conversion, and high health treatment costs.

**Vaccination** is considered as one of the production practices under the animal health category that make the biggest impact on profitability. While the cost of vaccination might be high, healthy breeding stock means more calves to market each year. Vaccinating calves can ensure they have reduced risk of getting ill, which reduces treatment costs, mortality rate, and increases growth performance and weaning weight. For example, bovine viral diarrhoea (BVD) is estimated to cost the Canadian cattle industry \$78-220 million per year (BCRC, 2016). The cost of a whole herd vaccination program for BVD virus in a 150-head cow herd is estimated at \$8.20 per cow (assuming \$4 per vaccine dose). If that herd wasn't vaccinated and ended up with a persistently infected (PI) calf and 5% decreased conception due to BVD, they would

suffer a loss of \$45 per cow across the herd (Larson, 2017).

### D. ECONOMIES OF SCALE

Economies of scale are the cost advantages that enterprises obtain due to size, output, or scale of operation, with cost per unit of output generally decreasing with increasing scale as fixed costs are spread out over more units of output. For cattle producers achieving economies of scale means increased labour productivity and capital efficiency, and ultimately improved profitability.

Diseconomies of scale can exist in the cow-calf sector. Research has also shown that per unit cost of production declines at a decreasing rate as herd size increase. This means that when the herd size exceeds the optimal levels, any increase in size could lead to higher per unit costs. If the maximum labour capacity of a farm is managing a 1,000-head cow herd, adding another 200 head of cows to the herd may require hiring additional labour, which could increase labour cost on a per head basis.

Unlike a grain farmer who can spend a few days on each parcel of land each year, beef producers need to check water, mineral, and animal health regularly. This dynamic makes it difficult for cattle farmers to rent multiple tracks that are not contiguous (CRS, 2014). The limitation in skilled labour supply and suitable land resource for cattle production will make herd expansion more difficult in the future.

In Canada, herd size varies significantly across the country, ranging from 7 head in Newfoundland and Labrador to 93 head in Alberta. While expansion of smaller operations is often restricted by land resource, feed availability, labour, and other factors; diversification or developing complementary enterprises could help increase labour and capital efficiency. For large operation, the challenge is how to effectively allocate labour and other resources throughout the year, especially during the peak seasons of labour demand.