#24-6 July 2025

Raising or Purchasing Replacement Heifers?

When selecting replacement heifers, the value for both retained and purchased replacements generally depends on:

- **Genetic and phenotypical compatibility** with herd mates
- **Management compatibility** with the operation's production system (calving and weaning time, winter feeding practices)
- **Productivity** that meets both current and future expectations (open rate, culling rate, death loss)
- **Longevity** reflecting the replacement heifer's ability to stay in the herd as a productive unit
- **Financial standing** specifically debt related to purchases and/or forgone income from retaining heifers with implications on cash flow

When deciding whether to retain or purchase replacements, producers need to know their:

1. Annual **cost of production** per cow
2. Average **cost of a replacement heifer** (raised or purchased)
3. **Cow replacement rates** including open rates, culls and death loss as a measure of average cow longevity

There is tremendous variability within the cow-calf sector for all three of these metrics resulting in equal variability in willingness to pay for breeding stock. Understanding your own operation is key to knowing which choice best suits your specific goals.

In general, operations with higher replacement rates also face higher replacement costs, although exceptions do exist. Achieving a balance between managing herd age, maintaining productivity, and controlling replacement costs is essential to maximizing profitability.

The cost of replacement heifers has long-term implications for a cow-calf producer's cost structure, setting them up for success or not during the next phase of the cattle cycle.

What is the COP Network?

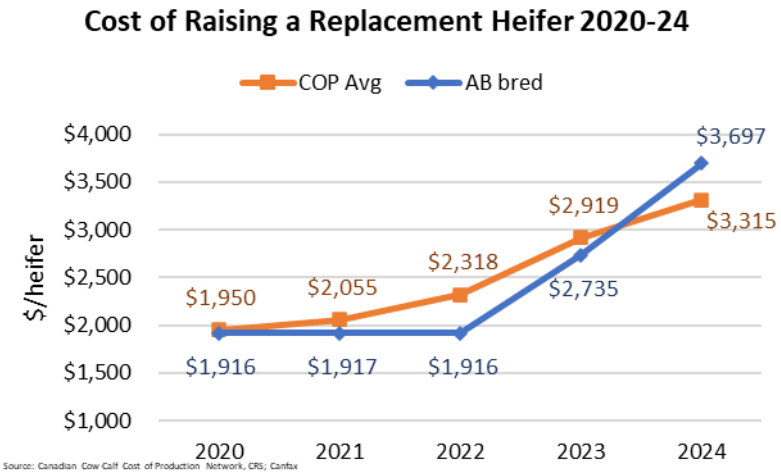
The Canadian Cow-calf Cost of Production Network (COP Network) uses standardized data collection which allows for comparison both within and between provinces, and internationally. Since launching in 2021, the COP Network has collected data from over 235 producers contributing to 64 cow-calf benchmark farms that represent various production systems. Each benchmark is based on data from 3-7 producers. Data collection occurs every 5 years with annual indexing of input and output prices, as well as crop and forage yields, in subsequent years. Individual benchmark farm summaries, can be found at: https://canfax.ca/resources/cost-of-production/cop-results.html

Brought to you by Canfax Research Services in collaboration with the Provincial Coordinators and funded by BCRC

To Raise or Purchase?

The Alberta bred heifer market tracks closely with average cost of raising a replacement heifer. The question becomes, are you a high or low-cost producer of replacement heifers? Some operations are low-cost and it will always make sense for them to retain their own. For high-cost producers, there is potential of reducing herd costs by purchasing heifers that are suitable to your environment and management. Finding a suitable source for purchased heifers is key to making that a viable option for many producers.

In 2024, the average cost of raising a replacement heifer across the 64 benchmark farms was $3,315/heifer - 10% below the average Alberta bred heifer price of $3,697/heifer, recognizing that the bred heifer market took off in the fourth quarter as demand increased.



In previous years, the estimated cost of raising replacement heifers was higher than the market price of Alberta bred heifers, with differences ranging from 2-7% in 2021 and 2023 but jumping to 21% in 2022. The higher cost estimates from the COP Network were due to rising input and opportunity costs while demand for bred heifers in the market was subdued due to weather conditions. As forage availability improves and more cow-calf producers look to restock, the bred female market is expected to be strong with much higher prices.

Homegrown Heifers:	**Purchased Heifers:**
▪ **Known genetics**, adapted to environment and management ▪ **Slower rebuild**, limited by numbers ▪ **Opportunity cost** of not selling calves	▪ Opportunity to introduce **new genetics** that can perform in your environment and under similar management ▪ **Faster rebuild**, supporting economies of scale and COP ▪ **Biosecurity** measures to protect the herd are essential

Rebuilding after drought culling

A 2022 analysis of herd rebuilding after drought evaluated rebuilding from within the herd versus purchasing on four different culling levels (regular, 25%, 50% and 75%). Producers have been impacted by drought to varying degrees, however economies of scale is a critical aspect of cost structure with drought culled herds spreading overheads over fewer numbers. This is a driver behind the desire to get back to the ideal herd size once forage and feed resources become available. In addition, there was concern about selling at low prices during drought and buying high.

Retention rates had to be adjusted to avoid prolonged periods of equity drain due to lost economies of scale and not optimizing pasture resources.

Purchasing heifers allowed farms to regain economies of scale faster when culling rates had been 50% or higher. In most cases, purchasing heifers meant taking on **debt**, requiring good financial status and a strong relationship with financial institutions. Cash flow deficits were more severe when purchasing heifers as was **interest paid** by the whole farm (1% higher in the 25% culling scenario, 18% higher with 50% culling and 21% higher with the 75% culling scenario). **Cash flow deficits** indicated that this strategy is more risky, but more profitable, with higher culling rates (e.g. 75%) in order to regain economies of scale faster.

- At a 25% culling rate rebuilding from **own heifers** was more profitable for 16 out of 17 farms.
- At a 50% culling rate rebuilding from **own heifers** was more profitable for 14 out of 17 farms.
- At a 75% culling rate rebuilding with **purchased heifers** was more profitable for 15 out of 17 farms.

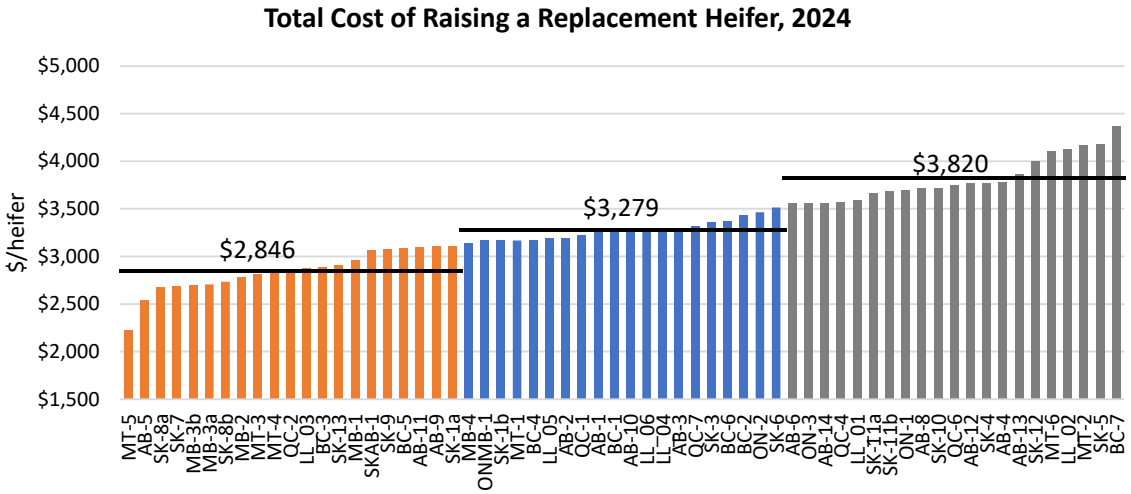
Check out the Drought Rebuilding Strategies Full Report.

Raising Replacement heifers

Using 2024 data from 64 benchmark farms in the COP Network, total costs included cash (feed, land, animal purchases, machinery repairs, labour, etc.), depreciation and opportunity costs (foregone revenue from not selling the calf). These costs were associated with raising replacement heifers from weaning until pregnancy check in the fall of the following year, covering approximately 12 months with one winter-feeding and one summer-grazing period.[1]

High and low-cost producers of replacement heifers: Which one you are?

The average total cost of raising a replacement heifer retained in 2024 was estimated at $3,315/heifer, including cash costs, depreciation, and opportunity costs. When opportunity costs for land, labour, and capital are excluded, the average cost is $2,966/heifer, with a range of $2,073 to $3,810.



[1] For more details see https://canfax.ca/uploads/COP-Analysis/12_Cost_of_Raising_Replacement_Heifers.pdf

As shown in the graph above, the data is categorized into three groups based on the total cost of raising a replacement heifer: Low (orange bars), Medium (blue bars), and High (grey bars) heifer cost groups, with 20 to 21 benchmarks in each group. The Low group's heifer costs averaged $2,846/heifer, the Medium group at $3,279/heifer, and the High group at $3,820/heifer. Correspondingly, the **annual cow costs** (cash and depreciation), based on the 2020-2024 average, are $937 for the Low group, $1,093 for the Medium group, and $1,482 for the High group.

To find out if you are a high or low-cost producer of replacement heifers, check out the BCRC Replacement Heifer Calculator

Driving Factors for Cow Herd Replacement Cost

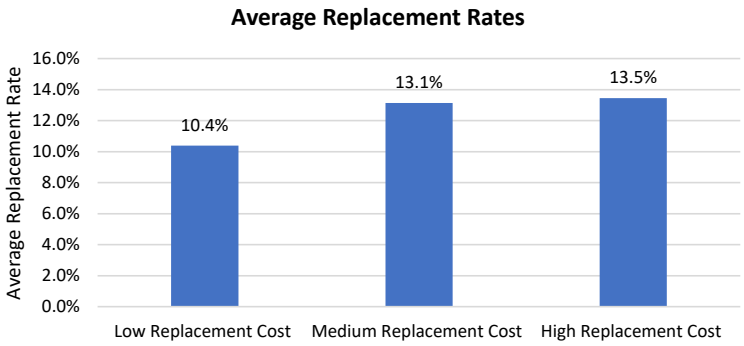
What drives the differences in replacement cost between the Low, Medium, and High groups? To explore this, we examined three key factors:

- Replacement rates
- Cost of developing heifers (including feed, land, breeding, labour, and other overhead such as machinery, energy and tax)
- Opportunity cost (revenue forgone from not selling heifer calf at weaning)

Replacement Rate

*In general, higher replacement rates have higher replacement costs, although some exceptions do exist. A balance between maintaining **herd age** and **productivity** while managing **replacement costs** is key to maximizing profitability.*

Replacement rate is primarily influenced by cow open rate, death loss, culling decisions, and overall herd management strategies. It can be viewed as an indicator of the longevity of breeding females.



Generally, a higher replacement rate means that cows are being replaced more frequently and is associated with higher replacement costs because more heifers are needed to maintain herd size. This could lead to higher expenses in raising or purchasing these replacements, but not always.

The difference between the low and medium cost group was statistically significant; but the difference between the medium and high-cost group was not statistically significant. This indicates that while higher replacement rates often correspond to higher costs, the relationship may not always hold, depending on other influencing factors. Some farms maintain relatively low replacement costs despite having higher replacement rates. This suggests that other factors—such as lower-cost heifer development—help offset the potential cost increases associated with a higher replacement rate. Thus, while there is a general relationship between higher replacement rates and higher replacement costs, efficient management practices can help farms mitigate costs associated with higher replacement rates.

Conversely, farms with lower replacement rates do not necessarily experience the lowest replacement costs. In some cases, the expenses incurred to improve open rates or reduce cow death losses may

outweigh the benefits gained. It is important to consider the optimal replacement rate, rather than focusing solely on minimizing open rates and death losses, to achieve cost efficiency.

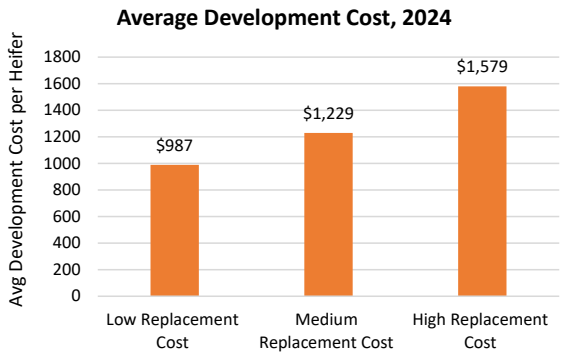
Lower Replacement Rates (<13%):	Higher Replacement Rates (>13%):
• The result of longer productive lifespans for cows, leading to higher average herd ages and **higher Net Present Value (NPV)*** for bred heifers • Herds with lower cull rates can afford higher initial replacement costs because cows generate revenue over a longer time period	• The result of shorter average production lives of cows, **newer genetics in the herd**, reducing their cumulative revenue contribution and leading to **lower NPV** • Higher turnover rates in the herd increase operational costs due to their increased frequency

*Net Present Value (NPV) is the present value (adjusted for inflation) of expected revenues minus the present value of expenses over the lifetime of the heifer.

Development Cost

Development cost of replacement heifers includes feed, land, breeding, labour, and other overhead such as machinery, fuel and tax.

The difference between the means of the Low and Medium groups, and the Medium and High groups were statistically significant, indicating that development cost is a significant factor influencing replacement costs.

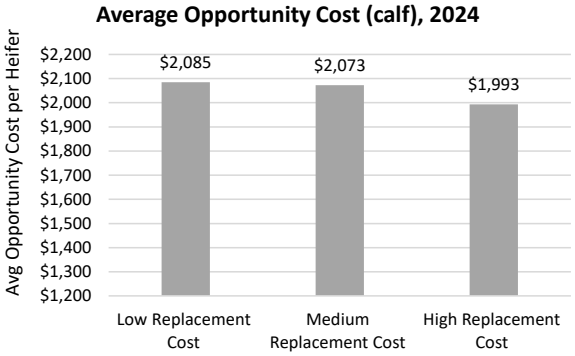


For example, farms SK-8a, SK-8b and AB-1 have managed to keep their replacement costs lower despite having higher replacement rates. This is attributed to their relatively low development costs, which are among the lowest of all benchmark farms. Conversely, farms LL-2 and MT-6, despite having relatively low replacement rates, experience higher replacement costs per cow due to their higher development costs.

Farms with lower development costs can still maintain lower replacement costs, even with higher replacement rates. However, there is no one-size-fits-all approach to managing heifer development costs. For instance, the lower costs on SK-8a and SK-8b are driven by economies of scale with a large herd size (950 head), while AB-1 (212 head) achieves lower costs through reduced spending on labour, buildings, machinery, and capital.

Opportunity Cost of not Selling Heifer Calves at Weaning

There was no statistical difference between the groups for opportunity costs. This is likely because opportunity costs are more driven by market conditions rather than internal management.



The Cost of Replacement Heifers impacts, long-term costs structures

Knowing if you are a high or low-cost producer when raising replacement heifers can influence your decision to rebuild from within the herd or with purchased heifers. It can also assist high-cost producers in lowering long-term cost structures on their operations, if they can find a suitable source for bred heifers that match their genetic, phenotypic and management conditions. Many producers are concerned that purchased heifers do not have the same longevity in the herd as homegrown heifers. This also needs to be considered when determining the Net Present Value (NPV) for a purchased heifer.

NPV is the present value (adjusted for inflation) of expected revenues minus the present value of expenses over the lifetime of the heifer. In general, higher productivity equals greater revenue and a higher Net Present Value (NPV) for bred heifers. Lower cost structures and lower replacement rates equal higher NPV. Expectations on calf prices directly impact NPV as well. To find out more about projected prices **Subscribe Now** to Canfax.

Key Takeaways:

- **The Right Animal at the Right Price**: Successful producers focus on selecting cows that thrive in their specific operational genetic, phenotypic and management conditions.
- **Raising vs. Purchasing**: While raising replacements may seem cost-effective, it's critical to account for all associated costs and compare them with purchased replacements to ensure profitability. High-cost producers may benefit from purchasing bred heifers to lower their cost structure.
- **Evaluate Costs Accurately**: Know the true costs of raising versus purchasing replacements, considering both short-term expenses and long-term herd impacts.