CANADIAN COW-CALF COST OF PRODUCTION
cop
NETWORK

#13 February 2025

To Own or to Lease Rangeland

Which One Fits Your Goals?

Land values show no signs of slowing their massive increase over recent decades. Consequently, producers looking to expand face challenges acquiring land. Land appreciation disincentivizes selling, because if the land is worth more than can be produced on it, land is worth holding as an asset itself. In Alberta, the number of agriculture land transfers fell to an all-time low in 2021 and has barely increased since then. Only 151,845 acres were transferred in 2021, compared to 499,304 acres transferred in 2005. This means younger producers and those entering the business need to find different ways of accessing land.

According to Farm Credit Canada (FCC), rented land used for cash crops in Alberta and Manitoba were $160/ac more profitable than newly purchased land used for cash crops, up from just under $120/ac last year[1]. The difference is slightly less than $80/ac in Saskatchewan. From the outset it seems that, even though land rental rents have kept pace with land values, renting has become more profitable for producers.

> *At the end of the day, land ownership and ranching are different businesses. Owning land is seen as a strong investment and a hedge against inflation. But owning more land may not always go hand in hand with being a profitable rancher.*

Looking at 2023 data from Canfax's Cow-Calf Cost of Production (COP) Network, there tends to be a small increase in cash and depreciation costs as the proportion of rented land increases (Fig. 1). However, there is no correlation between medium term profits (cash and depreciation profits) and proportion of rented land (Fig. 2). This shows that operations can be profitable under either land ownership situation.

[1] https://www.fcc-fac.ca/en/knowledge/economics/2023-farmland-rental-rates

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Start-up operations run the gamut from all owned to all rented, but the median start-up operation rents only around 25% of their land, which is fairly similar to mature operations. Start-ups have a large 25th to 75th quartile range as well, from 20% rented to nearly 70% rented (Fig. 3).

Figure 1: Cash + Depreciation Costs per Cow

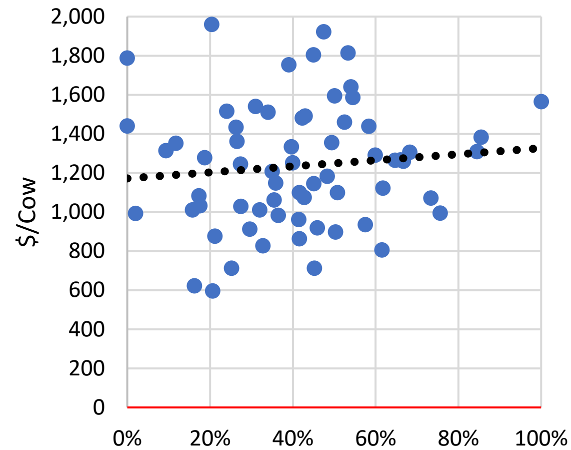
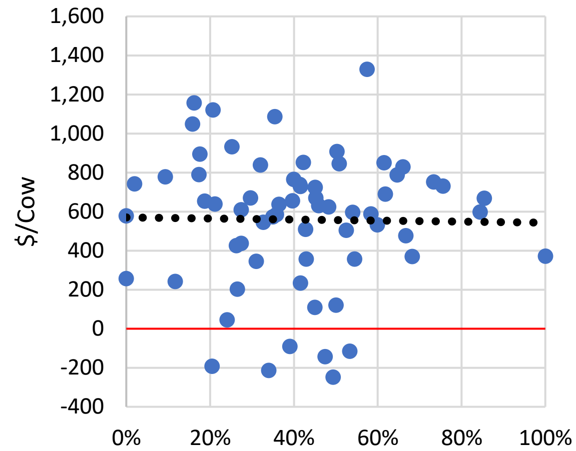


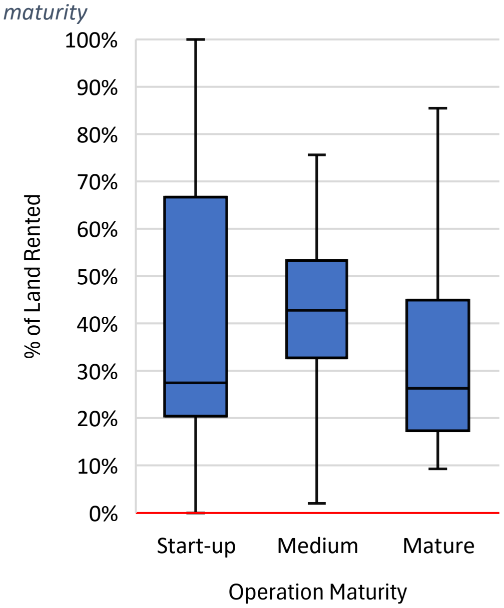
Figure 2: Medium Term Profit per Cow



Land rented by operation as a percent of all land used by operation

By the time operations reach medium maturity, the maximum amount of rented land is about 75%, and the 25th to 75th quartile range shifts to 30% to 55% rented. Finally, the 25th to 75th quartile range for mature operations is about 17% to 45% rented, though no mature operation actually owns 100% of the land they use. While operations of any maturity can rent or own most of their land, there certainly is a shift towards more land ownership as the operation matures.

Figure 3: Percent of rented land by operational maturity



Allan Nation argues in his book *Knowledge Rich Ranching* that leasing land is a better option for cattle ranchers, citing the difficulty of generating after-tax income needed to finance land purchases, which then becomes sunk into capital that is fairly illiquid. *The result is almost always a cash flow problem*. A key presupposition is that cattle should pay for the land they graze, and land ownership should not be directly tied to ranching. *Knowledge Rich Ranching* was first published in 2000, so it may be time to ask: is leasing land a more favourable option for Canadian cow-calf producers today?

Based on the COP Network data, there does not appear to be a definitive answer; operations can be profitable regardless of how much land they rent. The following case study will examine both sides in detail.

Case Study

To test land ownership versus leased land, this case study looks at a hypothetical cow-calf operation, somewhere near North Battleford, Saskatchewan. This farm currently has 1,240 acres of pasture, 230 acres of hayland, and runs 120 beef cows. This operation wants to expand the herd to 135 cows and will need another quarter section of pasture.

It is assumed this operation was ready for expansion. They already have all necessary machinery and buildings, so no other purchases are required. In addition, this operation has cash available for acquiring cattle to expand the herd. Revenue was $1,400 per cow in 2023 and variable costs were $800 per cow. This means that each additional cow will bring in $600 of revenue after expenses per year because overhead costs do not change.

Scenario 1: Purchasing Land to expand herd

FCC reports the average price of a pasture quarter section in northwest Saskatchewan in 2023 was $144,000 ($900/ac)[2]. With a down payment of 20%, 5% interest rate, and a 15-year loan, the annual cost is just shy of $8,000 per year, or $530 per cow. Adding this to the variable costs, the additional return will be around $70 per additional cow, or $1,050 total additional annual revenue.

Sensitivity A: Lower Interest Rate

If this operation borrowed at a lower interest rate of 2%, the return per cow would only increase by about $12 per cow ($180 total), though this will depend heavily on the payment structure. This shows how little the returns are affected by a small decrease in interest rates. Also note that the operation would need around $32,000 for down payment and fees.

Sensitivity B: Larger downpayment

If the operation waits for a 50% down payment (about $75,000 with transaction fees), the per cow cost for the 10-year loan at 5% interest is approximately $490 per cow. The total annual revenue increases to $1,650, or $110 per cow.

Scenario 2: Leasing Land to expand herd

The average rental rate in 2023 in Saskatchewan was 3.1%. For this operation to lease that same piece of land, they might expect to pay about $4,500 ($28/ac) per year, or just under $300 per cow. The additional revenue would be $300 per cow, or $4,500 total. Compared to scenario 1 above, this comes out to a net return of $17.81-$21.56/ac more than purchasing the land.

Scenario 3: Long-term Comparison

The benefit of ownership typically comes after the land is paid for. Therefore, looking at a 30-year time horizon is helpful. Assuming $168,000 in cattle sale revenue in 2023, $130,000 in cash costs, $30,000 in depreciation costs, making $8,000 after expenses. A baseline scenario, without expanding the herd, or purchasing or leasing any more land, ***the total profit after 30 years would be around $240,000***. This assumes constant prices and costs, which is unrealistic, but cattle price cycles usually last around a decade, so after 3 cycles of high and low prices this can still be considered our baseline.

If following Allan Nation's rule that land purchases should be made with cattle profits, this operation will have to wait about 5-years to make the land purchase. In the 20% down case with a 15-year payment, this operation would make the $8,000 each year, then purchase the land in

[2] https://assets.ctfassets.net/mmptj4yas0t3/3CFhBPACJLQjBfECVKbRmu/15c9184d9b9436bc7dada6626a3be686/2023-farmland-values-report-e.pdf

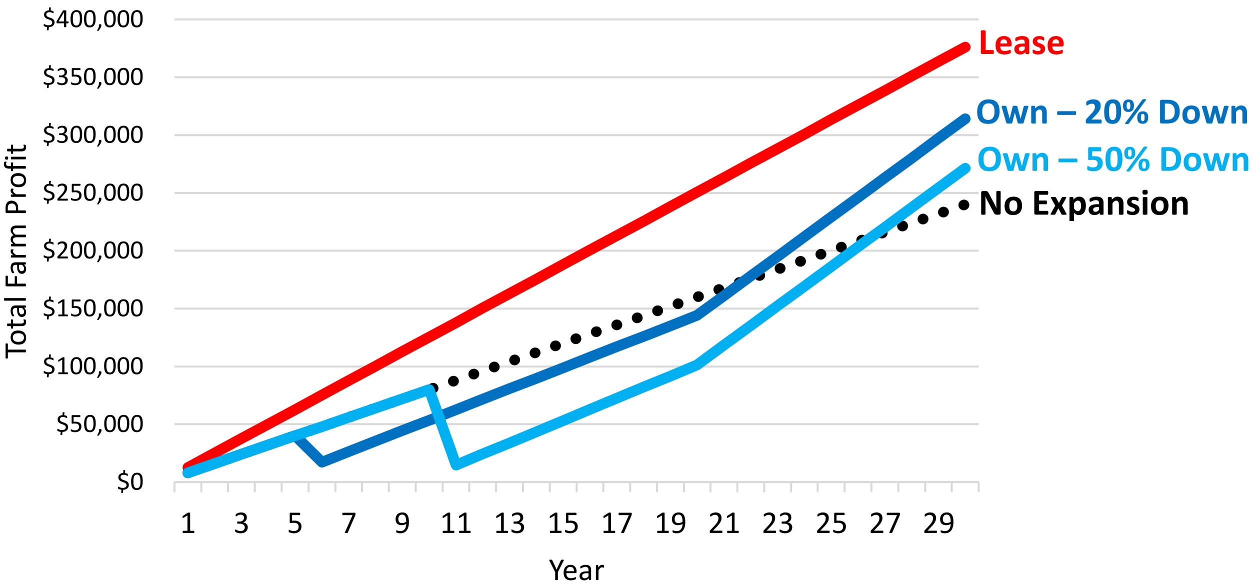
year 5. Additional revenue for the next 15 years would be $1,050. Once the land is paid off, the operation would continue making $600 per additional cow (or $9,000 total). ***The total profit after 30 years would be around $315,000.***

For the 50% down scenario with a 10-year loan, the operation will make an additional $1,650 in revenue for 10 years, then 10 years of $9,000 per year. However, in this situation they would have to wait 10 years before making the land purchase. ***The total profit after 30 years would be around $271,000.***

If the operation chose to lease land instead, the operation would make $4,500 per year. ***The total profit after 30 years would be around $376,000***. Renting nets an additional $136,000 in profit, while waiting for enough cash to purchase land brings in only $31,000 to $74,000 in additional profit.

Of course, the main feature of ownership is that this operation gains the additional revenue ***plus a $144,000 land asset that can be used as collateral in the future***. If the operation waits to purchase the land, on paper they are still better off with the additional revenue plus a land asset.

Figure 4: Cash Profit after 30 Years - Own vs. Lease

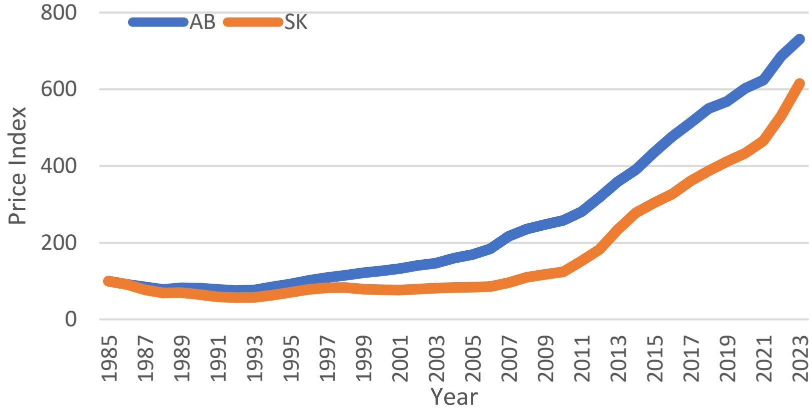


Importantly, this only includes cash on hand, but does not include the added value of the operation from the land. Once the land is paid off, profits quickly increase as seem by the kinks in the "Own" curves around year 20 in Fig. 4.

Appreciating Land Value

A key attraction of land ownership is the expected land value appreciation. Depending on the region, agriculture land values in Alberta and Saskatchewan have increased between 400% and over 900% in just 20 years between 2003 and 2023 (see Fig. 5). Meanwhile, farm cash receipts from crops increased by 422% in Alberta, and 513% in Saskatchewan over that same period. Notably, livestock cash receipts have only increased by 187% in Alberta and 165% in

Figure 5: Land Value Appreciation in Alberta and Saskatchewan (Indexed to 1984=100)



Saskatchewan. This means that land values have generally been increasing faster than cash receipts, and far outpacing cash receipts from livestock.

Land is frequently used as retirement plan and therefore treated as a long-term investment. In addition, and probably the most important feature, is that land can be used as collateral for loans to expand the herd or make other capital purchases. This gives land some ability to generate cash instead of being locked in until the land is sold.

The Cashflow Dilemma

Dr. Arnold W. Oltman stated that "agriculture does not suffer from a lack of income, but from a lack of cash flow". When purchasing, for 10 to 15 years, the operation is in a vulnerable position. What happens if cash costs per cow increase by 10%? What happens if calf prices fall by 10%? The operation could be losing on each additional cow, while trying to make payments on the new land purchase. Further opportunities for herd expansion are also limited because additional returns may barely be positive. A major cull would be devastating because the land payment is still there, with fewer cattle generating income.

Capital is now tied to land ownership, and, as noted by Nation "none of this 'income'[3] will pay the grocery bill". While this is not entirely correct – as land can be used as collateral for obtaining loans so there is a way to access cash from a land purchase – it does increase the complexity of maintaining liquid funds. The main point from Nation, though, is that, while land can be used as collateral for loans to expand the herd, why continue to take on debt? Why not take the profits generated every year and put them directly into the thing that makes cash every year – more cows? With more capital invested in cattle instead of land, and paying rent instead of trying to finance land, the operation can continuously expand or contract relatively quickly, taking advantage of changes in the cattle cycle.

The most important limitation for leasing land is ensuring long term access to land, which can never be guaranteed. So, the reliability of leasing may suffer for producers with a long-term outlook if good leases are not available.

Conclusion

At the end of the day, land ownership and ranching are different businesses. Owning land is seen as a strong investment and a hedge against inflation. But owning more land may not always go hand in hand with being a profitable rancher, and COP Network data shows that producers can be profitable with any mixture of owned and leased land.

[3] Meaning the capital gains from the land value.