

# Right Sizing the Farm

How scale and currency effect farm profitability and farmland value



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# Introduction

In recent years, investors in North American farmland will have noticed a divergence between US and Canadian farmland performance; while farmland values in the US Midwest have remained flat to slightly down, Canadian farmland values have remained healthy and continued to experience gains in value in line with their long-term, mid-single-digit, historical average. Since many states near the border are comparable with their Canadian counterparts, in that they produce similar crops, using similar techniques, with a similar climate; why then has the economic performance of their farmland experienced such divergence?

In this paper, we'll examine some of the reasons behind the valuation differences and round out the discussion by looking at the importance of scale for Canadian farmers.

# Margins

Why the diverging fortunes of US and Canadian farmers? Exchange rates, and more specifically, the decline in the value of the Canadian dollar (CAD) have been significant contributors to the difference. Take the case of changing margins between two hypothetical, and otherwise identical, US and Canadian farms growing corn since 2013. For simplicity, we selected the most significant marginal variable cost estimates<sup>1</sup> and applied the Bank of Canada average US currency exchange rate<sup>2</sup>. This gives us a strong sense of the profitability of corn production in the US vs. Canada.

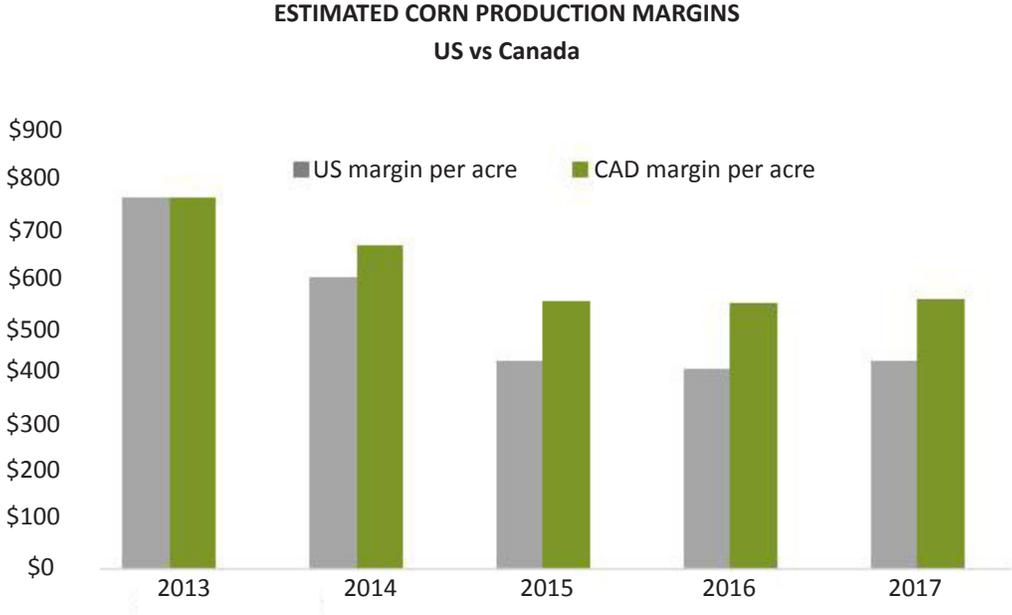


Figure 1 Estimate of US and Canadian corn production margins 2013-2017

In their respective local currencies, we see that gross margins per acre have fallen 44% for the US farmer, and 28% for the Canadian farmer from their highs in 2013, due to changes to the price of corn, corn inputs, and currency. We looked deeper to understand the effects on the underlying business.

## Profitability

In Figure 2, we see that if the American and Canadian farmer had agreed to identical fixed costs, like rent, machinery, and equipment, they would still have had vastly different experiences since 2013, when the dollar and loonie were at parity. For example, let's assume:

1. both farmers rent 3,000 acres of land for corn production, paying \$300 per acre in rent, or \$900,000 per year, and
2. they both source necessary machinery, labour, and cover corporate overhead at \$420,000 per year.

Against \$1,320,000 in annual fixed costs and using the margins per acre as outlined in Figure 1 above, it's not surprising to see that these decreasing margins have profound effects on the profitability of both Canadian and US based farms. The degree to which the US farmer has suffered relative to the Canadian farmer, however, is surprising.

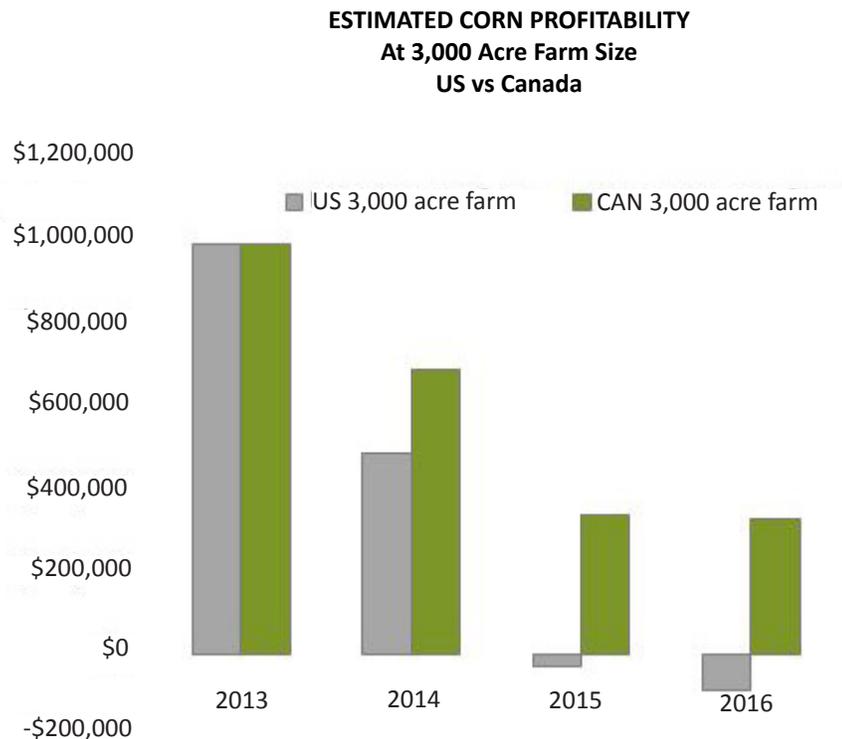


Figure 2 Estimated profitability of CAN and US corn farms 2013-2017

While the model is highly simplified, it provides useful insight into the differential performance of both farms. While profitability has collapsed in the US, with the American farm in a net loss position since 2015, the Canadian farmer still enjoys relatively healthy margins. In the US, negative returns to equity have led to moderate declines in farmland value, and while not as profitable as in 2013 when corn prices were at record highs, the Canadian farm continues to earn healthy returns to equity during this period. While this analysis uses corn, the exact same dynamics are at play in comparing cash crop businesses north and south of the border.

## Effects on Farmland Value

Understanding the changes in profitability tell us a lot about the performance of the farmland market. We have long understood that profitable farmers drive farmland values (see Bonnefield's analysis of this trend in the 2013 white paper "Farmland and Commodity Prices – Lessons from the 1980's farm crisis"), and we have continued to see this trend over the past five years.

For illustration, the following figures examine the correlation between our hypothetical Canadian and US farm return on equity metrics, and the performance of their representative farmland market. Iowa farmland values are used in the US, as the state is known for its corn production, and Ontario farmland values are used in Canada given the province's importance to Canadian corn production.

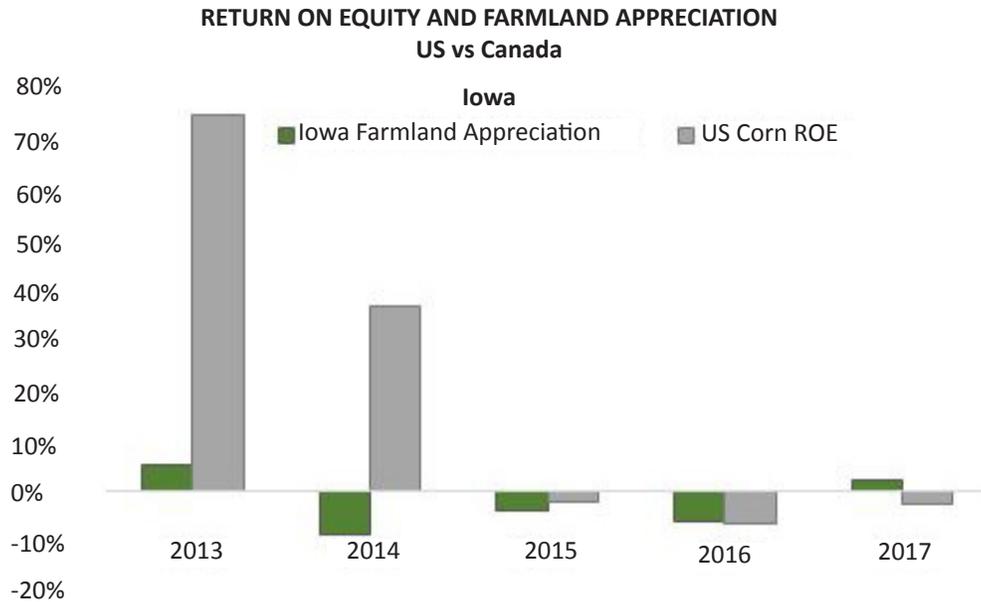


Figure 3 US corn farm return on equity and Iowa farmland appreciation

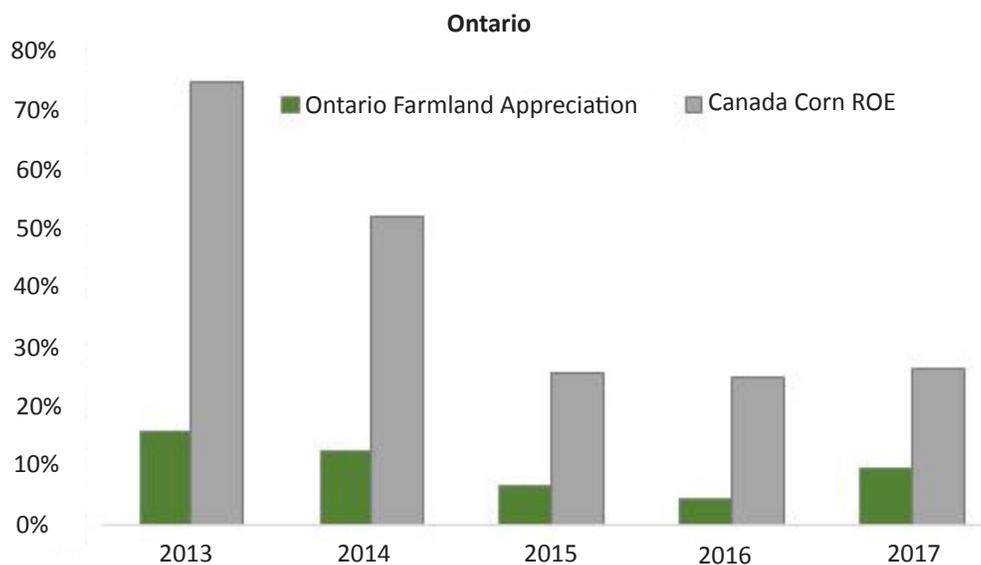


Figure 4 Canadian corn farm return on equity and Ontario farmland appreciation

The comparison in Figure 4, exhibits a clear pattern: once the profitability of corn production in the US turned negative, farmland appreciation slowed and turned negative. Canada meanwhile has continued to experience healthy return on equity metrics, and accordingly has observed consistent farmland performance. Between the end of 2013 and 2017 Ontario farmland has gained 58%<sup>3</sup> in value, while Iowa farmland has declined by 15%<sup>4</sup> during the same period in their respective local currencies.

These changes are moderated somewhat by the increasing value of the USD relative to the loonie: In US dollar terms, Ontario farmland has gained 22% in the time frame against Iowa's 15% decline. While there are undoubtedly other factors at play, profitability remains the most significant predictor of changes in farmland value.

While a flat-to-slightly-down market is hardly a disaster, an investor in US farmland would consider these returns disappointing in comparison to the strength of US equities during this period, and in the context of farmland's consistently strong performance prior to 2015.

While the US farmland market adjusts to lower profitability, an investor should keep in mind that, despite the recent muted performance, US farmland came off a tremendous run of success over the past several decades, and global commodity prices remain near their five year lows, and any reversal in commodity prices would clearly improve the profitability picture for Canadian and US farms alike.

## Capacity Utilization

The observations in the previous two charts confirm our previous findings that farm profitability is the single biggest factor in determining long-term farmland values. The second largest contributing factor is farm size, since larger farms generally have better economies of scale, better capacity utilization and are more efficient to operate. Analyzing the differential performance between smaller farms and larger farms remains highly instructive. If the Ontario farmer had to amortize their fixed costs over 1500 acres (as opposed to 3000), not surprisingly they would not have fared as well.

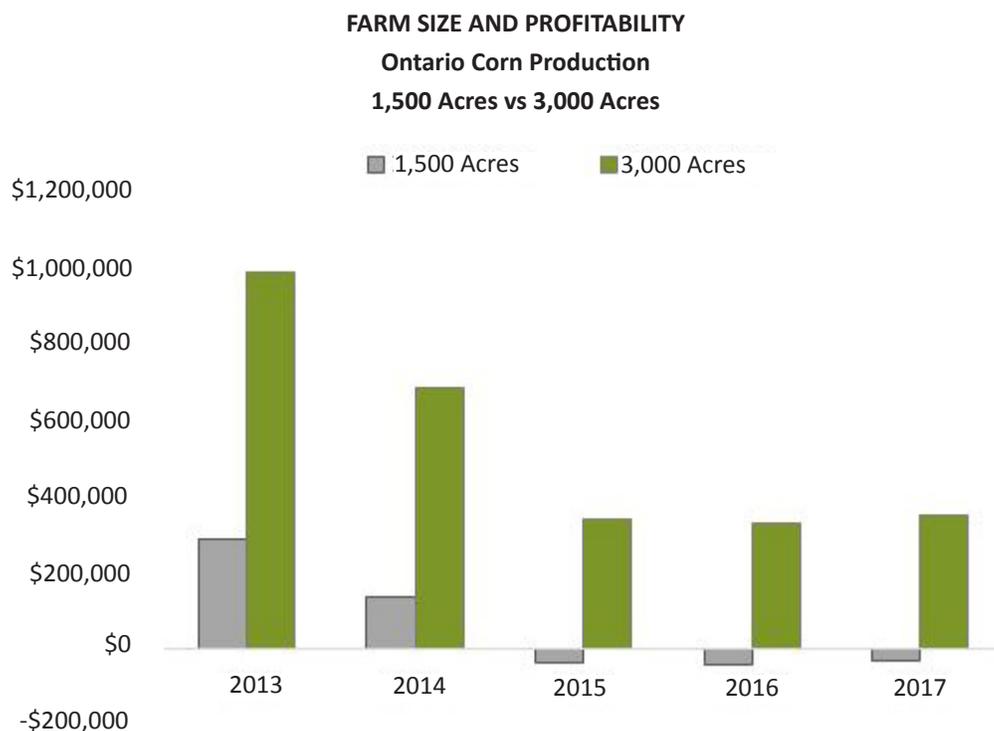


Figure 5 US Ontario corn profitability at 1,500 and 3,000 acres

The profitability picture for the 1,500 acre farm is significantly worse than their larger neighbor, having experienced negative profitability since 2015. While the smaller farm was profitable in a scenario of high commodity prices, their operation is fundamentally unprofitable in the current environment.

Unfortunately, this is a common situation. In Canada many farms are under-sized relative to their capacity, and are “hanging on” until the next wave of rising commodity prices. This situation is not always well understood or recognized, however, because the increasing value of the farmland could mask the under-performing farming operation. They are fundamentally separate investments, and should be viewed as such

Capacity utilization is a critical metric for farm businesses, and progressive operators are generally doing their utmost to approach optimal scale. Increasing scale is easier said than done for most farmers, given the capital required and the need to access large plots of land. That smaller farms are not profitable under current conditions underscores the competition in farmland markets: farmers at suboptimal scale know they need to grow, and compete for land to do so to maximize profitability. As a result, farmland markets in Canada are driven primarily by farmers operating closer to full capacity utilization, who have sufficient financial resources to trade in land. For many farmers, increasing scale and improving profitability is easier done with a financial partner like Bonnefield.

## The Big Picture

Optimizing the balance sheet by “right sizing the farm” is clearly a critical component for long-term success in farming, and is exactly what Bonnefield helps farmers achieve. Bonnefield seeks to optimize farm businesses for long-term sustainability and profitability by providing long-term land lease financing which allows for more appropriate operating scale.

Canadian agriculture has a unique opportunity to be a world leader in developing the agri-supply chains of the future. A rare combination of excellent land, talented farmers, a stable political climate, and perhaps most importantly, abundant access to renewable fresh water, form an enviable environment for future success. However, to capitalize on these natural advantages, Canadian farmers need greater access to capital to increase scale and maximize profitability.

Given recent advances in technology which enable greater farm scale, more than ever, continued investment is crucial to a profitable farm sector. And a profitable farm is a sustainable farm: it is profitable farmers who can afford to care for the land which supports their business, as the investments required to do so are substantial and persistent. Canadian farmers have enormous opportunities in the coming decades but also face enormous challenges in producing evermore food in a hotter, dryer, and more crowded world. Continued access to new and different sources of capital will be crucial to ensuring a profitable and sustainable Canadian agricultural sector.

### References

1. *University of Purdue – Crop Cost and Return Guide 2013-2017. Ag.purdue.edu. (2017).*
2. *Bank of Canada – Annual exchange rates*
3. *Farm Credit Canada – 2017 Farmland Values Report*
4. *USDA Iowa Farmland Values 2013-2017*



Bonnefield is Canada's foremost provider of land-lease financing for farmers, dedicated to preserving "farmland for farming" across Canada. We partner with progressive, growth-oriented Canadian farmers to provide farmland leasing solutions to help them grow, reduce debt and finance retirement and succession. Bonnefield and its farmland funds are 100% Canadian owned and controlled. Our investors are Canadian individuals and institutional investors who are committed to the long-term future of Canadian agriculture.

Bonnefield is headquartered in Toronto, Canada with offices in Ottawa.

For more information, visit [www.bonnefield.com](http://www.bonnefield.com), follow us @Bonnefield or contact us at:

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