

Exploring Economic Advantages and Disadvantages of Finishing Hogs in Alberta

A Comparison with Iowa / Minnesota



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EXECUTIVE SUMMARY

This report explores and compares production practices and cost of production in hog finishing barns of Alberta and Iowa/Minnesota. The report also discusses on a high level other important factors that contribute to profitability of hog producers in Alberta and in the US, such as policy, labor, hog feed, and pricing.

It is concluded that, compared to the US (Iowa/Minnesota) hog producers, Alberta hog producers have advantages related to production practices and processes (such as days to market, biosecurity, land base), but at an economic disadvantage of higher production costs and lower hog prices. The message of this report is that in terms of production efficiencies and product quality, Alberta hogs are at least as good as the US hogs (and some aspects of production practices may be even better). It is a combination of relatively higher prices and lower cost of production in the US that makes the US hog producers enjoy higher returns on average compared to Alberta hog producers.

TABLE OF CONTENTS

BACKGROUND	1
DAYS TO MARKET AND COST COMPARISON	1
WHERE IS OUR (DIS)ADVANTAGE?	3
Barley versus corn.....	3
Does the Farm Bill in the US subsidize primary grain producers?	4
Are feed milling costs higher in Alberta?	5
Are barn construction costs higher in Alberta?	7
Labour shortage (production and processing)	7
Are hog prices lower in Alberta?	8
Does the hog price discovery process in the US yield a “real” price?.....	9
Alberta’s definite advantages.....	10
CONCLUSIONS.....	11

BACKGROUND

The cost of production (COP) study, commissioned by Alberta Pork and funded by Alberta Livestock and Meat Agency (ALMA), is into its fifth year of solid benchmark information for Alberta hog producers. Available for the years 2011-2014, it helps to monitor and manage the production factors within producers' control.

Murray Roeske, the cost of production project lead with Alberta Pork, compared 2012 cost of production numbers generated by Alberta's study with the numbers of the US based MetaFarms Inc. database¹. He found that Alberta hogs may be finished eight days faster than in the US on average. The top cost-efficient Alberta hog producers may finish hogs 13 days faster than in the US. The question is then why do Alberta hog producers send many of their hogs to the US to be finished while their own production processes are more efficient? Is it all about how much it costs? What are the economics advantages (or disadvantages) of finishing hogs in Alberta as compared to the US?

The purpose of this report is not to conduct a very detailed analysis, but to discuss (on a high level) factors that impact or may impact profitability of finishing hog barns in Alberta. Not all the factors have been covered. We hope that this report will spark further conversation among hog producers as to what areas of their business they are already very good at, what areas may need improvement, and what is not in their own control, but should be understood.

DAYS TO MARKET AND COST COMPARISON

Comparison between MetaFarms and Alberta Pork cost of production data for 2012 with respect to days to market is presented in Table 1. The MetaFarms data did not include weaning age but did contain weaning weight, therefore the weaning age could be estimated. The MetaFarms 2012 data had 13,946,859 hogs that were sent to market and the Alberta Pork study had 307,195 hogs.

The following are the adjustments to compensate for the weaning age of the MetaFarms hogs and the difference in market weight between the two data sets:

- MetaFarms average weaning weight was 13 lbs and the Alberta Pork average weaning weight was 7.3 kilograms (16.1 lbs). The difference is 3.1 lbs.

¹ MetaFarms Inc. 2012 database includes production and economic performance records from over 15,000 nursery, finishing, and wean-to-finish operations from the US (and some from Canada).

- To adjust this difference, we assessed the MetaFarms weaning age at 20 days using the following calculation: 3.1 lbs = 1406 grams divided by an Average Daily Gain (ADG) of 363 grams per day² equals 3.9 or roughly four days less than in Alberta.
- To compensate for the variance in average market weights (MetaFarms - 270 lbs, and Alberta - 259 lbs, or 11 lbs difference) we have added seven days to the Alberta market hogs (as if they were to be fed to reach 270 lbs).
- To adjust this 11 lbs difference we used the following calculation: 11 lbs divided by 1.75 lbs ADG for finishers is 6.28 or roughly seven days.

Table 1. Days to market

	Farrow to Wean		Nursery		Finish		Total
	Days	Out Wt	Days	Out Wt	Days	Out Wt	
Alberta	24	7.3 kg/16.1 lbs	42	n/a	107+7	117.4 kg/259 lbs	180
MetaFarms	24-4	5.9 kg/13 lbs	48	24.5 kg/54 lbs	120	122.5 kg/270 lbs	188
						Difference	8

Alberta’s average days to market is eight days less compared to MetaFarms data. If the same calculation exercise is repeated for the most cost efficient Alberta hog producers, the difference in days to market is 13 days less.

Since MetaFarms data does not have cost information of farrow-to-wean production stage, it was not possible to compare COP for a farrow-to-finish operation between MetaFarms and Alberta. To compare the costs, we used All States and Minnesota information from FINBIN farm financial database³ and Iowa information from Iowa State University⁴. Both of these sources provide COP information for farrow-to-finish hog operations in the US. We used data from 2012 (drought, high feed costs) and 2014 (high hog prices, lower feed costs) to compare and contrast. We expressed COP information in \$CAD per kg live weight to be able to compare across datasets (see Table 2).

All datasets show losses for 2012 and profits for 2014. Alberta hog farms’ losses in 2012 are higher than the losses of the US farms, and the profits in 2014 are also higher. This can be explained by fluctuations of \$CAD relative to \$US and dependencies of Canadian hog prices on the US prices. Year 2012 was characterized by a relatively expensive Canadian dollar (almost on par with the US dollar),

² Average Daily Gain of pre-weaned piglets (provided by Alberta Pork based on their Athabasca colony study).

³ The actual cost of production data available from FINBIN farm financial database (www.finbin.umn.edu) is contributed by farm management associations that use FINPACK software as their farm business analysis program (approximately 11 states).

⁴ Extension and Outreach (Iowa State University, Department of Economics) estimate cost of production and returns of hog operations since 1991. The data are available online: <http://www2.econ.iastate.edu/estimated-returns/historical-returns.html>

while in 2014 the Canadian dollar became almost 10 percent cheaper. A weaker Canadian dollar supported hog prices that were already extremely high in 2014⁵.

Table 2. Cost of production comparison (\$CAD per kg live weight)

Alberta	2012 (25 farms)	2014 (19 farms)
Average revenue	1.366	1.792
Average total COP	1.539	1.300
Profit/loss	(0.173)	0.493
Iowa	2012	2014
Average revenue	1.306	1.766
Average total COP	1.394	1.350
Profit/loss	(0.088)	0.416
FINBIN (Minnesota)	2012 (12 farms)	2014 (12 farms)
Average revenue	1.378	1.730
Average total COP	1.409	1.616
Profit/loss	(0.031)	0.114
FINBIN (All States)	2012 (22 farms)	2014 (17 farms)
Average revenue	1.353	1.746
Average total COP	1.397	1.490
Profit/loss	(0.044)	0.256

Sources: Alberta Pork, MetaFarms Inc., FINBIN, Iowa State University

The average statistics does not always tell the whole story. However, even looking at these numbers (Table 2) one can notice that in 2012 in Minnesota the average revenue (1.378) was higher than in Alberta (1.366), while the average COP (1.409) was lower than in Alberta (1.539). Under such conditions it makes sense to ship Alberta feeder hogs to be fed and slaughtered in the US for a very simple reason – it is cheaper to feed there and the revenue is going to be higher. The question is, does it make sense to do it in the years like 2014? Table 2 shows the advantages of Alberta as compared to Iowa/Minnesota.

WHERE IS OUR (DIS)ADVANTAGE?

Barley versus corn

A typical hog feeding ration in Alberta consists of barley and wheat (up to 80 percent), soybean meal (up to 20 percent), and canola meal or peas (up to 10 percent). A typical Iowa hog feeding ration consists of corn (up to 80 percent) and soybean meal (up to 20 percent). Since total feed costs constitute the largest percentage (70-80 percent) of the cost of production, the prices for the two most

⁵ The reduced US hog and pork production as a result of PEDv outbreak in the US supported growth of Alberta hog prices in 2014.

important (energy) feed ingredients – barley and corn – in Canada and the US, respectively, largely define the cost of production. Ideally, in a more detailed analysis protein costs for the hog ration should also be considered. Canola meal is significantly cheaper than soybean meal but has an inferior nutritional profile for monogastric animals such as hogs. In practice, large quantities of soybean meal are imported from the upper Midwest to Alberta for feeding hogs, which is a cost disadvantage compared to Iowa producers. Protein costs are beyond the scope of this report.

Historically, there are periods of energy feeding advantages in Alberta when comparing prices of barley in Alberta versus corn in the US (see Figure 1). Feeding barley in 2012-2013 (during drought and high corn prices in the US) was cheaper than feeding corn. The prices are expressed in \$US. This seems counterintuitive at first, since we established that the 2012 COP was lower in the US (see Table 2). However, protein and the other variable and fixed overhead costs in the US may be lower than in Canada, which could be enough to keep the COP in the US lower.

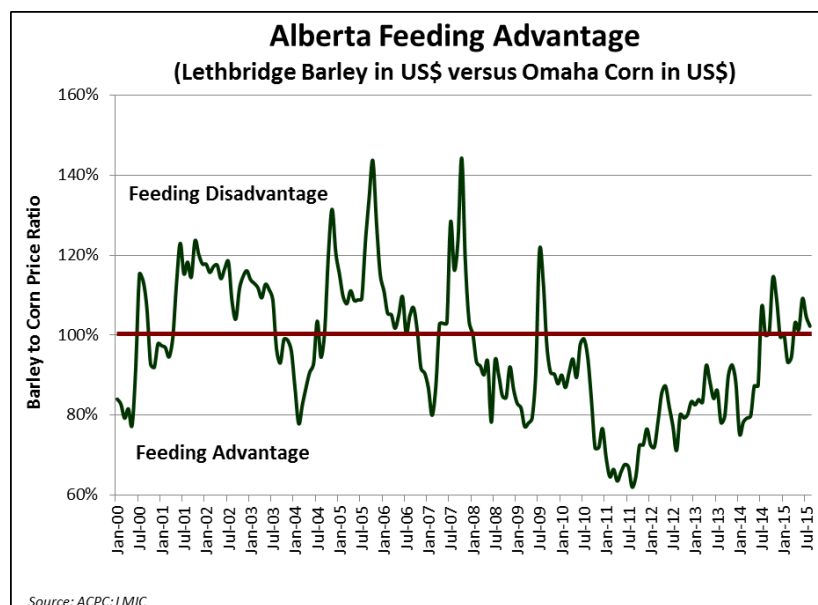


Figure 1. Alberta energy feeding advantage

Does the Farm Bill in the US subsidize primary grain producers?

Economic theory suggests that direct farm subsidies usually lead to increased farm production, and eventually cheaper market prices. Therefore, relatively speaking, hog producers in the US may enjoy an advantage of less expensive feed from corn producers that are directly subsidized by the government. Practically, such an impact would be very hard to quantify.

The most recent US Farm Bill was passed in 2014 and is known as the “Agriculture Act of 2014”. Unlike the 2008 Farm Bill that was very controversial due to an uneven distribution of subsidy money among farmers, the 2014 Farm Bill eliminated direct payment subsidies that used to pay farmers regardless of whether they were growing crops or not. This subsidy cost \$5 billion a year. Some of this money was redirected to the government-subsidized crop insurance. The government pays 62 percent of premiums for the \$9 billion-a-year insurance program⁶. Now the government will also spend an additional \$7 billion over the next 10 years covering the crop insurance deductibles to compensate farmers for the loss of direct payment support⁷. The US farm policy is extremely complex and a detailed discussion is beyond the scope of this paper.

Canada has a similar crop insurance program in place. Under the Agrilnsurance program the federal and provincial governments pay 60 percent of the total premium cost (36 percent by federal and 24 percent by provincial) while producers contribute the remaining 40 percent⁸. However, the Canadian system does not cover insurance deductibles. While the US grain producers may have an advantage of subsidized deductibles, this is not likely to impact feed grain prices to a large extent. Therefore, there is no hard evidence to suggest that the US hog producers may have an advantage of cheaper feed due to subsidization of corn production.

Are feed milling costs⁹ higher in Alberta?

Cost of feed milling at a commercial feed mill is significantly higher in Alberta compared to the hog producing states in the US. In 2015, grind and mix charges for Alberta are around \$15 to \$17 per metric tonne (MT) of feed for mash, and \$21 to \$23 for pellets. Delivery within 50 kms is about an additional \$11.00/MT. Total grind, mix, delivered (GMD) for mash is \$26-\$30/MT. In the US, when expressed in \$CAD, it is \$7 to \$8/MT for mash and another \$7 to \$8/MT for delivery. Total GMD is \$14.50-\$17/MT, which is approximately half of what is paid in Alberta. There are few reasons why this is the case, explained below.

Competitiveness. There are approximately 500 commercial feed mills in Canada, 22 percent of which are located on the Prairies. Alberta has roughly 30-40 commercial feed mills. Alberta’s biggest feed mills/feed companies are Masterfeeds, Hi-Pro Feeds, Landmark Feeds (NutraCo Canada), ADM,

⁶ Source: http://www.nytimes.com/2014/01/30/us/politics/house-approves-farm-bill-ending-2-year-impasse.html?_r=1

⁷ Source: <http://www.washingtonpost.com/news/wonkblog/wp/2014/01/28/the-950-billion-farm-bill-in-one-chart/>

⁸ Source: <http://www.agr.gc.ca/eng/about-us/offices-and-locations/office-of-audit-and-evaluation/audit-and-evaluation-reports/agriculture-and-agri-food-canada-evaluation-reports/evaluation-of-the-agriinsurance-private-sector-risk-management-partnerships-and-wildlife-compensation-programs/?id=1367338599421>

⁹ Milling cost is cost of milling feed incurred by producers when done on-farm (or the price they pay at a commercial feed mill for milling grain). Not to be confused with the actual cost of milling by a commercial feed mill.

Champion Feed Services, and EMF Nutrition. In comparison, Figure 2 shows Iowa's map of feed mills. Note the wide distribution of mills across the state as well as the relatively short distances between competing mills. A highly competitive feed milling business in the US causes prices to drop.

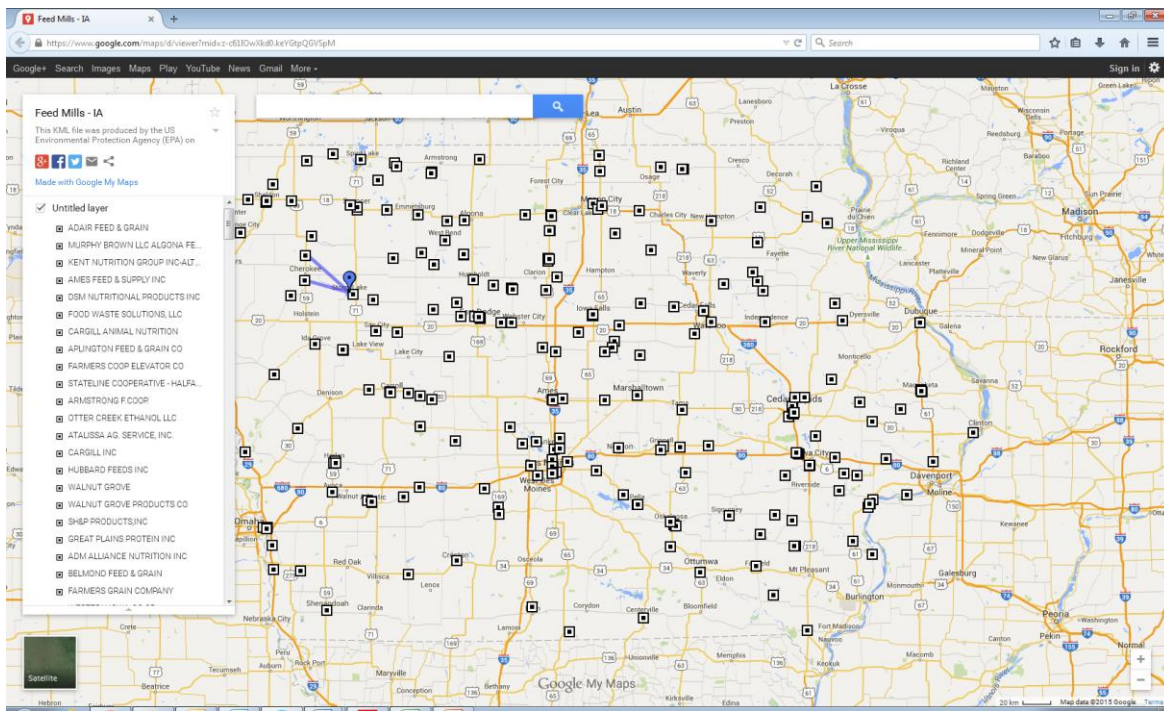


Figure 2. Locations of feed mills in Iowa¹⁰

Economies of scale. Canadian annual feed production amounts to 20 million tonnes at commercial feed mills and 10 million tonnes on the farm. In comparison, one of the newest and largest commercial feed mills in Ellsworth (Iowa) has a capacity to produce one million imperial tons of feed annually¹¹. This scale is possible because a feed mill in Iowa can source most of its primary ingredients from a relatively short distance, due to the much higher average crop yields compared to western Canada. Certainly, as with many processes, economies of scale play a significant role in determining cost of milling.

Due to the lack of competition and high cost of milling in Alberta, even hog operations with 500 sows will likely have a mill onsite. This requires additional capitalization of building mills, and eventually raises cost of production.

¹⁰ Source: https://www.google.com/maps/d/viewer?mid=z-c61IOWxkd0.keYgtpQGVSpM&hl=en_US

¹¹ Largest feed mill in the Midwest is in Iowa (opened in 2015): <http://agfax.com/2014/12/29/iowa-largest-feed-mill-midwest-opens-ellsworth/>

Are barn construction costs higher in Alberta?

Constructing new barn facilities is more expensive in Alberta as compared to the US. Cost of construction is higher here due to colder climate. Barns have to have a more expensive solid structure, better insulation and better ventilation (especially in winter). In Iowa, the average low temperature in January is approximately -10°C ¹², while in Alberta average low ranges anywhere from -10 to -26°C ¹³. Very often, curtain barns rather than solid barns, are being used in the US to house pigs, particularly for finishing. Cost of labour for construction workers is also higher in Alberta due to competition with the oil industry. On the flip side, it is possible that the better built and ventilated barns in Alberta contribute to the advantage in days to feed, by providing more uniform growing conditions for pigs.

In Alberta, all finishing barns have a concrete floor with a pit for manure. A permit is required. Pits have to be sealed to not contaminate ground water, and have to go out to a lagoon, the type of which depends on the cost and impact on the environment. Therefore, the types of lagoons are very site specific and construction can cost anywhere from \$15,000 to \$100,000.

Most hog manure in the US is handled as a liquid. Barns usually have a slotted floor into a deep pit, where manure may be stored for 3-12 months. The lagoon system, such as in Alberta, is also used, but is generally more expensive and larger in size compared to deep pits. Hence, the capital cost in Alberta is relatively higher.

According to preliminary estimates of Alberta Agriculture and Forestry's researchers, the current 2015 cost of a 1,600 head hog finishing barn is approximately \$460/head or \$51/sq ft. According to Serecon, farrow barn costs in Alberta are approximately \$40/sq ft, plus about \$22/sq ft for equipment. Finishing barns cost around \$55/sq ft including equipment. The average cost in the US is approximately 20 percent less than Alberta or \$32/sq ft for building and \$18/sq ft for equipment (farrow barns) and \$44 including equipment (finishing barns).

Labour shortage (production and processing)

Perhaps the biggest issue that affects both the primary industry as well as processing is the labour shortage. When labour supply is short, one way to attract labour is to increase wages. Increased wages eventually lead to increased cost of production. The agriculture industry has the second lowest (after accommodation and food services) average wage in the province, which is \$17.64/hour in 2014.

¹² Source: <http://www.usclimatedata.com/>

¹³ Source: <http://www.currentresults.com/Weather/Canada/Alberta/average-alberta-weather.php>

In the meantime, utilities and oil and gas industries pay the highest average wages of \$40.09/hour and \$39.64/hour, respectively. Overall, Alberta had the highest average hourly wage across all industries among the 10 provinces since 2006¹⁴. This makes Alberta less labour cost competitive compared to the US. The average hourly wage of farm and ranch agricultural workers in 2014 was \$US 12.60 in Iowa and \$US 10.79 in Minnesota ¹⁵ (which is approximately \$CAD 14 and \$CAD 11, respectively).

The agricultural labour outlook for Alberta does not seem to be bright either. Employment in all industries in Alberta grew by 2.2 percent in 2014 relative to 2013, while employment in agriculture declined by 4.4 percent. It is estimated that for the period of 2013-2023 there is going to be a 96,000 worker shortage in labour supply in Alberta¹⁴.

Currently in Alberta, the packing industry (both beef and pork) is short about 1,000 workers. Changes to the Temporary Foreign Worker (TFW) program had a negative impact on the packing industry. The number of new TFWs in Alberta decreased from 40,000 in 2013 to less than 20,000 in 2014¹⁶. While the US packing industry finds workers for their double shifts (primarily from Mexico and Central America), Alberta plants are running single shifts (i.e. under capacity) and are not able to do the value-added cuts¹⁷. The consequence of running single shifts is increased overhead costs that leads to increased cost of production for the packing industry. This has an impact on the maximum prices packing plants are willing to pay for animals. Producers are currently concerned about pricing and packers are concerned about supply of animals. This creates an uncertainty in the hog sector and affects the outlook for the hog industry.

Are hog prices lower in Alberta?

Hog prices in Canada are calculated based on United States Department of Agriculture (USDA) daily cash hog reports using a formula. Canadian hog prices are therefore dependent on what is happening in the US hog market, adjusted for currency, imperial to metric conversion, difference in dressing percentage, and grading premium. The formula is reviewed by Canadian packers and producers periodically. Without USDA cash hog prices, there would be no Canadian hog prices under the current system¹⁸.

¹⁴ Source: <http://work.alberta.ca/documents/labour-market-highlights.pdf>

¹⁵ Source: http://www.bls.gov/oes/current/map_changer.htm The average wage was calculated based on the annual average wage (provided on the map) divided by a "year-round, full time" 2,080 hours (a figure recommended by the US Department of Labor, Bureau of Labor and Statistics).

¹⁶ Source: <https://work.alberta.ca/documents/annual-alberta-labour-market-review.pdf>

¹⁷ Source: <http://alma.alberta.ca/News/index.htm?contentId=AGUCMINT-505642&useSecondary=true>

¹⁸ Source: <http://www.gibsoncapital.ca/articles/price-discovery.html>

The US hog market is larger compared to the Canadian market, and therefore can dictate the price and lead the price discovery process. The US also has a bigger pork consumer market with ten times the population of Canada. For this reason, the Canadian hog price is relatively lower (see Figure 3). Iowa/Minnesota prices, when expressed in Canadian dollars, are higher than Alberta prices by \$0.057 per kilogram or by \$6 per 97 kg carcass on average (for the period of January 2009 to July 2015). The maximum disadvantage during the same period of time was \$28 per hog carcass.

The Canadian to US dollar exchange rate plays a big role in Canadian price levels relative to the US. Generally, a weaker Canadian dollar stimulates exports, as our prices become relatively cheaper. For example, a feeder hog sold for \$US 100 per hog is \$CAD 125 per hog (at a July 2015 exchange rate of 1.25). When feeder hogs are exported to the US, labour costs, electricity, taxes, etc. stay in Canadian dollars, but feeder hog price increases, explaining why Alberta exports feeder hogs to the US. On the other hand, a stronger Canadian dollar is disadvantageous to those who export their products. The Canadian hog industry was not competitive when the US dollar was at par with the Canadian dollar in 2013.

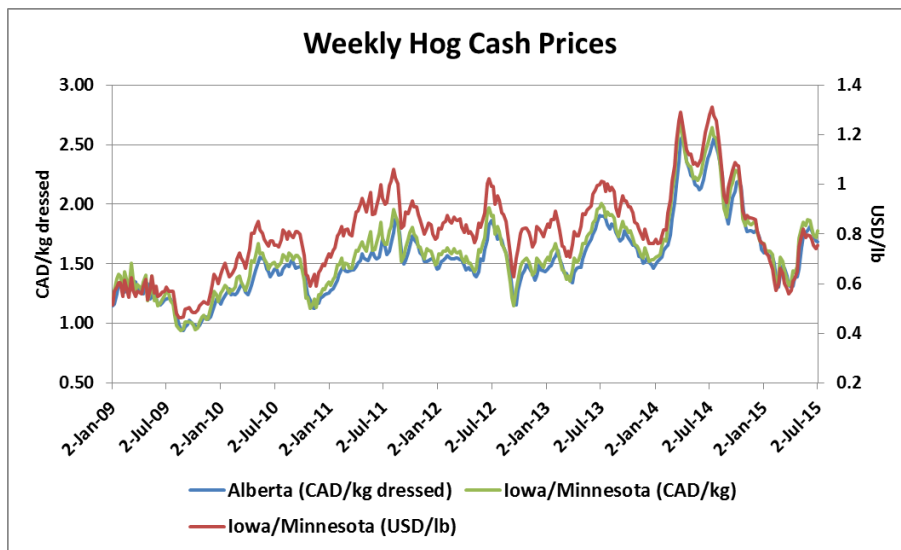


Figure 3. Weekly hog cash prices

Does the hog price discovery process in the US yield a “real” price?

The Canadian hog price depends on the US hog price; however, a concern related to pricing is the price discovery process in the US. Does it yield a “real” price? Is price discovery a fair and transparent process? Is it based on a statistically significant sample of cash transactions?

The problem with price discovery is that it is like any other public good – everybody wants it to exist and function properly, but not many want to participate. Pricing that is done according to a specific formula is still based on the outcomes of cash transactions, but nobody pays for this “service” of making cash transaction information available. In past years the number of cash transactions have declined not only on hog markets, but also on many other agricultural markets. Some of the reasons are: increasing concentration and vertical integration (i.e. fewer players on the market), lack of government funding, low priority for organizations, and the illusion that technology fixes it.

In 2000, 12 leading pork packers were surveyed in the US. They reported that 26 percent of hogs were purchased on a cash market basis, and 74 percent were purchased using non-cash methods. Interestingly, all formula transactions were based on a single market report (the Iowa-Southern Minnesota spot market or closely related Western Cornbelt Lean market)¹⁹. When the same survey was repeated in 2009, only 8 percent of hogs were purchased on (negotiated) cash market²⁰.

Before April 2001, US hog prices were voluntarily reported, while subsequently price reporting was mandatory for all packers above a certain minimum volume. In 2009, 92.7 percent of federal slaughter was reported through the Mandatory Price Reporting (MPR) system of the USDA. MPR legislation requires both base price and net price (includes credits for quality, transportation and time of delivery, and percent lean and carcass weight) to be reported²⁰.

The issue is not so much of a transparency of price discovery in the US, but of a price spread between the US and Alberta. Alberta is the lowest-priced market in North America as it is quite distant from central locations.

Alberta's definite advantages

Primary production efficiency. According to a recent report by ALMA, Alberta has good hog genetics, a very suitable climate²¹, availability of feed, knowledgeable managers and well-trained workers, and excellent animal health services¹⁷.

Adaptability. Due to the struggles of Alberta's hog industry in the last decade, many production facilities ceased production (primarily due to issues with financing and not with management).

¹⁹ Source: <http://ageconsearch.umn.edu/bitstream/36418/1/sp00sc01.pdf>

²⁰ Source: <http://agebb.missouri.edu/mkt/vertstud09.pdf>

²¹ Alberta's climate is fairly cold in winter, but can be compensated by building well insulated barns. Colder climate also means fewer diseases. At the same time, Alberta's summers are not very hot. Very hot weather causes dehydration in hogs and decreases weight gain due to decreased appetite.

However, producers that remained in business are very good at what they do, are forward looking and focused on constant improvements¹⁷.

Strong export demand potential. Alberta produces more pork than is needed in the province. Alberta's barley-fed pork has quality attributes distinct from corn-fed pork, which can be an advantage in export markets such as Japan. The province has a geographic advantage for shipping fresh pork to Asian-Pacific markets. There may be a huge potential of increasing exports to China. China's sow inventories have recently decreased due to limited feed supplies, while consumer demand is growing¹⁷.

Manure disposal. On December 1, 2013 Iowa's hog inventory was at 20.5 million²². On January 1, 2014 Alberta's hog inventory was 1.5 million, while the Alberta's total farm land area is 1.7 times larger than the farm land area of Iowa. With a considerably lower hog density and a larger land base, Alberta may have an advantage when disposing hog manure. This could be offset by the high yields and high nutrient requirements for grain corn production in Iowa, resulting in a strong demand for hog manure as a nutrient source. However, it would be difficult to prove.

Bio-security. Strict biosecurity protocols and strong working relationships between producers and veterinarians contributes to Canada having one of the best swine herd health statuses in the world. Canadian biosecurity protocols include larger barn separation distances (due to larger land base, especially on the Prairies), entry protocols (people and equipment), truck biosecurity washing, stock quarantine, and barn environmental control (i.e., temperature, humidity)²³. As a result, there has been a relatively low number of cases of Porcine Epidemic Diarrhea virus (PEDv) in Canada, and there have been no cases in Alberta as compared to a devastating epidemic in the US.

CONCLUSIONS

Based on the above discussion of advantages and disadvantages, it seems that Alberta has **production process advantages** related to:

- days to market (relatively shorter than in the US);
- land base (hog density is lower, and therefore disease prevalence is lower and manure disposal is not an issue);

²² Source: <https://www.pork.org/pork-quick-facts/>

²³ Source: http://www.canadapork.com/documents/file/4_0-canporkstoryfinal_005.pdf

- biosecurity (strict protocols contribute to excellent swine herd health);
- closer proximity to export markets such as China and Japan.

Alberta is, however, at a purely economic disadvantage of **higher production costs** and **lower hog prices**. Higher production costs are due to:

- higher capital costs (e.g. barn construction);
- periodically higher feed costs (according to Figure 1, Alberta has roughly a 50 percent chance of an energy feed disadvantage);
- higher feed milling costs;
- higher farm labor costs.

Alberta's hog prices depend on the US hog prices and are usually lower. The province is a surplus producer and Alberta's prices are discounted by the freight cost to the market. At the same time the US pork processing industry is able to secure relatively cheaper labor to maintain double-shifts. US pork processors can afford to offer higher bids for slaughter hogs compared to Alberta's hog processors, who have similar labor shortages as Alberta's primary producers.

In terms of production efficiencies and product quality, Alberta's hogs are at least as good as the US hogs (and some aspects of production may be even better). It is a combination of relatively higher prices and lower cost of production in the US that makes the US hog producers enjoy higher returns on average compared to Alberta hog producers. This is not always the case. The analysis, presented in this report, shows that in 2014 Alberta had an energy feeding advantage as well as record high hog prices. However, these circumstances are rare. An average year looks the way it did in our analysis for 2012. While relatively high costs can still be managed (and probably minimized), market prices are not in individual producer's control. In times, when hog prices are lower in Alberta, a percentage of feeder hogs will continue to be shipped to the US.

ALBERTA HOG AND PORK STATISTICS²⁴

Table 3. Alberta hog inventories

Year (Jan 1)	Number of farms reporting ²⁵	Average number of hogs per farm	Total hogs (in 1,000)	Sows and gilts for breeding (in 1,000)
2008	1,275	1,388	1,630	160.2
2009	1,045	1,478	1,475	149.7
2010	925	1,557	1,420	139.9
2011	855	1,643	1,400	136.1
2012	835	1,665	1,395	135.9
2013	820	1,707	1,440	136.0
2014	810	1,784	1,475	136.1
2015	810	1,827	1,495	136.6

Sources: Cansim 003-0103 Hogs Statistics, number of farms reporting and average number of hogs per farm
 Cansim 003-0100 Hogs statistics, number of hogs on farms at end of semi-annual period

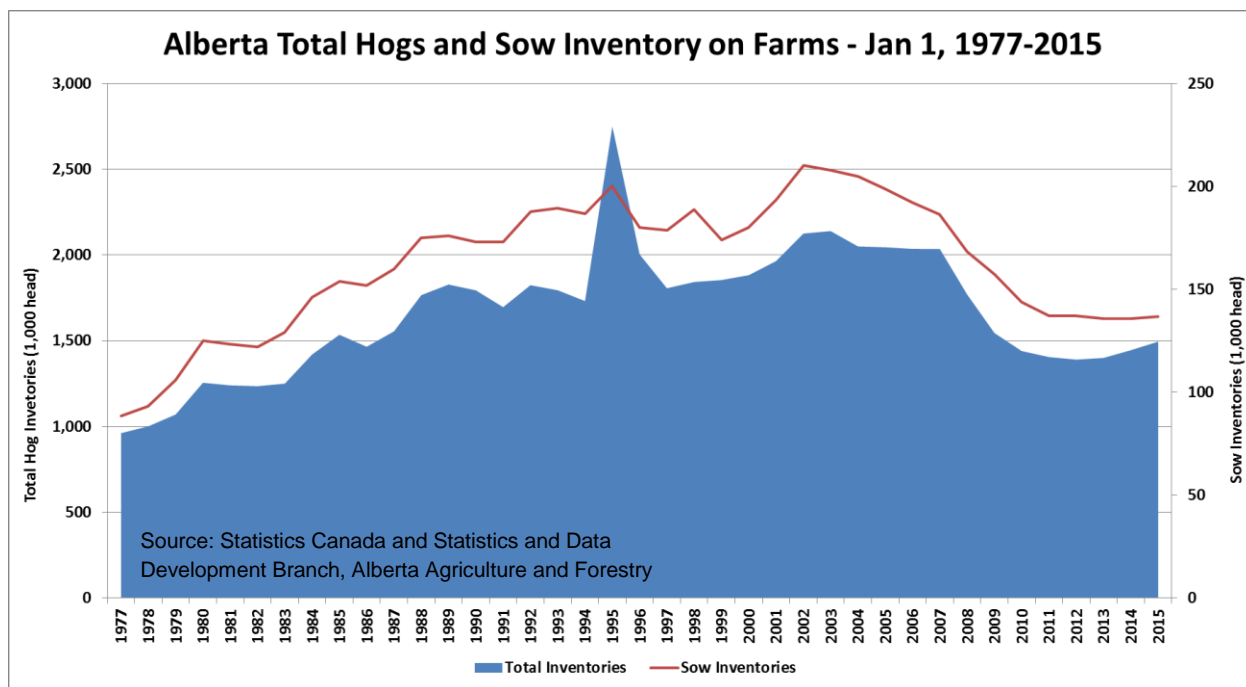


Figure 4. Alberta total hogs and sow inventory on farms – Jan 1, 1977-2015

²⁴ These graphs and tables are provided for the reader's general information only and are not part of the analysis that compared hog industry of Alberta and Iowa/Minnesota.

²⁵ "Number of farms reporting" includes all the farms that have hogs, even when they are not specialized in hog production. Census of Agriculture 2011 reports only 193 hog farms in Alberta that derive the majority of total farm receipts from hog enterprises.

Table 4. Alberta hog slaughter

Year	Number of hogs slaughtered (total)	Originating from			
		AB	SK	MB	BC
2008	2,701,366	2,676,146	-	25,220	-
2009	2,599,175	2,271,530	291,099	32,425	4,121
2010	2,662,056	2,128,390	480,312	49,527	3,827
2011	2,507,035	1,938,113	459,847	108,716	-
2012	2,406,048	1,887,306	440,853	77,889	-
2013	2,358,033	1,810,892	535,207	11,934	-
2014	2,509,468	1,665,473	812,574	31,421	-

Source: AAFC Report A005C Origin of hogs slaughtered in Canadian plants – annual summary

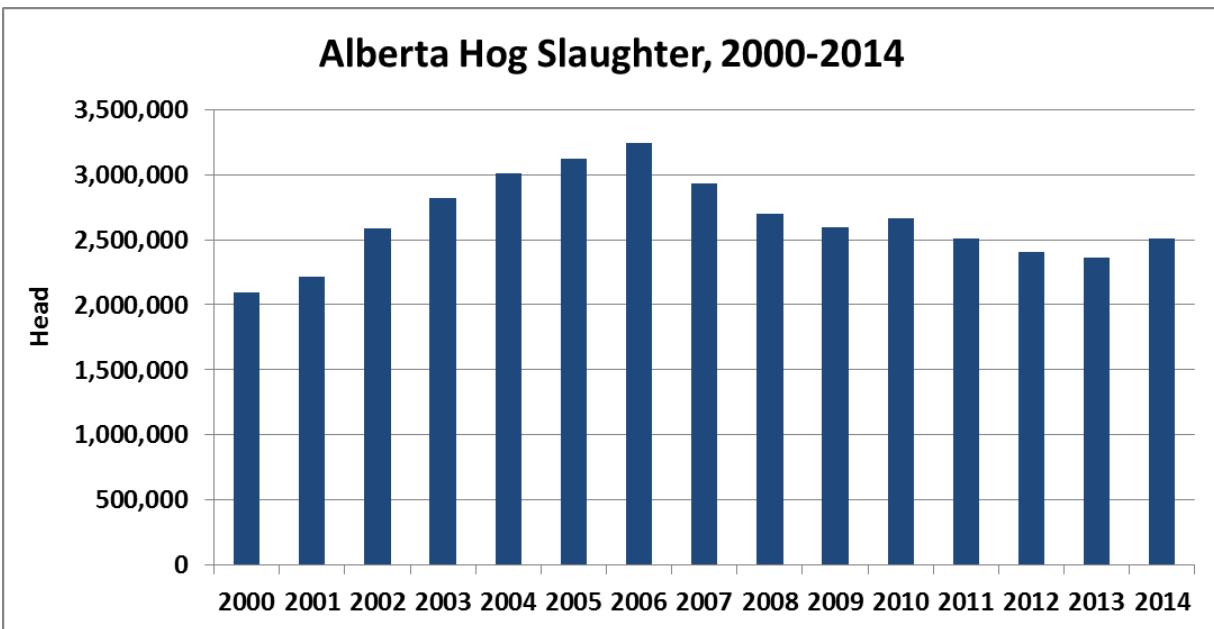


Figure 5. Alberta hog slaughter

Table 5. Alberta's export of live hogs (head)

Country	2010	2011	2012	2013	2014
China	-	-	461	-	-
Ecuador	-	45	-	-	-
Germany	1	4	-	-	-
Guatemala	-	-	87	-	-
Ireland	-	-	33	-	-
Korea, South	-	134	-	-	-
Netherlands	-	-	-	6	-
United Kingdom	-	-	-	50	-
United States	546,085	635,953	599,361	571,344	614,794
Vietnam	-	330	-	-	-
Total	546,086	636,466	599,942	571,400	614,794

Source: Statistics and Data Development Branch, Alberta Agriculture and Forestry

Table 6. Alberta's export of live hogs to the US (head)

Type of hogs	2010	2011	2012	2013	2014
Less than 7 kg	251,585	320,292	311,146	229,634	231,849
7 to 23 kg	97,552	112,993	111,350	153,419	224,544
23 to 50 kg	56,364	47,534	24,805	49,071	25,859
50 kg or more for slaughter	139,164	154,233	150,238	137,827	130,180
50 kg or more for other uses	1,420	901	1,822	1,393	2,362

Source: Statistics and Data Development Branch, Alberta Agriculture and Forestry

Table 7. Interprovincial movement of feeder pigs in 2014 (head)

From Alberta to:		To Alberta from:	
BC	11,400	BC	10,600
SK	6,200	SK	21,600
MB	2,000	MB	11,600
ON	400		

Source: Statistics and Data Development Branch, Alberta Agriculture and Forestry

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