Report

Beef Processing in Manitoba
Market & Industry Update

for

Manitoba Cattle Enhancement Council

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1.0 BACKGROUND AND INTRODUCTION

In 2004, Meyers Norris Penny prepared an initial analysis of the feasibility of beef processing in Manitoba. The following updates some of this original information, including changes in market and industry dynamics, for use and reference by the Manitoba Cattle Enhancement Council.

2.0 FINDINGS

2.1 CAPACITY AND STRUCTURE

In 2005, Canada produced 3.5 billion pounds of beef (1.6 billion kg carcass weight), exporting approximately 1.4 billion pounds (615 million kg). Canada also imports beef, the majority from the U.S. and New Zealand. In 2005, Canada imported approximately 39 million kilograms, including 15.3 million kilograms of grinding beef, and 23.7 million kilograms of cuts. This remains approximately 55 million kg below levels prior to the suspension of supplementary imports in April 2004[1]. Beef production contributed $25 billion to Canada's economy in 2005, moving closer to pre-BSE levels of approximately $30 billion in 2002[2].

Total slaughter in Canada in 2002 was approximately 3.5 million head[3] (approximately 70% of production), with 1.55 million head exported live. During 2004 and the first half of 2005, slaughter levels hit record highs, reflecting increased slaughter capacity, domestic demand, strong international demand for Canadian beef and lower levels of beef imports. Statistics Canada reports slaughter of 4.07 million animals in 2004 and 4.12 million in 2005. Not all animals are graded – Canadian Beef Grading Agency slaughter figures as reported by the Beef Information Centre were 3.9 million head over the same period.

Once the border was reopened to cattle, beef meat exports declined, partially offsetting the higher cattle exports. Part of the decline can be attributed to a three-week strike at Lakeside Packers in Alberta in late October and early November of 2005. Even so, the lower monthly exports have been sustained.

Slaughter in the first six months of 2006 was 2 million head, down from 2.3 million head in the first six months of 2005 (88,000 head per week)[4]. Slaughter reported for the week of August 26, 2006 was 67,362, representing less than 65% of total capacity and down from 76,500 the prior year.

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[1] Foreign Affairs and International Trade Canada, http://www.international.gc.ca/eicb/agric/beef-en.asp
[2] Canada's Beef Industry Fast Fact www.beefinfo.org, sourced from CBGA
[3] Cattle Statistics, July 1, 2006 Statistics Canada Catalogue number 23-012-XIE

Cattle Slaughter – '000 head[5]				
	2002	**2003**	**2004**	**2005**
Alberta	2,368	2101.4	2611.7	2461.1
Ontario	636	649.0	764.1	795.7
Quebec/Atlantic Provinces	231	205.2	280.9	300.8
BC/Sask/MB	223	201.0	268.4	374.7
Canada	**3,458**	**3,156.6**	**3,925.1**	**3,932.3**

Total annual federally and provincially inspected slaughter capacity increased from 76,846 head weekly in 2003 to 98,655 head in 2005. By the end of 2006 it's expected to have further increased to 107,355 head[6]. At that point Canada will have excess slaughter capacity.

According to a U.S. analyst, the increase in capacity may be bad industry economics[7]. The investment in increased capacity has produced modern facilities that use newer technology and could prove an advantage as companies decide which facilities to close in future, however the capacity is now underused. Capacity use last year was 88 percent, according to CCA market analyst Anne Dunford. This year it is running at 70 percent as more young cattle are sent to the U.S. now that the border is open to animals younger than 30 months.

As of January 2006, Can Fax lists 32 federally inspected packing plants, self-reporting capacity of 104,665 head per week[8]. The industry is dominated by four major players and has become even more consolidated with the purchase of Better Beef by Cargill in 2005. The purchase created combined capacity of 39,000 head per week within the combined companies. Lakeside Packers adds a further 28,200 head capacity, combined resulting in 65% of total slaughter capacity in two companies. XL Beef and Ranchers Beef represent a further 16%, resulting in over 80% of total capacity held by four firms. With the exception of Better Beef, the larger plants are in the West. 19 plants are in eastern Canada, with combined reported capacity of 26,875 head per week (capacity not reported for some plants). In the U.S. the concentration in the beef packing sector is similar, with even larger scale plants. Because of this concentration, economies of scale will make it very difficult for smaller plants with higher cost

[5] Statistical Briefer, CanFax Research Services, May 2006.
[6] Canadian Cattlemen's Association 2005 Annual Report
[7] "Packer expansion has pros and cons: analyst", Western Producer, August 24, 2006
[8] Can Fax Annual Report 2005

structures to compete in commodity markets. Large packers can also influence the price of cattle, being able to buy cattle at a higher price than a new or smaller facility could pay.

Nineteen of the thirty-two federally registered plants report slaughtering cows as well as steers and heifers. Prior to closure of the border approximately 8,000 head per week capacity was "normally" devoted to slaughtering non-fed beef. Changes to export protocols and the re-establishment of live cattle trade to the US have increased access to our slaughter facilities for older cull animals. 2005's cow slaughter was expected to near 600,000 head[9]. This would be a 28% increase over 2004 and 62% higher than 2003. Since the early 1990's a portion of the annual cow marketings have been exported as live slaughter cows. Typical marketings (slaughter plus export) have averaged around 800,000 head per year. Total projected slaughter is running about 160,000 head/year below pre-BSE marketings[10].

Manitoba Agriculture Food and Rural Initiatives (MAFRI) lists 30 provincial beef abattoirs in Manitoba. Winkler Meats is the only federally inspected beef slaughter/processing facility in Manitoba. 26,300 cattle were slaughtered in Manitoba in 2004, up from approximately 16,400 head in 2002[11]. Estimates for 2006 are approximately 22,000 head, resulting in part from an open border and in part a change in ownership and direction of Plains Processors that has reduced volumes through that plant.

In addition to the major plants in Alberta, There are eight federally inspected and seven provincially inspected beef processing plants in Saskatchewan that also compete for the Manitoba cattle supply. Larger plants include XL Beef in Moose Jaw, Centennial Foods in Saskatoon, and Harvest Meats in Yorkton. Centennial Foods of Calgary opened a new federally inspected meat processing plant in Saskatoon in 2002. The plant produces frozen meat products for North American and Southeast Asian markets.[12]

Manitoba's smaller, provincial plants focus on regional niche markets and are somewhat insulated from the federal meat packing industry. Margins are believed to have returned to close to pre-BSE levels. Beef packed in Manitoba seems to be moving fairly well into local markets, including trim. According to one industry spokesperson, the industry is currently about the right size for local markets. Manitoba imports a significant amount of beef, but this is typically specific cuts, not the whole animal.

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[9] CCA 2005 Annual Report
[10] Alberta Agriculture, Food & Rural Development, Alberta's 6 Point BSE Recovery Strategy
[11] 2004 Manitoba Agriculture Yearbook, Manitoba Agriculture, Food & Rural Initiatives
[12] Beef Overview 2005, Saskatchewan Agriculture & Food, www.agr.gov.sk.ca/DOCS/processing/beef/BeefInfo.asp

2.2 COMPETITIVENESS AND PROFITABILITY

Canadian prices, from feeder cattle through to beef cuts, are determined by US prices due to the ability arbitrage in an open North American market. The exchange rate has a direct inverse relationship to Canadian cattle/beef prices – as the Canadian dollar appreciates against the US dollar, the Canadian price of cattle and beef products comes down[13].

Following a period of enhanced profitability in the wake of the BSE crises when cattle prices were low and beef prices maintained previous levels, packers are again feeling pressure from both a higher Canadian dollar and rising labour costs. American plants are typically larger, providing greater economies of scale. During the 1990's, Canadian packers were low cost relative to the U.S., largely due to the cheap dollar. The significant appreciation of the dollar in recent years has narrowed the spread between beef revenue and cattle costs, forcing Canadian packers to improve their competitive position or risk failure in the market[14]. The appreciating dollar forces packers to more closely align their operating costs, particularly labour, with the U.S. Underused capacity is exacerbating this situation.

Overcapacity is also reported in the U.S[15]. Tyson Foods Inc. has recently announced its decision to close its Idaho beef plant and scale back operations in Washington State. The company also consolidated plants in Nebraska earlier this year. The Idaho plant had an 8,000 head per week capacity. Tyson has closed other slaughter-only operations because those types of plants can't be operated efficiently. According to Tyson, slaughter–only plants are no longer competitive.

> "Canada's packing plants are facing competitiveness conditions as bad as it's ever been, and a major issue is underused capacity"
>
> - *Jim Laws, Canadian Meat Council as reported in the Western Producer, August 24, 2006*

While Canada has lagged behind the U.S. in labour productivity, the industry is beginning to improve with recent investments in technology. These improvements are offset by increases in industry wage rates of 4.9% as a result of a labour shortage. In some cases, plants just can't find the workers to fill the jobs. Lakeside Packers in Alberta has had to attract workers from China, the Philippines, El Salvador and Ukraine and still has only about 140 of the 400 people it needs for its second shift[16].

Cow beef processing has specific issues related to competitiveness. Beef cows are typically viewed as breeding stock in North America. As such, calving and weaning seasons impact the availability of cows

[13] Exchange Rate Impacts on the Canadian Beef Industry, Klein, 2005.
[14] Exchange Rate Impacts on the Canadian Beef Industry, George Morris Centre, 2005.
[15] USDA Chief Economist, June 2005; Western Producer, August 24, 2006
[16] "Canadian Packers feel pain..", Western Producer, August 24, 2006

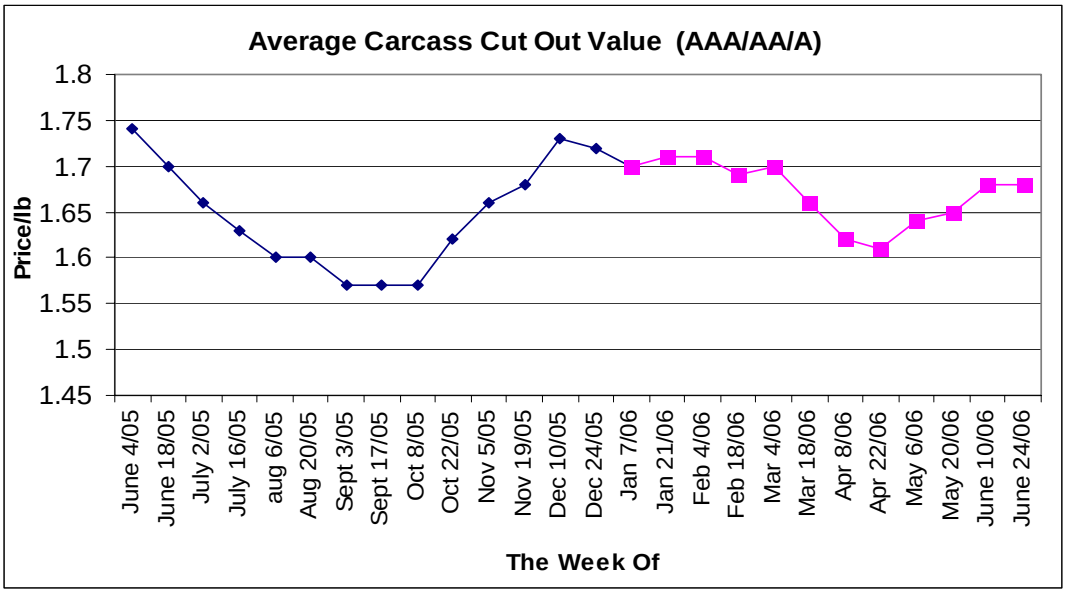
for slaughter. There is typically a four month period when the majority of raw material is available in Canada making it difficult for a plant to concentrate on the slaughter or processing of beef cows. As this factor is not as pronounced in warmer climates, U.S. beef cow slaughtering and/or processing facilities have managed to be further developed than in Canada as there is a steadier supply of raw material.

For various reasons, 10-15% of all Canadian beef cows slaughtered in the US catches a US Choice or Select grade versus a Canadian D1 cow grade. Even if just 5% attain a grade in the US, the difference can result in an increase in value to the US slaughter of approximately $0.50 per pound finished meat, giving US slaughterers $15 extra to bid on the same beef cows as the Canadian slaughterer.

These factors have made it a Canadian-based slaughter/processing business based on beef cows non-competitive. As a result, there was a significant build-up of older cattle when the border closed in May 2003. While there have been some suggestions that the U.S. may re-open the border to OTM cattle in 2006, this is expected to be delayed further.

2.2.1 PRICING AND MARGINS

The average carcass cut out value of Canadian beef[17] fell from $1.74 in June of 2005 to a low of $1.57 in early September. The U.S. border opened to live cattle on July 18, 2005. Prices have trended around $1.65 in the first six months of 2006.



[17] Can Fax Boxed Beef Report

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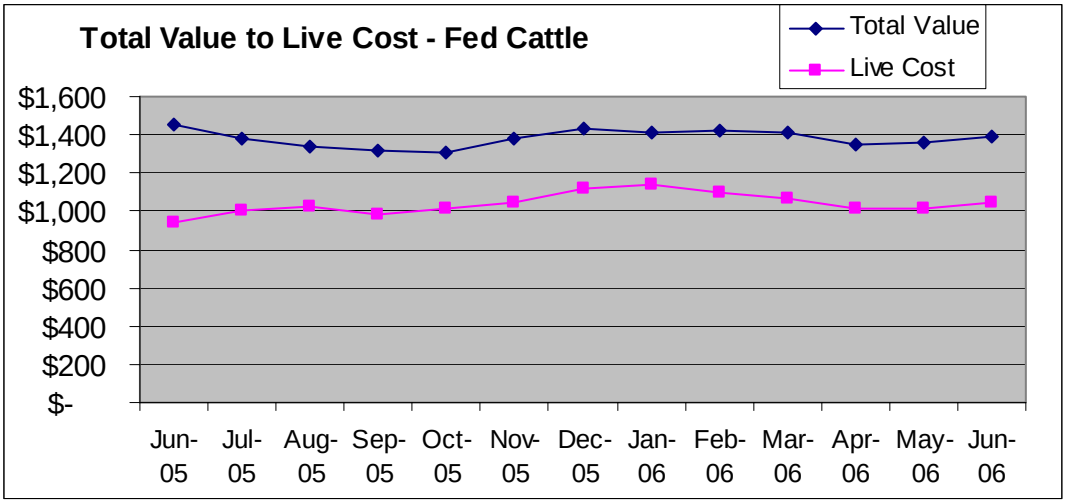
Wholesale beef prices, FOB Calgary are reported at $1.46 to $1.48 per pound. Local Manitoba suppliers report wholesale prices in an approximate range of $1.59 to $1.65 per pound from June to early September 2006. Trim for grinding is selling in local markets for approximately $1.50 per pound in Manitoba in September 2006. Rail grade prices in Winnipeg as at September 1 as reported by Manitoba Agriculture were $1.33-1.47 for Grade A steers and heifers, down 3-4% from the week before, and $0.46 to $0.68 for D2 cows, also down from the week before.

Gross margins on fed cattle (boxed beef cut out composite plus by products less live cost) as reported by George Morris Centre (GMC) were approximately $540 per head in July 2004, and had remained high at $510 in June of 2005 (calculated). With the opening of the border, margins dropped significantly as cattle prices rose and the cut out value declined. From July 2005 to June 2006, gross margin averaged approximately $330, or approximately 25% of cut out value[18]. In late August and early September, gross margins ranged from $260 to $300 per head. At $260 per head, with lower throughput, GMC estimates that packer net margins could be near the red[19].

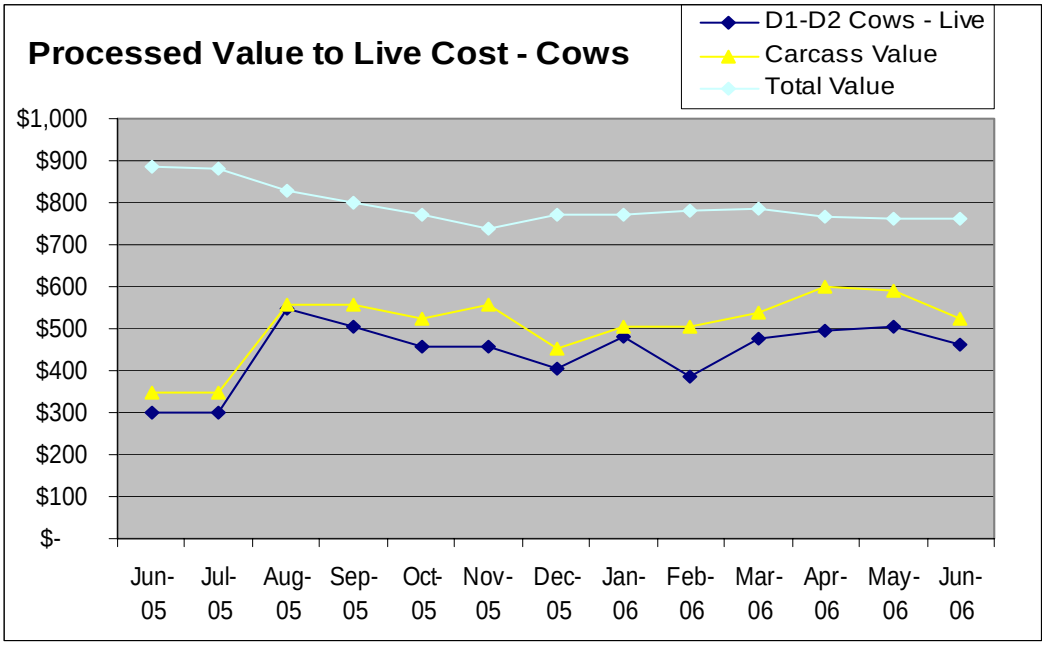


Gross margins for cows have shown a similar trend as a result of meat prices. From fairly steady prices in the six months up to June 2005, live and rail grade prices were approximately 60% higher from August 2005 to June of 2006. 85% lean trimmings were priced at over 10% less during this period[20], providing

[18] Calculated. Data from Canadian Boxed Beef Report, Can Fax weekly reports. Includes median by-product values.
[19] Geroge Morris Centre Boxed Beef Commentary, Aug 28, Sept. 5, Sept 12. 2006
[20] Calculated from Canfax Weekly Reports. Based on 1400 lb cow, 700 lb graded carcass, 72% edible yield from carcass. Includes $50 drop value.

an average margin of approximately $185 per head versus approximately $440 in June 2005. Important additional value can be achieved for cuts to improve this margin. Approximately 50% of the carcass weight would be expected to be used for grinding, 5% in cuts, and about 15% for further processing. Some cuts may be expected to receive more than twice the price of lean trim. If an average 20% premium over 85% lean trim could be achieved for these portions, the gross margin improves to approximately $305 per head.

See chart below. Information related to cull cow body composition and cut out is included in Appendix A.



It is important to note that yields from cows can often differ by more than 10%, compared to about 1% for fed cattle. Quality also varies greatly. Not all cows will receive a D1 or D2 grade; many may not receive a grade at all.

Operating cost estimates for kill, waste and SRM disposal, cut and packaging were $150 per head prior to the BSE crises. BSE related costs such as specified risk material procedures and other compliance requirements have pushed costs significantly higher. GMC is now estimating packer cost at $170 to

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$200 per head[21]. Processing expense for older cattle is generally higher as kill costs for bulls and dairy cows are substantially higher and often variable. Reasonable estimates of operating costs in a small to mid-sized plant (2-5,000 head /week) would be in the $240 to $250 per head range[22].

3.0 CATTLE SUPPLY

3.1 PRODUCTION

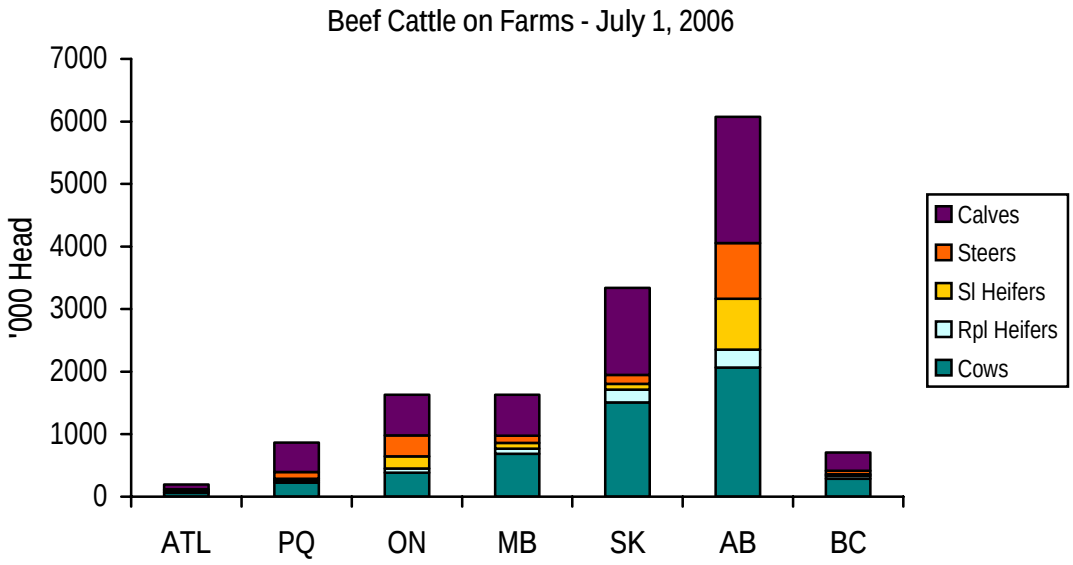
The following data is as reported by Statistics Canada, in its July 1, 2006 Cattle Statistics[23].

- Canadian cattle and calf production has remained relatively steady at just under 5 million head. Prior to May 20, 2003 approximately 40% of Canadian cows were shipped to the U.S. for slaughter, and a further 30% of total production was exported as beef. Live exports of cattle under 30 months resumed in July 2005 and rose rapidly once the border was reopened, totaling 559,000 head (cattle and calves) from July to December 2005. Monthly exports have more recently declined as drought-stricken U.S. ranchers shipped cattle early, pushing U.S. slaughter up and prices down. Reduced U.S. demand for Canadian cattle coupled to lower prices in this country, partially due to a strong Canadian dollar, discouraged Canadian exports.

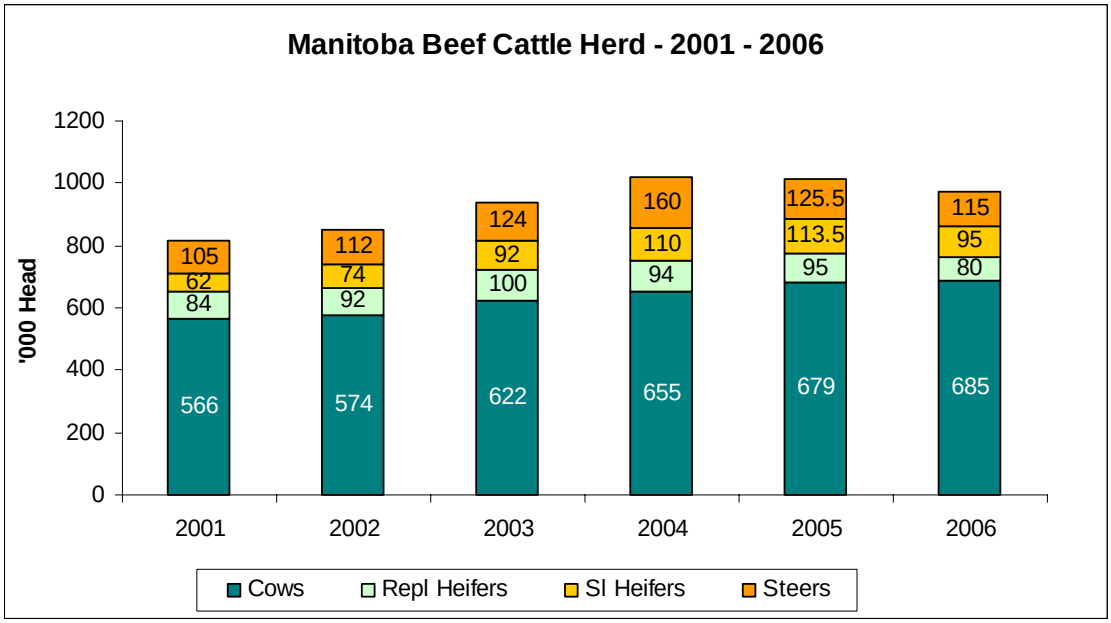
- In the year up to July 1, 2006, total cattle exports amounted to 1,140,000 head, only 22% below the pre-BSE level. There were no exports during the two previous 12-month periods. In the year up to July 1, 2003, Canadian cattlemen exported 1,458,000 animals.

- Following a build up in 2004 and 2005, the most recent reports indicate a significant decline in the national cattle herd following the reopening of the American border to live animals. As of July 1, 2006 cattlemen reported 16.2 million head on their farms, down 4.7% from the record 17.1 million head on the same date last year, but still 814,000 above the level at July 1, 2002, prior to the border closure. There were 6.25 million cull cows held on farms in Canada as at July 1, 2006, including 79,000 in Manitoba. Manitoba now has Canada's fourth largest beef cattle herd, after Alberta and Saskatchewan and Ontario. As is evident from the chart below, slaughter heifers and steers are concentrated in provinces with a significant packing industry.

[21] CanFax Boxed Beef Pricing: Equating Boxed Beef prices to Live Equivalent, www.canfax.ca
[22] MNP internal specialist estimate.
[23] Cattle Statistics 2006 Vol. 5 No. 2, Statistics Canada Catalogue No. 23-012-XIE



- As of July 2006, Manitoba reported 210,000 head beef slaughter steers and heifers, 685,000 beef cows and 656,000 calves. As shown above, the cow inventory has increased by over 100,000 since 2002. The currently higher inventory of beef cows is a reflection of the border closure in 2003 and subsequent lack of slaughter capacity for cull cows.



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Manitoba's large cow and calf numbers reflect strong cow-calf operations and limited finishing. Because of the limited processing capacity within the province, most of the beef cattle produced in Manitoba are exported, in approximately equal numbers to the U.S. and to other provinces in 2002.

Herd sizes are subject to cycles related to reproduction. Responding to favourable conditions with increased production involves a time lag from breeding to finishing the calf for slaughter of up to four years. Cumulative reactions in the industry tend to cause cyclical changes in total inventory. Seasonal changes also impact the availability of animals for slaughter within the year. Managing delivery of cattle to a facility throughout the year and through low points in the cattle cycle can create challenges.

Can Fax reports a 15 year average cull rate of approximately 11%. While the increase in the number of cows in the Manitoba cattle herd suggests that there may be a cull build up of over 100,000 cows, Statistics Canada reports approximately 79,000 cull cows in Manitoba, made up of 75,000 beef cows and 3,500 dairy cows, which would be consistent with annual expectations.

There are 196 feedlots in Alberta with a total capacity of 1.6 million head, and 24 in Saskatchewan with a capacity of 143,000 head[24]. Finishing capacity in Saskatchewan is less than current processing capacity in that province. Feedlot capacity in Manitoba is not reported in the same manner. Manitoba Agriculture estimates Manitoba's total feedlot capacity is about 100,000 head. A feedlot is considered most economic when it fills its lot 2.5 times per year. If the entire supply could be captured within the province, fed cattle production and existing feeding operations would support approximately 5,000 head per week slaughter. This volume would likely require involvement in commodity markets, competing with plants that slaughter 5,000 head per *day*. The major packing plants can be expected to be protective of their cattle supply. Increasing finishing capacity requires significant capital investment and would require a number of years to achieve.

3.2 CATTLE PRICES

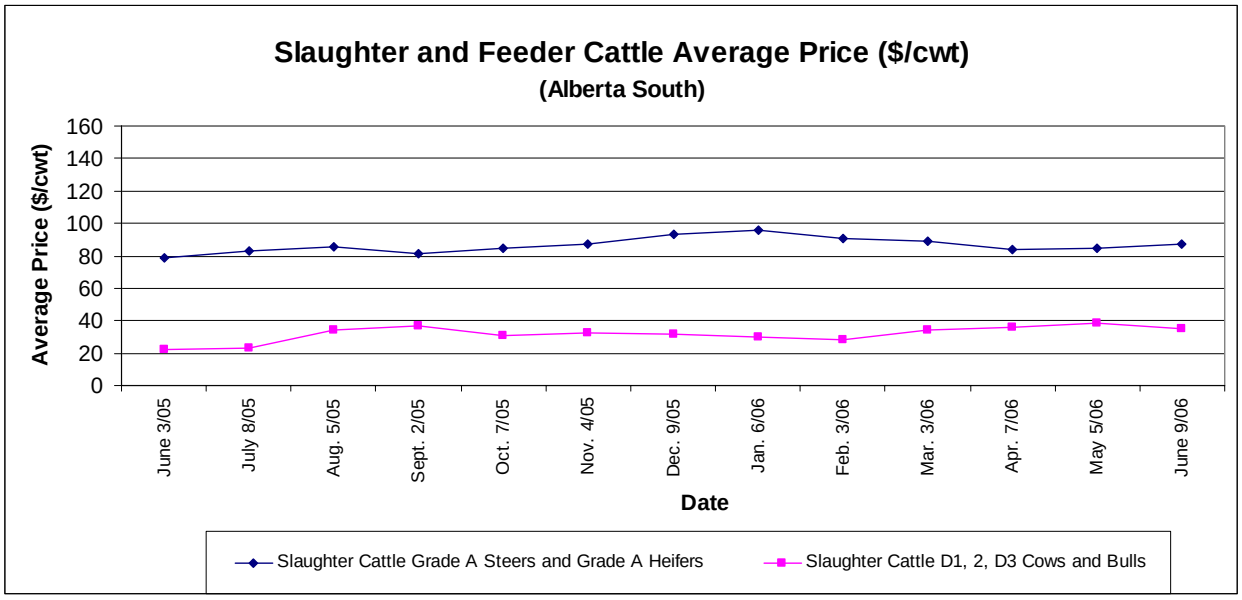
In Alberta, fed steer prices spent most of 2005 in the low to mid 80s, before ending the year on a high in the low 90s[25], a 20% improvement over the fall of 2004. The 2005 average of $84.98 per cwt marks an increase of 8% from the previous year, as well as a return to prices in a similar range to those of the period prior to 1999.

[24] Can Fax Annual Report 2005
[25] The Daily, February 15, 2006, Statistics Canada

ALBERTA FED STEERS - $ PER CWT.				
	2002	2003	2004	2005
First quarter	$107.14	$113.01	$82.64	$85.71
Second quarter	$94.65	$98.10	$77.82	$80.03
Third quarter	$91.91	$49.61	$72.91	$85.00
Fourth quarter	$100.51	$75.52	$81.33	$91.66
Annual	$97.14	$82.59	$78.40	$84.98

Source: CANFAX

After the increase in late 2005, 2006 prices for slaughter steers and heifers have again come down and been fairly steady in the mid-eighties in the first half of the year. Over the same period, the value of cows has increased.



Source: Manitoba Agriculture – Manitoba Markets- Livestock. www.gov.mb.ca/agriculture/news/markets/livestock

Prior to May 2003, Ontario prices were typically premium to Alberta. This varied in 2004, but has returned to a premium in 2005. In early 2005, Ontario prices moved back to being premium by $2-3/cwt and since April widened to a $6-8/cwt premium.

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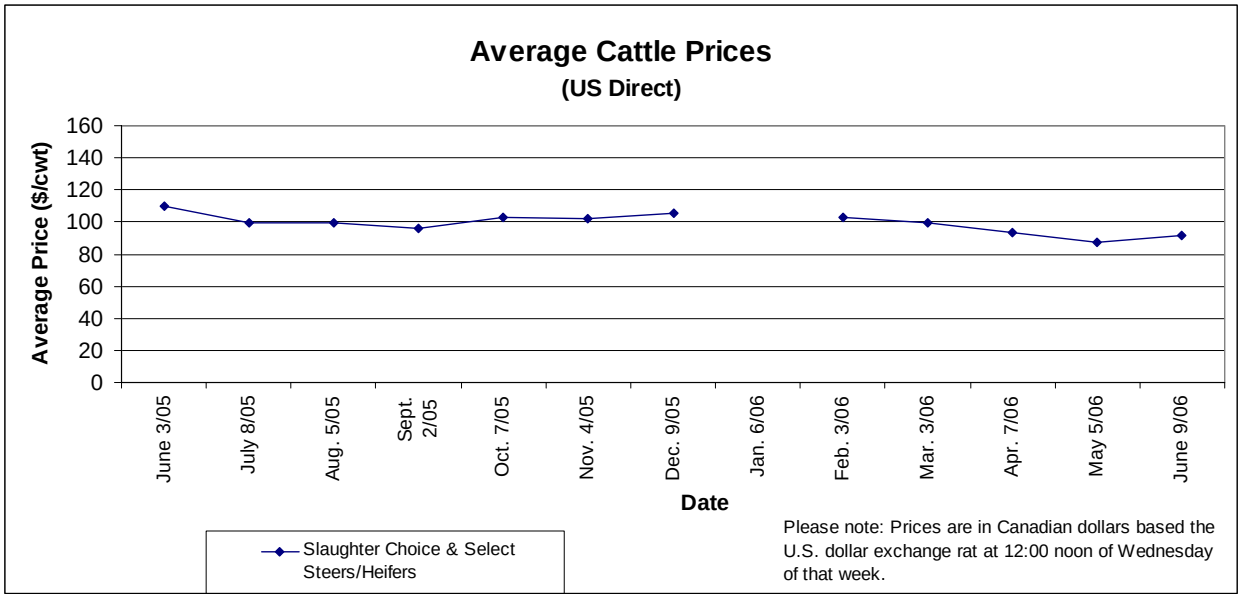
During the first quarter of 2006, fed cattle prices in Alberta ranged from $11/cwt to $17/cwt under prices in the US. This compares to $4 to $7/cwt under prior to 2003. This changed drastically in the second quarter, with the spread narrowing to between par and $5/cwt under. The change has been attributed to tight local cattle supplies[26], and price spreads in general can be expected to vary according to the local supply and demand.

Current freight to Omaha, Nebraska is estimated to be about $4 per loaded mile[27], resulting in costs of approximately $4.60 per cwt from Winnipeg, or $5.50/cwt from Brandon. While Alberta is nearly 200 miles further from Winnipeg, freight expense is trending less, or approximately $4.15/cwt from Winnipeg or $3.50/cwt from Brandon. Seasonally, it may increase when there are more loads shipping west than there are backhauls available. This is the case in early September 2006, with current freight at approximately $4/loaded mile or $5/cwt from Brandon. Transport east is approximately $9.50/cwt.



Source: Manitoba Agriculture – Manitoba Markets- Livestock. www.gov.mb.ca/agriculture/news/markets/livestock

Net of freight differential then, shipping south from Winnipeg would normally be expected to net approximately $4.50/cwt more than shipping west, but may vary between $0 and $15/cwt. If slaughter was available in Manitoba, freight savings would generally be expected to be approximately $3-4/cwt

[26] CanFax Quarterly Report June 2006.
[27] Stiles and Kelly Transfer Ltd.

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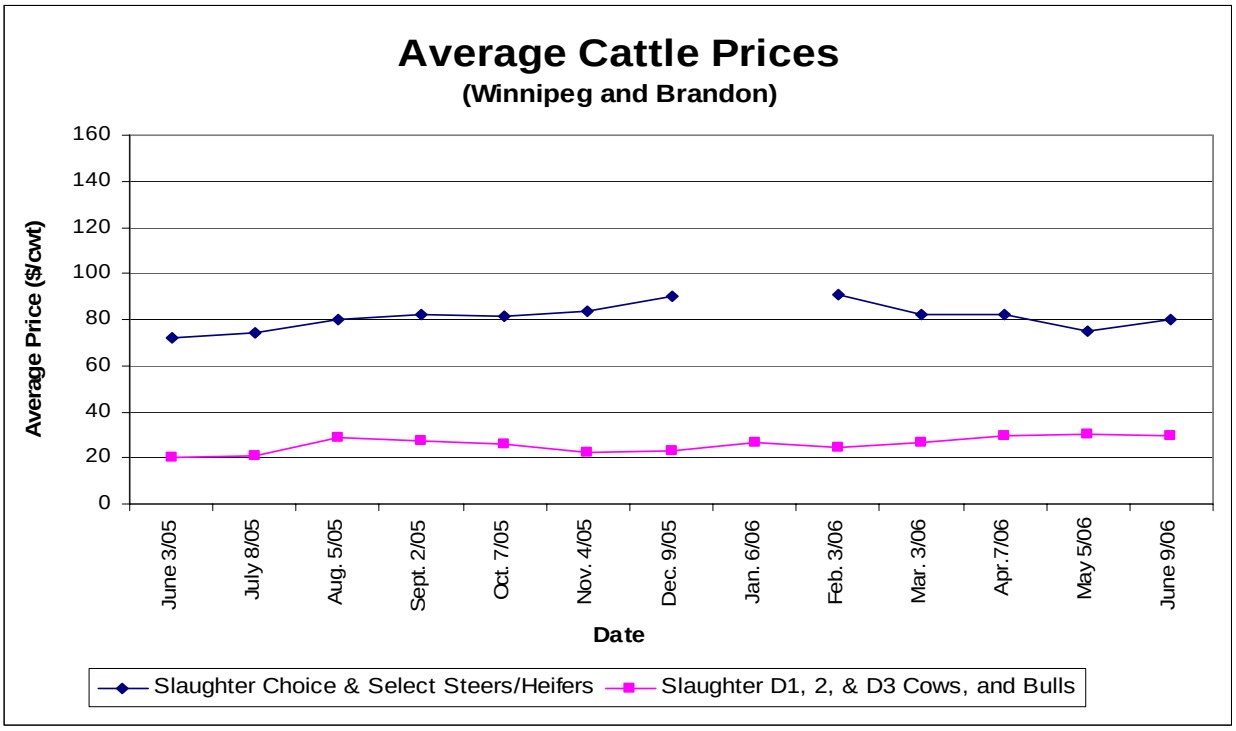
compared to Alberta; and negligible compared to shipping to the U.S. given the higher cattle prices. Spreads experienced in early 2006 could result in a Manitoba price disadvantage of up to $10/cwt.

Prices in Manitoba have trended lower than Alberta in the past twelve months. The price difference has ranged $0 to $9 less per cwt, averaging approximately $4.60. In the second quarter of 2006, Manitoba prices have ranged from $75 to $82 per cwt. for slaughter steers and heifers. Cow prices have remained low, ranging from $20 to $29.



Source: Manitoba Agriculture – Manitoba Markets- Livestock. www.gov.mb.ca/agriculture/news/markets/livestock

Cow prices in the US and Canada are generally consistent, reduced in Canada by the value of freight to the U.S. Some variation does occur seasonally, with conditions slightly favourable to Western Canadian producers in the first four months of the year, weakening to favour the US Midwestern Market in the last eight months.

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4.0 BEEF MARKETS

4.1 DOMESTIC MARKETS

Per capita, the average Canadian consumed 51.4 pounds of beef products in 2005, compared to 49.4 lbs in 2004[28]. Per capita beef consumption has been in a fairly narrow range since 2002 between 49.2 and 51.6 lbs., resulting in a total Canadian market of 1.7 billion pounds in 2005. Canadians consumed more beef at higher price levels, with the average retail beef price increasing by approximately 1% from $11.46/kg in 2004 to $11.59 in 2005. Consumer expenditures totaled $8.7 billion in 2005. The proportion of beef consumption that was domestically produced in 2005 was 87.7%, well above the levels prior to BSE (67-73% in 2002 and 2003).

Although current data is not available, historically, Manitoba's beef consumption has been consistent with national averages. At 49.4 pounds per person, the market for beef in Manitoba would be approximately 55.3 million pounds. This is the approximate equivalent of 100,000 head. As noted earlier, existing slaughter capacity in Manitoba is believed to be approximately 26,000 head.

4.1.1 CONVENTIONAL BEEF

Fresh beef from fed cattle is largely marketed to grocery and food service. The grocery industry remains concentrated, with increasing importance placed on the ability of suppliers to support brand programs. The food service market is also concentrated with a small number of national distributors that also have significant power in the supply chain.

4.1.2 COMMERCIAL BEEF

Beef cows, dairy cows and bulls produce boneless lean beef referred to as commercial beef. This type of beef product is fully commoditized; there is little to no differentiation except for price.

The following is taken from the George Morris Centre Report *Analysis of the Cattle and Beef Markets Pre and Post BSE: Final Report to the Competition Bureau*, February 2005.

- Up to 80% of the meat from a cow would be sold for processing or manufacturing, predominantly grinding. Culled dairy cows produce commercial manufacturing beef almost exclusively. Culled beef cows may also produce saleable cuts. The value of the cuts depends on the age, muscle structure of the animal and external fat colour. White fat cow cuts compete against imported cuts of beef from New Zealand and Australia. These cuts are typically priced around 20% less than graded cuts from younger animals. Off white and yellow fat cow cuts

[28] CanFax Quarterly Report June 2006.

compete against imported manufacturing cuts of beef, and are used in the production of products such as corned beef, pastrami, smoked beef briskets and cooked roast beef. These products can be priced up to 50% less than the value of a graded cut.

- Due to economies of scale, Canadian processors are at a cost disadvantage to the larger US plants dedicated to processing mature cows. These large plants also typically would have their own grinding operations, and long term supply agreements with large end users such as quick service restaurants and retailers.

- Users or customers with quality issues have tended to look to countries that could consistently provide product 12 months of the year. This has left Canadian companies, supplying this product only four months of the year to be treated as the least preferred suppliers. This has provided little incentive for marketers to work on improving product since it does not seem to result in any sort of significant return on their investment.

Larger customers, such as McDonalds or Sysco, prefer dealing with a limited number of suppliers, require high volumes, and often dictate quality standards. For these reasons, these markets can be very difficult to access for smaller plants. Plants wanting to sell to regional distributors will be competing with brokers. There are currently a fair number of brokers; otherwise the size of the market, in terms of the number of end user customers, is believed to be shrinking. Partnering with a broker will be an important strategy for a smaller plant, and may provide some potential for development of a joint brand.

4.1.3 BY PRODUCTS

To make a profit, the packing plant has to sell the whole animal. Markets are typically available for muscle cuts; however the challenge is to make money on by products. An industry rule of thumb is that the muscle cut sales will cover the operating costs of a packing plant, but the profit, if any, has to be made in the hide and offal sales. Larger processors typically account for this revenue as a credit against the processing cost of the animal. With the possible exception of the hide, large packers are typically able to secure greater value from by products because of the volume and skill available to place the by product into markets.

According to CanFax, estimated by product values on September 1, 2006 ranged from $86 to $102 per head steer, compared with $85 to $105 a year ago. This includes the hide, edible and inedible offal. The hide has the greatest value, historically ranging from $30 to $50 per animal. FOB Central U.S., the

average value of hide and offal for the three days ending Thu Sep 7, 2006 was estimated at 8.49 $US per cwt. (approximately $102 per animal), up 0.05 from last week and up 0.25 from last year[29].

Agrifood and Agriculture Canada reports exports in 2003 of 5.9 million tonnes bovine edible offal, fresh or chilled, with a total value of $41.5 million, or $7.07 average per tonne. In the first six months of 2006, Canada exported 3.4 million tonnes at an average value of $6.18 per tonne[30].

4.2 MARKET TRENDS

4.2.1 ORGANIC AND NATURAL

The demand for organic foods continues to grow, and is becoming more evident in the mainstream. In the spring of 2006, Wal-Mart announced its intention to enter the market far more aggressively, to double its inventory and eventually offer organics at only 10 percent above the price of conventional food. Safeway has also announced an expansion of in-store organic offerings.

According to a report released by the Organic Monitor[31], the meat sector is the fastest growing in the North American organic food industry with sales increasing by 51% in 2005. Most growth is occurring in the US organic beef market which has doubled each year since BSE was first reported. Although consumer confidence in conventional beef has largely remained intact, BSE has elevated consumer awareness of organic production methods. Organic meats have become popular as they are made from animals that are not given antibiotics, growth promoters or synthetic feeds. Many consumers perceive them to be safer and more nutritious than conventional meats.

High market growth rates have led to organic meat supply shortages with producers unable to meet burgeoning demand from retailers. The organic beef and pork markets are the most affected because of low production levels. American farmers have showed little interest in producing these organic meats due to high production costs and the lack of distribution infrastructure. Although production has stepped up since 2004, supply is expected to lag demand for a number of years.

According to the USDA Food Safety Inspection Service (FSIS), fresh meat labeled "natural" cannot contain any artificial flavor or flavoring, coloring ingredient, chemical preservative, or any other artificial or synthetic ingredient; and the product and its ingredients are not more than minimally processed (ground, frozen or smoked, for example). Some companies promote their beef as "natural" because cattle were not exposed to antibiotics or hormones and were totally raised on a range instead of being

[29] USDA Market Report, September 7, 2006.
[30] http://ats.agr.ca/stats/3610_e.pdf#search=%22edible%20offal%22
[31] The North American Market for Organic Meet Products, May 2006.
http://www.organicmonitor.com/300244.htm

"finished" in a feedlot. Label claims are generally regulated by FDA and must be verifiable through an audit should these claims be challenged. A challenge could come from competitors or consumer watchdog groups as well as FDA.

Besides the need to manage for the possibility of a label challenge, a company selling a "Natural" label product needs to be aware that larger players will tend to push the price of these products down, making the sector act more like a commodity than a differentiated product. One way to manage label liability and gain differentiation in the market is to look at a certification system, such as USDA Process Verified. This particular program is expected to be available only to US suppliers, and may result in a competitive disadvantage for Canadian suppliers.

According to AgriFood Canada, the "Natural" beef market in the United States is one of the fastest growing segments of the beef market[32]. Growth has been driven by healthier eating choices, food scares and health related issues as well as the proliferation of organic and "Natural" products available at the retail level. According to data procured by the National Cattlemen's Beef Association, natural and organic beef sales comprise 1.7 percent of all fresh beef sales in retail supermarkets in the U.S.[33]. Sales of natural and organic products in retail are rapidly increasing (17.2 in the last year) compared to all beef sales (up just 3.3 percent in the last year).

As a point of caution, the dramatic growth rates arise out of a very small initial industry. Growth rates can be expected to slow as the industry grows (relative increase is by definition smaller).

4.2.2 BRANDED AND CONVENIENCE PRODUCTS

Branded beef products are expected to remain strong, but within beef brands, natural and organic programs are expected to see the most growth. There is also a general increase in demand for consumer-friendly products. More fully cooked, value-added products are showing up at the retail level, and fewer fresh-beef cuts[34].

There are a number of brands in the Canadian marketplace, and the major processors all have brand programs supported by significant marketing investments. Third party certification is provided for 12 of these brands by the Canadian Grading Agency.

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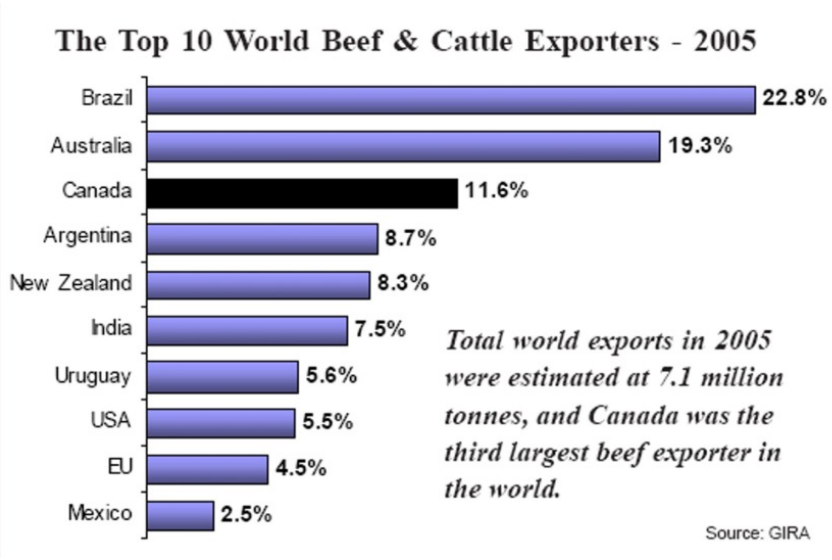
[32] The Natural Beef Market in the United States, Agrifood Trade Service, Dec 2005 http://www.ats.agr.gc.ca/us/4100_e.htm

[33] National Cattlemen's Beef Association, Issues Update, March-April 2006

[34] Trends to Track, May 1, 2006 http:/beef-mag.com/mag/beef_trends_track

4.3 EXPORT MARKETS

In 2005, Canada again ranked third in world exports of beef, reclaiming its pre-BSE status.



In 2005, exports to the U.S. totalled 370,742 tonnes, up 8% from 2004[35]. Total value was $1.55 billion, representing 84% of total value of Canadian beef exports as compared to 75% of the total export value in 2002. Exports to Mexico have dropped off from the record highs achieved in 2004, declining 35% in volume and 36% in value in 2005.

Outside of the USA, Mexico is Canada's largest export market for beef. An estimated 53,000 tonnes was shipped from Canada to Mexico in 2005[36]. Consumer buying power continues to grow which is a positive indicator for future beef purchases. As of March 2006 the Mexican market is accepting boneless and most recently bone-in beef from animals under 30 months. 2006 estimates are for approximately 100,000 tonnes of Canadian beef[37].

See table below.

[35] Canada's Beef Industry Fast Facts, Beef Information Centre, www.beefinfo.org
[36] http://www.cbef.com/market_information.htm
[37] Red Meat Section, Market and Industry Services Branch, Agriculture and Agri-Food Canada

Canadian Beef Exports[38]

Country	2002 Tonnes	2002 $'000	2005 Tonne	2006Est Tonne	2006 Est. $'000	2010 Goal Tonne	2010 Goal $'000
Japan	23,971	96,124	0	6,000	56,340	48,000	450,720
South Korea	17,342	59,830	0	12,000	55,560	35,000	162,050
Taiwan	7971	41,529	0	4,000	20,960	12,000	62,880
Hong Kong	625	2,956	20,638	15,000	54,300	13,000	47,060
China	2,651	7,105	0	2,000	4,920	21,000	51,660
ASEAN	2,218	2,706	440	1,000	2,200	5,000	11,000
Mexico	77,807	289,740	52,064	100,000	431,000	134,000	577,540
U.S.	363,453	1,628,269	370,742	357,000	1,452,990	405,000	1,648,350
Other	25,349	36,249	14,763	14,000	27,860	27,000	53,730
Total	521,467	$2,164,508	458,377	511,000	$2,106,130	700,000	$3,064,990

Asian markets have been identified as key future markets for Canadian beef. These markets reduce reliance on the U.S., but also provide higher priced markets for meats and offal that have limited value in North America. Prior to BSE, Canada exported approximately 55,000 tonnes to these markets. In 2005, exports were 21,000 tonnes, primarily to Hong Kong. 2006 estimates are for approximately 40,000 tonnes to Asia, including over 20,000 tonnes to Japan, South Korea and Taiwan, where some market restrictions continue[39]. The following is from the Canada Beef Export Federations' June 2006 Newsletter, Inside the Export Marketplace:

- Canadian beef exports to Japan have been very slow since Japan opened to Canadian beef in December 2005, currently averaging 50 tonnes a month. Exports are expected to increase during the year as more age-verified cattle start coming to market. The primary restriction on volumes to Japan is the availability of age-verified cattle (under 21 months of age). Eight Canadian establishments are currently approved to export to Japan.

[38] Canadian Beef Export Federation, sourced from CANFAX and Statistics Canada, March 2003
[39] Inside the Marketplace, June 2006 Canadian Beef Export Federation

- The beef import protocol agreed upon by Korea and the US calls for a suspension of import in the case of BSE occurring in cattle born after the effective date of the US feed ban (April 1998). Given that Canada has now diagnosed two cases of BSE in cattle born in April 2000, the Korean Government cannot technically provide access to Canada. Unofficially, Korea has indicated the Canada must bring technical solutions beyond the norm, such as BSE testing of all cattle or an under-21-month age protocol similar to Japan.
- Taiwan is currently undertaking a risk assessment of Canadian beef. The delays in Taiwan opening to Canadian beef are seen as political in nature.
- China has indicated that it would not negotiate on access for Canadian tallow until Canada had strengthened its feed ban, and also appeared reluctant to negotiate on imports of processed beef products before all SRM's were removed from Canada's feed system. Hong Kong did not suspend access following Canada's fifth BSE case, but indicated that this was not out of the question if further post-feed ban cases are diagnosed. Hong Kong authorities were becoming increasingly concerned over Canada's delay in implementing the enhanced feed ban, which has now been implemented.

5.0 OPERATIONAL CONSIDERATIONS

5.1.1 TRACEABILITY

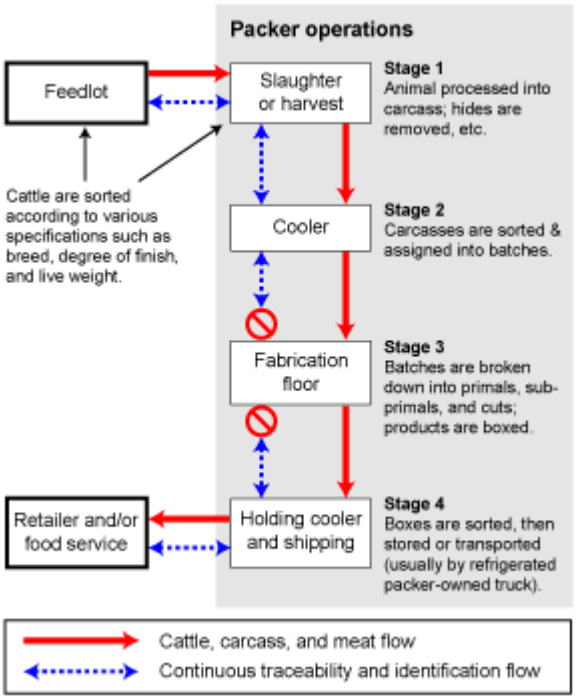
The Canadian Cattle identification Program is an industry initiated and established trace back system designed for the containment and eradication of animal disease. As of September 1, 2006 all cattle leaving their farm of origin must be tagged with a CCIA approved RFID tag. The program is regulated and enforced by the Canadian Food Inspection Agency (CFIA). No person shall transport, or cause the transportation of, receive, or cause the reception of, an animal that does not bear an approved tag, except to an approved tagging site. 100% compliance is now mandatory and the 5% slippage rate is no longer in effect. CFIA staff have the authority to carry out random checks of cattle on packing plant premises and may request to see records.

In the U.S. the Country of Origin Labelling (COOL) program is now slated for a 2008 implementation. This program is intended to specifically identify domestic and imported food products, and now is expected to include nutritional information as well at the retail consumer contact point. If the COOL program becomes mandatory, all production stages of the beef supply chain are expected to experience a significant cost burden, ranging from $5 per head for the cow-calf producer/backgrounder, $3.75 to

$5.75 per head for feedlots and $15 to $18 per head for packers as a result of the need to segregate cattle and beef products during the slaughter and fabrication stage of production[40].

Consumer concerns for safety are driving demand for full traceability systems. "Gate to plate" or "farm to fork" traceability is problematic, particularly in larger scale meat processing operations. The following is an excerpt from "Perspectives on Traceability and BSE Testing in the U.S. Beef Industry"[41]

- A breakdown in linear traceability between the animal's carcass and the beef exiting the processing plant is in the fabrication stage. Tracking within processing plants can be accomplished to the carcass cooling stage relatively easily if technology is invested in to connect animal ID information to a microchip embedded in the hook carrying the carcass through the plant on its trolley system. Tracking meat once it is in the box, to the end user is also relatively easy using bar coding on boxes or some other type of identification method.



- Farm-to-fork traceability assumes that information flows forward with the product through the production stages and can also be followed back through the production stages. The speed and volume of meat moving through large U.S. packing plants makes tying individual cuts moving through the fabrication floor and into boxes back to animals entering the plant virtually impossible with current commercial scale technology. With effort and investment, fabrication stage tracking on a batch or time basis can occur. This is most easily done for whole muscle meat cuts (e.g., steak), but further processed items like mixed and ground trim components (hamburger) present even more traceability problems.

[40] COOL Cattle Costs, Canadian Cattle Buyer, April 11, 2003.
[41] Choices Magazine, Q4 2005.

5.1.2 HOT BONING

Processing plants in some exporting countries, including New Zealand, Australia, and the U.S. are increasingly adopting hot boning due to its lower initial and operating costs. However, changes in quality of hot-boned beef, mostly associated with tenderness, color and microbiology have been mentioned. Findings are mixed, and there does not appear to be an industry consensus on this approach. Reported studies have shown similar microbial levels as with a chilled carcass[42]. Australia and New Zealand have implemented specific procedures for hot boning.

Reported benefits of hot boning include reduced energy costs from less space for chilling, quicker throughput of meat, reduced shrinkage, reduction of transport costs and labour. Reported disadvantages included toughening caused by muscle contraction during chilling of hot-boned meat, and shape distortion of the hot-cut meat. A study in Ireland reports an approach using vacuum packaging is believed to address these particular problems. An analyst in New Zealand indicates that hot boning is fine for grinding beef, but it doesn't meet the demanding specifications of quality prime beef production[43].

Hot boning is not currently used in Canada, although two proposed plants have announced intentions to use this technology, including Ranchers Choice in Manitoba. South River Foods also plans to use this technology in a new plant to be constructed in Lacombe, Alberta. The plant is expected to primarily process cull cows, and provide product for hamburger and soups for the food service market in the U.S. and Asia[44]. The CFIA is currently considering policy for this method of processing.

According to the Manitoba Supervisor for the Canadian Beef Grading Agency, hot boning may make grading difficult. Age verification may be more difficult once the bones are removed. Grading would still occur after the meat is cooled, potentially resulting in a lower grade due to shrinkage or distortion of key cuts such as the rib eye. While hot boning is generally used for mature cattle, under conventional processes some cattle over thirty months could achieve an A grade that may not be available if the animal is hot boned. This may create a disincentive for producers to deliver to plants using hot boning, as the value of the carcass could be significantly lower.

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[42] R&D Brief, Meat New Zealand, September 1999; Assessment of the hygienic adequacy of a commercial hot boning process for beef by a temperature function integration technique. Journal of Food Microbiology, October 1991
http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=1742170&dopt=Abstract

[43] Alan Barber, New Zealand Herald, January 30, 2006

[44] Lacombe Globe, October 18, 2005 http://www.lacombeglobe.com/story.php?id=190499

5.1.3 REGULATIONS AND PERMITS

Since 2004, the most significant change in the regulatory environment impacting beef processing is related to handling of specified risk materials (SRM). Changes to the Health of Animals Regulations require segregation and staining of specified risk materials, creation and maintenance of records for up to ten years that includes carcass identification and weight, and restrictions on disposal, with incineration specifically identified as an acceptable method[45]. SRM materials can no longer be included in rendering and specific and separate permits are required for transport and disposal of SRM.

Industry sources indicate that the new regulations are considered stringent, but unclear, creating potential compliance issues. The changes are expected to increase overall processing costs, however the full impact is not yet fully understood.

The CFIA has been promoting HACCP in the industry for some time. The Meat Inspection Regulations were amended effective November 29, 2005 necessitating the implementation of a mandatory Food Safety Enhancement Program (FSEP) in all federally registered meat and poultry establishments and storages[46]. The FSEP is designed to encourage the implementation and maintenance of a HACCP system in **all** federally registered meat and poultry establishments and storage facilities. Large customers will generally require suppliers to be fully HACCP compliant.

5.1.4 WASTE MANAGEMENT

Waste management continues to be a critical concern for the beef processing industry, particularly in Manitoba where the emphasis is on swine, and there is insufficient volume of beef by product to support development of this support industry.

Rothsay, a subsidiary of Maple Leaf Foods, is one of Canada's largest renderers. Rothsay recycles animal and poultry by products into a broad range of commercial tallow and protein products. Prior to the BSE crisis, Rothsay regularly picked up by product throughout the province, including areas in the northwest such as Dauphin, Swan River and Benito. Post-BSE, Rothsay picks up only as far north as Neepawa, the eastern side of the province, and the southwest. These materials are currently disposed in landfill as the extent of beef production has not warranted a separate line for beef products that would now be required as a result of BSE issues.

[45] Canada Gazette, July 12, 2006
[46] CFIA http://www.inspection.gc.ca/english/anima/meavia/haccpcome.shtml

In Manitoba, the lack of a rendering industry for beef by products puts the entire industry at a disadvantage, as the processor not only does not receive revenue for these by products, but also must pay for disposal. There is very little market within the province for edible or inedible offal, further increasing disposal costs. The challenge of handling waste has been further increased with the introduction of the regulations which require segregation of SRM material and specific disposal. Segregation and storage of the SRM's is expected to be problematic for Manitoba's smaller plants, both from a process standpoint and in some cases doubling storage requirements in limited space.

Local costs for disposal of by products are estimated at $25 per head, plus an additional $25 for disposal of SRM materials for cattle over thirty months[47].

Disposal of inedible offal in landfills is not considered a long-term solution in Manitoba, particularly if cattle slaughter and processing increases in the province. Alternatives to dispose of SRM and by products include composting and/or incineration; however these options are currently more expensive than landfill disposal and are still experimental.

5.1.5 LABOUR

Production workers in meat packing plants range from general labour to skilled positions. Example wage rates are shown below:

Sample Labour Rates[48]	
General labour (pens, custodial)	$10.30 - 11.55
Semi-skilled	$11.25 - 13.15
Skilled	$13.10 - 15.15

Based on the above, including an estimated 15% benefits, labour expense can be expected to be approximately $11.85 to $17.50 per hour.

The general availability and cost of labour in Manitoba has been significantly impacted by a shortage in skilled labour, and high demand and wages in Alberta. As reference, according to Statistics Canada, union construction wage rates for a labourer in Winnipeg, Manitoba, including standard benefits, are $18.29 per hour, showing no adjustments since 2005[49].

[47] Lee Perrault, Manitoba Meat Processors Association
[48] Hourly rates provided by Maple Leaf Foods, Brandon.
[49] Statistics Canada, custom table 327-0003

Labour is a particular challenge in rural areas. The nature of the employment is such that it is difficult to attract employees from outside the area.

The meat packing industry is also plagued with high rates of turnover, with typical annual rates of 30 to 50%, periodically increasing to over 100%. A number of packing plants in Canada have been recruiting foreign workers. Maple Leaf in Brandon reports that this has been very effective for them in stabilizing the workforce. In spite of foreign recruitment however, Lakeside Packers in Alberta has reported a continued shortage of approximately 300 workers to fill its second shift.

Safety and health considerations continue to be a concern in the meat packing industry, which is characterized by a high rate of workplace injury.

5.1.6 SHIPPING

The average capacity of a refrigerated trailer operating across Canada is 44,000 to 58,000 pounds for tandem and tri-axel trailers, and 44,000 to 44,500 pounds for tandem shipments to the U.S. and Mexico.

Base freight rates for refrigerated freight in August 2006 are locally estimated at approximately $2.25 to $2.75 per loaded mile plus freight service charges, and are dependent on freight flow, backhauls, and fuel prices. As examples, refrigerated freight transportation from Winnipeg, Manitoba to selected destinations is shown below:

Destination	Road Miles	Full Load Freight	Freight per Pound
Toronto	1,305	$2,396- $3,588	$0.067 – $0.081
Montreal	1,471	$3,310 - $4,045	$0.075 - $0.092
Vancouver	1,453	$3,269 - $3,996	$0.074 - $0.091

Compared to transportation from Alberta, Manitoba would have an approximate advantage of $0.04/lb (equivalent to about $23 head) in reduced freight of cut product for markets in Eastern Canada.

Truck transportation companies indicate there is a continued unmet demand for shipments by truck. The high demand for truck transportation suggests refrigerated shipments from a slaughter/processing plant in Manitoba would likely require considerable advanced booking and regular shipments to secure capacity with transporters.

5.1.7 CAPITAL REQUIREMENTS

General expectations for construction of a small to medium sized federally registered facility in 2000-2004 were approximately $300 per square foot. Construction material prices have increased significantly greater than inflation in recent years. The composite price index (1997=100) for non-

residential building construction in the second quarter of 2006 was 7.3% above the second quarter of 2005, and approximately 16% above 2003. As in the previous two quarters, the increase was mostly the result of higher material and labour costs as well as a strong market for non-residential building construction. This current CPI would suggest an increase in the general capital cost estimate to approximately $350 per square foot. Local estimates for budgeting purposes are for annual inflation of approximately 5 to 6 % for construction materials through 2007.

The above does not include waste water treatment systems, which could range up to $2 million for a stand alone system.

While ferrous materials increased approximately 30% in 2004 over 2003, machinery and equipment for both manufacturing and construction remained relatively flat in 2004 and 2005, according to Statistics Canada's Machinery and Equipment Price Index.

Volatility in energy costs are expected to continue to play a significant role in inflation, reflecting in part world oil prices and continued global uncertainty.

6.0 SUMMARY / CONCLUSIONS

1. Canada produced 3.5 billion pounds of beef in 2005, exceeding domestic consumption by approximately 1.8 billion pounds. Canada also imported approximately 86 million pounds. Export markets are significantly important to the Canadian industry.

2. The majority of Canada's exports continue to be to the U.S. Asian markets continue to be restricted, and are expected to have some restrictions on an ongoing basis. It is unlikely that global trade of OTM cattle will resume any time soon.

3. The opening of the border to UTM cattle in July 2005 has absorbed a significant amount of the build up that occurred since May of 2003, and market prices have adjusted, lowering beef prices, increasing cattle prices, and reducing packer margins.

4. At 104,000 head per week, processing capacity in Canada now exceeds cattle production. Packing plants are currently running at only approximately 70% capacity. Appreciation of the Canadian dollar and labour shortages are putting additional pressure on the industry.

5. Manitoba's cow herd remains at approximately 100,000 head above levels prior to the BSE crisis. There is some expectation that the border will again open to OTM cattle at some point, however this is being complicated with further reports of BSE. Processing capacity for cows is still believed to be approximately 120,000 head per year below total marketings of cows prior to the closure of the border.

6. The beef processing and food retail industries are dominated by a small number of very large players. The power of the participants in this supply chain and intense price competition create significant barriers to entry.

7. Economies of scale provide large processors with an estimated $50 - $70 per head production cost advantage over smaller processors (2,500 – 5,000 head/week). Freight differentials provide Manitoba an approximate $23 per head advantage in shipping cut product to Ontario as compared to Alberta. Based on freight rates as of September 2006, the cost of shipping a live animal to Alberta was approximately equivalent to the cost of shipping equivalent cut product to Ontario markets (live animal to Alberta $45-$46; cut product to Ontario $43-$44).

8. There is a significant increase in demand for organic and natural beef products that consumers perceive to be safer and of higher quality. These higher value products also allow smaller operations to effectively compete, in comparison with commodity products where the economies of scale available to the major packers are necessary to survive. There is also increasing competition. Independent certification is expected to become increasingly important. Organic and natural products are beginning to be adopted by mainstream retailers, creating increased demand and potential for interest among the major packers that can be expected to create some competitive price pressure.

9. Demand in Manitoba for product from provincial facilities is believed to be met with existing capacity. The supply chain for the majority of beef consumed in the province involves the national supermarket chains, which purchase only from federally registered facilities. While some limited niche market opportunities exist within the province, the demand necessary for an economic federal facility will require access to markets outside of the province, and potentially outside the country. Manitoba is at a disadvantage in terms of distance to major markets, although it does have some advantage over Alberta plants shipping to eastern Ontario.

10. Manitoba has historically finished approximately 225,000 head annually. Finishing is also fairly widely distributed, with a small number of larger feedlots. Based on feedlot capacity, the maximum size processing industry that can be supported within the province is approximately 250,000 head. This is a challenging size as it involves higher capital costs (per head) and less production efficiency than is available in larger plants. Increased finishing capacity in larger scale feedlots would be required to support a larger processing industry. This would likely require three to four years to develop.

11. Securing a stable supply, particularly for plants processing fed cattle, is critical to success. A Manitoba plant must be able to offer competitive prices for live cattle to withstand the pull of future cross-border demand. U.S. prices have, in the recent past, exceeded the freight

differential. This situation is highly subject to the value of the Canadian dollar relative to U.S. currency, and creates an added risk.

12. Whether for natural, organic or "conventional" beef, the demand for animal traceability, particularly in export markets, can be expected to increase supply chain costs and management requirements.

13. Secondary processors and purchasers of manufactured beef have previously sought supplementary import quotas as the imported product more consistently provided the required characteristics at a competitive price. Accessing these markets for cow beef may require changes in production practices for cull cows, and resulting increases in costs.

14. There are limited areas within the province that have existing industrial waste treatment plants with capacity to support the addition of a meat processing facility of any size. Expansions to waste water treatment facilities have been announced in Dauphin and Neepawa that would enable further development of the meat packing industry in these areas. Stand alone waste treatment systems can add in excess of $2 million to capital costs, creating barriers to expansion of existing plants as well as a cost disadvantage for new construction.

15. The lack of a rendering industry for beef by products in Manitoba places the province as a whole at a disadvantage. Disposal of animal by product can increase direct processing costs (excluding cattle) by as much as 14%, and current practices of disposal in land fill may not be sustainable in the long term. Alternatives for by product disposal must be developed to enable a sustainable beef processing industry in Manitoba.

16. While a common problem across the industry, recruitment and retention of labour can be expected to be a particular challenge in Manitoba, especially in rural areas. There is a general lack of national-level experience within Manitoba in this industry.

17. The beef industry can be quite volatile, particularly for commodity markets. Competition for supply, when it occurs, can quickly dissolve packer margins. Currency swings can have a dramatic effect. Operating profits in stable circumstances are modest, and require skilled management to achieve both production efficiency and maximum value for a perishable product. Because of the variability in the industry, sustainability demands fairly conservative debt levels, however facility and regulatory requirements create high capital costs, and the risk and returns associated with this industry may make attracting investment challenging.

18. Excess capacity in the Canadian and U.S. meat packing industry will create very competitive circumstances, emphasizing the importance of plant efficiency, and maintaining price pressure. New plants entering this industry will be at a significant disadvantage, particularly in

conventional markets. Niche markets and brand development continue to be extremely important.

19. Both cow beef and niche markets require market development beyond the province. Because of the high capital costs associated with a processing plant and the perishable nature of the product, long ramp up periods may not be possible financially. Clearly defining the product, establishing a market, and confirming suitable supply prior to major capital investment will be important to increase the likelihood of success.

20. In addition to market development, significant expertise is required to effectively manage a federal facility and profitably market product. Securing this expertise early in the process of establishing a plant will be fundamental to the success of the project.

APPENDIX A

CULL COW BODY & CARCASS COMPOSITION

1500 lb. cull cow, open,
BCS 3, expected to grade D1

53% HCW = 361 kgs (795 lbs)
99.5% CCW = 791 lbs.

REMOVED FROM CARCASS

Non-edible

- hide, head, feet, entails, manure and SRM
- blood (3% of live wt.)

Edible

- heart, lungs, liver, tongue, cheeks, oxtail

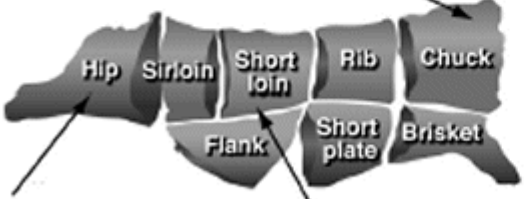
Non-edible

Bone 28% = 100 kgs (221 lb)

Edible

Fat 15% = 54 kg (119 lb.)
Muscle 57% = 451 lb.

50% of CCW to grinding



15% of CCW marketed from hip for further processing

5% of CCW marketed as cuts from rib, short loin and sirloin

5% cuts from rib & loins x 791 CCW
= 18 kgs (39.5 lb.)

15% hip x 361 kg (791) CCW
= 54 kg (118.5 lb.)

50% for grinding x 361 kg (791) CCW
= 179 kg (395.5 lb.)

Source: Ontario Agriculture, Food & Rural Affairs Fact Sheet ISSN: 1198 712X
http://www.omafra.gov.on.ca/english/livestock/beef/facts/05-075.htm

MEYERS NORRIS PENNY LLP