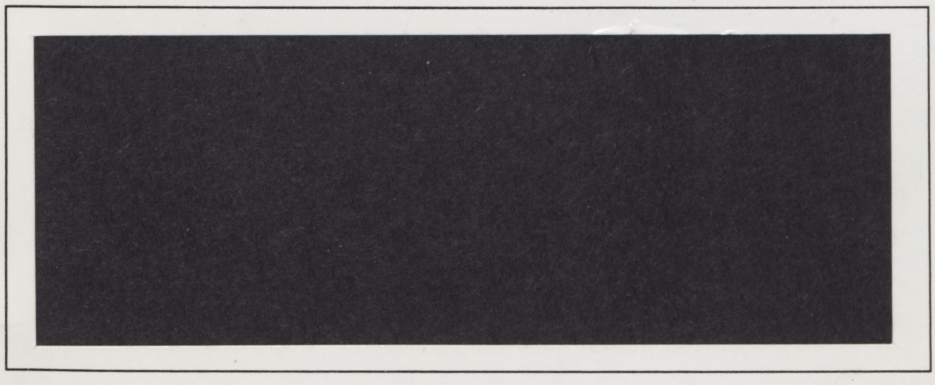
8/91

Agriculture Canada

Policy Branch

Direction générale des politiques



WORKING PAPER

Canada

COMPETITIVENESS OF THE BEEF INDUSTRY IN CANADA AND BEEF IMPORTS

(Working Paper 8/91)

Jim Townshend[1], Dr. Larry Martin[2],
Dr. Erna van Duren[3], Dr. Robin Reenstra-Bryant[4]

[1]Jim Townshend and Associates Agricultural Consulting.
[2]George Morris Centre, University of Guelph.
[3]Agricultural Economics and Business, University of Guelph.
[4]Brystra Consultants.

May 1991

This report was completed under contract with the Policy Branch, Agriculture Canada, 1991.
This is an annex to Working Paper 7/91.

Table of Contents

Figures and Tables

1.0 Introduction - The Linkage Between Beef Imports and Beef Industry Competitiveness

Several factors contribute to increased Canadian importation of high quality U.S. beef cuts and manufacturing beef from off-shore sources. Canada and the U.S. import manufacturing beef from the same sources for all practical intents and purposes with the exception of the past three years when Nicaraguan exports were shut out of the U.S.1 The U.S. has been a consistent net importer of manufacturing beef in the past 10 years. Canada became a marginal net importer of beef in 1987 after a consistent history as a net exporter from 1980 to 1987. In 1988 Canada regained net exporter status with a substantial margin which widened even more in 1989, and became again a substantial net importer in 1990.

The shift to net importer status in 1990 is accompanied by a dramatic increase in Canadian slaughter and feeder cattle exports to the U.S. This increase in slaughter cattle exports for one year can legitimately be regarded as a critical indicator of a fundamental shift in competitiveness in the feeding and primary processing sectors for several reasons:

1) Overall North American feeder and slaughter cattle supplies are smaller. Canadian plants are generally operating at significantly less than optimum output levels. Continentaly, there is excess slaughter capacity accompanied by severe rationalization and increasing concentration in the primary processing sub-sector;2

---

1 Beef trading sources reported that the main driving force for increased shipment of manufacturing beef into Canada and displacement of Australian and New Zealand products was the need for hard currency in the face of the U.S. embargo resulting in predatory pricing of Nicaraguan product by Canadian buyers.

2 Also see later discussion of structural change and concentration in the primary processing sub-sector.

2) Within the last two years, kill and box capacities in western Canada have increased by more than 25% with no attendant increase in slaughter;3

3) Over the past five years a serious decline in overall Canadian cow slaughter capacity has taken place in parts of the prairies and most of central Canada. This has been accompanied by a massive export of slaughter cows from the same regions to the U.S. At the same time, Alberta and Quebec cow processing plants are operating below optimum capacity;4

4) A chronic shortage of feeder cattle over the past 10 years in southern Ontario has been accompanied by a critical reduction in high quality kill and process capacity for high quality cattle in that region;5

5) U.S. high quality middle cuts entering Canadian retail and food service markets for the past five years have been highly competitively priced rather than premium priced. This would appear to be anomalous in markets that claim to be chronically short of middle meats;6

---

3 The increased killing capacity of Lakeside Packers in Brooks, Alberta and the increased kill and ship capacity of the Alberta processing sub-sector as a result of the operation of Cargill, High River have not been off-set by any Alberta plant closures. However, all Alberta operations have experienced some supply displacement and reductions in outputs. Later discussion in Section 2 elaborates on the overall implications of continental structural change for Canadian operations.

4 Gradual attrition of federally inspected, intermediate scale cow killing plants in Saskatchewan, Manitoba, and southern Ontario have resulted in a large surplus of slaughter cows in those provinces. Shipments of cull cows from those provinces constitute a large part of Canada's cow exports. These provinces have experienced declines in beef and dairy cattle populations over the last 10 years as well - consequently exports may also be construed as part of a general sell-down related to structural change and overall performance in the primary production sub-sector.

5 Feeder cattle shipments to southern Ontario from the prairie provinces have shrunk in recent years due to increased demand in the west and impaired procurement positioning of Ontario feeders resulting in part from a shrinking Ontario kill that has depressed spot prices for slaughter cattle. Ontario feeders have also experienced problems in attempts to procure feeder cattle from the U.S. Also see later detailed discussion of competitiveness of the Ontario primary production community.

6 Previous work has shown that loin, rib, and hip cuts of high quality ungraded beef from the U.S. were imported and converted to Canadian specifications at prices as low as 65 to 70 % of Canadian A1 - A2 prices at certain times of the year. See also later detailed discussions of processing and marketing competitiveness.

6) Canadian prairie feeder cattle are breing currently strongly drawn in large numbers by pricing to the U.S. Mid-west and High Plains. Alberta commercial feeding capacity has increased as has Alberta slaughter and processing capacity over the past two years. However, Canadian feeder cattle shipments and high quality slaughter cattle shipments have increased to P.N.W., High Plains, and some Mid-west markets.7

A large part of the explanation for the recent radical swings in balance of U.S. and Canadian beef and cattle trade is found in disparities between the respective beef industries of the U.S. and Canada with respect to:

1) size and scale of respective sub-sectors and domestic markets;
2) geographic locations and proximities of primary production and primary processing sub-sectors and respective major domestic markets;
3) input costs in respective sub-sectors;
4) concentration, vertical integration, and coordination in respective processing sub-sectors;
5) technological innovation diffusion in processing and preservation;
6) fresh beef marketing and merchandising;
7) offals production and marketing.

The balance of the following Sections of this Report explains how increased manufacturing and high quality beef imports into Canada are a direct result of a manufacturing and high quality beef vacuum. The subsequent Sections also explain how this vacuum is created by:

1) a high proportion of primary processing technological obsolescence combined with economic and operational inefficiencies of smaller scale;

---

7 Relatively large volumes of feeder cattle are being shipped from neighboring provinces to the U.S. rather than o Alberta and slaughter steers and heifers are being shipped from Alberta to the U.S. at a time when the demand in Alberta should be increasing. Also see discussions of feeder and slaughter cattle marketing and specifications.

2) non-competitive beef and offals marketing and merchandising; and
3) timely structural change due to rationalization and attrition in the primary processing sub-sector.

The analysis in this Annex supports the findings of the Review of the Canadian Meat Import Act by explaining how off-shore imports supplement continental manufacturing beef production and sales. This challenges some perceptions that imported manufacturing beef depresses the domestic manufacturing beef price.

The discussion of factors affecting competitiveness found in Sections 2 and 3 also argues (by inference) against the perception that Canada lacks sufficient institutionalized insulation against beef imports. Research findings appearing in Sections 2 and 3 as well as the trade analysis in the main body of the Report also support the contention that the Canadian Meat Import Act (per se) is not ineffective due to lack of harmony or disparity with the U.S. Meat Import Law.

In point of fact, the Review of the Canadian Meat Import Act and the ensuing Sections support that the contention that since the Canadian Meat Import Act is seldom applied, a combination of the market forces acting on production, distribution, and consumption of manufacturing beef in North America (and therefore Canada) and U.S. voluntary restraint agreements are the principal forces acting on import levels and prices of manufacturing beef in Canada.

In short - the findings of the research and analysis appearing in the following Sections strongly contradict the argument that a weakened Canadian position in beef marketing and cattle procurement in the primary processing sub-sector with concomitant depression of live cattle prices are due to increased manufacturing beef imports and failure to exercise regulatory restraint of manufacturing beef imports from off-shore sources.

Research findings and analysis found in the main body of the Report and ensuing Sections of this Annex show how any causal linkage between increased manufacturing beef imports and highly variable performance in the Canadian cow killing and boning sub-sector is virtually entirely structurally-based.

1.1 Some Perspectives on Changes in Beef and Cattle Imports and Exports Since 1980

Economic impacts of off-shore origin beef and veal imports on the Canadian beef industry have been assessed in the Review of the Meat Canadian Meat Import Act. Canada's Meat Import Act permits Canadian meat importers to bring beef and veal from government-approved off-shore sources into Canada in total tonnage at least equal to a specified minimum referred to as the Global Minimum Access Commitment (GMAC).8

Beef imports from off-shore sources are categorized by Statistics Canada as boneless beef including primal and sub-primal cuts and trimmings of high and manufacturing quality origin, bone-in primal and sub-primal cuts of high and manufacturing quality origin, carcasses of high and manufacturing quality origin, cooked beef, pickled and cured beef, canned beef, and a nebulous catch-all known as "other" that includes some offals and any other products not specifically covered by the above categories.9 10

Adoption of the so-called "Harmonized System" by Canada Customs and Statistics Canada for purposes of "universally" describing and recording international trade in like products may have resulted in some sacrifice in

8 For detailed discussion of the Canadian Meat Import Act and the GMAC see the Review of the Canadian Meat Import Act.

9 Statistics Canada and beef industry research interviews, 1990

10 For detailed discussion of the Canadian Meat Import Act and the GMAC see the Review of the Canadian Meat Import Act.

precision of characterization of boneless and bone-in cuts with regard to relative commercial values that are largely dependent on eating and manufacturing properties of beef. However, it is possible to juxtapose information obtained from reliable beef industry sources about imported beef quality with existing statistical information to obtain a reasonably accurate profile of Canada's beef imports.[11] [12]

Imports from the U.S. are currently predominantly bone-in and boneless cuts. Boneless and bone-in cuts imported from the U.S. are generally characterized by beef importers as high quality, or beef manufactured from youthful, fat steers and heifers.[13] High quality beef is largely consumed as retail table cuts and food service portion control servings.[14]

Table 1.1 shows significant off-shore sources of beef for Canada since 1980 have included Australia, New Zealand, Ireland, and Nicaragua. 90 to 95 percent of shipments from off-shore sources are characterized by industry sources as manufacturing beef for use by food manufacturers, retailers, and institutions in ground beef, formulated meat products, canned soup, stew, canned, frozen, and packaged prepared meal products.[15] The best available U.S. and Canadian industry estimates characterize approximately 5 to 10 percent of off-shore origin imports as "middle meats" (premium cuts coming from ribs, short loins, and sirloins) that will have the same commercial fates as North American high quality beef.[16] [17]

Table 1.1 compares volumes and composition of imported beef in several categories from the U.S. and off-shore sources from 1980 to 1990. Table 1.1

11 Beef industry research interviews, 1990

12 Also see later detailed discussion of trade in cattle and beef as like products.

13 Beef industry research interviews, 1990

14 Also see later detailed discussion of manufacturers retail cut offerings and food service specifications and procurement programs.

15 Beef industry research interviews, 1990

16 Beef industry research interviews, 1990

17 Also see later detailed discussion of commercial fates of manufacturing beef.

is derived from Agriculture Canada data presented in the Livestock Market Review. A cursory analysis of this shows that the volumes of imports of boneless and bone-in cuts from the U.S. have grown to nearly 40% of all beef imports in 1989 and 1990. In 1980 U.S.-origin imports comprised only slightly more than 7 % of all beef imports. At the same time boneless beef from Australia and New Zealand comprised nearly 83 % of all of Canada's beef imports.

Boneless beef and bone-in cuts imports from the U.S. increased to approximately 39 % of all beef imports in 1989. There appears to be some shift in composition of imports from the U.S. in 1990 to the extent that approximately 13 % of all imports are now U.S. bone-in cuts. U.S.-origin imports are now slightly less than 45 % of all beef imports to the middle of November, 1990.

In 1980, the U.S. exported approximately 8,000,000 pounds of beef (mostly high quality) to Canada. This comprised only about 7 % of all beef imports into Canada. Total beef tonnage imported by Canada to mid-November of 1990 is estimated to be 2.255 times more than was imported in 1980.[18]

Approximately 110,000,000 pounds of the nearly 260,000,000 pounds of all beef imported in 1990 to mid-November was high quality beef from the U.S. In other words, Canada imported the approximate equivalent of 245,000 fat, high quality cattle from the U.S. as boneless and bone-in beef cuts and a small amount of carcasses this year.[19] This is roughly equivalent to 13 % of the 1990 high quality federally inspected slaughter in Canada, or

---

18 Based on 1990 Livestock Market Review figures

19 Calculations based on November 22, 1990 data published in Canada Livestock and Meat Trade Report and average yield estimations obtained from industry sources for high quality carcass and boneless retail cut-out factors using Canadian specifications

approximately 23 % of the federally inspected high quality kill in Alberta in 1990. 20

Beef imports from off-shore suppliers amounted to the rough equivalent of 300,000 cows assuming that approximately 90 % of the entire quantity of off-shore imports is manufacturing quality beef.21 Table 1.4 shows that Canadian exports of slaughter cows to the U.S. to date in 1990 amounts to approximately 150,000 head with bulls accounting for nearly another 30,000 head. At the same time exports of slaughter calves have dwindled to less than half of 1980 levels of 63,000 head.

Exports of high quality slaughter steers and heifers to mid-November this year are approximately 235,000 head or approximately 55 % of all slaughter cattle and calf shipments from Canada.22 This is roughly the equivalent of 12 % of the 1990 federally inspected high quality slaughter in Canada, or approximately 22 % of the 1990 federally inspected high quality slaughter in Alberta.23 While this does not mean to imply that all of the "escaped" slaughter steers and heifers were otherwise destined for the Alberta kill, it is useful to put the trade in a set of relative terms.

To summarize the balance of trade in cattle and beef in another way - Canada imported, as predominantly high quality beef, the rough equivalent of 245,000 fat cattle from the U.S. in 1990 to mid-November. Up to the same time in the same year, Canada exported approximately 235,000 high quality fat cattle to the U.S. During the same period in 1990 Canada exported approximately 140,000,000 pounds of beef to the U.S. This accounted for more than 90 % of Canada's beef exports. Nearly 90 % of

---

20 Based on Agriculture Canada data for federally inspected slaughter as reported in Livestock Market Review, 1989

21 Based on average yield estimations obtained from industry sources for cow carcass and boneless beef cut-out

22 Calculations based on November 22, 1990 data published in Canada Livestock and Meat Trade Report

23 Based on Agriculture Canada data for federally inspected slaughter as reported in Livestock Market Review, 1989

U.S.-bound exports was composed of boneless beef, trimmings, some boneless cuts, and carcasses. Industry sources characterize this as approximately 90 % manufacturing quality beef - roughly the equivalent of about 118,000,000 pounds of boneless beef, or the approximate equivalent of 260,000 slaughter cows. The balance of U.S.-bound exports amounts to slightly more than 12,000,000 pounds of high quality beef or the equivalent of about 26,000 high quality slaugher cattle.24 At the same time there is about 10 % of off-shore beef imports that follows the high quality beef pathway. This would amount to about 15,000,000 pounds of high quality equivalent beef.25 Hence, the balance of all trade in high quality beef and high quality cattle can be assumed to be about a 3,000,000 pound import surplus.

To mid-Novmber in 1990, Canada has imported approximately 141,000,000 pounds of boneless beef from off-shore sources. This amounts to approximately 127,000,000 pounds of manufacturing quality beef using conservative industry estimates of 90 % of all boneless imports as manufacturing beef. This is equal to approximately 280,000 slaughter cows.26 The increase in supply created by this level of importation is virtually off-set by the export of approximately 120,000,000 pounds of manufacturing beef to the U.S. as well as nearly 30,000 cull bulls that would yield about 21,000,000 pounds of boneless manufacturing beef during the same period. 27

On balance this leaves Canada with an export surplus of approximately 149,000 slaughter cows exported to the U.S. This would equate to approximately 67,000,000 pounds of manufacturing quality boneless beef.

---

24 Based on industry estimates of the ratio of manufacturing and high quality beef exports to the U.S. and industry estimates for high quality beef cut-outs

25 This is based on the assumption that approximately 90 % of off-shore imports are manufacturing quality and the further assumption that the bulk of off-shore imports are boneless.

26 Based on average yield estimations obtained from industry sources for cow carcass and boneless beef cut-out

27 Based on industry estimates of boneless beef cut-out for cull bulls

Feeder cattle imports are currently about five percent of feeder cattle exports to the U.S. Feeder cattle exports to the U.S. in 1990 have approached 185,000 head this year to mid-November. Less than 2,000 head of feeder cattle were imported from the U.S. in the same time-frame.[28] [29] Assuming conservatively that 95 % of the net exports in feeder cattle survive to achieve slaughter weight this means that Canadian slaughter plants lost the opportunity to kill approximately 174,000 high quality cattle, or the equivalent of approximately 9 % of the federally inspected high quality kill to mid-November, 1990.[30] This would equate to a retail cut equivalent of approximately 83,000,000 pounds of high quality beef. This may be thought of as a sort of "shadow" export surplus in beef as feeder cattle.

The implication for the slaughter and processing sub-sector is that exports of more than 400,000 head of high quality slaughter and feeder cattle represents an export of the opportunity to produce approximately 192,000,000 pounds of high quality boneless retail cuts in 1990.[31] Added to this is the export of approximately 180,000 cull cows and bulls, conservatively estimated as equivalent to another 85,000,000 pounds of boneless grinding meat.

Aggregation of the retail cut tonnage equivalents of exported feeder and high quality slaughter cattle and the boneless beef equivalent tonnage of exported cows and bulls would more than off-set the roughly 260,000,000 pounds of beef imported to mid-November by about 10,000,000 pounds.

---

28 The only other year that approached this level was 1985 when just under 105,000 head of feeder cattle were shipped to the U.S. when severe drought affected the ability of prairie producers to sustain herd numbers during the pasture months.

29 Based on Livestock Market Review data 1980 - 1990

30 Assuming 95 % of exported feeder heifers and steers achieve slaughter weight

31 Estimations based on average live weights, carcass yields, and retail cut-outs obtained from industry sources and recent U.S.D.A. retail cut-out calculations

When this is considered in light of the approximately 150,000,000 pounds of beef exports to mid-November of this year it would appear that Canada is a net exporter of the equivalent of approximately 160,000,000 pounds on a retail cut equivalent and boneless manufacturing beef equivalent basis. A further inference to be drawn from this is that the value added to Canada's exported beef and cattle is considerably greater than the value added to beef imports from off-shore and the U.S.[32]

Table 1.3 shows that slaughter cattle imports from the U.S. are comprised largely of high quality cattle but the trend is a sharp decline in importation of slaughter cattle of any kind. Imports of all slaughter cattle in 1990 were less than 8,000 head to mid-November. 85 % of these were steers and heifers.

Table 1.2 shows the composition of exports of Canadian beef to other countries. The U.S. is consistently Canada's largest customer for Canadian manufacturing quality boneless beef, trimmings, carcasses, and bone-in cuts, the last being composed of high quality fronts and some cows. The composition of slightly more than 100,000,000 pounds of beef exports to the U.S. in 1980 was approximately 13 % carcasses, 43 % boneless beef, and 28 % trimmings. It is consistent with industry consensus to assume that 90 % of this product was manufacturing quality. Approximately the same proportions of an estimated 141,000,000 pounds of beef was shipped to the U.S. to mid-November in 1990. This constitutes slightly less than half of the U.S. destined exports in 1988 and approximately 35 % of 1989 exports, but is close to 1980 to 1983 levels of exports.

Beef exports to Japan and other countries have ranged between 8 and 22 % of all Canadian shipments and are largely comprised of boneless product.

---

32 This assumes that feeder cattle, high quality, and manufacturing quality slaughter cattle will be killed in the U.S. and that the aggregate value of incoming high quality and manufacturing beef is lower by virtue of composition of all beef imports.

Current levels of approximately 5 % of all shipments as high quality boneless beef are close to the ten year average. It is conceivable that the dollar value of these shipments is somewhat greater than in earlier years due to the increased efforts of Canadian beef exporters to develop high quality beef markets in the Pacific Rim.33

In short, Canadian beef imports tonnage has increased less in total and proportionately in the short run compared to exports of Canadian slaughter and feeder cattle expressed as retail cut and grinding meat equivalents. At the same time, feeder and slaughter cattle imports have failed to off-set manufacturing and high quality beef exports. This would appear at first blush to place Canada in a healthy balance of trade position as a net exporter of beef and cattle, if in fact the two can be thought of as equivalent. A finer and more obvious distinction would be to say that Canada is a net exporter of slaughter and feeder cattle and a net importer of beef.

However, this apparently mathematically appealing argument has a less seductive side when considered in terms of the realities of attrition in the primary processing sub-sector, depletion of slaughter cattle market options for central Canadian producers, shrinkage in actual Canadian slaughter cattle supplies, smaller Canadian feeder cattle reserves, a shrinking feed grain market in the cattle sub-sector, increasingly strong competition in the wholesale domestic high quality beef market from lower-priced and equivalent quality ungraded U.S. product, and critical reduction of slaughter cattle supplies for western Canadian plants.

---

33 Beef industry sources indicate that the dollar value per unit of exports to Japan is rising as a result of increased marketing efforts.

1.2 Some Perspectives on Manufacturing Quality Beef Demand and Supply

Since the early 1950's there has been a shift in consumption patterns for all beef in the U.S. In the early to mid 1950's processing quality beef comprised roughly 1/3 of beef consumption (not retro-adjusted for changes in trim and bone). From the mid-50's onward the trend was to lower proportions of manufacturing beef as a fraction of total beef consumption to a low point of approximately 23 percent in 1974. Processing beef consumption increased in the mid-70's to a high of approximately 28 percent with the explosive growth of one-item menu hamburger restaurants. From then until the present processing beef consumption has shifted from approximately 23 to 25 percent of total beef consumption on a retail weight equivalent basis in the U.S.

Per capita beef disappearance on a retail basis in the U.S. appears to be stabilizing at approximately sixty-one pounds. Historical tracking and estimates of beef consumption in the U.S. suggest that there is a stabilization effect occurring that places retail cut basis per capita block beef disappearance at approximately 45 pounds and processing beef disappearance at approximately 15 pounds per annum.34

With a sharp rise in poultry consumption during the late '80's accompanied by relatively small growth and stabilization in pork consumption, block beef and hamburger consumption have dropped. One beef industry analyst has estimated 1990 beef consumption to be stabilizing compared to 1989 levels in the face of little change in deflated prices and a 5 percent contemporary dollar price increase. Hamburger disappearance in 1990 is estimated to be

---

34 Based on U.S.D.A. data and analysis by Abraham and Associates Inc. 1990

about 5 percent lower with less than a 7 percent contemporary dollar price increase and a 2 percent deflated price increase.35 36

Price trends for beef and substitutes suggest that the possibility exists for further drops in block beef and hamburger consumption levels. However, disappearance data suggests a slow-down in the drop in beef consumption in the next year. In fact, it appears that per capita consumption for block beef cuts may be stabilized.

Changes in North American consumer behavior patterns with respect to overall meat consumption are partially driving changes in retail and wholesale beef merchandising. At the same time, primary processing industry structural and performance changes, wholesale beef marketing and merchandising developments, and increasing diffusion of technological innovations in primary processing and packaging technology are driving change in wholesale distribution, store level cutting, retail food service preparation and offerings, and beef consumer behavior.

From the early 50's the supply of U.S. block beef on a carcass weight equivalent basis has remained very close to 50 percent of total production.

35 Analysis by George Abraham of Abraham & Associates, 1990; Personal communications with George Abraham, 1990

36 Since 1970 in the U.S. annual per capita broiler disappearance has ranged from a low of 39.1 pounds to a 1989 high of 66.6 pounds. In the same time frame, the deflated average retail price ranged from a high of $1.24 in 1973 to a low of $0.69 in 1987 with a 1989 price of $0.74.

During the same time period, annual per capita pork disappearance ranged from a low of 47.9 pounds in 1975 to a high of 65 pounds in 1980 and a 1989 level of 58.8 pounds. Average annual deflated retail prices for pork ranged from a high of $2.28 in 1973 to a low of $ 150.6 in 1985 with a 1989 price of $1.51.

Average annual block beef disappearance since 1970 ranged from a high of 61.8 pounds in 1976 to a low of 45.7 pounds in 1989. The deflated retail price average reached a high $2.81. in 1973 and a low of $2.10 in 1986 with a 1989 price of $2.19.

Hamburger disappearance since 1970 has ranged from a high of 21.7 pounds in 1975 to a 1989 low of 15.5 pounds. The highest average deflated price for hamburger was in 1973 at $1.95 and the lowest was in 1989 at $1.21.

Imports of manufacturing beef have cyclically risen and fallen with the supply of domestic manufacturing beef indicating that manufacturing beef imports have continuously been used in the U.S. to meet total demand. Composition of off-shore origin imports across North America is currently estimated to be approximately 5 to 10 percent cuts with the balance as boneless manufacturing beef and trimmings.37

In Canada, the level of imports of manufacturing beef from off-shore has risen at varying rates of year to year change ranging from 2 to 25 percent per year since 1980 with the exception of 1985 when curtailed beef imports from Ireland resulted in a net drop of 6 percent. The proportion of all Canadian manufacturing beef with off-shore origin is increasing relative to off-shore imports of manufacturing beef entering the U.S.

Moreover, Canadian imports of off-shore origin manufacturing beef since 1980 are increasing relative to Canadian production of manufacturing beef. Canadian manufacturing beef imports have remained relatively constant at about 43 % of all beef imports into Canada. However, manufacturing beef imports rose to approximately 37 % of federally inspected manufacturing beef production in Canada in 1989.38 As fewer cows and bulls are slaughtered domestically, and as more are exported live to the U.S., and as more manufacturing beef in total is imported, the percentage of manufacturing beef imported by Canada relative to production will increase.

On the other hand, U.S. imports of manufacturing beef and veal in 1989 were at the middle of the range for annual imports tonnage since 1980 and were at a 10 year low as a 4..7 % fraction of total beef and veal production.

37 U.S.D.A. Economic Research Service, Personal Communications, 1990; Analysis by George Abraham of Abraham & Associates. 1990; Personal communications with George Abraham, 1990

38 Based on Agriculture Canada beef trade and slaughter data in 1989 Livestock Market Review.

The value and actual tonnage of U.S. beef exports in 1989 was also greater than any previous year to 1980.39

---

39 Analysis of U.S.D.A. production and trade data, American Meat Institute Meat Facts data, and Agriculture Canada trade data combined with unpublished trade and production information obtained during beef industry research interviews

TABLE 1.1
COMPOSITION OF CDN BEEF IMPORTS
COUNTRY/PRODUCT

	1980			1981			1982		
UNITED STATES	000 LBS	%/CLASS	%/ALL IMPORTS	000 LBS	%/CLASS	%/ALL IMPORTS	000 LBS	%/CLASS	%/ALL IMPORTS
Carcasses Bone-in	532	100.00	0.46	693	95.06	0.62	717	100.00	0.61
Cuts Bone-in	847	60.76	0.74	1585	80.62	1.42	1342	75.10	1.14
Boneless	7949	7.69	6.90	13330	13.50	11.90	13596	12.94	11.59
Pickled/Cured/Canned/Cooked	119	2.47	0.10	42	1.11	0.04	68	1.46	0.06
Trimmings	45	0.87	0.04	40	0.59	0.04	60	1.19	0.05
Other	0			0			13	100.00	
Total	9492			15690			15796		
AUSTRALIA									
Carcasses Bone-in	0		0.00	36	4.94	0.03	0		0.00
Cuts Bone-in	523	37.52	0.45	288	14.65	0.26	387	21.66	0.33
Boneless	43448	42.06	37.70	38770	39.27	34.62	42610	40.55	36.34
Pickled/Cured/Canned/Cooked	4696	97.53	4.08	3758	98.89	3.36	4544	97.64	3.87
Trimmings	2825	54.48	2.45	2615	38.74	2.34	2221	44.17	1.89
Other	0			0			0		
Total	51492			45467			49762		
NEW ZEALAND									
Carcasses Bone-in	0			0			0		
Cuts Bone-in	24	1.72	0.02	93	4.73	0.08	58	3.25	0.05
Boneless	51914	50.25	45.05	46632	47.23	41.64	48864	46.51	41.67
Pickled/Cured/Canned/Cooked	0	0.00	0.00	0	0.00	0.00	42	0.90	0.04
Trimmings	2315	44.65	2.01	4095	60.67	3.66	2747	54.63	2.34
Other	0			0			0		
Total	54253			50820			51711		
E.E.C									
Carcasses Bone-in									
Cuts Bone-in									
Boneless									
Pickled/Cured/Canned/Cooked									
Trimmings									
Other									
Total									
NICARAGUA									
Carcasses Bone-in									
Cuts Bone-in									
Boneless									
Pickled/Cured/Canned/Cooked									
Trimmings									
Other									
Total									
AGGREGATE TOTAL	115237			111977			117269		

TABLE 1.1
COMPOSITION OF CDN BEEF IMPORTS
COUNTRY/PRODUCT

	1983			1984			1985		
UNITED STATES	000 LBS	%/CLASS	%/ALL IMPORTS	000 LBS	%/CLASS	%/ALL IMPORTS	000 LBS	%/CLASS	%/ALL IMPORTS
Carcasses Bone-in	2295	98.41	2.11	2532	100.00	1.64	2135	98.30	1.40
Cuts Bone-in	1370	76.41	1.26	2996	82.10	1.94	1992	82.48	1.30
Boneless	16463	17.02	15.15	33485	23.24	21.73	32755	22.39	21.42
Pickled/Cured/Canned/Cooked	15	0.42	0.01	11	0.97	0.01	88	16.15	0.06
Trimmings	78	1.85	0.07	174	6.87	0.11	493	39.22	0.32
Other	37	100.00	0.03	185	100.00	0.12	225	100.00	0.15
Total	20258			39383			37688		
AUSTRALIA									
Carcasses Bone-in	37	1.59	0.03	0		0.00	0		0.00
Cuts Bone-in	362	20.19	0.33	653	17.90	0.42	409	16.94	0.27
Boneless	30180	31.20	27.77	27035	18.76	17.54	40619	27.77	26.57
Pickled/Cured/Canned/Cooked	3522	99.55	3.24	641	56.63	0.42	61	11.19	0.04
Trimmings	1172	27.73	1.08	633	24.98	0.41	235	18.70	0.15
Other	0			0			0		
Total	35273			28962			41324		
NEW ZEALAND									
Carcasses Bone-in	0			0			37	1.70	0.02
Cuts Bone-in	61	3.40	0.06	0	0.00	0.00	14	0.58	0.01
Boneless	50103	51.79	46.10	37726	26.19	24.48	49706	33.98	32.51
Pickled/Cured/Canned/Cooked	1	0.03	0.00	0	0.00	0.00	0	0.00	0.00
Trimmings	2976	70.42	2.74	205	8.09	0.13	343	27.29	0.22
Other	0			0			0		
Total	53141			37931			50100		
E.E.C									
Carcasses Bone-in				0	0.00	0.00	0	0.00	0.00
Cuts Bone-in				0	0.00	0.00	0	0.00	0.00
Boneless				45828	31.81	29.74	23208	15.86	15.18
Pickled/Cured/Canned/Cooked				480	42.40	0.31	396	72.66	0.26
Trimmings				1522	60.06	0.99	186	14.80	0.12
Other				0	0.00	0.00	0	0.00	0.00
Total				47830			23790		
NICARAGUA									
Carcasses Bone-in									
Cuts Bone-in									
Boneless									
Pickled/Cured/Canned/Cooked									
Trimmings									
Other									
Total									
AGGREGATE TOTAL	108672			154106			152902		

TABLE 1.1
COMPOSITION OF CDN BEEF IMPORTS

COUNTRY/PRODUCT	1986			1987			1988		
UNITED STATES	000 LBS	%/CLASS	%/ALL IMPORTS	000 LBS	%/CLASS	%/ALL IMPORTS	000 LBS	%/CLASS	%/ALL IMPORTS
Carcasses Bone-in	368	100.00	0.23	2707	100.00	1.42	736	100.00	0.31
Cuts Bone-in	2184	98.20	1.37	3602	86.86	1.89	6021	80.14	2.53
Boneless	33736	22.23	21.19	45604	26.01	23.93	62436	27.93	26.18
Pickled/Cured/Canned/Cooked	424	12.49	0.27	1025	21.39	0.54	220	10.87	0.09
Trimmings	256	46.80	0.16	395	34.77	0.21	1578	89.41	0.66
Other	881	100.00	0.55	2445	100.00	1.28	2859	100.00	1.20
Total	37849			55778			73850		
AUSTRALIA									
Carcasses Bone-in	0		0.00	0		0.00	0	0.00	0.00
Cuts Bone-in	39	1.75	0.02	450	10.85	0.24	1305	17.37	0.55
Boneless	70693	46.58	44.41	73603	41.97	38.62	79974	35.77	33.54
Pickled/Cured/Canned/Cooked	2538	74.73	1.59	3596	75.06	1.89	1625	80.29	0.68
Trimmings	0	0.00	0.00	0	0.00	0.00	0	0.00	0.00
Other	0			0			0	0.00	0.00
Total	73270			77649			82904		
NEW ZEALAND									
Carcasses Bone-in	0	0.00	0.00	0	0.00	0.00	0	0.00	0.00
Cuts Bone-in	1	0.04	0.00	95	2.29	0.05	187	2.49	0.08
Boneless	45520	29.99	28.60	56151	32.02	29.46	60948	27.26	25.56
Pickled/Cured/Canned/Cooked	11	0.32	0.01	7	0.15	0.00	0	0.00	0.00
Trimmings	291	53.20	0.18	741	65.23	0.39	187	10.59	0.08
Other	0			0			0	0.00	
Total	45823			56994			61322		
E.E.C									
Carcasses Bone-in	0	0.00	0.00	0	0.00	0.00	0	0.00	0.00
Cuts Bone-in	0	0.00	0.00	0	0.00	0.00	0	0.00	0.00
Boneless	1814	1.20	1.14	0	0.00	0.00	0	0.00	0.00
Pickled/Cured/Canned/Cooked	423	12.46	0.27	163	3.40	0.09	179	8.84	0.08
Trimmings	0	0.00	0.00	0	0.00	0.00	0	0.00	0.00
Other	0	0.00	0.00	0	0.00	0.00	0	0.00	0.00
Total	2237			163			179		
NICARAGUA									
Carcasses Bone-in								0.00	0.00
Cuts Bone-in								0.00	0.00
Boneless							20194	9.03	8.47
Pickled/Cured/Canned/Cooked								0.00	0.00
Trimmings								0.00	0.00
Other								0.00	0.00
Total							20194		
AGGREGATE TOTAL	159179			190584			238449		

TABLE 1.1
COMPOSITION OF CDN BEEF IMPORTS
COUNTRY/PRODUCT

	1989			1990 (est to Nov 22/90)		
UNITED STATES	000 LBS	%/CLASS	%/ALL IMPORTS	000 LBS	%/CLASS	%/ALL IMPORTS
Carcasses Bone-in	3531	100.00	1.40	9138	100.00	3.53
Cuts Bone-in	12736	96.84	5.06	34568	98.97	13.34
Boneless	86187	37.73	34.25	67383	32.34	26.00
Pickled/Cured/Canned/Cooked	220	8.65	0.09	366	15.91	0.14
Trimmings	743	96.24	0.30	370	98.14	0.14
Other	3192	100.00	1.27	4125	100.00	1.59
Total	106609			115950		
AUSTRALIA						
Carcasses Bone-in	0	0.00	0.00	0	0.00	0.00
Cuts Bone-in	373	2.84	0.15	152	0.44	0.06
Boneless	44204	19.35	17.57	59518	28.57	22.96
Pickled/Cured/Canned/Cooked	2070	81.37	0.82	1755	76.30	0.68
Trimmings	29	3.76	0.01	7	1.86	0.00
Other	0	0.00	0.00	0	0.00	0.00
Total	46676			61432		
NEW ZEALAND						
Carcasses Bone-in	0	0.00	0.00	0	0.00	0.00
Cuts Bone-in	42	0.32	0.02	207	0.59	0.08
Boneless	53268	23.32	21.17	48076	23.08	18.55
Pickled/Cured/Canned/Cooked	0	0.00	0.00	42	1.83	0.02
Trimmings	0	0.00	0.00	0	0.00	0.00
Other	0	0.00		0	0.00	
Total	53310			48325		
E.E.C						
Carcasses Bone-in	0	0.00	0.00	0	0.00	0.00
Cuts Bone-in	0	0.00	0.00	0	0.00	0.00
Boneless	0	0.00	0.00	0	0.00	0.00
Pickled/Cured/Canned/Cooked	254	9.98	0.10	137	5.96	0.05
Trimmings	0	0.00	0.00	0	0.00	0.00
Other	0	0.00	0.00	0	0.00	0.00
Total	254			137		
NICARAGUA						
Carcasses Bone-in		0.00	0.00		0.00	0.00
Cuts Bone-in		0.00	0.00		0.00	0.00
Boneless	44771	19.60	17.79	33362	16.01	12.87
Pickled/Cured/Canned/Cooked		0.00	0.00		0.00	0.00
Trimmings		0.00	0.00		0.00	0.00
Other		0.00	0.00		0.00	0.00
Total	44771			33362		
AGGREGATE TOTAL	251620			259206		

TABLE 1.2 COMPOSITION OF CDN BEEF EXPORTS

COUNTRY/PRODUCT	1980			1981			1982		
UNITED STATES	000 LBS	%/CLASS	%/ALL EXPORTS	000 LBS	%/CLASS	%/ALL EXPORTS	000 LBS	%/CLASS	%/ALL EXPORTS
Carcasses Bone-in	14736	99.13	12.57	23947	99.63	17.05	29095	99.41	19.98
Cuts Bone-in	197	19.82	0.17	271	29.33	0.19	475	57.93	0.33
Boneless	50778	87.70	43.30	58696	87.25	41.78	65040	87.71	44.66
Pickled/Cured/Canned/Cooked	9	0.17	0.01	13	0.27	0.01	23	0.49	0.02
Trimmings	33057	99.71	28.19	37577	99.94	26.75	30356	99.68	20.84
Other	1397	28.49	1.19	1241	21.63	0.88	1116	17.75	0.77
Total	100174			121745			126105		
JAPAN									
Carcasses Bone-in	39	0.26	0.03	0		0.00	0		0.00
Cuts Bone-in	0	0.00	0.00	0	0.00	0.00	0	0.00	0.00
Boneless	6601	11.40	5.63	7763	11.54	5.53	5739	7.74	3.94
Pickled/Cured/Canned/Cooked	0	0.00	0.00	0	0.00	0.00	2	0.04	0.00
Trimmings	45	0.14	0.04	0	0.00	0.00	12	0.04	0.01
Other	0			56	0.98	0.04	165	2.62	0.11
Total	6685			7819			5918		
OTHERS									
Carcasses Bone-in	90	0.61	0.08	89	0.37	0.06	173	0.59	0.12
Cuts Bone-in	797	80.18	0.68	653	70.67	0.46	345	42.07	0.24
Boneless	522	0.90	0.45	818	1.22	0.58	3371	4.55	2.31
Pickled/Cured/Canned/Cooked	5437	99.83	4.64	4890	99.73	3.48	4631	99.46	3.18
Trimmings	51	0.15	0.04	24	0.06	0.02	84	0.28	0.06
Other	3507	71.51	2.99	4441	77.40	3.16	5005	79.62	3.44
Total	10404			10915			13609		
AGGREGATE TOTAL	117263			140479			145632		

TABLE 1.2 COMPOSITION OF CDN BEEF EXPORTS

COUNTRY/PRODUCT	BEEF EXPORTS '000 LBS 1983			1984			1985		
UNITED STATES	000 LBS	%/CLASS	%/ALL EXPORTS	000 LBS	%/CLASS	%/ALL EXPORTS	000 LBS	%/CLASS	%/ALL EXPORTS
Carcasses Bone-in	35115	99.26	23.17	41575	99.54	21.96	64554	99.71	29.79
Cuts Bone-in	227	43.24	0.15	976	78.46	0.52	1760	81.26	0.81
Boneless	62940	87.44	41.52	88823	92.61	46.92	86844	92.66	40.08
Pickled/Cured/Canned/Cooked	22	0.51	0.01	67	1.67	0.04	152	3.76	0.07
Trimmings	31898	98.01	21.04	38224	99.45	20.19	43492	99.79	20.07
Other	1427	20.79	0.94	2867	36.19	1.51	3446	40.96	1.59
Total	131629			172532			200248		
JAPAN									
Carcasses Bone-in	0		0.00	0		0.00	0		0.00
Cuts Bone-in	16	3.05	0.01	3	0.24	0.00	8	0.37	0.00
Boneless	5348	7.43	3.53	6092	6.35	3.22	6200	6.62	2.86
Pickled/Cured/Canned/Cooked	1	0.02	0.00	0	0.00	0.00	0	0.00	0.00
Trimmings	13	0.04	0.01	30	0.08	0.02	0	0.00	0.00
Other	194	2.83	0.13	264	3.33	0.14	224	2.66	0.10
Total	5572			6389			6432		
OTHERS									
Carcasses Bone-in	263	0.74	0.17	194	0.46	0.10	189	0.29	0.09
Cuts Bone-in	282	53.71	0.19	265	21.30	0.14	398	18.37	0.18
Boneless	3693	5.13	2.44	996	1.04	0.53	675	0.72	0.31
Pickled/Cured/Canned/Cooked	4262	99.46	2.81	3938	98.33	2.08	3891	96.24	1.80
Trimmings	633	1.95	0.42	183	0.48	0.10	91	0.21	0.04
Other	5242	76.38	3.46	4791	60.48	2.53	4744	56.38	2.19
Total	14375			10367			9988		
AGGREGATE TOTAL	151576			189288			216668		

TABLE 1.2 COMPOSITION OF CDN BEEF EXPORTS

COUNTRY/PRODUCT	1986			1987			1988		
UNITED STATES	000 LBS	%/CLASS	%/ALL EXPORTS	000 LBS	%/CLASS	%/ALL EXPORTS	000 LBS	%/CLASS	%/ALL EXPORTS
Carcasses Bone-in	55874	99.72	24.58	49920	99.74	30.21	64637	94.90	18.84
Cuts Bone-in	4761	92.66	2.09	7010	89.77	4.24	29469	96.74	8.59
Boneless	64504	57.78	28.37	56872	90.02	34.41	101826	85.21	29.68
Pickled/Cured/Canned/Cooked	99	3.09	0.04	221	8.82	0.13	165	2.91	0.05
Trimmings	44182	99.21	19.43	35029	99.87	21.20	103078	99.94	30.04
Other	3164	46.56	1.39	3528	53.08	2.13	8959	55.28	2.61
Total	172584			152580			308135		
JAPAN									
Carcasses Bone-in	159	0.28	0.07	0		0.00	933	1.37	0.27
Cuts Bone-in	376	7.32	0.17	52	0.67	0.03	172	0.56	0.05
Boneless	1620	1.45	0.71	5769	9.13	3.49	16565	13.86	4.83
Pickled/Cured/Canned/Cooked	3091	96.56	1.36	7	0.28	0.00	2	0.04	0.00
Trimmings	59	0.13	0.03	19	0.05	0.01	0	0.00	0.00
Other	3632	53.44	1.60	205	3.08	0.12	227	1.40	0.07
Total	8937			6052			17899		
OTHERS									
Carcasses Bone-in	0	0.00	0.00	131	0.26	0.08	2537	3.73	0.74
Cuts Bone-in	1	0.02	0.00	747	9.57	0.45	820	2.69	0.24
Boneless	45520	40.77	20.02	533	0.84	0.32	1107	0.93	0.32
Pickled/Cured/Canned/Cooked	11	0.34	0.00	2278	90.90	1.38	5520	97.05	1.61
Trimmings	291	0.65	0.13	27	0.08	0.02	57	0.06	0.02
Other	0	0.00	0.00	2913	43.83	1.76	7022	43.32	2.05
Total	45823			6629			17064		
AGGREGATE TOTAL	227344			165261			343097		

TABLE 1.2 COMPOSITION OF CDN BEEF EXPORTS

COUNTRY/PRODUCT	1989			1990 (est to Nov 22/90)		
UNITED STATES	000 LBS	%/CLASS	%/ALL EXPORTS	000 LBS	%/CLASS	%/ALL EXPORTS
Carcasses Bone-in	100375	80.97	21.35	21609	94.86	14.06
Cuts Bone-in	21810	96.94	4.64	10710	97.32	6.97
Boneless	167803	88.03	35.69	64932	89.94	42.24
Pickled/Cured/Canned/Cooked	13	0.54	0.00	95	7.76	0.06
Trimmings	114637	99.93	24.38	40252	99.83	26.19
Other	8369	52.57	1.78	3525	56.96	2.29
Total	413008			141123		
JAPAN						
Carcasses Bone-in	1973	1.59	0.42	459	2.01	0.30
Cuts Bone-in	141	0.63	0.03	95	0.86	0.06
Boneless	21892	11.48	4.66	6382	8.84	4.15
Pickled/Cured/Canned/Cooked	108	4.42	0.02	20	1.62	0.01
Trimmings	40	0.03	0.01	42	0.10	0.03
Other	639	4.02	0.14	267	4.31	0.17
Total	24793			7264		
OTHERS						
Carcasses Bone-in	21621	17.44	4.60	712	3.13	0.46
Cuts Bone-in	547	2.43	0.12	201	1.82	0.13
Boneless	924	0.48	0.20	880	1.22	0.57
Pickled/Cured/Canned/Cooked	2321	95.04	0.49	1107	90.61	0.72
Trimmings	42	0.04	0.01	26	0.07	0.02
Other	6911	43.42	1.47	2396	38.72	1.56
Total	32366			5322		
AGGREGATE TOTAL	470166			153709		

TABLE 1.3
COMPOSITION OF CDN CATTLE
IMPORTS FROM U.S.

	1981			1982			1983		
SLAUGHTER	HEAD	% OF CLASS	% OF ALL IMPORTS	HEAD	% OF CLASS	% OF ALL IMPORTS	HEAD	% OF CLASS	% OF ALL IMPORTS
Steers	133080	78	78	60156	70	70	58346	71	65
Heifers	19211	11	11	10850	13	13	11387	14	13
Cows	616	0	0	243	0	0	259	0	0
Bulls	91	0	0	201	0	0	137	0	0
Calves	18076	11	11	13912	16	16	12286	15	14
Total	171074			85362			82415		
FEEDERS									
Steers	0	0	0	321	46	0	7265	99	8
Heifers	0	0	0	373	54	0	90	1	0
Total	0			694			7355		
AGGREGATE TOTAL	171074			86056			89770		

TABLE 1.3
COMPOSITION OF CDN CATTLE
IMPORTS FROM U.S.

	1984			1985			1986		
SLAUGHTER	HEAD	% OF CLASS	% OF ALL IMPORTS	HEAD	% OF CLASS	% OF ALL IMPORTS	HEAD	% OF CLASS	% OF ALL IMPORTS
Steers	15003	41	32	41767	79	72	39454	67	55
Heifers	3264	9	7	4187	8	7	6492	11	9
Cows	1133	3	2	835	2	1	3139	5	4
Bulls	75	0	0	36	0	0	84	0	0
Calves	17412	47	37	6070	11	10	9763	17	14
Total	36887			52895			58932		
FEEDERS									
Steers	10294	97	22	4280	87	7	11551	93	16
Heifers	299	3	1	647	13	1	905	7	1
Total	10593			4927			12456		
AGGREGATE TOTAL	47480			57822			71388		

TABLE 1.3
COMPOSITION OF CDN CATTLE
IMPORTS FROM U.S.

	1987			1988			1989		
SLAUGHTER	HEAD	% OF CLASS	% OF ALL IMPORTS	HEAD	% OF CLASS	% OF ALL IMPORTS	HEAD	% OF CLASS	% OF ALL IMPORTS
Steers	46797	66	56	20049	57	46	27831	84	74
Heifers	11074	16	13	6110	17	14	3398	10	9
Cows	2406	3	3	4150	12	10	507	2	1
Bulls	156	0	0	104	0	0	53	0	0
Calves	9955	14	12	4970	14	11	1384	4	4
Total	70388			35383			33173		
FEEDERS									
Steers	12521	90	15	7472	93	17	4263	97	11
Heifers	1315	10	2	583	7	1	153	3	0
Total	13836			8055			4416		
AGGREGATE TOTAL	84224			43438			37589		

TABLE 1.3
COMPOSITION OF CDN CATTLE
IMPORTS FROM U.S.

	1990 (TO Nov 17/90)		
SLAUGHTER	HEAD	% OF CLASS	% OF ALL IMPORTS
Steers	5296	67	54
Heifers	1267	16	13
Cows	481	6	5
Bulls	40	1	0
Calves	850	11	9
Total	7934		
FEEDERS			
Steers	1884	100	19
Heifers	0	0	0
Total	1884		
AGGREGATE TOTAL	9818		

TABLE 1.4
COMPOSITION OF CDN CATTLE
EXPORTS TO U.S.

	1981			1982			1983		
SLAUGHTER	HEAD	% OF CLASS	% OF ALL EXPORTS	HEAD	% OF CLASS	% OF ALL EXPORTS	HEAD	% OF CLASS	% OF ALL EXPORTS
Steers	10510	7	5	21426	11	8	21944	11	10
Heifers	4661	3	2	11603	6	4	22699	11	10
Cows	57030	36	28	90175	45	32	93940	45	42
Bulls	20960	13	10	26027	13	9	23332	11	11
Calves	63382	40	31	50270	25	18	46796	22	21
Total	156543			199501			208711		
FEEDERS									
Steers	24064	54	12	45358	55	16	8460	65	4
Heifers	20691	46	10	37807	45	13	4518	35	2
Total	44755			83165			12978		
AGGREGATE TOTAL	201298			282666			221689		

TABLE 1.4
COMPOSITION OF CDN CATTLE
EXPORTS TO U.S.

	1984			1985			1986		
SLAUGHTER	HEAD	% OF CLASS	% OF ALL EXPORTS	HEAD	% OF CLASS	% OF ALL EXPORTS	HEAD	% OF CLASS	% OF ALL EXPORTS
Steers	57845	22	20	22982	13	8	49398	28	27
Heifers	34755	13	12	21147	12	7	47925	27	26
Cows	100350	38	35	89393	49	31	41930	24	23
Bulls	23100	9	8	23735	13	8	17338	10	10
Calves	51341	19	18	24481	13	9	18798	11	10
Total	267391			181738			175389		
FEEDERS									
Steers	12712	77	4	57551	55	20	3850	64	2
Heifers	3898	23	1	46999	45	16	2124	36	1
Total	16610			104550			5974		
AGGREGATE TOTAL	284001			286288			181363		

TABLE 1.4
COMPOSITION OF CDN CATTLE
EXPORTS TO U.S.

	1987			1988			1989		
SLAUGHTER	HEAD	% OF CLASS	% OF ALL EXPORTS	HEAD	% OF CLASS	% OF ALL EXPORTS	HEAD	% OF CLASS	% OF ALL EXPORTS
Steers	65685	34	33	143767	36	34	106129	28	25
Heifers	43689	23	22	83093	21	20	84268	23	20
Cows	49776	26	25	122698	31	29	129997	35	31
Bulls	20723	11	10	25136	6	6	24656	7	6
Calves	13926	7	7	24360	6	6	27715	7	7
Total	193799			399054			372765		
FEEDERS									
Steers	3510	79	2	13873	52	3	26887	51	6
Heifers	913	21	0	12929	48	3	25453	49	6
Total	4423			26802			52340		
AGGREGATE TOTAL	198222			425856			425105		

TABLE 1.4
COMPOSITION OF CDN CATTLE
EXPORTS TO U.S.

	1990 (TO Nov 17/90)		
SLAUGHTER	HEAD	% OF CLASS	% OF ALL EXPORTS
Steers	125435	29	20
Heifers	109167	25	18
Cows	149338	35	24
Bulls	29818	7	5
Calves	18898	4	3
Total	432656		
FEEDERS			
Steers	88849	49	14
Heifers	92524	51	15
Total	181373		
AGGREGATE TOTAL	614029		

2.0 Discussion of Some Structural and Performance Factors Affecting Canadian Beef Industry Competitiveness

> **Competitiveness has been linked to exchange rates, interest rates, government policies, cheap and abundant labour, bountiful natural resources, and certain management practices. However, competitiveness, appears more consistently to be linked to the ability of particular industries to innovate and upgrade. Strong domestic rivals, aggressive home-based suppliers and demanding local customers all contribute to the long term, competitive growth of an industry.1**

In point of fact, individual businesses, not sub-sectors of an industry are competitive. Successful competition is defined in very different terms in each sub-sector and the parameters of competitiveness within each sub-sector vary for individual firms.

Consumer and end-user demand drives the entire beef industry. The beef industry supplies consumers and end-users with fresh and preserved beef as well as a wide range of food and non-food goods manufactured from edible and non-edible offals.

Retail food service and beef vendors require access to a consistent supply of competitively priced beef products manufactured to a set of low tolerance specifications for eating quality characteristics, cut size and weight, trim, appearance, and shelf life.

To be competitive, slaughter and processing businesses require:

1) a steady demand for the full range of beef and co-products they produce;

---

1 Michael E. Porter, "The Competitive Advantage of Nations", in Harvard Business Review, Vol. 90. No. 2, pp.73 - 93.

2) a high productivity work-force; and
3) a near at hand, steady supply of slaughter cattle equal to, or exceeding their year-round slaughter and process capacity. (A rule of thumb in the beef industry in North America to-day holds that annual access to a minimum of one million high quality slaughter cattle within a radius of less than 200 miles is a necessary supply base for a high capacity slaughter and process operation.)

The slaughter and primary processing sector of the North American beef industry is largely short-term demand responsive.2 Its outputs are:

1) high quality fresh beef as primal/sub-primal boneless and bone-in cuts, and boneless portion control cuts that are sold to consumers as retail products and to end-users as food products for use in food service and institutions;3
2) high quality carcasses that now comprise less than 5 % of the total fresh beef trade continentally;
3) fat and lean beef trimmings from high quality, cow, and bull carcasses used for grinding and formulating;
4) boneless cuts from better quality cow carcasses that are used for retail consumer sales and food service 4
5) edible offals such as organ meats, edible fat, blood fractions, and some connective tissue used for retail sale and formulating

---

2 A slow-down in retail counter beef sales will produce a resonant effect on wholesale beef prices and high quality slaughter cattle prices in 1 week or less.

3 This category of high quality beef now comprises approximately 95 % of the North American high quality beef trade according to U.S.D.A Market News sources. However, in Canada, carcasses comprise a much larger portion of the total wholesale high quality beef trade - perhaps as much as 25 %. Also see later discussion of beef processing, marketing, and merchandising.

4 Also see later discussion of processing and cow beef marketing and merchandising as it relates to cattle trade flows and competitiveness of slaughter operations

6) inedible offals including hides, bone, some organs, blood fractions, connective tissues, rumen fill, manure, and unborn calves that are streamed into a large number of industrial uses.5

Currently, roughly 35 percent of all beef in the U.S. is sold to consumers by food service operations while approximately 65 percent reaches consumers through retail meat vendors. As is the case with all fresh food products with short storage life-times the wholesale and retail margins are small and the turn-over time is short. Over 80 percent of retail table beef sales are made by supermarkets.6 This suggests the significance of storage technology. Vacuum packaging technology and freezing technology have extended beef life-spans to more than 30 days and more than one year respectively. However, consumer resistance to frozen beef in the retail supermarket display case has largely limited the use of freezing technology to use in the food service sector. Certain elements of the food service sector are also somewhat resistant to frozen beef because of the need for advance planning and thawing for some applications.

A combination of technology and marketing has generally increased the value of offals and some beef products over time. Value of offals to individual cattle slaughtering and processing firms varies with the degree of vertical integration, size, scale of operations, and marketing efficiency. Large scale firms that are extensively vertically integrated tend to capture more of the total potential value of offals through more extensive processing and competitive marketing practices.7

---

5 Also see later discussion of disparities in scale as it affects competitiveness of offals processing and marketing as it pertains to processing competitiveness, cattle trade flows, and cattle pricing.

6 George Abraham of Abraham & Associates Inc. provided these estimates. Mr. Abraham consults to some of North America's largest beef processors and retailers.

7 Also see later discussion of offals marketing strategies and the implications of concentration and scale in offals marketing.

Commercial feedlots are the main suppliers of youthful high quality slaughter cattle in the U.S. and Canada. Competitive commercial feeders require access to consistent, competitively priced feed and feeder cattle supplies, as well as market access to several near at hand, competitive slaughtering operations that are highly vertically integrated.8

Individual primary producers are the main suppliers of spent beef breeding and dairy cows and bulls that are used for domestic origin manufacturing beef. Competitive commercial feeder cattle producers require access to consistent low-cost feed supplies and relatively near, year-round, competitive, feeder cattle and cow markets. Feeder cattle production is perhaps the least standardized link in the production chain. Inputs and outputs vary widely with geography, climate, size, scale, skill levels, and production strategies.9

2.1 Beef Industry Structure and Performance in Canada and the U.S. - Structural Change and Performance Disparities Resulting from Differential Adoption and Diffusion Rates of Technological Innovation, Production, and Marketing Practices in Three Sub-Sectors of the Beef Industry

Increasing concentration and scale of the most competitive operations in the slaughter and primary processing sub-sector of the North American beef industry are rapidly changing the structure of the beef industry and eroding the competitive cattle procurement, production, and marketing positions of smaller scale non-integrated firms. Integration and concentration in the beef industry is not a new concept. Integration and concentration were features of the beef industry at the turn of the century.

---

8 Also see later discussion of slaughter cattle and beef cuts specifications impacts on beef trade flows and cattle trade and pricing as they affect processing and feeding sub-sector competitiveness.

9 Also see later discussion of disparities in primary production conditions in North America as they affect cattle marketing patterns, cattle trade flows, feeding and processing sub-sector competitiveness.

Table 2.1 U.S. Commercial Cattle Slaughter Share By Company Size (1985 - 1989) (American Meat Insitute, Meat Facts, 1989)

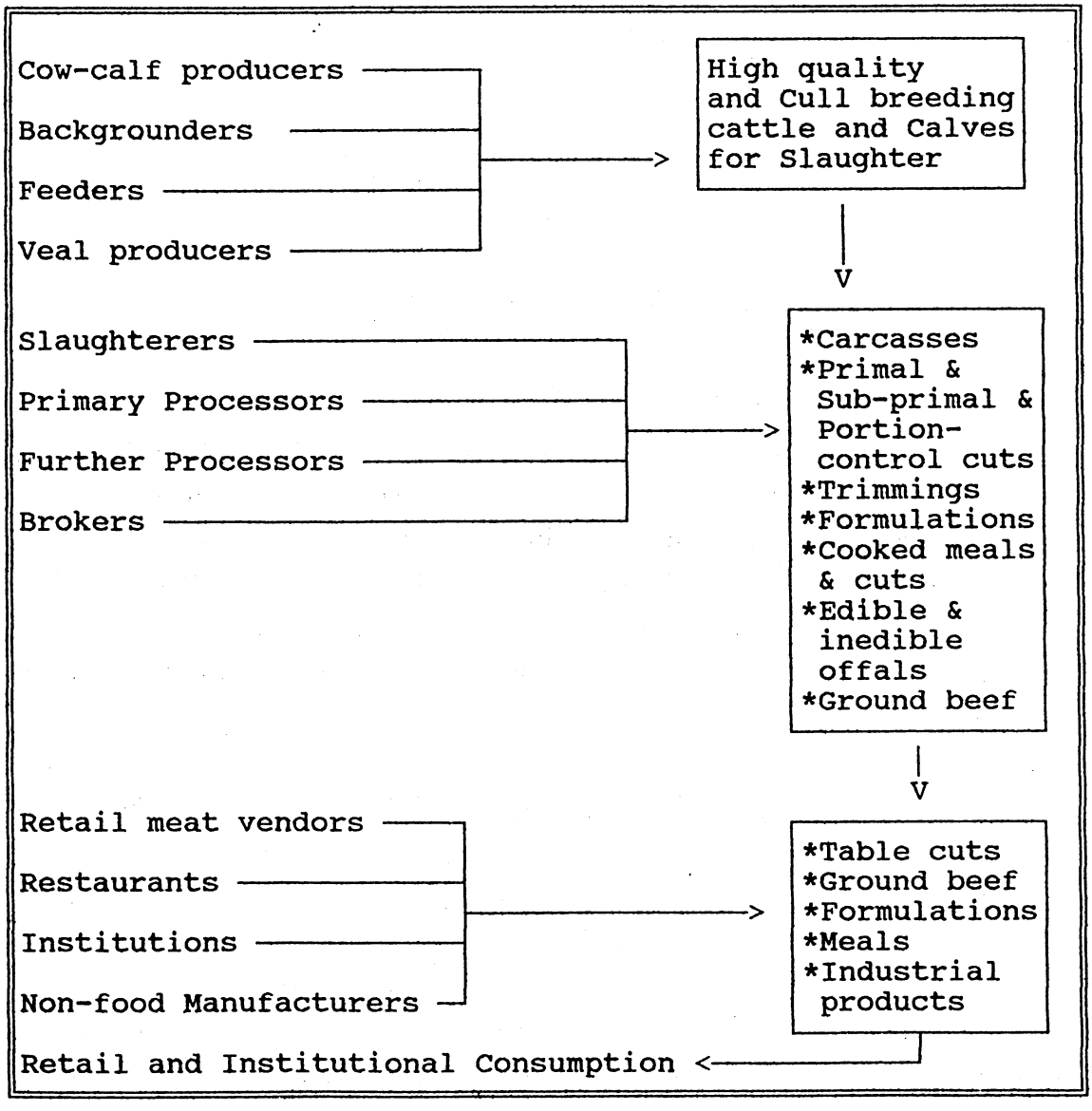
Percent of Commercial Slaughter

Size Group	Steers & Heifers	Cows & Bulls	Total	Calves
4 largest				
1985	50.3	17.2	39.0	31.1
1986	55.1	18.4	42.3	26.5
1987	67.1	20.0	53.9	30.4
1988	69.7	18.4	56.6	32.6
1989	69.5	NA	NA	NA
8 largest				
1985	63.8	27.0	49.6	42.6
1986	68.2	28.9	52.9	38.0
1987	75.9	30.5	62.7	42.2
1988	79.7	30.1	65.9	45.4
1989	NA	NA	NA	NA
12 largest				
1985	70.4	34.5	56.4	50.1
1986	74.2	35.9	59.5	46.0
1987	79.6	38.4	67.6	51.3
1988	83.7	38.4	70.4	54.9
1989	NA	NA	NA	NA

Figure 2.1 schematically illustrates the flow of products in the North American beef industry. The middle tier of the beef industry converts primary products to foods and inedible offals used by industrial manufacturers. The middle teir of the industry also performs the role of wholesale distribution. Vertical integration and concentration by the dominant firms in this sub-sector of the industry means that:

1) there are effectively fewer customers for cattle consumed early in beef production, and fewer down-stream customers for products and services made at intermediate stages of the conversion of cattle to beef and offals;
2) the range of product specifications and marketing options narrows as fewer firms are producing and selling beef and offals;
3) concentration, scale, size, and integrated production, distribution, and marketing functions give fewer firms proportionately larger shares of control over markets at several levels.

Figure 2.1 Beef Industry Structure and Product Flows



2.1.1 Impacts of Technology, Scale, Size, and Vertical Integration on the Structure of Canadian and U.S. Slaughter and Processing Sub-sector

Processing and storage technology has evolved rapidly in the past twenty-five years. Considerable structural change has accompanied technological innovation. Firms that dominated the industry nearly one hundred years ago are nearly extinct or have been absorbed and reconfigured by other firms that have emerged as the new industry giants in the U.S.

Vertical integration and concentration in the slaughter and processing sub-sector of the U.S. has consolidated killing, boxing, further manufacturing, and some trading operations in the hands of a very few corporate entities. American Meat Institute data in Table 2.1 shows that the four largest firms shared 50 % of the U.S. high quality kill in 1985 and nearly 70 % of a smaller kill in 1989. Industry consensus is that concentration and integration in slaughter and processing will continue in the U.S. for some time.10

Very little of the original Canadian processing industry infra-structure in Canada remains. Obsolete and inefficient plants have closed all across Canada over the past 30 years. However, what remains of the Canadian slaughter and process infra-structure is small to medium-scale and largely fragmented compared to the U.S processing sub-sector. This does not mean to say that there are not still small and non-integrated firms operating in the U.S. as well. This merely means that change is on-going in the North American beef slaughter and processing industry. A further implication is

---

10 Senior executives of major U.S. slaughter and processing firms reported that they expect further rationalization and consolidation in 1991. They cited narrowing margins and the opening of several new high-capacity plants in the heart of the U.S. feeding and processing areas as contributing much of the impetus for attrition among the small and medium sized plants in those ares.

the full effects of increased adoption and diffusion of technological innovation, up-scaling, concentration, and integration have not yet been felt in North America.

Beef processing and storage technology adoption and diffusion rates are fundamentally different in Canada and the U.S. Evidence of this disparity is found in the fact that approximately 95 % of the high quality beef manufactured and traded in the U.S. is boxed primal and sub-primal cuts.11 Conversely, Canadian retail and processing sub-sector executives indicated that there are times when approximately 50 % of the retail high quality beef trade in the traditionally large and strong Quebec retail market is carcasses. Notably, boxed beef sales may increase to as much as 70 % of the Montreal beef trade when Montreal retailers feature specials that are sourced from U.S. as boxed sub-primals. 12

Table 2.2 shows that Canada's overall share of continental slaughter and processing outputs has declined slightly over the past 10 years to 7.6 % of the kill and 6.8 % of the beef tonnage. Table 2.3 summarizes shifts in trends in slaghter cattle composition in Canada over the past 9 years. Table 2.3 shows that a disproportionate shrinkage in total federally inspected kill has occurred in Ontario and Manitoba between 1981 and 1989. At the same time, the total federally inspected kill hasn't grown significantly in the last five years in Alberta. There was some recent displacement of the Manitoba steer, heifer, and cow kill into Saskatchewan, while the Ontario cow kill was partially redistributed into Quebec in the past five years.

---

11 U.S.D.A. Market News has stopped recording carcass trade in the U.S. and has now adopted a system of reporting the 10 best boxed beef sales of the day as a composite cut-out price that has become a widely adopted index for slaughter cattle pricing. During an extensive interview with a senior Market News official it was learned that less than 5 % of high quality beef sales now occur in carcass form in the U.S. Interviews with senior IBP marketing executives revealed that some intra-industry carcass trade occurs at the primary processing level, however, this trade is limited to the sale of over-fat carcasses with settlement being made on a cut-out basis.
12 Also see later discussion of beef merchandising.

Table 2.2 Estimates Of Federally Inspected Cattle Slaughter and Carcass Basis Beef Production (1980 - 1989) (Adapted from American Meat Institute and Agriculture Canada Data)

Year	Canada (000 head)	Canada (Mil. Lbs.)	United States (000 head)	United States (Mil. Lbs.)	North America (000 head)	North America (Mil. Lbs.)
1980	3059	1837	34116	21664	37175	23501
1981	3199	1910	35265	22389	38464	24299
1982	3294	1934	36158	22536	39452	24470
1983	3242	1957	36974	23241	40216	25198
1984	3116	1869	37892	23596	41008	25465
1985	3159	1939	36593	23728	39752	25667
1986	3118	1824	37568	24371	40686	26195
1987	2879	1690	35890	23566	38769	25256
1988	2774	1696	35324	23590	38098	25286
1989	2819	1687	34106	23088	36925	24775
Share:						
1980	8.2%	7.8%	91.8%	92.2%		
1981	8.3%	7.9%	91.7%	92.1%		
1982	8.3%	7.9%	91.7%	92.1%		
1983	8.1%	7.8%	91.9%	92.2%		
1984	7.6%	7.3%	92.4%	92.7%		
1985	7.9%	7.6%	92.1%	92.4%		
1986	7.7%	7.0%	92.3%	93.0%		
1987	7.4%	6.7%	92.6%	93.3%		
1988	7.3%	6.7%	92.7%	93.3%		
1989	7.6%	6.8%	92.4%	93.2%		

Table 2.3 Summary OF Federally Inspected Cattle Slaughter By Class By Province (1981, 1985, 1989) (Adapted from Agriculture Canada Livestock Market Reviews)

Province	Year	Steers			Heifers			Cows			Bulls			Total	
		1,000 Head	Provincial %	National %	1,000 Head	Provincial %	National %	1,000 Head	Provincial %	National %	1,000 Head	Provincial %	National %	1,000 Head	National %
B.C.	1981	34.3	50.0%	2.1%	19.1	27.8%	2.1%	12.0	17.5%	2.0%	3.2	4.7%	5.5%	68.6%	2.1%
	1985	44.0	46.9%	3.1%	23.6	25.2%	2.7%	19.5	20.8%	2.4%	6.7	7.1%	14.5%	93.8%	3.0%
	1989	40.4	46.4%	2.9%	18.8	21.6%	2.6%	21.3	24.5%	3.3%	6.6	7.6%	16.1%	87.1%	3.1%
Alberta	1981	643.2	49.7%	39.7%	457.1	35.3%	50.0%	183.5	14.2%	30.4%	11.0	0.8%	18.8%	1294.8	40.5%
	1985	592.7	46.7%	41.8%	436.6	34.4%	49.4%	233.7	18.4%	28.8%	7.4	0.6%	16.1%	1270.4	40.2%
	1989	701.4	55.2%	50.5%	369.0	29.0%	50.1%	196.1	15.4%	30.1%	4.7	0.4%	11.5%	1271.2	45.1%
Sask.	1981	75.0	36.8%	4.6%	54.9	26.9%	6.0%	68.3	33.5%	11.3%	5.6	2.7%	9.6%	203.8	6.4%
	1985	97.1	38.7%	6.8%	57.9	23.1%	6.6%	89.4	35.6%	11.0%	6.7	2.7%	14.5%	251.1	7.9%
	1989	149.9	47.5%	10.8%	67.4	21.4%	9.1%	91.4	29.0%	14.0%	6.8	2.2%	16.6%	315.5	11.2%
Man.	1981	161.6	54.3%	10.0%	69.2	23.2%	7.6%	62.6	21.0%	10.4%	4.4	1.5%	7.5%	297.8	9.3%
	1985	162.1	45.3%	11.4%	86.3	24.1%	9.8%	106.3	29.7%	13.1%	2.8	0.8%	6.1%	357.5	11.3%
	1989	61.5	54.1%	4.4%	36.2	31.9%	4.9%	15.1	13.3%	2.3%	0.8	0.7%	2.0%	113.6	4.0%
Ont.	1981	628.2	60.9%	38.8%	296.1	28.7%	32.4%	92.9	9.0%	15.4%	14.3	1.4%	24.5%	1031.5	32.3%
	1985	435.3	51.8%	30.7%	257.1	30.6%	29.1%	137.8	16.4%	17.0%	9.5	1.1%	20.6%	839.7	26.6%
	1989	368.7	53.2%	26.6%	220.2	31.8%	29.9%	97.1	14.0%	14.9%	7.5	1.1%	18.3%	693.5	24.6%
Que.	1981	55.3	21.8%	3.4%	8.0	3.1%	0.9%	171.8	67.6%	28.4%	18.9	7.4%	32.4%	254.0	7.9%
	1985	63.6	22.1%	4.5%	8.8	3.1%	1.0%	204.0	70.8%	25.1%	11.9	4.1%	25.8%	288.3	9.1%
	1989	38.3	14.3%	2.8%	13.6	5.1%	1.8%	203.1	75.8%	31.1%	12.8	4.8%	31.2%	267.8	9.5%
Atlantic Canada	1981	21.7	46.8%	1.3%	10.7	23.1%	1.2%	13.0	28.0%	2.2%	1.0	2.2%	1.7%	46.4	1.5%
	1985	23.6	40.5%	1.7%	12.7	21.8%	1.4%	20.9	35.8%	2.6%	1.1	1.9%	2.4%	58.3	1.8%
	1989	28.5	40.7%	2.1%	11.6	16.6%	1.6%	28.1	40.1%	4.3%	1.8	2.6%	4.4%	70.0	2.5%
Total	1981	1619.3	50.7%	100.0%	915.1	28.6%	100.0%	604.1	18.9%	100.0%	58.4	1.8%	100.0%	3196.9	100.0%
	1985	1418.4	44.9%	100.0%	883.0	28.0%	100.0%	811.6	25.7%	100.0%	46.1	1.5%	100.0%	3159.1	100.0%
	1989	1388.7	49.3%	100.0%	736.8	26.1%	100.0%	652.2	23.1%	100.0%	41.0	1.5%	100.0%	2818.7	100.0%

Total

Alberta has assumed a 12 % greater share of the national steer kill on a proportionate basis in the face of a shrinking real kill. Alberta now kills more than 50 % of all Canada's steers. In keeping with industry projections of herd rebuilding, Alberta also had a decreased heifer slaughter between 1985 and 1989 at the provincial level, although proportionately more of the the total Canadian heifer slaughter now occurs in Alberta.

Table 2.4 shows that Alberta's kill per plant in 1989 was the highest in Canada and accounted for 44 % of the total slaughter in Canada. Ontario accounted for nearly 25 % of the federally inspected slaughter in 1989.

Another perspective on the technological disparity is gained when one considers that there is only one fully integrated beef kill and box plant operating both functions under one roof in Alberta. This operation, at the time of our research interviews was boxing appoximately 80 % of its kill and currently accounts for about 30 % of the weekly high quality Alberta kill. It is also relevant to this discussion to note that the only fully integrated Alberta plant is owned by one of the three largest high quality beef processing firms in North America. At the same time, there is only one fully integrated operation in Ontario that performs the kill and box functions at one site. It accounts for slightly less than 40 % of the weekly high quality kill in Ontario.13

These figures are much more indicative of a huge disparity in beef production capacity of the U.S. and Canada when one considers that one plant in Iowa kills the same number of high quality cattle in a week that are killed in the same period by all the plants in Alberta. It is more indicative yet when one considers that senior executives of the firm that operates that plant described it as significantly less modern than some of its newer operations with significant attendant sacrifices in comparative efficiency.

---

13 Industry research interviews, 1990

Table 2.4 Distribution Of Federally Inspected Cattle and Calf Slaughter In Canada (1989) (Agriculture Canada Unpublished Data)

CATTLE

Region	Federally Inspected Number of Plants	% of Total F.I. Plants	F.I. Slaughter	% of F.I. Slaughter
Atlantic	6	5.3	70,037	2.4
Quebec	19	16.7	267,190	9.3
Ontario	19	16.7	705,095	24.7
Manitoba	34	29.8	123,898	4.3
Saskatchewan	14	12.3	325,545	11.4
Alberta	11	9.6	1,274,418	44.6
British Columbia	11	9.6	92,692	3.2
TOTAL	114	100.0	2,858,875	99.9

CALVES

Atlantic	5	5.7	1,255	0.3
Quebec	25	28.4	263,365	69.1
Ontario	10	11.4	91,145	23.9
Manitoba	25	28.4	1,945	0.5
Saskatchewan/ Alberta	13	14.8	7,225	1.9
British Columbia	10	11.4	16,201	4.3
TOTAL	88	100.1	381,136	100

While the high quality slaughter in North America has increased in concentration and scale, there has been a less rapid trend to this practice in cow kills. Table 2.1 shows that while 70 % of the high quality kill and box is conducted by the 4 largest firms in the U.S. only about 20 % of the cow kill and boning is done by the 4 largest firms. In fact, only about 40 % of the cow kill and boning is done by the 12 largest firms in the U.S. Conversely, in Canada, relatively few firms account for 60 % of the cow slaughter and boning. Alberta and Quebec plants now conduct about 60 % of Canada's cow kill. Ontario and Saskatchewan plants account for about 30 % of the cow kill. The implication of this is that only about 5 firms in Canada conduct the bulk of the cow kill. At most, only four of these firms operate straight cow kills. One small U.S. cow slaughter and processing plant that the study team visited in Minnesota accounts for more cow beef production than that accounted for in the entire Alberta cow disposition in comparable peak slaughter periods.14

Table 2.4 and Figure 2.2 juxtapose the current distribution of federally inspected kill and plants in Canada and the composition of the Canadian federally inspected kill by gender as a fraction of the North American federally inspected slaughter. When this is juxtaposed with Table 2.5 that shows the distribution of commercial cattle slaughter in the U.S. it implies that geographic concentration of high quality slaughter is much higher in both countries than is geographic concentration of cow slaughter.

Table 2.6 compares the scale and distribution of the federally inspected slaughter by capacity in the U.S. and Canada. It shows clearly that the bulk of the federally inspected slaughter in the U.S. occurs on a much larger scale than that taking place in Canada. When the information in Tables 2.2, 2.4, 2.5, 2.6, 2.9 and Figure 2.2 is juxtaposed with the kill and box costs

---

14 Also see later discussion of cow marketings and slaughter.

Table 2.5 Distribution Of U.S. Commercial Cattle Slaughter In Top 10 Cattle Slaughtering States (1989) (Adapted from American Meat Institute Meat Facts, 1989)

State	% of Total	% of Top 10
Kansas	18.3	22.5
Texas	17.2	21.2
Nebraska	17.1	21.1
Colorado	6.4	7.9
Iowa	5.5	6.8
Illinois	3.7	4.6
Wisconsin	3.6	4.4
California	3.4	4.2
Minnisota	3.0	3.7
Pennsylvania	2.9	3.6
	81.1	100.0

Table 2.6 Estimates Of Distribution Of Federally Inspected Cattle Slaughter By SIze of Plant (1989) (Agriculture Canada Unpublished Data and American Meat Institute Meat Facts, 1989)

CANADA					U.S.				
Annual Slaughter Ranges	Federally Inspected Plants	% of All F.I. Plants	Estimated F.I. Slaughter (1,000) Head	% of Total Commercial Slaughter	Annual Slaughter Ranges	Federally Inspected Plants	% of All F.I. Plants	Estimated F.I. Slaughter (1,000) Head	% of Total Commercial Slaughter
CATTLE					CATTLE				
<1,000	55	49.5	21	0.7	<1,000	862	71.7	225	0.7
>1,000-<5,000	16	14.4	44	1.5	>1,000<10,000	170	14.1	580	1.7
>5,000-<10000	7	6.3	55	1.9	>10,000<50,000	75	6.2	1,801	5.3
>10000-<50000	17	15.3	580	19.7	>50000<500,000	76	6.3	12,505	36.9
>50000<100000	6	5.4	370	12.6	>500,000	20	1.7	17,899	52.8
>10000<500000	10	9.0	1,789	60.8					
>500000	0	0	0	0					
TOTALS	111	99.9	2,859	97.2	TOTALS	1,203	100	33,010	97.4
CALVES					CALVES				
<1,000	57	65.5	9	2.1	<100	414	73.5	6	0.3
>1,000<5,000	14	16.1	27	6.3	>100<10,000	103	18.3	204	9.4
>5,000<10,000	4	4.6	26	6.0	>10,000	46	8.2	1,890	87.0
>10000<40000	9	10.3	169	39.2					
>40,000	3	3.4	150	34.8					
TOTALS	87	99.5	381	88.4	TOTALS	563	100	2,100	96.7

Figure 2.2 Canada's Share Of Federally Inspected Cattle Slaughter by Class 1981 - 1989 (Expressed as Percent) (U.S.D.A. Market News; Agriculture Canada Livestock Market Reviews, (1981 -1990)

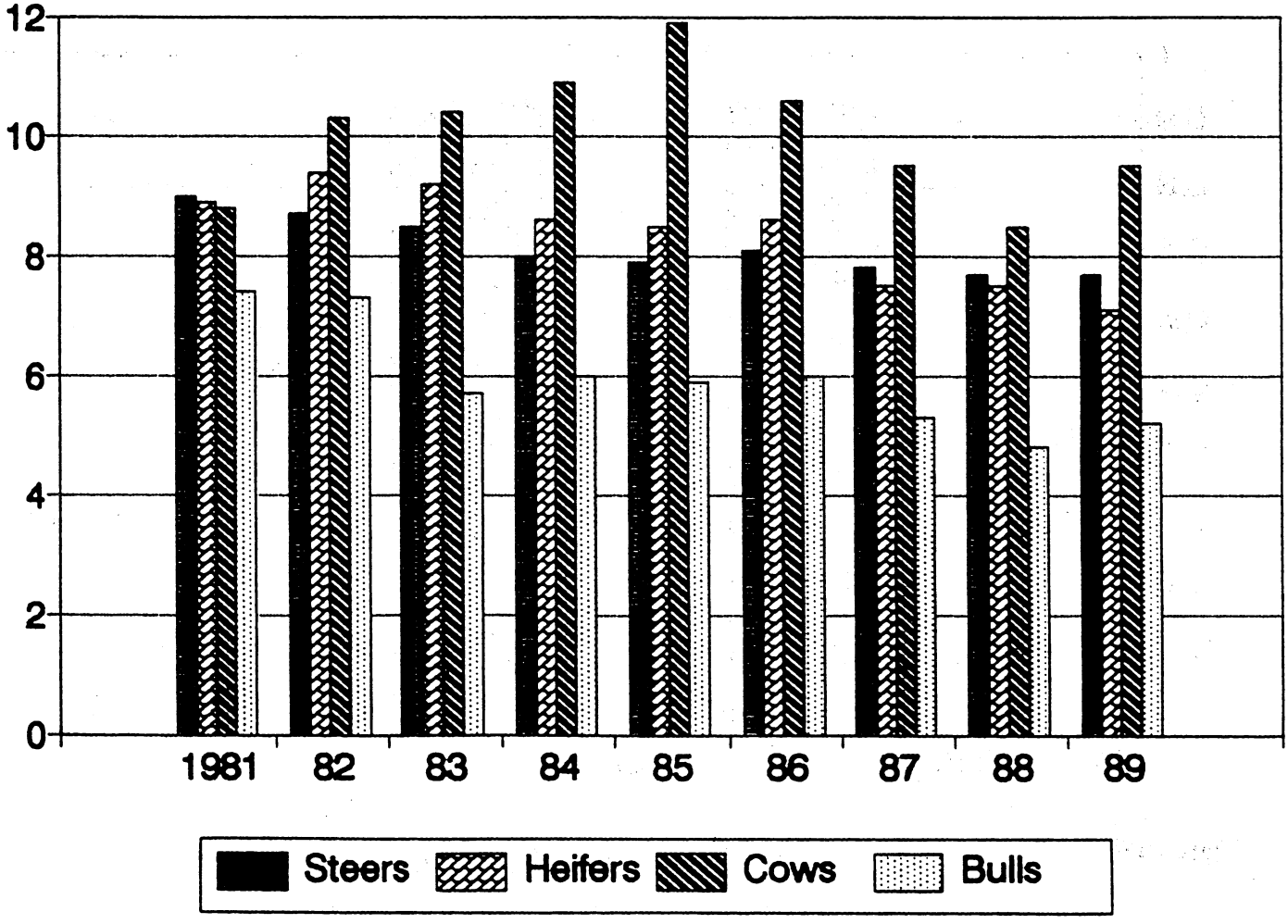
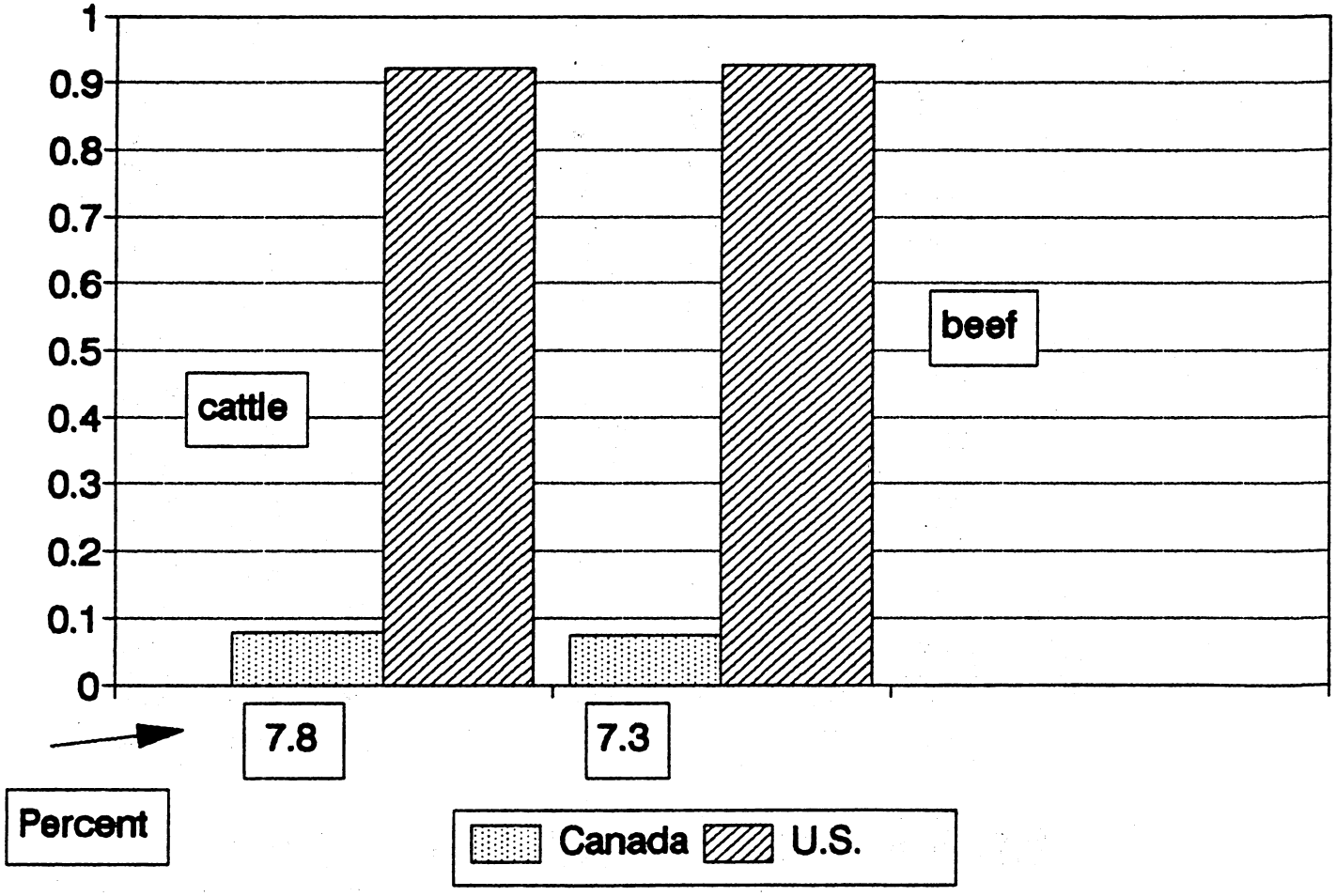


Figure 2.3 Average Distribution Of north American Cattle And Beef Production 1980 - 1989 (U.S.D.A. Market News; Agriculture Canada)



presented in Table 2.7 further insights are gained into the comparative production cost and marketing advantages accruing to high-capacity large-scale integrated plants inthe U.S.

Structural change occurs more slowly in the cow-calf production community of the primary production sub-sector for several reasons:

1) small scale of operations form the bulk of the cow-calf production community;
2) relatively traditional behavior of small operation owners;
3) broad-based geographic distribution of cow-calf enterprises;
4) extremely seasonal production patterns and marketing activity; and
5) relatively slow diffusion of technological and marketing innovations.15

Structural change in the primary production sub-sector has become more apparent in the feeding community. Farmer-feeders that once produced a large portion of the high quality kill on a one-turn-per-year small-scale seasonal basis have been eclipsed by high one-time capacity commercial feedlots that feed year-round and may turn cattle as many as four times per year. A farmer-feeder with a one-time capacity feedlot of 5,000 head is considered a large operator in Canada or the U.S. A commercial feedlot of 30,000 head is considered to be a medium-sized operation and a large operation might have 60,000 to more than 100,000 head one-time capacity. In Canada, there are less than 10 operations with a 30,000 head or greater one-time capacity.16

---

15 Most cow-calf operations market the majority of the value of their production on a one-time-per-annum basis, their performance is extremely sensitive to structural changes and shifts in performance and competitiveness of large-scale businesses that are part of the down-stream beef production and marketing chain.

16 Increased standardization of slaughter cattle production is likely to be driven more strongly to changing manufacturing and retail cut specifications. Also see later discussion of retail and manufacturing specifications and impacts on primary production.

Table 2.7 Estimated Average Slaughter And Boxing Costs In Canada And The U.S. (1990) (Unpublished information supplied by beef industry sources)

	CANADA	U.S.
Kill/Head	35-40	25-35
Box/Head	55-60	40-50

Table 2.8 Distribution Of North American Cattle Herd By Region (January 1, 1990) U.S.D.A. Market News; American Meat Institute, Meat Facts, 1989; Agriculture Canada)

	1000 Head	Percent by Country	Percent for N.A.
U.S.			
Pacific States	7843	7.9%	7.1%
Mountain	11710	11.8%	10.6%
North Central	38805	39.1%	35.1%
South Central	29465	29.7%	26.7%
North Atlantic	4113	4.1%	3.7%
South Atlantic	7401	7.5%	6.7%
Canada			
British Columbia	641	5.7%	0.6%
Alberta	3820	34.1%	3.5%
Sask. & Man.	2775	24.8%	2.5%
Ontario	2250	20.1%	2.0%
East Canada	1715	15.3%	1.6%
U.S.	99337	-	89.9%
Canada	11201	-	10.1%
North America	110538	-	100.0%

Table 2.9 Distribution of North American Federally Inspected Cattle Slaughter 1981-1989 (U.S.D.A. Market News; Agriculture Canada Livestock Market Reviews, (1981 -1990)

U.S:

Year	Steers		Heifers		Cows		Bulls		Total
	1,000	%	1,000	%	1,000	%	1,000	%	1,000
1981	16437	50.1%	9416	28.7%	6238	19.0%	728	2.2%	32819
1982	16344	48.2%	9833	29.0%	6955	20.5%	774	2.3%	33906
1983	16613	47.7%	10221	29.4%	7215	20.7%	768	2.2%	34817
1984	16688	46.5%	10211	28.5%	8229	22.9%	752	2.1%	35880
1985	16201	46.6%	10763	31.0%	7076	20.4%	725	2.1%	34765
1986	16871	47.0%	10688	29.8%	7665	21.3%	689	1.9%	35913
1987	16867	48.9%	10545	30.6%	6388	18.5%	668	1.9%	34468
1988	16833	49.4%	10439	30.7%	6151	18.1%	625	1.8%	34048
1989	16094	48.8%	10128	30.7%	6146	18.6%	642	1.9%	33010

Canada:

	Steers		Heifers		Cows		Bulls		Total
	1,000	%	1,000	%	1,000	%	1,000	%	1,000
1981	1619	50.7%	915	28.6%	604	18.9%	58	1.8%	3196
1982	1566	47.5%	967	29.4%	704	21.4%	57	1.7%	3294
1983	1539	47.5%	946	29.2%	712	22.0%	45	1.4%	3242
1984	1437	46.1%	886	28.4%	746	23.9%	47	1.5%	3116
1985	1418	44.9%	883	28.0%	812	25.7%	46	1.5%	3159
1986	1458	46.8%	886	28.4%	727	23.3%	47	1.5%	3118
1987	1417	49.2%	772	26.8%	648	22.5%	42	1.5%	2879
1988	1385	49.9%	770	27.8%	580	20.9%	38	1.4%	2773
1989	1389	49.3%	737	26.1%	652	23.1%	41	1.5%	2819

Canada's Share of North American:

	Steers	Heifers	Cows	Bulls	Total
1981	9.0%	8.9%	8.8%	7.4%	8.9%
1982	8.7%	9.4%	10.3%	7.3%	9.1%
1983	8.5%	9.2%	10.4%	5.7%	9.0%
1984	8.0%	8.6%	10.9%	6.0%	8.7%
1985	7.9%	8.5%	11.9%	5.9%	8.
1986	8.1%	8.6%	10.6%	6.0%	8.7%
1987	7.8%	7.5%	9.5%	5.3%	8.0%
1988	7.7%	7.5%	8.5%	4.8%	7.7%
1989	7.7%	7.1%	9.5%	5.2%	7.8%

Table 2.8 compares the regional cattle herds and distribution of the U.S. and Canada as fractions of national and continental herds. When this data is juxtaposed with the distribution of slaughter and data in Tables 2.2, 2.3, 2.4. 2.5, 2.6, Figure 2.2, and the processing cost comparison in Table 2.7 there is the basis for the inference that the U.S. slaughter and processing sub-sector on the whole is more competitive than the Canadian slaughter and processing sub-sector.

Section 3 specifically explains the superior competitive positioning of U.S. cow and high quality slaughter and processing sub-sectors with respect to cattle procurement, product standardization, economies of size and scale in production and marketing, marketing and merchandising.
Section 3 also examines impacts of primary production competitiveness on primary production and retailing sub-sectors.

Section 4 concludes by discussing the future viability and growth implications for Canadian primary production, processing, and distribution sub-sectors.

3.0 Introduction - The Beef Industry in Canada Is Part of a Continental Beef Industry

Section 1 discussed changes in beef and cattle trade, growth of high quality beef imports from the U.S. in the last 4 years, shifts in volumes and composition of live cattle trade with the U.S., and beef demand and supply patterns. Section 2 described and analyzed changes in structure and performance of the beef industry in North America.

Section 3 presents and analyzes specific research findings that help explain the competitiveness gulf separating dominant primary processing firms from others in a rapidly rationalizing industry.

The concept of a continental beef industry has never been more real than now. Rationalization and concentration are continuing in the U.S. at a rapid pace. Effects of massive structural change in an industry that accounts for roughly 93 % of beef production in North America do not stop at an international border when free beef trade exists between anada and the U.S.

Manufacturing and high quality beef imports are occurring in Canada because of a weakened competitive position of the Canadian primary processing sub-sector. However, there is considerably more structural linkage between the high and manufacturing quality slaughter and processing sub-sectors of Canada than exists in the U.S. More high quality cattle slaughterers in Canada also kill and process cows and bulls than is the case in the U.S. Therefore, erosion of the competitive position of the high quality slaughter and process sub-sector in Canada has profound implications for the ability of the Canadian manufacturing beef sub-sector to compete on a North American basis.

Slaughter and process firms that dominate the continental beef market through procurement, manufacturing, and marketing efficiencies dominate the continental commercial environment. Canadian operations are part of the Continental landscape. The tendency to industry domination by large firms with integrated operations, specialized, high-capacity, plants that are strategically located to access maximum kill and markets is having an impact on the viability of smaller operations in the U.S. and in Canada.

The slaughter and process sector in the U.S. is more extensively geographically distributed allowing plants to access kill and serve local markets. High capacity, low-margin plants are being established by major players in the U.S. and Canada only where an easily accessed annual kill supply of one million or more is assured. In short, rationalization is well under way in most of the U.S. high quality beef production sub-sector. Further rationalization over the next five years in western Canada is inevitable.

As Canada exports more high quality slaughter cattle and feeder cattle, Canadian supplies of high quality middle meats are increasingly supplemented by importation of U.S. and off-shore imports. Canadian high quality middle meats supplies are now insufficient to supply retail grocery chains and food service manufacturers consistently when surges in demand occur.1 The incentive to retail chains to procure large volumes of sub-primal cuts from high-capacity U.S. boxers is partially based on supply and partially on price.2 3 4

---

1 Beef industry research interviews, 1990. Canadian retail chains report that Canadian processors are unable to supply sufficient high quality cuts (particularly round cuts) to meet demand created by advertised specials. Retailers also report chronic short supplies of loin cuts, in particular, tenderloin. Canadian boxers confirm that they are unable to completely fill orders, or would be unable to service more than one large retail order for sub-primal cuts featured in advertised specials. High quality imports from the U.S. consist mostly of rounds, boneless loin cuts, and boneless rib cuts.

2 Research and analysis conducted in 1987 to assess the impacts of a reciprocal beef grading agreement with the U.S. showed that some high quality middle cuts could be imported from the U.S., trimmed to Canadian

Canadian supermarket chains are also making large significant changes in beef procurement and merchandising practices.5 Significant changes with direct impacts on the Canadian primary processing sub-sector and up-stream impacts on feeder and slaughter cattle production and marketing are:

1) retail and food service specifications for smaller sub-primal cuts, and
2) increased use of U.S. and off-shore cuts by Canadian table beef retailers and food service operators.6

---

specifications, and marketed at significantly lower prices than comparable Canadian products. Research conducted in 1990 for this study confirmed persistence of strong price, quality, and supply incentives to import ungraded high quality beef from reputable (and competitively dominant) U.S. suppliers.

3 A further consequence of changes in retail cut procurement is that "Cut from Canada Grade A" claims in chain store advertising are being dropped by Canadian retail chains. U.S., New Zealand, and Canadian beef is being offered to consumers in the same case by several major Canadian chains.

The perception now held by Canadian retailers is generally that Canadian beef consumers are more concerned with eating quality attributes, health factors, price, and value than with country of origin of the product. Most retail chains question significance to consumers of the slogan "Cut from Canada Grade A beef". Specifically they question whether Grade A bears meaningful connotations of specific quality attributes as opposed to health inspection and sanitation standards assurance.

4 Many Canadian food service manufacturers use U.S. cuts for high quality offerings in preference to Canadian cuts because of the consistency of supply, manufacturing specifications, eating qualities, and price. Food service manufacturers cited inconsistent supply, varying weight and size range, and perceived greater variability in eating qualities (these perceptions were largely linked with marbling and overall cut fatness) as more significant factors than price (also usually higher in Canadian product) in the use of ungraded U.S. product versus Canadian graded beef.

5 Also see later discussion of structural change in the bef distribution sub-sector.

6 A larger proportion of all beef cuts purchased in a retail environment in North America is closely fat trimmed and boneless. Boning and closer fat trim have enhanced overall consumer perceptions of beef valuc, but have also contributed to an increased cost per pound in the retail counter.

Retailers report that growing numbers of health and/or value-conscious consumers perceive large cuts to be too expensive on a cost per meal basis, and too large on a serving per person basis. Most Canadian retailers are responding to consumer demand for smaller, close-trimmed, boneless retail cuts by buying smaller sub-primal cuts from primary processors who manufacture boxed beef.

3.1 Competitiveness in Manufacturing Beef Production in North America

The Canadian cow slaughter and boning sub-sector is relatively small, geographically concentrated in 2 separate regions, and fragmented compared to more integrated, generally larger scale, and less geographically concentrated U.S. cow slaughter and boning industry. Growing U.S. demand for North American origin grinding meat is making U.S. plants compete more aggressively for continental manufacturing beef kill.7

Food service retailers have no other reason than marketing policy to specify domestic origin lean trim in their hamburger formulations.8 Grinding meat that consistently meets specifications for quality and fat content is available at lower prices from off-shore suppliers in large quantities.

Several factors contributing to the relative non-competitiveness of Canadian cow slaughter and boning operations in the North American environment have parallels found in later discussion of high quality beef production competitiveness.

Evidence of erosion of the procurement and marketing power of some Canadian cow slaughtering and boning operations is found in primary processing plant attrition and chronically under-utilized slaughter and

---

Only one retail chain in western Canada with the bulk of their operations in B.C. reported that they still procure large carcasses and sell large cuts to any extent.

7 Beef industry research interviews with cow beef manufacturers and brokers found that competition among retail food service chains using advertising claims of North American origin product has increased demand for North American manufacturing quality beef.

8 Beef industry research interviews with cow beef manufacturers and brokers

boning capacity. The same factors that now impair medium to long-term North American competitiveness of many Canadian manufacturing beef kill and boning operations at current import levels would largely be unchanged by reduced manufacturing beef imports:

1) About 5 to 10 percent of the total cow and bull beef tonnage produced in North America is consumed as cuts. U.S. food service manufacturers and retailers generally merchandise a broader range of cow cuts to a proportionately and absolutely larger and more widely distributed market base than in Canada. 9
The U.S. cow cut market is broader-based at both the retail chain and food service levels than in Canada. Ethnic and low income groups are much larger in total, and much larger concentrations of these consumer groups more widely geographically dispersed in the U.S. Retail cow cuts consumption by these groups in the U.S. is proportionately and absolutely greater than in Canada.10

   Generally, U.S. cow boners extract a wider range of cuts from good quality breaking and boning utility cows include loin cuts, top and bottom rounds, eyes of rounds, knuckles, flats, rib-eyes, and clods. Western Canadian cow boners tend to extract fewer cuts, focusing primarily on loins. Estimates of overall differences in carcass cut-out value for good boning utility cows depending on cuts extracted ranged as high as $85 per carcass.11

2) The size and scale of cow slaughtering and boning operations in the U.S. contributes to overall greater economic advantages in kill procurement and products marketing.12 There are totally and

---

9 Beef industry research interviews with cow beef manufacturers and brokers

10 U.S.D.A. Economic Research Service Personal Communications, 1990; George Abraham of Abraham & Associates Inc. Personal Communications, 1990, Beef industry research interviews, 1990

11 Beef industry research interviews, 1990

proportionately more integrated cow kill and boning operations in the U.S. than in Canada relative to kill supplies. U.S. slaughterers that buy Canadian cows are widely distributed geographically and are able to service large, relatively near markets.

3) In total, there is a larger, broader-based, and more dense market for specialty pre-formed patties, beef items, sausage, cooked beef cuts, complete frozen beef dinners, canned beef, and other beef products in the U.S. than in Canada. Large, well defined market segments are more widely geographically distributed in the U.S. than in Canada and many of these are located in large urban centers served by a broader-based wholesale and retail grocery and food service system composed of comparatively more separate firms. High value-added beef product manufacturing and retailing using cow beef is also more widely distributed and more developed in the U.S. than in Canada.13

4) The U.S. cow population is more widely geographically distributed than is the Canadian cow population. The bulk of the Canadian beef cow population is located in the prairie provinces, relatively distant from the strong Canadian markets for cow beef in comparison with the U.S. beef cow herd which is closer to more major cow beef markets.14

---

12 Beef industry research interviews, 1990. Beef industry sources reported that larger scale U.S. plants had advantages in procurement and marketing based on lower labor costs, distribution of fixed costs over larger kills, better opportunities for offals marketing, and better opportunities to market more cow beef as higher value cuts.

13 Quebec is really the only major retail market for cow cuts in Canada. It is regarded as a good cow cut market composed of a well developed retail butcher shop trade, rurally located independently-owned supermarkets including some chain affiliates. The balance of the Canadian cow cut market is the much smaller and geographically less well distributed HRI (hotel, restaurant, and institutional) food service sector.

14 These factors all influence distribution of total cow marketings over time and geographically. The entire U.S. cow market delivery is therefore more constant and as a result, prices are more stable. The Canadian market which tends towards more seasonal deliveries in a more geographically concentrated area is more susceptible to price pressure exerted in the fall and spring delivery periods.

5) Primary producers in both countries are casual in their marketing of spent cows in Canada and the U.S. Primary producers are not end-user market driven in their production or marketing. In many U.S. regions there are more firms bidding on slaughter cows than is the case in Canada. As a result, competition for slaughter cows will push the price marginally higher. The effect of competition from U.S. firms on the Canadian cow market is diluted by the use of a limited number of order buyers and by the fact that fewer firms in total are represented on the Canadian cow market.

3.2 Competitiveness in High Quality Beef Production, Marketing, and Merchandising in North America

As the grinding process of primary processing sub-sector rationalization continues into the '90's there is continuing attrition among less competitively fit medium and small scale plants. Scale and integration are the two largest advantages enjoyed by the giants. Large volumes of beef and co-products are produced, assembled, and marketed more advantageously by large-scale integrated firms. Scale and size give these firms the advantages of direct sales to domestic and international customers.15

15Market structure, narrow range product specifications, shipping costs, production and storage capacity and costs are critical variables in the profitability and feasibility of developing markets for beef and co-product streams.

Vertical integration and scale position the giants to attain premium prices for offals and beef by supplying large volumes of products directly to foreign and domestic customers within short time frames for production, assembly, and shipment. Small and medium scale processors have less direct access to large-scale customers for beef and offals and therefore use brokers to market proportionately more of their products.

An increasing tendency in the brokerage business is to so-called "back-to-back" sales. These sales are transactions involving the broker as the owner for a short period of time between shipment from the supplier and delivery to the buyer. The obvious outcome of such transactions is for the broker to assume more control in the pricing of products with the predictable result that a wider price gap will usually occur if the broker assumes ownership than if he acts as a commissioned agent.
Major buyers deal on a direct basis with major sellers to maximize profit opportunities with the result that gaps widen between prices received for beef and offals sold directly by high volume manufacturers and those sold through brokers by lower volume manufacturers.

Large scale integrated operations spread fixed costs of value-added production over a larger base and at the same time reduce many variable costs through technology innovations, central processing, and integrated transportation.16

Marketing advantages are translated into kill procurement advantages that extend the reach and buying power of large-scale, high capacity firms.17 There are proportionately more large high-speed straight steer and heifer kills and more straight cow kills in the U.S. than in Canada. Straight high-speed steer and heifer kills are subject to fewer slow downs for health and sanitation clean-ups and require fewer changes in production methods than mixed kills.18

While the impact of withholding large volumes of beef products and offals from a market should not be over-estimated due to the costs of storage, a certain amount of pricing advantage may accrue to large volume suppliers who are able to significantly shorten supplies or who are able to contract large volume future deliveries.

16 Significant price advantages accrue to large scale operations that can draw on the production of several high capacity plants to assemble container-lot loads of narrow specification range premium priced products such as fat strip-loins for the Japanese market, edible offals for the international markets, and value-added chrome-blued hides international markets to cite a few examples.

17 Greater overall economies of size and scale in straight kills also generally allow firms to widen margins between production costs and beef sales. At times of short supply and narrow margins this factor may be the most significant element affecting survival in a rationalizing environment. The overall survival capacity for these better positioned firms is neatly summarized in the words of one senior executive from a large U.S. firm:
"Say there's a twenty dollar bill in it for us to kill steers over the long haul because of our structure and efficiency. Now consider the guy who can't get any more than five dollars out of that steer. What happens to that guy if we settle for taking fifteen? or ten? or five?"

18 Larger total by-product streams emanate from larger high-capacity kills. This permits more comprehensive marketing of a somewhat larger by-product mix due to economies of size and scale resulting in comparatively higher by-product credits per head.
Large, highly integrated, multi-operation firms with standardized production generally enjoy the greatest advantages in this respect because costs of capitalization for adding value to offals can generally be spread over a larger total kill. One example of this is the use of three strategically located hide bluing plants to chrome-blue hides produced by eleven IBP plants in the Mid-west and High Plains.
The same steer or heifer will be more highly finished in the U.S. than in Canada. Consequently, more meat and more co-products are extracted from each carcass. This has the effect of lowering unit costs of production per head.

There are more straight high quality kills with very tight specifications for carcass weight and finish in the U.S. than in Canada.19 There are also more operations that supply more and larger specialty or niche markets in the U.S. There are more "niche" markets in the U.S. than in Canada by virtue of demography and cultural mixes and a larger number of centers with concentrated populations. This makes it easier to identify and define a niche market and service it efficiently.

In general, U.S. firms have lower labor costs than competing Canadian plants.20 In some cases, the disparity may be as high as a factor of thirty percent. Again, at times of short continental kill and low margins costs of production are critical.

Process technology innovations are generally adopted earlier and are more diffused through the U.S. primary processing sub-sector plants than in Canada. Modern process technology reduces costs of production or makes improvements in products that are reflected in the selling price and therefore reflect competitiveness.21

Currently lower interest rates in the U.S. mean generally lower costs of capitalization. In addition, much of the machinery used in beef plants is produced in the U.S. Consequently, costs of new operations and up-grading are generally lower in the U.S. than in Canada.

---

19 IBP for example, wholesales all carcasses that exceed Yield Grade 3 finish. Their procurement, production, and marketing programs are designed to focus on the market for boxed cuts made from Choice and Select carcasses with a Yield Grade of 3 or less. They promote their ability to produce within those specifications as part of their product quality image and believe that this is partially responsible for their ability to sell cuts at a premium in a market that generally treats boxed beef as a commodity.

20 Beef industry research interviews, 1990

21 The study team saw technology in some major U.S. plants that would, in the professional opinion of one member, significantly reduce boning costs of front cuts. This was only one example for which there was no parallel observed in Canadian operations.

3.3 Beef Marketing and Merchandising Impacts on Competitiveness in the Primary Processing Sub-Sector

Advantages for U.S. processors in cattle procurement, beef and offals production attributable to firm size, production scale, and integration, are a large part of the explanation of shifts in beef and cattle trade patterns in North America as these relate to manufacturing beef imports. However, there are fundamental differences between Canadian and U.S. wholesale and retail high quality beef marketing and merchandising that have structural and institutional origins and ramifications.

To summarize - the primary impact of less effective merchandising in Canada is first to reduce the retail cut-out value of the carcass and therefore the wholesale cut-out value. Cattle procurement advantages are greater for U.S. boxers when the wholesale cut-out value of the entire carcass is lower in Canada than in the U.S.

Large-scale integrated slaughter and boxing firms in the U.S. produce retail and food service sub-primal beef cuts to a set of relatively standard but wide-ranging specifications. These specifications allow beef processors to produce a range of standardized sub-primal cuts that retailers and food service operations select from to best that fit their merchandising programs.

Most Canadian firms also have a wide range of sub-primal specifications. In contrast, many Canadian plants produce sub-primals to several different retailers specifications that are designed around respective retail beef merchandising programs. The significance of the difference in the two systems is that the U.S. system requires no adjustment on lines for cutting specifications changes to fill specific orders.

In other words, in the U.S. system the U.S. retailer buys what the processor specifies and makes; in the Canadian system the processor often makes what the retailer specifies. Changes in line production add costs to production as one line of product must be completed before another can begin. Considerable production time is lost in the latter system, adding to production costs.22

Generally more aggressive and effective merchandising of chucks, thin meats and some rib and hip cuts at the wholesale and retail levels in the U.S. has the measurable effect of increasing the retail and wholesale cut-out value of the high quality beef carcass.23

---

22 Some processing sub-sector executives reported that it is possible to lose as much as 1 hour per shift in line changes. This time loss adds to the costs of production by reducing outputs per dollar of fixed and variable cost per unit.

23 Proportionately more U.S. retail chain stores effectively merchandise a broader range of boneless chuck cuts than do Canadian retail chains. Part of the driving force behind this is that major U.S. boxers aggressively developed the U.S. retail chain market for chuck cuts at the end-user level.

IBP's innovative wholesale chuck marketing in the U.S. is one example of a powerful two-prong program to supply a broader product range and educate beef retailers to more effectively merchandise more of the beef carcass more profitably in a shrinking beef demand environment.

Also see Example 3.1 for a sample of IBP's marketing and retail beef merchandising support. Example 3.1 is an extract from the IBP retailer catalogue of sub-primal offerings and retail cutting instructions to maximize returns from specific sub-primal cuts.

More versatile and broader-based sub-primal offerings are supported with an educational program including an intensive meat merchandising short-course presented to senior operational management of chain-store meat departments. Some 20,000 people have passed through the program since its inception in 1972.

Conversely, many major Canadian retail chains regularly feature the more traditional bone-in or boneless blade and cross-rib chuck cuts as low-cost specials when they are in heavy supply (particularly in the summer). This merchandising practice tends to re-enforce Canadian consumer perceptions of chucks as lower value and inferior in eating quality. It is noteworthy, however, that in the past year there has been some movement on the part of some major retailers to sell more boneless chuck and rib cuts, although the range of offerings is still small compared to the range of U.S. boneless retail muscle cuts.

U.S. suppliers are able to manufacture and sell high quality ungraded sub-primal cuts to Canadian retailers and food service operations at lower prices than Canadian graded cuts. The equivalent of nearly 95,000,000 pounds of U.S. ungraded high quality boneless beef was imported by Canada to mid-November of 1990.24 This represents approximately 10 % of the boneless retail cuts equivalents of Canada's federally inspected high quality slaughter during the same period. This level of lower priced high quality middle and hip cuts would also depress the cut-out price for Canadian high quality beef.

The transition to a box-based Canadian industry has been accelerated in the last few years by increased boxed-beef imports and the appearance of a high capacity Cargill plant at High River.

Fat, bone, and meat trimming at a plant produces a by-product stream with higher intrinsic value at lower cost in contrast with higher cost trimming at stores that results in a waste stream, or at best a non-competitive trim stream using higher-cost labor. The by-product credit of a boxing operation is therefore marginally increased and allows for the spread of costs across a larger product base.

Retail chain central-supply breaking operations in Canada are experiencing the impacts of the costs of double handling of carcasses. U.S. chains have largely cut the central breaking link in the supply chain in favor of purchasing boxed beef cuts from processors.

Ironically, Canadian chucks are relatively leaner than U.S. chucks; therefore the cut-out on a Canadian chuck is generally greater than for a U.S. chuck. (See Figure 3.1) Canadian sub-primal chucks are sold at a premium in the U.S. market. This is reflected in the premium paid for Select chucks as opposed to Choice chucks.

24 Estimates based on Agriculture Canada Livestock Meat Trade Report import figures, beef industry estimates of imports composition, and beef industry estimates of cut-outs, carcass yields, average warm carcass weights for high quality slaughter cattle and U.S. cuts conversion factors.

Other impacts of Canadian retailers dropping in-house breaking programs and switching to boxed beef programs is that it reduces the customer base of kill and ship style operations that produce carcasses. At the same time, the long run effect is to reduce the overall carcass trade with the consequence that carcass procurement options shrink for small boning operations that specialize in food service supply and for retail chains that centrally distribute carcasses to stores for in-store breaking. Small specialty boxers may realize some short term benefits of trade displacement creating partial vacuums in the market for food service items. However, it is doubtful if opportunities of any significance will emerge for specialty boners as the result of shrinkage of chain-store boning operations due to the extremely short kill situation and the strong presence of U.S. boxers in both the fed cattle and boxed beef markets.

It is important to note that the pressure on in-house chain-store breaking operations is not entirely generated by the transition to boxed beef programs. Similar pressures are being brought to bear on in-house fabrication programs for poultry, pork, and specialty meat items.25 26

---

25 Beef industry research interviews, 1990

26 Chain-store beef retailers in Canada and the U.S. currently aim for overall gross margins on fresh beef sales of approximately 20 to 22 percent. Chain-stores are making increasing use of pre-packaged and pre-priced poultry supplied by poultry processors. Chain-store meat operations report high satisfaction with this type of poultry supply system.

If chain-stores continue to experience difficulty in procuring a skilled or semi-skilled labor supply for meat operations they will be more strongly attracted to factory pre-packaged, high shelf-life, boneless portion-cuts such as the Loblaw's Tender Cut program in place in No Frills stores.

Cargill (U.S.) reports that the Loblaw's program is one of the most successful experiences to date with vacuum-packed, chilled, portion cuts. Loblaw's experience with the program is that there is generally wide acceptance of the program by both store-level management and a more affluent, convenience oriented consumer group who use the product as a premium-priced service and commodity blend.

In Quebec, independent affiliates of retail chains still break carcasses in stores. Retail chains indicate that they supply stores with as much as 50 percent of their beef in carcass form. In fact, Canadian boxed beef sales to some retailers in Quebec have actually declined as retailers use in-store breaking to widen margins and attract more traditionally oriented customers.27

The major implication of the transition to boxed beef in the beef deficient Quebec market is that major U.S. mid-west boxers are better positioned geographically and competitively to serve the Quebec market. This has the effect of forcing Alberta boxers to compete in the U.S. Pacific North-West and West Coast U.S. markets. This in turn produces the effects of increasing competitive pressure on inefficient slaughterers and processors and may result in attrition that further concentrates ownership in the primary processing sub-sector.

3.4 Competitiveness in the Primary Production Sub-Sector

More major Canadian retail chains are now specifying to boxers that they want sub-primal cuts made from carcasses in the 650 to 750 lb. range. As retailers specify smaller cuts Canadian slaughter and process operations are attempting to procure more carcasses in the specified weight range. Cattle that produce Canadian A1-2 carcasses in that weight range have a live-weight range between 1100 and 1300 pounds. Intensified domestic competition for live cattle falling within the narrowing weight range

---

Diffusion of vacuum-packed portion cuts in the U.S. is regarded as slower. Retailer resistance in some major population eastern seaboard areas is a function of labor agreements. Store-level meat department labor resistance is being met in an informal way in other areas. Portion-cut product development is being pursued by many major boxers. Senior packer executives believe that widespread appearance and diffusion of portion cuts in the continental retail market will take several years.

27 Beef industry research interviews, 1990

Figure 3.1 Estimates of Average U.S. and Canadian High Quality Beef Yields (Beef Industry Research Interviews, 1990)

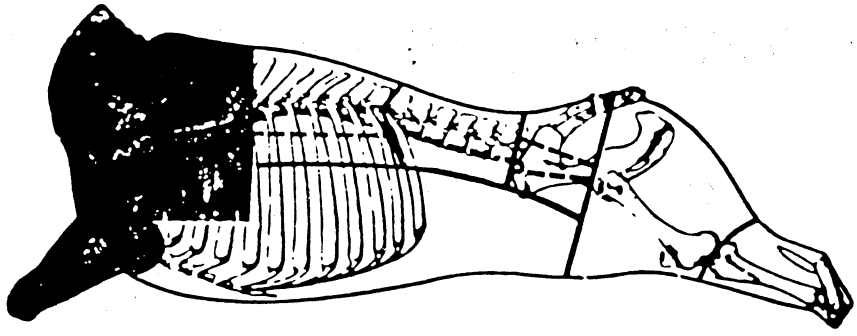
Fronts and Hinds Expressed as a Percentage of Sides

	Canada	U.S.
Front	54.5	53.1
Hind	45.5	46.9
Totals	100.0	100.0

Primal Cuts as a Percentage of Sides and Quarters

	Primal/Side		Primal/Quarter	
	Canada	U.S.	Canada	U.S.
Chuck	28.9	29.3	53.1	55.2
Rib	9.4	11.1	17.3	20.9
Brisket	5.2	2.2	9.5	4.1
Shank	3.8	3.1	7.0	5.8
Shortplate	7.2	7.4	13.2	13.9
Sub-Total	54.5	53.1	100.1	99.9
Loin	15.5	21.1	34.1	45.0
Hip	25.2	22.2	55.4	47.3
Flank	4.1	3.6	9.0	7.7
Sub-Total	44.8	46.9	98.5	100.0

Example 3.1 **Extract From IBP Beef Catalogue, 1990, IBP, Dakota City, Iowa, U.S.A.**



IBP'S CHUCK CUTS

...3 PIECE BONELESS CATTLE-PAK® CHUCK

...2 PIECE BONELESS CATTLE-PAK CHUCK

...ROLL/CLOD CATTLE-PAK CHUCK

...SEMI-BONELESS NECK OFF CATTLE-PAK CHUCK

...NECK OFF CATTLE-PAK CHUCK

...WEST COAST CATTLE-PAK CHUCK

...REGULAR CATTLE-PAK CHUCK

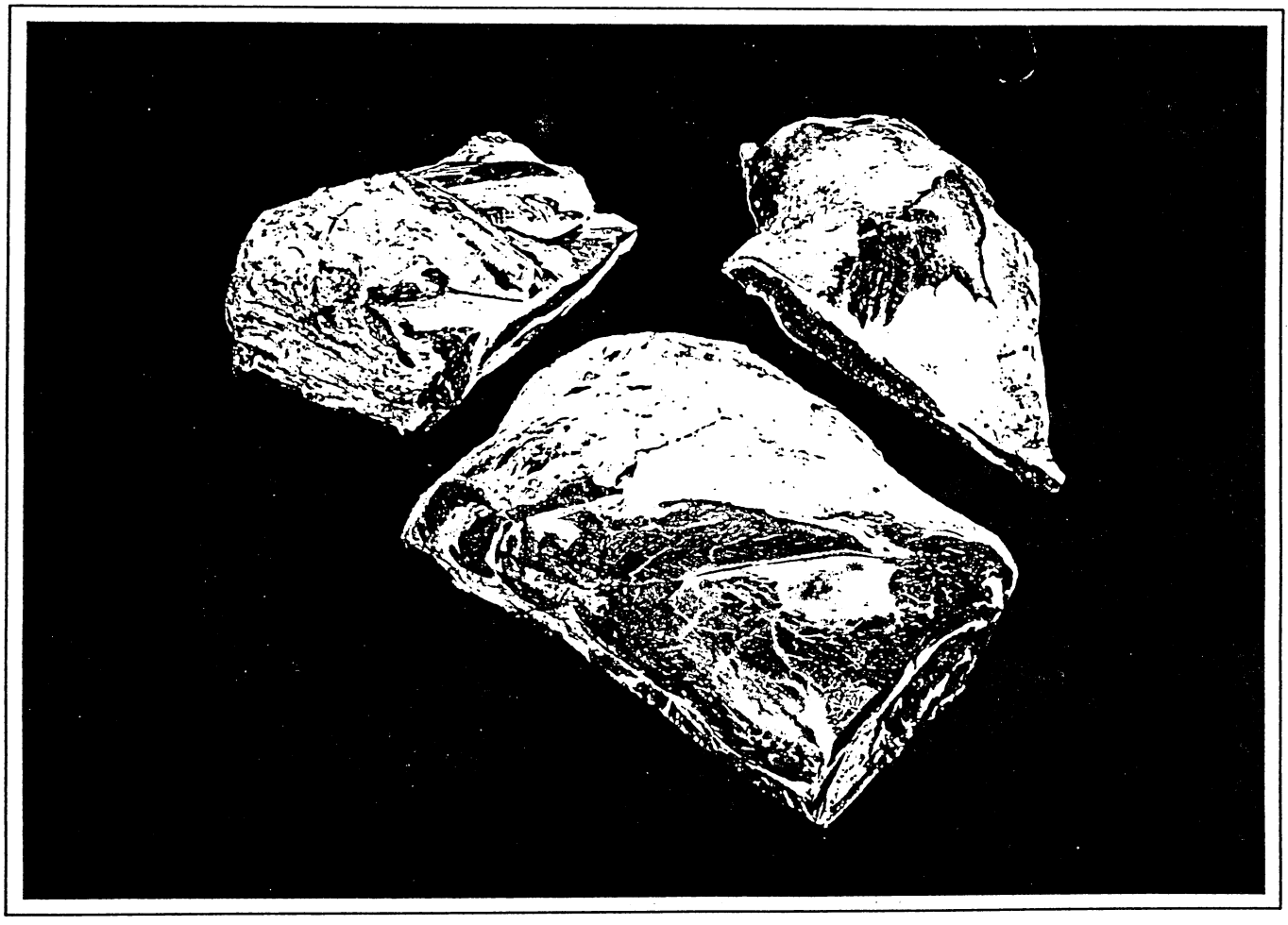
...BONELESS CHUCK ROLL

...SHOULDER CLOD

...CHUCK TENDERS

Of all the cuts, the chuck is probably the most versatile. If merchandised properly, the chuck cuts can be a real money maker for you. They can also add variety to your meat case, because better than 60 different retail cuts can be merchandised from the above listed cuts. Whether you use the chuck cuts as the "hot" item in your ads, or for high gross merchandising, they will perform beautifully.

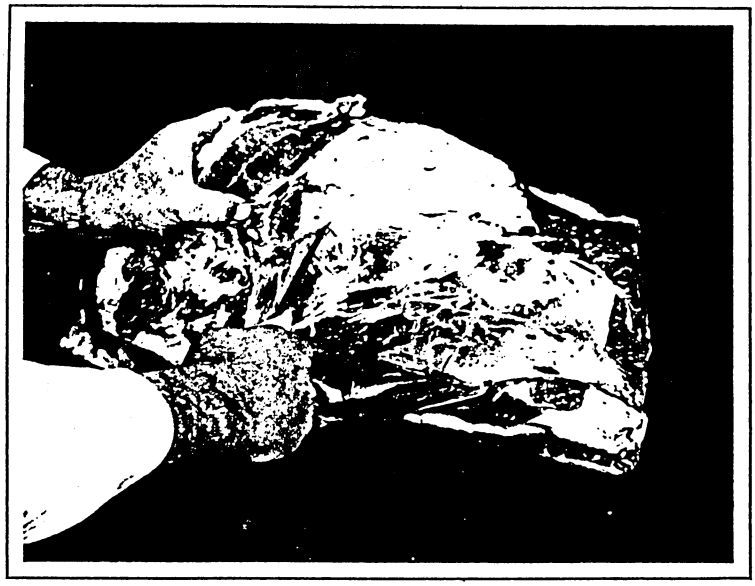
IBP'S BEEF ARM CHUCK BONELESS 3 PIECE



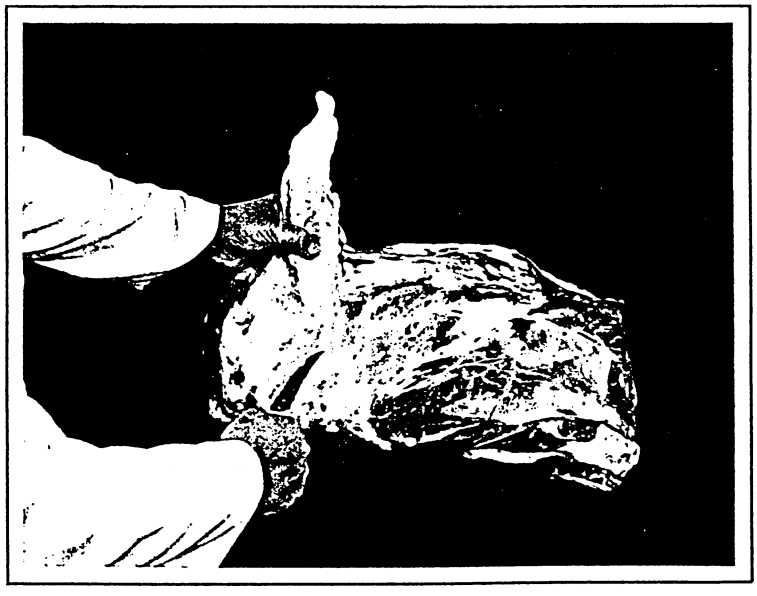
PRODUCT SPECIFICATIONS:
Fabricated from a Bone-In-Arm Chuck... separated into three boneless pieces: Blade, Clod and Arm...selected Yield Grade 3 or better carcasses.

TRIM SPECIFICATIONS:
Maximum 1 inch fat cover, with the edges beveled to 1/2 inch fat thickness. Bloody neck meat, sweetbreads and back strap removed.

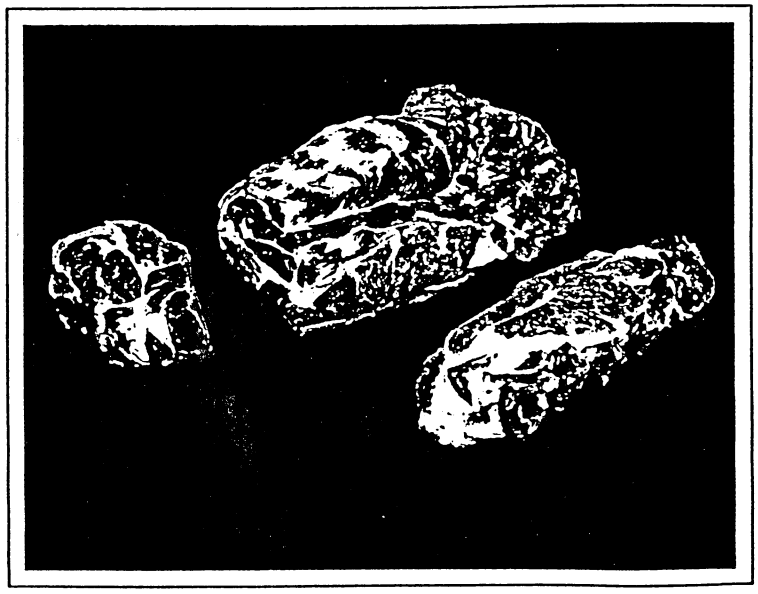
PACKAGING SPECIFICATIONS:
Blade, Clod and Arm bagged separately...all three pieces in one box.



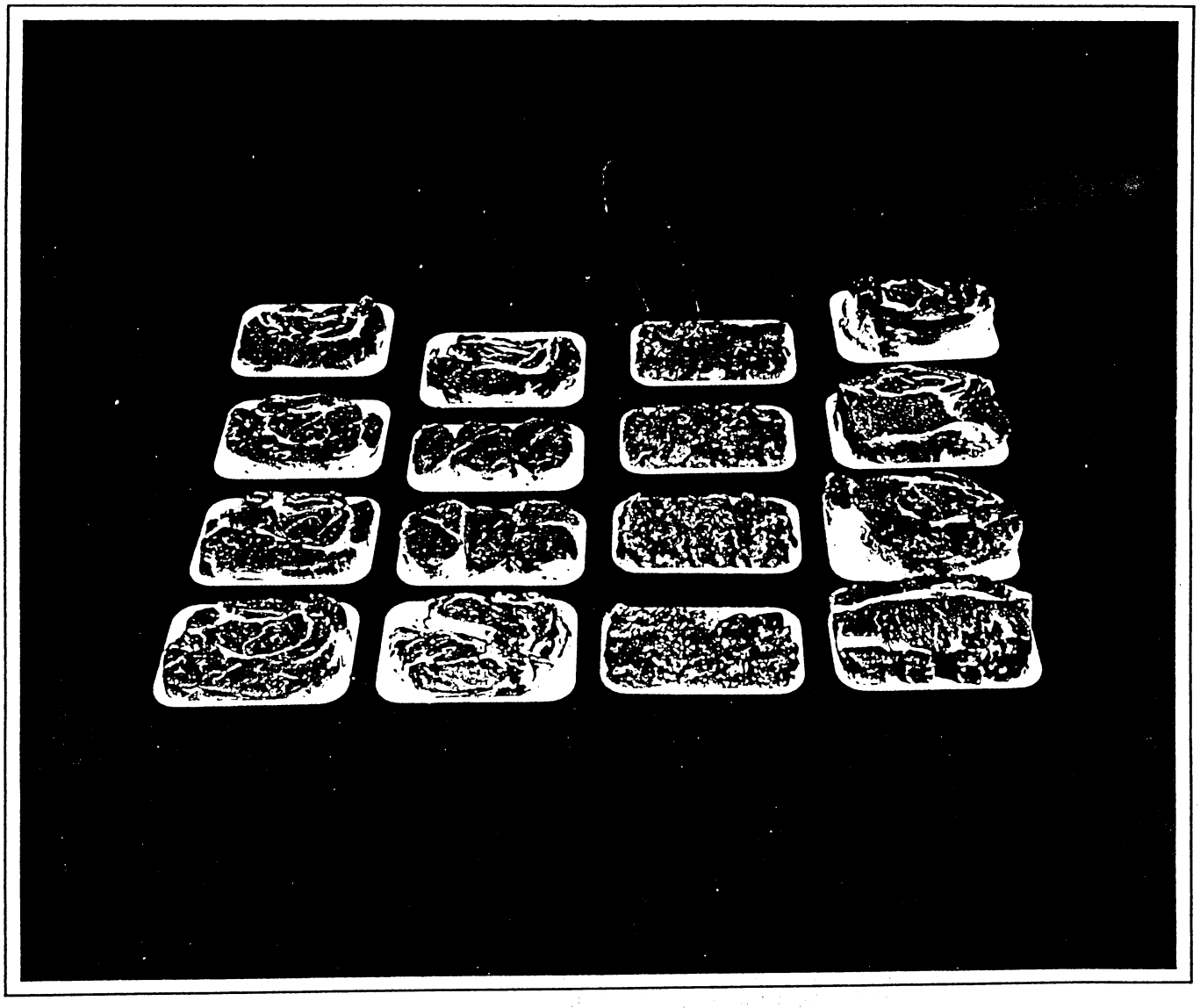
Remove the thin layer of lean meat on top of the Chuck and use for grinding. Expose and remove the Chuck Mock Tender and merchandise as steaks.



Next, remove the prescapula fat in one piece.



Remove the edge of eye and merchandise as a pot roast. Using the outer edge of the kernel of fat as your starting point, remove the chuck eye. Merchandise into Boneless Chuck Eye Steaks, Stew and Lean Trimmings for grinding. Cut the balance of the blade section...roasts, steaks, roasts, using the neck for Stew, or a Boneless Neck Pot Roast.



CUTS:

3 Pkgs.	Chuck Roast Boneless	2S Tray	1/4 Inch Max. Fat Cover
5 Pkgs.	Chuck Steak Boneless	2S Tray	1/4 Inch Max. Fat Cover
1 Pkg.	Edge of Eye Roast	17S Tray	1/4 Inch Max. Fat Cover
1 Pkg.	Chuck Eye Steak	2S Tray	1/4 Inch Max. Fat Cover
2 Pkgs.	Mock Tender Steak	17S Tray	1/4 Inch Max. Fat Cover
4 Pkgs.	Beef Stew Boneless	17S Tray	1/4 Inch Max. Fat Cover
	Lean Ground Beef	Not Shown	

ibp

CUTTING TEST FORM

Date_____
Store/Company_____
Person Doing Test_____
Quality Grade CHOICE Yield Grade_____
Packer _____ Est. No. _____
Cut Being Tested IBP 3PC BNLS CHUCK BLADE SECTION

Original Weight 39.54
Bag and Clip 0.23
Naked Weight 39.24
Shrink 0.07
Net Weight 39.31
Cost/Cwt $_____

Cut	Cut Code	Weight (In Decimals)	Pounds Per 100	Test Selling Price	Sales Value	Test Selling Price	Sales Value
CHUCK RST BNLS		7.54	19.18				
CHUCK STK BNLS		6.23	15.85				
EDGE EYE RST		2.81	7.15				
CHUCK EYE STK		1.49	3.79				
MOCK TENDER STK		2.63	6.69				
STEW		3.79	9.64				
LEAN GRND BEEF		8.75	22.26				
SALEABLE YIELD			(84.56)				
FAT		5.85	14.88				
BONE		-0-	-0-				
SHRINK		0.07	0.18				
CUT LOSS		0.15	0.38				
Totals		39.31	100.0				

Convert all cuts into pounds-per hundred. Do this by dividing the weight of each cut by the net weight of the wholesale cut and multiply the answer by 100.

To determine the percentage margin; divide the DPH margin by the Realized Sales Value and multiply the answer by 100. The result is the percentage margin for that particular wholesale cut.

Projected Sales Value
Less Marketing Loss -___%
Realized Sales Value
Less Cost
DPH Margin
or
Percent Margin

requirement is compounded by increased competition from U.S. firms facing shortages in continental fat cattle supplies.

Also, the recent appearance of a high capacity Cargill boxing operation at High River and the recent increase in slaughter capacity of Lakeside Centennial of Brooks and Calgary have added to the overall demand for high quality slaughter cattle in the continental Pacific North-West region.

Most major U.S. slaughter and processing firms procure cattle to supply a U.S.D.A. Choice, Yield Grade 2-3 retail market for a more highly marbled product. U.S. feeders and some Canadian fat cattle producers therefor feed to produce generally fatter slaughter cattle that yield heavier, and fatter carcasses.

IBP, Cargill, and Con-Agra account collectively for approximately 50 percent of the high quality beef slaughter in the U.S. or approximately 45 percent of the continental high quality kill. These three firms adhere to relatively tightly controlled cattle procurement programs with regard to carcass weight, finish, and ultimately, cut weight specifications.

Fatter carcasses that would attain a premium in the U.S. are now discounted in Canada. Strong U.S. packer demand in turn presents the opportunity to Canadian feeders to widen the gap between incoming feeder weights and outgoing fat cattle weights. As a result, cattle feeders can capture the opportunity for marginal increases in gross returns when fat cattle supplies are short, feeding costs are relatively low, and the price spread between U.S.D.A. Choice and Select favors feeding to heavier weights. Wider exchange differentials between the Canadian and U.S. dollar also tend to favor fat cattle movement to U.S. plants.

In the short run, cattle feeders on both sides of the border continue to pay premium prices for highly efficient crosses of British and European cross-

breds that finish in the 1100 to 1300 pound weight ranges for as long as the continental supply remains short. As rationalization in the slaughter and process industry continues in the Pacific North-West there will be some shifting of Canadian slaughter cattle production emphasis to feed proportionately more cattle to heavier slaughter weights with more fat cover.28

The short-run effect is to shrink the supply of feeder cattle as heifers are dedicated to breeding programs. Off-setting the longer-term incentive to retain heifers is current strong slaughter cattle demand and a relatively low cost of gain in both the U.S. and Canada. The U.S. feed grain supply and the current prospects for a continental-scale bumper crop may cause feeder cattle prices to pull heifers from herd rebuilding programs. Recent growth in exports of Canadian prairie feeder cattle to the U.S. is indicative of strong short-term U.S. feeding industry competitiveness and a short U.S. feeder supply. It also implies that profitability of slaughtering is generally higher in the U.S. than in Canada.

Competitive feeder cattle procurement positioning has been eroding for some years in Ontario, Manitoba, Saskatchewan, B.C., and more recently in

---

28 While this seems paradoxical in light of more closely trimmed retailing specifications several production factors are to be considered.

First, it takes many years of intensive selection to breed fat off cattle. Second, it may be the case that the desirable mid-size European and British crosses that mature slightly younger than many of the larger straight European breeds are at a point where no significant improvement on fat to muscle ratios is possible through selection.

In other words, if the major continental share of consumers persist in their taste for fairly high degrees of marbling and minimal external and seam fat trim in beef cuts it may be impossible to avoid feeding to current or slightly modified U.S. standards for carcass fatness.

U.S. producers are perceived to have shown reservation in herd rebuilding following the last major sell-down. A legitimate question is whether the financial depth existed in the production community to support a more rapid rate of growth in herd numbers. The Canadian herd is believed to be rebuilding at a somewhat more rapid rate.

Alberta. This is due to several factors, not the least of which is the shift in geographic concentration of the most highly competitive elements of the continental slaughter and process infrastructure.

However, feeder cattle procurement by Alberta feeders has tended to be more aggressive and competitive than in other provinces over the last several years. At the same time, the Ontario corn farmer-feeder sub-sector has experienced severe erosion of its competitive position in western feeder cattle procurement. In addition, Ontario feeders have experienced powerful competition from Mid-West and High Plains U.S. feeders for south-central U.S. feeders that have traditionally been part of their feeder supply base. These effects have come as a result of the overall continental rationalization of the cow herd and reduction of U.S. feeder reserve.

Traditionally, production patterns of south-central feeder cattle yielded a repository of yearling feeder cattle in weight ranges that allowed Ontario feeders to finish feed these cattle within the time window allowed by Agriculture Canada blue-tongue control regulations. The entire continental feeder cattle reserve has been reduced by extremely strong feeder cattle demand with the result that fewer cattle are available at weights and times of the year that fit blue-tongue control specifications.29

Another significant competitive economic advantage for Alberta feeders is the effect of long distance travel on morbidity and mortality in western Canadian feeder cattle. Feeder calves shipped long distances experience greater sickness and death, on average, than those shipped shorter distances. As a result, the margin of competitive economic advantage of feeding high yield, home-grown corn on a one-turn per annum, small-scale basis is further narrowed against a barley feeding western Canadian feeding sub-sector operating on a medium to large-scale, high turn-over basis.

---

29 See Figure 3.2 regarding feeder cattle import restrictions.

Feeder cattle procurement competitiveness appears to be significantly reduced in the western Canadian feeding sub-sector over the past year. In view of more than a 25 % increase in Alberta slaughter capacity over the past year it could be expected that exports of prairie feeder cattle to the U.S. would be curtailed.

However, Canadian feeder cattle and calf exports to the U.S. up to mid-November 1990 at are approximately 300 % over feeder cattle and calf exports to the U.S. for the same period in 1989. This represents a loss of approximately 185,000 feeder cattle to U.S. feedlots. This is roughly equivalent to 9 % of the 1989 high quality slaughter in Canada.

Figure 3.2 Bluetongue Import Restrictions on Feeder Cattle (Agriculture Canada)

Feeder cattle can be imported from these states after testing anytime or between October 15 and March 31.	Feeder cattle can be imported from these states after testing anytime or between October 15 and March 31.	Feeder cattle can be imported from these states after testing anytime or between October 15 and January 1.
Low Bluetongue Incidence	Medium Bluetongue Incidence	High Bluetongue Incidence
Connecticut	Delaware	Alabama
Massachusetts	Maryland	Arizona
Maine	North Dakota	Arkansas
Michigan	West Virginia Colorado	California
Minnesota	Iowa	Florida
New Hampshire	Nebraska	Georgia
New Jersey	Tennessee	Louisiana
Ohio	Wyoming	Mississippi
Pennsylvania	Illinois	Nevada
Rhode Island	Kansas	South Carolina
Vermont	Utah	Texas
Wisconsin	Virginia	Oregon
Alaska	Oklahoma	
Hawaii	Idaho	
New York	Kentucky	
	Montana	
	South Dakota	
	Indiana	
	Missouri	
	New Mexico	
	North Carolina	
	Washington	

4.0 Summary of Trade and Competitive Positions of Canadian Beef Industry Sub-Sectors

The preceding Sections of this Annex to The Review Of The Canadian Meat Import Act and the main body of the Report have shown that Canada has been a net exporter of:

1) slaughter cows, calves, and bulls to the United States for manufacturing beef for all years since 1982 to the present time;
2) fat slaughter heifers and steers to the United States for high quality beef since 1986;
3) feeder cattle to the United States for finish feeding in U.S. feedlots since 1981 to the present time with the exceptions of 1986 and 1987 when the trade was very light.

In every year since 1980 with the exceptions of 1987 and 1990 Canada has been a net exporter of beef. Most of the beef exported by Canada has been manufacturing quality destined for the U.S. with the exception of a small amount of high quality cuts and some offals imported by Pacific Rim countries. At the same time, Canada has been a growing importer of high quality beef (mostly ungraded) from the U.S. since 1987.

Factors contributing to rationalization in the North American beef industry are:

1) increased competition for slaughter cattle favoring large-scale, highly integrated, technologically advanced slaughter and processing firms with lower production, marketing, and distribution costs that can accept and survive decreased margins;
2) declines in cattle populations since the early 1980's and geographical shifts in cow-calf, fed cattle, and feed-stuffs production and markets favoring feeder and fat cattle producers with low fixed and variable production costs and greater proximity to major cattle markets cattle

4) ample and low-cost labor supplies;
5) a relatively liberally regulated physical environment to facilitate maximum integration of offals processing;
6) a corporate will to compete in a rigorous low margin business.

Specific obstacles to Canadian manufacturing quality beef production and marketing competitiveness with U.S. firms have been discussed in Sections 2 and 3. This suggests that large, firms with large-scale, integrated, well positioned operations in Canada are the most likely Canadian survivors of on-going primary processing sub-sector attrition. Independent firms with medium to large-scale integrated operations and considerable depth of financing are also likely to survive the continuing periods of low margins and strenuous competition.

Senior management of two dominant primary processors suggest that packing sub-sector rationalization may persist for as long as two to three years. During that time there will be considerable product and market development resources expended by dominant North American firms to secure larger shares of domestic markets and the Pacific Rim market perceived to be growing and potentially lucrative.

Canadian firms that are currently experiencing difficulties in slaughter procurement and competitive production and marketing in domestic markets are likely to face similar difficulties in developing and maintaining a share of overseas markets that are already being vigorously pursued by U.S. and Australian firms.

U.S. based restructuring resulting in more concentration, integration, and large-scale operations is not as profound and rapid in cow slaughter and processing as it is in high quality beef production. However, the same factors that affect viability in high quality beef production come into play in manufacturing quality beef production. The inferences to be drawn from

research findings and analysis in preceding Sections implies that much of the current Canadian manufacturing beef sub-sector is not well fitted to grow, or for that matter to survive in the face of increasing competition from U.S. operations.

However, one factor worth noting is that at least one dominant U.S. packer with a Canadian operation has designed their plants to kill and process cows (in spite of the fact that this firm is currently engaged only in native high quality beef kill and processing). Presumably, one of the eventual effects of further rationalization in both high quality and cow beef production would be increased margins. This may provide incentive to large dominant firms with greater investment capacity and more endurance for low margins to enter the cow slaughter and processing business.

This also suggests a more optimistic scenario for longer-term growth in feeder cattle and fat cattle production in Alberta where the necessary resources, will, skill levels, and investment capacity reside. Putting it another way, Alberta is the only major cattle producing province in Canada with a high growth potential for producing feeder cattle and a packing industry infra-structure with any hope of long-term viability.

Cow numbers may not increase greatly over current levels in many parts of North America in response to current strong feeder cattle prices. This may be due to increased apparent stability in cow herd ownership and a lesser will to invest accompanied by a lower overall investment capacity. In Canada, the bulk of cow herd growth will occur in Alberta over the next five years while there may be shrinkage in the cow herd in other Prairie provinces.

Packing industry growth in North America in the last decade has been predicated on growth and long-term viability of cattle feeding. Growth in the size and scale of the Mid-West slaughter and process sub-sector has

taken place in direct proportion to growth in the Mid-West feeding sub-sector. This is clearly indicative of the collective corporate mind-set of dominant U.S. firms.

It is not paradoxical that dominant packing firms have recently invested in new plants during periods of low margins and relatively low cattle numbers. These firms are the only ones with sufficient investment capacity to sustain protracted periods of low margins during the prolonged cattle population growth lag.

One very clear inference is to be drawn from the U.S. experience. If growth is to continue to occur in the Canadian beef industry it will be founded on growth of the cow herd and fed cattle population. Growth of a competitive slaughter and processing industry has occurred in the U.S. with a lag of nearly ten years on cow-herd and fed cattle growth.

Moreover, growth in Canadian feeder cattle and fat cattle production will be dependent (to a considerable extent) on the ability of Canadian feeders to successfully compete with U.S. feeders for feeder cattle and sell a larger portion of their production to U.S. plants. This scenario also suggests that the feeders who survive and grow in Canada will be medium to large-scale feeders with production and marketing capacity and economies of size and scale required to survive on small margins in an increasingly rigorous continental environment.

Canadian cattle feeders may sell fat cattle in greater numbers to highly competitive and dominant U.S. firms for some time to come. New or up-graded Canadian plants may not operate at full capacity for several years until Canadian cattle numbers are considerably higher and the U.S. packing industry is further rationalized. This will depend heavilly on the margins accruing to Canadian feeders for producing heavier fed cattle for U.S. plants that specify heavier finish on carcasses. At the same time, Canadian

feeder cattle will continue to be in strong demand in the U.S. as the competitive advantage continues to shift to large-scale feedlots that can accept low margins.

In turn, this suggests that Canada will probably import proportionately more high quality beef from the U.S. over the next three to five years (for reasons detailed in Sections 2 and 3). This would also suggest (for reasons also detailed in Sections 2 and 3) that Canada will import proportionately more manufacturing beef from off-shore sources as the Canadian cow-herd grows at a rate that is likely to be disproportionately high compared to the U.S.

Richard Austin, the Chairman of the Australian Meat and Live-Stock Corporation indicated in recent discussions that recovery in the size of the Australian herd has been slower and smaller than expected following the last serious drought in Australia. The AMLC imputes some of the slow and incomplete recovery to a somewhat reduced collective will of large landholders to re-invest to produce cattle when they currently enjoy better yielding investment opportunities in other industries. Mr. Austin also suggested the strong possibility that growth in the Pacific Rim markets for manufacturing beef would tend to reduce the amount of beef shipped to North America from Australia. Low production costs and shipping costs will give Australia (and to a lesser extent, New Zealand) an excellent position to develop Pacific Rim markets (and tastes) for manufacturing quality beef.

Heifer retention for breeding and reduced culling of breeding cows in the face of strong breeding cattle prices will also reduce the total North American supply of high quality and cow beef for three to five years. This implies the short-term supply of domestic origin high quality manufacturing beef will shrink. In other words - if Canadians are going to consume beef at current levels, they will consume more imported beef.

Finally - technology innovations and industry restructuring increasingly favor direct sales of beef from domestic manufacturers to end-users. Secondary manufacturing is becoming increasingly a function of large integrated U.S. firms, and the commercial trade environment also increasingly favors direct sales of imported beef to end-users at the secondary manufacturing level. Consequently, beef imports could well become an increasingly important business for dominant North American operations.