North American Beef Production, Demand and Trade Challenges and Opportunities: A Perspective from the United States

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Introduction

I must start this paper with a disclaimer. The perspective from the United States presented here is one from a researcher and educator in Iowa and it most likely will differ from the official policy of the U.S. government, National Cattlemen's Beef Association, and most state cattlemen’s associations, including possibly Iowa’s. Iowa is located in the heart of the U.S., 400 miles from Canada and 1,100 miles from Mexico. Iowa is a grain surplus region and northwest Iowa has some of the cheapest grain in the world. While my comments may seem biased, they are not intended to be, as I do not officially represent a particular organization that stands to gain from changes in beef production or trade.

Thirty percent of the world’s cattle inventory is in the three North American countries of Canada, Mexico, and the United States. In spite of this large supply, the continent is still a net importer of beef. The U.S. holds 72 percent of the cattle inventory in North America, is the world’s largest beef exporter, and the world’s largest beef importer as well. Mexico holds 18 percent of the NA inventory, imports some beef, exports very little beef, but exports some feeder cattle. Canada has 9 percent of the NA cattle inventory, exports 1.3 million cattle a year, and has recently shifted from being a net importer of beef to being a net exporter.

Geographically and economically, these three countries are closely linked. They represent a significant, if not the largest, market for each other. While the U.S. is the largest producer and consumer in the region, Canada is posting the largest growth in exports, and Mexico holds the greatest market growth potential. Because the U.S. is such a dominate partner in the region, with the exception of short-term local supply and demand conditions, the general price levels for beef are largely determined in the U.S. market. This paper will provide a snapshot of the three markets in 1998-1999, as well as a brief review of recent history. It will also examine potential opportunities and challenges to the beef industries in North America.

Inventories and production

The North American cattle inventory on January 1, 1999 was 136 million head. The U.S. had 98.5 million, Mexico had 24.6 million and Canada had 13 million head of cattle (Table 1). Total beef production in 1998 was 14.78 million metric tons.

Table 1. Beef industry statistics: United States, Canada, and Mexico.

	U.S.	Canada	Mexico
Cattle Inventories, 1999 (1,000 Head)	98,522	12,950	24,600
Cattle Exports 1998 (1,000 Head)	285	1,284	721
Cattle Imports 1998 (1,000 Head)	2,034	117	177
Beef Production (1,000 tons)	11,804	1,170	1,810
Beef Exports, 1998 (1,000 tons)	985	405	3
Beef Imports, 1998 (1,000 tons)	1,198	221	197

While the United States has approximately 72.5 percent of the North American inventory, it had nearly 80 percent of the beef production. The trend in all three countries is to greater throughput, producing more beef for a given level of inventory. Since 1994 the U.S. has increased 17 pounds per head, compared to Canada at a 30 pounds per head increase and Mexico at a 32 pounds per head increase. The greater level of production per head of inventory in the U.S. relative to Canada and Mexico may be related to greater reproductive efficiency, more grain feeding to slaughter weight, and the fact that the U.S. is a net importer of feeder cattle from both Canada and Mexico (Figures 1 and 2). After adjusting the productivity measures in Table 2 to account for cattle trade, the difference between the U.S. and its neighbors is less pronounced.

Table 2. Beef production per head of inventory, Canada, Mexico, and United States.

	1994	1995	1996	1997	(p)1998	(f)1999
	Pounds of Production per Head of Inventory					
U.S.	248	252	254	258	265	265
Canada	168	164	167	181	200	198
Mexico	132	137	143	150	158	164
	Pounds of Production per Head of Inventory Adjusted for Cattle Trade					
U.S.	244	246	250	254	261	
Canada	182	179	187	201	221	
Mexico	136	145	145	152	162	

In 1996-1998, the U.S. averaged 1.7 million head of net cattle imports a year, less than 2 percent of the total U.S. inventory. During this period Canada supplied 75 percent of the total. Mexico has been a large exporter to the U.S. in years when it has a drought or when the currency exchange favors exports. Much of the live cattle trade that is occurring is capturing the comparative advantage the countries hold (Castillo). Mexico is exporting feeder cattle to feedlots in lower cost grain regions of the U.S. and importing slaughter cattle from the U.S. to its plants. Western Canada is beginning to import feeder cattle from Washington and Montana in the northwest United States into expanding feedlots in Alberta as part of a pilot project that eases the movement of feeder cattle market between Canadian and U.S. producers. In eastern Canada, cull cows are moving south into the U.S. and beef is moving north into Canada's population centers.

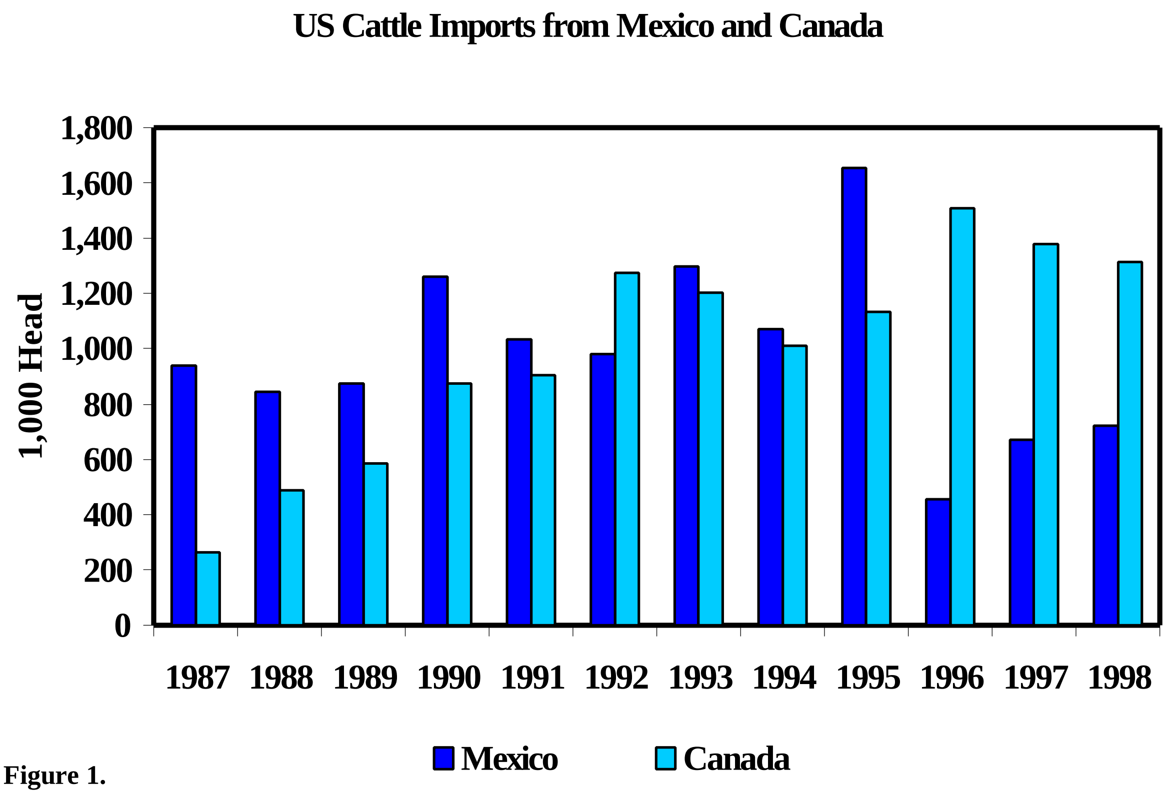

Figure 1.

Source: USDA and Livestock Market Information

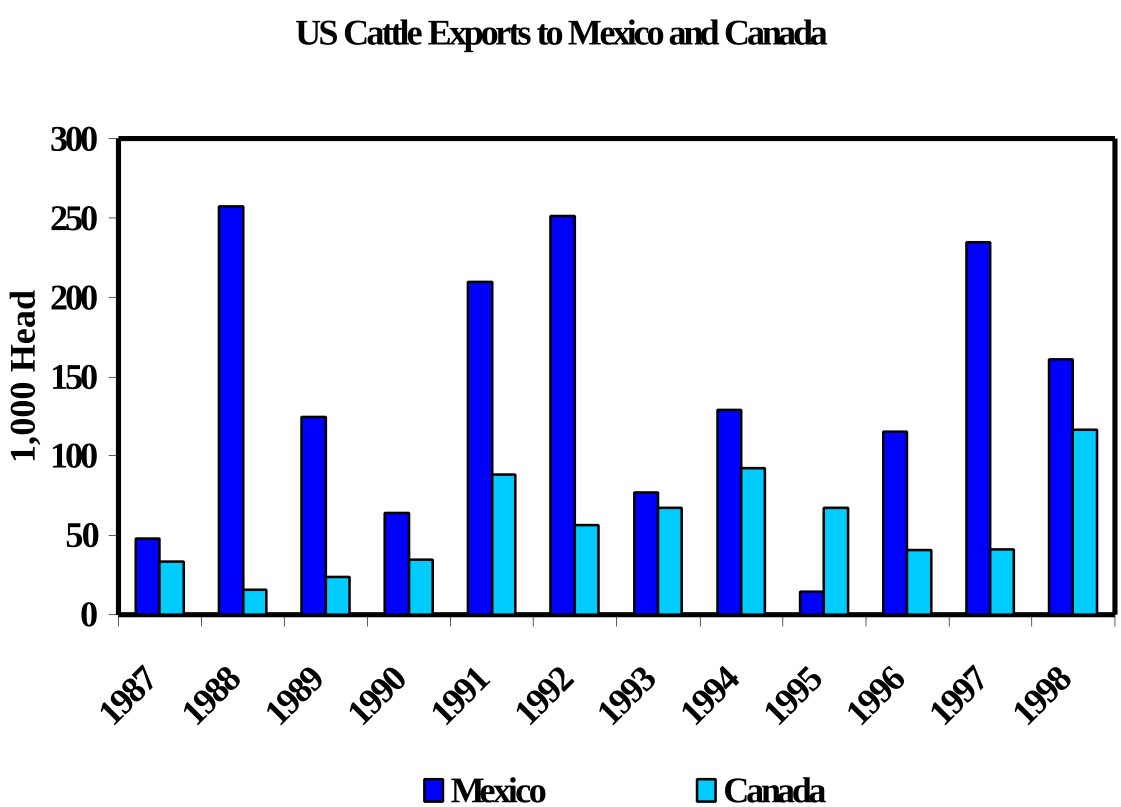

Figure 2.

Source: USDA and Livestock Market Information

The U.S. and Mexico are net importers of beef, but since 1994, Canada has switched from being a net importer to being a net exporter (Figure 3). The U.S. is both the world's largest exporter and importer of beef, but in the end, they are net importers of beef. In 1998, the U.S. exported 985, 000 MT of beef and veal while importing 1,198,000 MT. Canada exported 405,000 MT and imported 221,000 MT. Mexico is largely a beef importer, importing 197,000 MT, but exporting only 3,000 MT in 1998. Imports are equivalent to approximately 10 percent of U.S. production while exports are approximately 8.3 percent of production. Canadian exports are equivalent to 35 percent of production, and imports represent about 19 percent. Imports into Mexico are equal to approximately 11 percent of production.

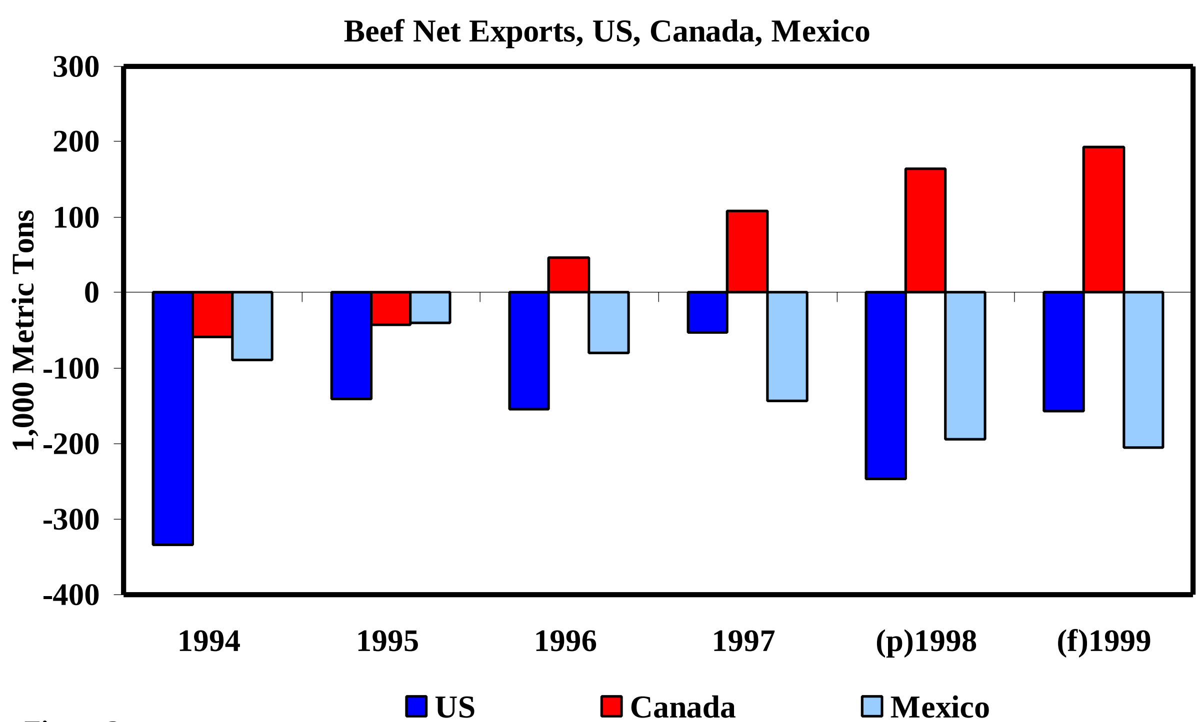

Figure 3.

Source: USDA FAS

Mexico and Canada are the second and third largest beef exports markets for the U.S. behind Japan (Table 4). Twenty percent of U.S. beef and veal exports by volume go to Mexico and 12% go to Canada. On a value basis, Canada remains at a 12 percent share, but Mexico drops to a 17 percent share because Mexico tends to import lower valued cuts of beef. The opposite is true of beef variety meats where Mexico imports a higher valued type of variety meats than Canada or the average for the U.S.

Table 4. United States Beef, Veal, and Beef Variety Meat Exports to Canada and Mexico, 1998.

	Volume Metric Tons	Share of US Total	Value $1,000	Share of US Total	Average Value, $/lb
Beef and Veal Exports					
Mexico (#2)	142,216	20%	397,756	17%	1.25
Canada (#3)	87,389	12%	284,999	12%	1.46
Total	714,099		2,326,088		1.45
Beef Variety Meats					
Mexico (#2)	45,047	15%	53,834	11%	0.53
Canada (#5)	10,255	3%	8,869	2%	0.39
Total	308,458		477,732		0.69
Beef, Veal, and Variety Meats					
Mexico	187,263	18%	451,590	16%	1.08
Canada	97,644	10%	293,868	10%	1.34
Total	1,022,557		2,803,820		1.22

Canada is the largest importer of beef to the U.S., passing Australia in 1996 as the leading supplier to the U.S. (Table 5). Australia and New Zealand provide primarily manufacturing beef for blending with U.S. beef trimmings, while Canadian imports are higher value cuts reflecting more grain fed production (Castillo). In 1998, 34 percent of the volume and 40 percent of the value of U.S. imported beef was from Canada. However, the U.S. accounts for

94 percent of Canadian exports. Mexico supplied relatively little of the beef imported into the U.S.. Comparing Tables 4 and 5 shows that the U.S. imports a lower value beef product from Canada than it exports to Canada.

Table 5. United States Beef Imports From Canada and Mexico, 1998.

	Volume Metric Tons	Share of US Total	Value $1,000	Share of US Total	Average Value, $/lb
Canada	303,839	34%	731,805	40%	1.08
Mexico	1,213	0%	4,683	0%	1.72
Total	892,072		1,841,938		0.92

Canada is an export competitor to the U.S. in the Pacific Rim. The Canadian feedlot industry has expanded in Alberta due to increased profit potential. First, lower grain prices following the removal of a freight subsidy reduced the cost of production in feedlots. Secondly, two U.S. packers, Excel and IBP, bought and expanded slaughter facilities in Alberta. Although the U.S. is a dominant player in Japan and South Korea, market competition from Canada is expected to grow as the western Canadian beef feedlot and processing industries grow.

Table 6. Beef exports to Japan and South Korea from United States and Canada, (metric tons).

	U.S. to Japan	Canada to Japan	U.S. to S. Korea	Canada to S. Korea
1996	336,796	6,209	70,617	1,465
1997	345,946	14,443	89,729	6,652
1998	468,800	17,364	65,093	4,461

Demand Factors

Essentially, the U.S. and Canada are mature markets for beef. Per capita beef consumption in the U.S. peaked in the mid-1970s. Consumption declined with the cyclical reduction of the herd in the late 1970s. However, between 1979 and 1986, inflation-adjusted retail prices fell 30 percent in order to get consumers to consume the same amount of beef (Figure 4). Demand for beef has continued to weaken into the late 1990s, reflected in both decreasing consumption and price. Declining domestic demand has hastened the search for export markets for U.S. beef.

The U.S. is the largest beef market in North American and the world. Per capita consumption of beef in the U.S. was 98 pounds carcass basis in 1998. Canadian consumption is approximately three-fourths the U.S. level at 72 pounds and Mexico is less than half the U.S. consumption at 45 pounds. Per capita income in the U.S. is the highest of the three countries. The average per capita GDP in the U.S. was $28,789 in 1996 (latest figure available) compared with $20,082 for Canada and $4,265 for Mexico in 1997. Mexico's economy averaged 6 percent growth in 1996 and 1997 and is expected to continue strong growth into the future. This economic strength will support increased beef consumption in Mexico faster than the Mexican beef industry can grow to fill it.

Thus, the stage is set. Canada's feedlot and processing industries are growing in the West, but its population is in the East. Western Canadian processors are serving the west coast population centers of the United States. Midwestern and eastern U.S. beef processors are selling into the eastern Canada population centers.

Mexican feeder cattle are moving north to grain surplus regions of the U.S. and northwest U.S. feeder cattle are moving north into the low cost grain regions of western Canada. The U.S.

is hoping to expand beef exports. Mexico is expected to have growing beef demand. Economic forces have shifted the North American beef trade from east and west within the United States (and Canada) to north and south across borders.

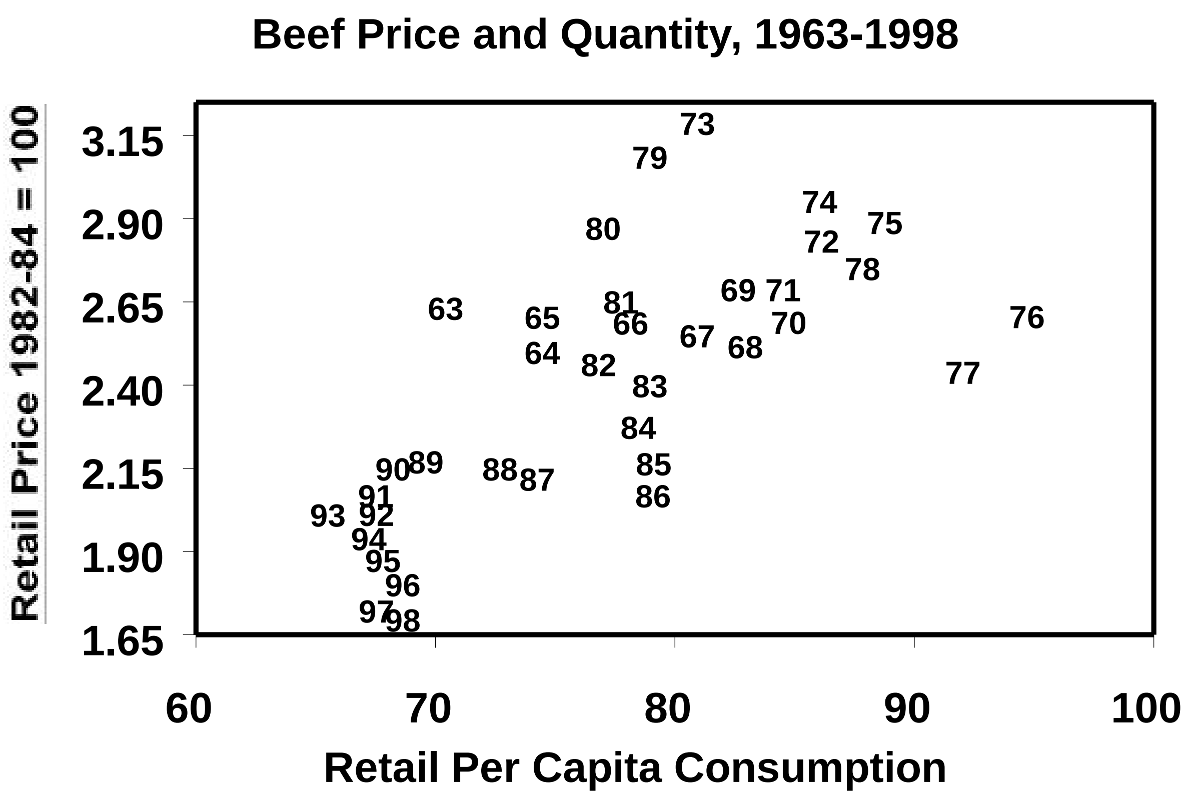

Figure 4.

Government Involvement

All three NAFTA countries have governmental programs that impact the cattle industry in their respective countries. The beef industries in each country have organized to seek support for programs that are supportive of their cause or to fend off regulations that are restrictive. An equally great deal of energy is spent looking over the fence to make sure that these programs aren't providing an unfair advantage to beef producers in one country which exports beef to another.

The current example of this border battle is the Ranchers-Cattlemen Action Legal Fund (R-CALF) case brought by a group of U.S. cattle producers claiming that imports of cattle from Canada and Mexico subsidized and caused material damage to U.S. cattle producers. In January 1999, the U.S. International Trade Commission voted 5-1 that there was no reasonable indication that imports of live cattle from Mexico were causing or threatening to cause material injury to the domestic industry.

The case against Canada was taken to the World Trade Organization (WTO). It ruled in late May that Canadian cattlemen are receiving subsidies on their cattle as the R-CALF initiated case charges. However, the initial finding was that the subsidies were less than one percent of the value of the cattle and no duties will be collected at this time. The final ruling is due in September.

The R-CALF concerns are the most recent in an ongoing debate surrounding any type of trade agreement. Domestic producers are always going to feel threatened by imports and are convinced that, on a level playing field, the importing country couldn't possibly compete with them. Therefore, in spite of the level or type of subsidies that the domestic producer may be receiving, it is obvious that the other country is doing something to tilt the playing field in favor of their own producers.

The Canadian International Trade Tribunal (November 1993) prepared one of the most complete studies of the type and degree of subsidies in cattle and beef sectors in the North American countries. It found that there are a variety of government programs in the three countries that are supportive of the domestic beef industries. These include: inspection and grading; credit; feed grain programs; irrigation; market information, statistics, and development; consumer food programs; and public land usage. Although the study is based on early 1990s data, it still provides a useful point of comparison (Table 7).

Table 7. Comparison of net benefits by type of intervention, 1991-92.

	Percentage of Adjusted Value of Production		
	Canada	Mexico	U.S.
Programs Affecting Revenue			
Cattle	3.30	-2.30	5.42
Beef	0.20	0.00	0.49
Programs Affecting Costs			
Cattle	1.59	-0.18	0.70
Beef	0.04	0.48	0.00
Other Programs			
Cattle	3.43	0.41	2.31
Beef	0.86	0.00	0.17
Total			
Cattle	8.32	-2.08	8.43
Beef	1.11	0.48	0.66

The conclusion of this Tribunal research was that the U.S. and Canadian government programs, policies, and regulations provide benefits to the cattle industry that, in net, are very similar. In Mexico, government programs and policies provide benefits to the industry that are outweighed by the costs of programs, policies, and regulations. They also found that regulations and policies pertaining to inspection, grading, labeling, and health had a larger impact on competitiveness than did direct financial assistance.

Implications of NAFTA on Beef Production and Trade

While there has been a great deal of commotion in the U.S. regarding cattle and beef trade, the approval of NAFTA did little to change trade flows that were already occurring (Castillo). Cattle and beef trade between the three countries had been fully liberalized before the agreement was signed, as there were no restrictions prior to NAFTA with the exception of health requirements that are still in place (Lambert). NAFTA did eliminate the already low tariffs on beef cattle imports (one cent per pound) from Mexico to the U.S. and tariffs on beef (two cents per pound up to 10 percent of value) from Mexico to the U.S. The larger tariffs on U.S. live cattle (15 percent), fresh beef (20 percent), and frozen beef (25 percent) to Mexico that were enacted in November 1992 were eliminated. A 20 percent tariff on beef edible offal is being phased out over 10 years.

Imports of cattle and beef from Mexico and Canada to the United States have replaced trade from other regions. The imported feeder cattle have allowed farmers to add value to their grain. Increased slaughter cattle (and the finished imported feeder cattle) allows packing plants to run closer to capacity, thus increasing processing efficiency and allowing wholesale beef prices to remain competitive with other meats (Brester). Likewise, cattle that are not imported to the U.S. will eventually compete with U.S. beef in Canadian, Mexican, or Eastern Rim markets. Higher U.S. beef prices that could result from restricting imports will encourage expansion domestically and globally ultimately leading to lower prices. The bottom line is that in a competitive market, prices cannot consistently remain above long-run average cost.

It is important to recognize that trade is a two-way street. You cannot effectively limit imports *and* expand exports in the global market. Brester estimates that eliminating beef trade would result in approximately an eight percent ($5/cwt on fed cattle) decline in U.S. cattle prices. The negative impact is because the U.S. exports beef by-products that have little domestic value and it exports high-value muscle cuts while importing manufacturing grade beef and cattle. The bottom line is that the U.S. beef industry is a net winner from trade.

Challenges and Opportunities

While the official walls have come down or are being removed between the three countries, it will be up to the entrepreneurs in the regions to find the opportunities and address the challenges. A fundamental step to examining the new opportunities and challenges is to recognize that there is one single North American beef market rather than three separate ones. Cattle and beef move relatively freely across the borders, and prices are largely determined in the U.S. At the risk of offending all three countries, Canada and Mexico should be viewed as two more states added to the Union when examining the North American beef market. Let's consider the opportunities that exist in a single North American market and think about the challenges that are blocking the transition to a single market.

The single biggest challenge is *standardization:* standardized food safety and hygiene procedures and acceptance of a single set of standards; standardized grading measures of quality; and standardized methods and documentation for animal health and disease control. Regardless of whether you are selling beef in Quebec, Colorado, or Chiapas, consumers should have complete confidence in the product and be able to easily understand its relative quality. Likewise, if you are moving cattle to Alberta, Iowa, or Sonora, the procedures should be the same and provide producers in those regions the same confidence and degree of safety that diseases will not be spread.

The challenge is to reach such an agreement, particularly when it comes to grading and animal health issues. Food safety may be the easiest obstacle to overcome because companies in each country are exporting into the world market that already requires high standards for food safety. Recognition of these equivalent standards by consumers may be more difficult, but moving everyone to the same international standards is likely a short trip.

Standardized grading or grade equivalency continues to be a sticking point. I am not suggesting that one country's beef is of higher quality than another's because quality should be measured in the eye of the buyer—not the seller. For example, the U.S. grading system rewards higher prices for carcasses with greater intra-muscular fat. The Western Europeans are just the opposite and would severely discount our Choice beef for being too fat. What I am suggesting is that North American countries either agree upon a single grading standard or that the countries be allowed to grade beef for a competing market if they believe that the order or lot will be sold there.

A market oriented solution to both the safety and grading problem is to move to branded, or at least labeled, beef produced in quality assured supply chains. Consumers would soon recognize that Brand X is of consistent quality whether it is purchased in Mexico, Canada, or the U.S. Company X may have different products for different regions of North America tailored to the specific tastes and preferences of consumers in that region. While governmental oversight of the Company X HACCP plan may be needed, Company X is in charge of its own safety, grading, and quality control and has a vested interest in doing it well. Company X will develop a supply chain management and quality control system that provides documentation and traceback on beef, cattle, plants, and procedures to ensure its product meets or exceeds consumer expectations. If it doesn't, Company X will change or fail. Company X may be a multinational corporation or a small, local specialty meat processor. It may also be a regional producer organization that develops a quality assurance program and supplies source-verified beef to processors or the retail markets. European countries are developing such quality assurance programs and they claim to be following examples of New Zealand and Australia. Can North America avoid doing the same?

Standards for animal movement across countries can be more challenging, but not impossible. These standards must be compatible with World Trade Organization guidelines. As such, they will be science-based, including risk assessment, and take into account relevant economic factors that are cost effective, but not trade distorting. The regulations should also be consistent (not more restrictive for importing countries than the home country), transparent, and easily understood (Young).

If the countries begin with the mindset that North American is one market and that freer movement of cattle and beef (recognizing the disease transmission issues) benefits all three countries, the standards and regulations will be different than the regulations based on keeping the three market separate. Opportunities exist throughout the beef supply chain from input supplier to retailer when consumers have confidence in all beef products, and decision makers can pursue enterprises based on comparative advantage and economics rather than policies designed for protecting domestic markets and industries.

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