

North America's Confectionery Industries: Structure, Trade, and Costs and Trends in Sugar Demand

**For
American Sugar Alliance**

**By
Peter Buzzanell & Associates, Inc.
March 24, 2003**

North America's Confectionery Industries: Structure, Trade and Costs and Trends in Sugar Demand

	Page
Outline.....	2
List of Tables.....	3
List of Charts.....	3
Executive Summary.....	4
Overview.....	6
Domestic Sugar Demand by the U.S. Confectionery Industry.....	7
U.S. Confectionery Industry Structure and Trends in Product Trade.....	10
U.S. Confectionery Trade Trends—Implications for the U.S. Sugar Industry.....	16
Mexico's Confectionery Industry Structure and Trends in Product Trade.....	19
Mexico's <i>Maquiladora</i> Industry and Trends in Confectionery Exports to the U.S.....	20
Mexico's <i>Maquiladora</i> Manufacturing: The Case of Hard Candy.....	22
Canadian Confectionery Industry Structure and Trends in Product Trade.....	24
Economics of Confectionery Production in Canada.....	27
Cost Variables: Economic Rationale for Shifts in Production to Mexico and Canada.....	27
Conclusions and Outlook.....	42
Appendix A: Confectionery Firms Participating in Re-Export Program.....	44
Appendix B: Confectionery Definitions and Terms.....	45
Appendix C: Sugar Content of Confectionery Products.....	46
Appendix D: U.S. Imports of Confectionery Products by Volume, 1998-2002.....	47
Appendix E: U.S. Imports of Selected Confectionery Products, by Volume, 1998-2002.....	51

List of Tables

Table 1	U.S. Sugar Deliveries to the Confectionery Industry
Table 2	USDA Re-Export Program: Import and Export Estimates
Table 3	U.S. Confectionery Industry: Shipment Volume and Value
Table 4	U.S. Shipments, and Consumption of Confectionery Products
Table 5	U.S. Shipments, Trade and Consumption of Non-confectionery Products
Table 6	U.S. Consumption of Selected Ingredients by Confectionery Industry
Table 7	U.S. Non-Chocolate Confectionery: Materials Used in Manufacturing
Table 8	U.S. Quantity and Value of Shipments of Confectionery Products
Table 9	U.S. Confectionery Product Trade
Table 10	U.S. Non-Confectionery Semi-processed Cocoa Product Trade
Table 11	U.S. Confectionery Imports: Hard Candies Ready for Consumption
Table 12	Mexico: Confectionery Production
Table 13	Mexico: Confectionery Trade: Imports
Table 14	Mexico: Confectionery Trade: Exports
Table 15	Canada: Confectionery Industry Structure
Table 16	Canada: Confectionery Global Trade
Table 17	Canada: Confectionery Trade with the U.S.
Table 18	Cost Comparisons for Confectionery Industry: U. S., Mexico and Canada

List of Charts

Figure 1	U.S. Sugar Deliveries to the Confectionery Industry
Figure 2	U.S. Hard Candy Imports by Country
Figure 3	Major Mexico-U.S. Border Cities and Major Interior Cities
Figure 4	Relative Hourly Wages for Candy Makers: U.S., Mexico, and Canada
Figure 5	Combined Labor Costs in Selected North American Cities
Figure 6	Relative Tax Costs for Candy Makers: U.S., Mexico, and Canada
Figure 7	Combined Corporate Income Tax Rates in Selected North American Cities
Figure 8	Combined Non-Income Taxes in Selected North American Cities
Figure 9	Relative Health Insurance Costs for Candy Makers: U.S., Mexico, and Canada
Figure 10	Combined Facilities Costs in Selected North American Cities
Figure 11	Electricity Rates: Comparative Index for Selected North American Cities
Figure 12	Combined Utilities Costs in Selected North American Cities
Figure 13	Refined Sugar Prices for Candy Makers: U.S., Mexico, and Canada

Executive Summary

- The confectionery industry is one of the largest industrial users of sugar in the U.S., accounting for over 1.2 million tons per year and nearly one-quarter of total annual deliveries to the food processing industry. In recent years there has been a contraction in the level of deliveries to the confectionery industry reflecting a shift of some segments of production to Mexico and Canada and the growth of non-chocolate confectionery imports into the U.S. Hard candy imports (HTS 1704.90.3550) alone in 2002 were more than double the level reached five-years earlier. The sugar content of imports of this one category for 2002 is estimated at 202,000 tons, compared with 87,000 tons in 1998. Concurrently, sugar use levels to service non-chocolate confectionery production in Mexico and Canada have been expanding.
- The restructuring of segments of the U.S. confectionery industry has led to contraction in the number of industry jobs and economic activity in those communities experiencing plant closures. The underlying reasons for the closures and relocation are multifold. The suggestion that the sole reason is due to lower sugar prices in Mexico and Canada is incorrect. The overriding reason for the relocation is reduced labor costs and related benefits. For example, workers in Brach's plant in Chicago that is scheduled to close by the end of 2003 earn an average of US\$14.00 per hour while their counterparts in Montreal earn US\$12.50 and in Juarez, Mexico less than US\$0.60 per hour. According to KPMG's *Competitive Alternatives* study for manufacturing operations such as confectionery facilities labor costs average 59 percent of location sensitive costs. The study that included the U.S., the EU, and Japan found that Canada has the lowest costs for statutory plans and other benefits and the lowest overall labor costs.
- Other important factors that have encouraged the re-location have been lower employee health care burdens for companies operating in Mexico and Canada as well as lower corporate taxes, facility construction and rental costs, and lower energy costs. KPMG research found that Quebec, Canada has the lowest energy costs of over eighty cities surveyed in the U.S., Canada, Europe and Japan. Combining wage costs and employers' contributions to employee benefit programs, KPMG found the Quebec labor costs are 31 percent lower than in the U.S.
- Canada has access to lower priced subsidized world priced sugar. While Canadian confectioners do price their sugar off of the No.11 world raw sugar market and Canadian refiners offer discounts off of list prices, owing to refiners' oligopoly power in the market, they garner very high refining margins, especially compared with their counterparts in the U.S. Lack of a

pass through of a greater share of lower world sugar prices is a lingering point of contention between refiners and industrial users of sugar in Canada.

- Mexico's internal sugar prices are comparable to those in the U.S. market, about 28.0 cents a pound for refined sugar, Mid-West market as of mid-March 2003. However, Mexican confectionery producers and exporters operating in *maquiladoras* (in-bond processing facilities) have access to U.S. refined re-export program sugar and Mexican origin *PITEX* for about 18.0 cents a pound if the products produced are re-exported out of Mexico.
- If these programs were eliminated between the U.S. and Mexico, it would foster the relocation of confectionery manufacturing to other locations, probably to Brazil and Argentina where sugar and labor costs are lower. It would not lead to a reestablishment of manufacturing back to the U.S. and would reduce economic activity for those other U.S. firms servicing the *maquiladoras* as well as reduce economic activity in U.S. border towns dependent on retail purchases from Mexican shoppers.

Cost Comparisons for Confectionery Industry: March, 2003

Cost		<u>United States</u>		<u>Mexico</u>	<u>Canada</u>
Item	Unit	Chicago, IL,	Holland, Mi.	Juarez	Montreal
Labor:					
Wages	\$ / hr	14.04	15.50	0.56	12.50
Health Care					
Insurance	\$/worker/yr	2,400	2,256	360	605
Taxes:					
Federal & State	%	42%	40%	9%	31%
Electricity:					
Demand	\$/kW/mo.	11.00	8.60	2.38	11.97
Use	\$/kW/hr	0.0420	0.048	0.040	0.0372
Land:					
Construction	\$/sq/ft	50.00	30.00	25.50	37.00
Rental	\$/sq/ft	10.00	2.50	4.00	4.60
Refined					
Sugar	Cent/Lb.	28.3	27.6	18.0 ³	21.0

1/kWh is a measure of use of 1,000 watts of electricity for one hour where as KW is a measure of demand during a specific time period such as a month.

2/ \$ Pesos 9.48 to U.S. \$ 1.00; \$ Canadian 63.8 to U.S. \$ 1.00.

3/ *Maquiladora* and re-export program price; actual domestic price about 28 cents/lb.

Source: Various Sources Researched by Peter Buzzanell & Associates, Inc.

North America's Confectionery Industries: Structure, Trade, and Costs and Trends in Sugar Demand

Overview

The confectionery industries of North America--the U.S., Mexico and Canada--produce a wide range of chocolate and candy products from complex chocolate-cream and nut presentations to simple hard candies that are composed basically of sugar, corn syrup and food coloring. In all three countries, these products are produced in settings ranging from sophisticated factory operations to small businesses employing confectionery artisans.

The ingredients used in the production of these confectionery products are produced in the country of manufacture as well as imported. Basic ingredients for chocolate-type products, cocoa beans and cocoa bean byproducts, such as cocoa butter and powder, are imported into all three countries. In the manufacturing process these ingredients, along with various nut products, have the highest unit prices. For hard candies, the sugar used is either produced domestically or imported, with Canada being the most import dependent country in North America.

Finished products in all three countries are marketed within the producing countries and supplemented by imports as well as exported to foreign markets, primarily their neighboring countries in North America. The bulk of finished chocolate and candy products are consumed in the countries where they are produced. Trade, either imports or exports, have tended to represent only about one-quarter of use. Overall, these marketing activities generate sales of hundreds of millions of dollars each year in each country.

One new trend in regional confectionery marketing is the growing share of imports as a share of the apparent consumption in the U.S, especially for the non-chocolate confectionery, mainly the hard candy segment. According to the U.S. Census Bureau, hard candy imports have grown from 10 percent of apparent consumption in 1996 to 21 percent in 2002. This trend reflects the shifting of production from traditional U.S. manufacturing sites to both Mexico and Canada. Output from these facilities is then exported to the U.S. for domestic consumption.

This development is causing a loss of jobs and related economic activity in the U.S. communities where confectionery manufacturing traditionally took place. In addition, this activity is negatively affecting the domestic demand for ingredients such as sugar used in the manufacturing of chocolate and candy. According to Jim Corcoran, National Confectionery Association (NCA) Vice President for Trade Relations, based on the recent trend he estimates that within five years 40 percent of all non-chocolate confectionery could be imported.

This study seeks to explain the economics behind this shift of production and trade by examining various cost variables and comparing them among the three countries of North America. To put this analysis in context, the structure, trade and related information for the confectionery industries in the U.S., Mexico and Canada will be assessed.

Table 1 U.S. Sugar Deliveries to The Confectionery Industry

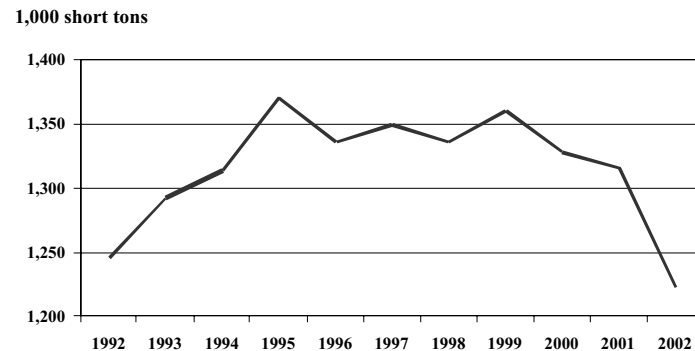
short tons, actual weight					
Calendar Year	Jan- Mar	Apr- Jun	July- Sept	Oct- Dec	Total
1992	295,532	316,430	337,497	296,548	1,246,007
1993	303,863	305,577	350,048	332,045	1,291,533
1994	313,348	321,243	366,296	312,826	1,313,713
1995	319,920	334,845	370,808	345,351	1,370,924
1996	324,434	324,769	347,509	339,172	1,335,884
1997	328,587	340,701	361,624	319,432	1,350,344
1998	337,459	324,126	353,959	320,300	1,335,844
1999	307,222	372,528	347,102	334,619	1,361,471
2000	332,708	321,456	341,233	332,744	1,328,141
2001	348,090	356,777	320,985	289,051	1,314,903
2002	297,837	306,350	329,672	288,809	1,222,663

Source: USDA.

Domestic Sugar Demand by the U.S. Confectionery Industry

According to USDA's *Sweetener Market Data* report, the volume of sugar delivered each year to the U.S. confectionery industry ranks only behind the combined baking and cereal industry, representing about one-quarter of annual industrial use of domestically produced sugar. For calendar 2001, USDA reported that sugar deliveries to the confectionery industry totaled 1.315 million tons, 24 percent of the industrial user group, but down 35,441 tons from the 10 year high achieved in 1995 (Table 1). For calendar 2002, deliveries totaled 1.223 million tons, a 10-year low and 7.0 percent under 2001 (Figure 1). With U.S. confectionery consumption growing at a rate of 3 to 5 percent per year over the past several years, the contraction in domestic sugar deliveries is attributed to several factors:

Figure 1 U.S. Sugar Deliveries to the Confectionery Industry



Source: USDA

- A growing share of confectionery is from imports, particularly hard candies. These imports are substitutes for candies that could have been manufactured in the U.S. with domestic sugar.
- USDA's re-export program for refined sugar also is a contributing factor to the contraction of domestic sugar deliveries to the confectionery industry. The re-export program, while providing greater throughput for U.S. raw sugar refiners, is increasingly being used to supply Mexican *maquiladoras* (in-bond processing facilities) with refined sugar for production into candies for re-export as retail products back to the U.S. The USDA estimates that for fiscal year 2001/02 about 50,000 tons of re-export sugar was sent to Mexican *maquiladoras*, nearly one-half of all refined sugar re-exports (Table 2).

Table 2 USDA Re-Export Program: Import and Export Estimates

Fiscal Year	Quota Exempt Imports for Re-Export	Quota Exempt Exports for Re-Export	Transfer to Sugar containing products for Re-Export
1,000 short tons, raw value			
1992/93	601	397	148
1993/94	641	432	143
1994/95	230	444	88
1995/96	530	377	100
1996/97	493	211	157
1997/98	349	179	123
1998/99	386	230	169
1999/00	388	124	86
2000/01	238	141	98
2001/02	305	108	160
2002/03	260	125	170

Source: USDA.

- USDA's re-export program for sugar containing products is also a factor. This growing program provides refined re-export sugar to manufacturers of products that stipulate that the sugar will be used in products that are exported. For fiscal year 2002/03 USDA estimates that this program will utilize 170,000 tons of sugar. Many of the companies involved in this program are confectionery companies that utilize about two-thirds of the sugar in the overall re-export program (Appendix A).
- Complementing the re-export program for sugar containing products is USDA's "Market Access Program." For the past decade the U.S. candy industry has been participating in this program that is intended to help U.S. agricultural commodity groups expand export markets. NCA is allocated \$1.1 million, of which 70 percent is for branded company use. Twenty-three companies are currently participating and they can get reimbursements for approved expenditures such as product demonstration activities and promotion at trade shows. While aiding the confectionery industry's export marketing, the program, combined with the re-export program for sugar containing products, also takes away potential demand from domestically produced sugar that could have been used for producing confectionery products for export.

Table 3 U.S. Confectionery Industry: Volume & Value

Summary of Manufacturers Shipments of Confectionery Products: 1994 to 2001

Quantity in millions of pounds. Value in millions of dollars

Year	Pound	Value	Per capita consumption 1/ (pounds)	Per capita consumption 1/ (dollars)
1994	6,253	12,208	24.5	47.1
1995	6,572	12,918	25.7	50.0
1996	6,813	13,635	26.5	52.0
1997	7,018	14,929	27.2	56.6
1998	6,952	14,894	26.8	56.6
1999	6,614	14,447	26.0	55.0
2000	6,665	14,969	25.1	54.8
2001	6,564	15,231	24.4	54.9

Shipments plus imports minus exports divided by population

Source: Confectionery Industry Report, August 2002.

U.S. Confectionery Industry Structure and Trends in Product Trade

The U.S. confectionery industry is one of the largest and most long-established segments of the food-processing sector with many of the large as well as smaller companies with over 100 years of manufacturing and marketing history. According to the NCA, total retail confectionery sales in 2002 were \$24.1 billion (chocolate candy, \$13.0 billion; non-chocolate candy, \$7.6 billion; and gum, \$2.7 billion).

The U.S. Bureau of the Census reported in August 2002 in its annual *Confectionery Industry* report, total manufacturers' shipments in 2001 were 6.564 billion pounds (3.28 million short tons) valued at US\$15.2 billion. U.S. per capita consumption is estimated at 24.4 pounds (Table 3). Officials of the NCA estimated U.S. industry domestic production growth for 2002 was + 1.1 percent for the industry as a whole with chocolate candy growing at + 6.8 percent, but largely offset by a 6.6 percent decline in non-chocolate candy output. The downturn in domestic non-chocolate or hard candy production largely reflects a significant shifting of this type of confectionery production to Mexico and Canada.

The Bureau of the Census reported in its *Census of Manufacturing* that in 1997 the industry had 1,650 production establishments employing nearly 70,000 workers with an implied hourly wage ranging from between US\$12 and \$17 per hour. (Note: The Census of Manufacturing is undertaken every five years; data from the 2002 survey will not be available until 2004). Since the last survey the industry has experienced contraction due to mergers and re-location of production outside the U.S. For example, the impact of these developments in the Chicago region, the traditional center of confectionery manufacturing, has been significant with the number of workers in the industry contracting in the last five years from 17,000 to under 10,000 currently, a 40-percent decline according to the Chicago based Candy Institute.

The confectionery industry is normally categorized into three main product segments: chocolate and chocolate-type confections (50 percent of total industry shipments), non-chocolate type confections or sugar confectionery (42 percent), chewing gum and gum based products (6 percent) and confectionery not otherwise specified (2 percent). Table 4 provides six years of data on shipments, trade and apparent domestic consumption (shipments minus exports plus imports) for the three categories. Note that both exports and imports of chocolate type confections have been growing. For non-chocolate type or sugar confectionery there has been particularly strong growth in imports that increased from 11 percent of apparent domestic consumption in 1996 and to 21 percent in 2001.

The confectionery industry can also be broken down into three additional semi-processed cocoa product categories: cocoa butter, chocolate coatings, blocks, wafers, liquid, and other chocolate and cocoa products. Table 5 provides shipment, trade and apparent domestic consumption data for these three categories. For cocoa butter, imports are traditionally a large segment of domestic supplies, 98 percent in 2001.

Chocolate coatings normally depend on domestic manufacturers shipments for the bulk of supplies and while imports remain small in total volume they are trending up. For other chocolate and cocoa products including cocoa powder, imports provide a growing share of total domestic consumption increasing from 26 percent in 1996 to 42 percent in 2001.

Table 4 U.S. Shipments and Consumption of Confectionery Products

Product Description	Year	Manufacturers Shipments	Exports of Domestic Merchandise	Imports for Consumption	Apparent Domestic Consumption	Percent Imports of Apparent Consumption
1,000 kilograms						
Chocolate Type Confectionery	1996	1,406,180	31,701	79,927	1,454,406	5.5
	1997	1,463,748	85,458	87,798	1,466,088	6.0
	1998	1,474,680	76,785	92,514	1,490,409	6.2
	1999	1,458,800	81,799	99,522	1,476,523	6.7
	2000	1,492,884	123,505	115,867	1,485,246	7.8
	2001	1,451,824	174,168	129,056	1,406,712	9.2
Non-chocolate Type Confectionery	1996	1,382,504	70,135	157,783	1,470,152	10.7
	1997	1,425,610	82,973	177,119	1,519,756	11.7
	1998	1,393,465	82,001	207,777	1,519,241	13.7
	1999	1,267,084	81,813	247,945	1,433,216	17.3
	2000	1,249,405	98,176	272,384	1,423,613	19.1
	2001	1,233,831	102,407	300,615	1,432,039	21.0
Chewing Gum Sugar & Non-sugar	1996	NA	15,487	38,883	NA	NA
	1997	192,873	20,185	41,081	213,769	19.2
	1998	184,534	16,206	41,044	209,372	19.6
	1999	178,350	14,779	44,566	208,137	21.4
	2000	184,352	11,806	43,045	215,591	20.0
	2001	197,475	10,897	42,106	228,684	18.4

Source: U.S. Census Bureau, Current Industrial Reports Confectionery, Various Annual Issues.
Confectionery Industry Report, August 2002

To understand some of the trade issues related to semi-processed cocoa products a brief review of these products and their use is helpful. According to industry references and interviews with experts, cocoa paste or chocolate liquor (unsweetened chocolate) is derived from grinding and roasting cocoa beans. It is the primary product from which sweetened chocolate, cocoa butter, cocoa powder, and all other cocoa and chocolate products are made. Sweetened-chocolate is produced by adding sugar and cocoa butter to chocolate liquor. Milk solids are also added in the production of milk chocolate. Sweetened chocolate in bulk form (usually in bars or blocks weighing 4.5 kilograms or more) is referred to as chocolate coating and is used

primarily as a coating for various confections. Cocoa butter is fat that has been pressed from chocolate liquor and is used as an ingredient in sweetened chocolate.

**Table 5 U.S. Shipments, Trade and Consumption of
Nonconfectionery Products (Semi-processed Cocoa Products)**

Product Description	Year	Manufacturers Shipments	Domestic Merchandise	Imports for Consumption	Domestic Consumption	Percent Imports of Apparent Consumption
1,000 kilograms						
Cocoa	1996	10,142	2,861	68,762	76,043	91.5
Butter	1997	17,349	3,886	87,689	101,152	89.7
	1998	16,755	5,606	65,307	76,456	85.2
	1999	21,722	5,566	80,475	96,631	83.3
	2000	24,481	9,295	94,649	109,835	86.2
	2001	19,225	17,496	80,806	82,535	97.9
Chocolate	1996	227,168	2,276	6,602	231,494	3.2
Coatings	1997	267,101	2,757	7,932	272,276	2.9
(blocks	1998	248,231	5,604	7,796	250,423	3.1
Wafers,	1999	262,561	2,381	11,082	271,262	4.1
liquid)	2000	286,094	1,934	23,026	307,186	7.5
	2001	289,403	2,409	20,509	307,503	6.7
Other	1996	432,344	53,816	211,983	590,511	26.0
chocolate	1997	414,252	50,497	241,227	604,982	30.3
&	1998	375,133	49,301	272,501	598,333	34.9
cocoa	1999	510,626	67,194	264,244	707,676	37.3
Products	2000	511,143	62,110	291,858	740,891	39.4
	2001	522,752	68,053	324,252	778,951	41.6

Source: U.S. Census Bureau.

When cocoa butter is removed from chocolate liquor, cocoa cake remains that, when pulverized, becomes cocoa powder. Unsweetened cocoa powder is used in confectioners' coatings and sweetened cocoa powder is used primarily for beverage cocoa. Table 6 provides the volume, value and unit value for the cocoa and chocolate ingredients, corn syrup, nuts and sugar used by the confectionery industry in the manufacturing of consumable products. Ingredient costs in 2001 totaled US\$3.65 billion with 2.92 billion pounds of sugar costing US\$774 million, the largest single costing ingredient, though a number of ingredients (various nuts, milk, and cocoa products) have significantly higher unit costs.

Table 6 U.S. Consumption of Selected Ingredients by the U.S. Confectionery Industry: 2000 and 2001

Materials	2000			2001		
	Pounds 1,000 lbs.	Value 1,000 US\$	Unit Value cents/lb.	Pounds 1,000 lbs.	Value 1,000 US\$	Unit Value cent/lb.
Materials consumed	(X)	3,677,404		(X)	3,650,153	
Sugar (cane-beet) 1/	2,919,368	789,070	27.03	2,921,916	773,756	26.48
Cocoa beans	679,609	434,871	63.99	723,593	399,823	55.26
Corn syrup, including HFCS and dextrose	1,741,385	215,868	12.40	1,711,315	205,361	12.00
Chocolate liquor, imported	22,109	14,003	63.34	na	na	na
Chocolate liquor, domestic	30,383	23,923	78.74	20,209	19,088	94.45
Cocoa powder composition coating	22,753	12,735	55.97	26,832	15,453	57.59
Cocoa cake or powder	167,226	86,414	51.67	163,632	92,771	56.69
Cocoa butter	204,361	299,529	146.57	243,954	304,425	124.79
Chocolate coating, milk	300,754	279,969	93.09	314,254	266,187	84.70
Chocolate coating, other than milk	129,195	112,491	87.07	129,643	110,451	85.20
Fats and oils	283,784	138,070	48.65	311,691	130,411	41.84
Gum base	64,696	67,620	104.52	64,357	63,865	99.23
Milk and milk products	604,165	393,996	65.21	653,202	489,025	74.87
Peanuts, shelled basis	355,116	248,616	70.00	321,895	222,674	69.18
Almond kernels	42,308	66,828	157.96	42,630	66,944	157.03
Other nuts and nut meats (kernels)	22,638	54,178	239.32	19,540	43,835	224.33
Coconut meat	23,897	16,965	70.99	23,336	16,332	69.99
Other edible materials 2/	668,480	421,396	63.04	624,235	423,018	67.77
Materials, n.s.k.	(X)	862		(X)	1,200	

1/ Sugar use is based on U.S. Census Survey, where as USDA's delivery data is first deliveries and does not take into account re-sellers activities. In recent years, Census Survey use numbers have exceeded USDA delivery numbers by about 10 percent.

2/ Includes corn starch, essential oils, eggs and egg products, fruits, jams, and other materials on which specific data were not collected.

Note: Unit Value is not part of the Census Industrial Reports

Source: Confectionery MA 31 1D(00)-Aug. 2002.

The non-chocolate type confectionery group is a particularly large user of sugar in its product formulations (See Appendix B for confectionery definitions and terms and Appendix C for estimates of the sugar content of various confectionery products). This segment of the industry includes hard and chewy candies and panned and licorice type products (Table 7). For 2001 this segment had 2.72 billion pounds of shipments valued at US\$4.55 billion, 30 percent of the total value of shipments (Table 8). According to the U.S. Census of Manufacturing, sugar accounted for US\$287 million and 17 percent of the cost of materials used in manufacturing non-chocolate confectionery. Packaging paper and plastic film accounted for the next highest material, US\$196 million and 12 percent.

Table 7 U.S. Non-Chocolate Confectionery: Materials Used in Manufacturing

Commodities:	Delivered Cost \$ 1,000	Percent of Costs
Nuts in shell, including peanuts	890	0.05
Nut meats, including peanuts processed	21,259	1.26
Nut meats, raw	14,527	0.86
Fresh and dried fruits	19,627	1.16
Milk and milk products	32,894	1.95
High fructose corn syrup, in terms of solids	19,480	1.95
Crystalline fuctose	1,237	0.07
Dextrose and corn syrup, in terms of solids	117,668	6.97
Sugar substitutes, mannitol, sorbitol	63,597	3.77
Cane and beet sugar, in terms of solids	287,175	17.01
Fats and oils, including shortening	21,237	1.26
Unsweetened chocolate, chocolate liquor	7,382	0.44
Cocoa, pressed cake and powder	2,855	0.17
Cocoa butter	NA	NA
Chewing gum base	NA	NA
Essential oils and flavors, synthetic	110,673	6.55
Fats and oils, all types, purchased	NA	NA
Popcorn, whole grain	NA	NA
Packaging:		
Packaging paper and plastics film, coated	196,083	11.61
Aluminum foil packaging products	30,492	1.81
Paperboard containers, boxes/corrugated	150,897	8.94
Plastic containers	24,924	1.48
Glass containers	9,789	0.58
Metal cans, can lids and ends	5,303	0.31
Bags, plastic, foil and coated paper	NA	NA
Bags, uncoated paper and multiwall	NA	NA
All other materials and components	397,754	23.56
Materials, ingredients, containers, nsk	153,399	9.09
Total Value	688,252	100.00

Source: U.S. Census of Manufacturing, 1997. (Note: 2002 Census data will not be available until 2004).

Table 8 U.S. Quantity and Value of Shipments of Confectionery Products 2000 and 2001

Quantity in thousand of pounds, Value in thousands of dollars

Product description	2000		2001	
	Quantity	Value	Quantity	Value
Shipments	6,664,665	14,968,832	6,564,489	15,230,656
Chocolate and chocolate-type confectionery	3,291,211	8,546,051	3,200,692	8,516,259
Solid	456,266	1,057,014	461,847	1,089,280
Solid with inclusions	454,518	738,878	427,525	733,111
Enrobed or molded				
With candy, fruit, nut or granola center	1,362,235	3,448,465	1,310,283	3,413,877
With bakery product center	205,550	520,671	na	na
Panned	648,027	1,575,305	635,531	1,550,960
Assortment and other	365,615	1,205,718	na	na
Nonchocolate type confectionery	2,754,439	4,503,657	2,720,104	4,547,906
Hard candy	777,679	1,348,097	753,847	1,447,277
Chewy candy, including granola bars	683,652	1,283,944	661,441	1,294,308
Soft candy	716,110	883,831	703,714	797,703
Iced coated	19,078	43,735	20,305	53,766
Panned	348,242	672,443	366,723	683,441
Licorice and licorice type	209,678	271,607	214,074	271,411
Chewing gum, bubble gum and chewing gum base	406,423	1,466,275	435,353	1,705,722
Confectionery, n.s.k.	212,592	452,849	208,340	460,769
n.s.k.-Not specified by kind.				

Source: U.S. Census Bureau, Current Industrial Report MA31-1D(00)-1. Released Aug. 2002.

The non-chocolate type confectionery segment has been particularly hard hit by the re-location of manufacturing to foreign locations, particularly Mexico and Canada. Among the number of moves have been the following;

- Blueberry Hills Foods, a key producer of jelly- beans and similar products, shifted production from Chicago to Juarez.
- Sunrise Confections in the past two years has built a state-of-the-art plant in Juarez, producing as advertised “high quality, low cost candies, jellies, gummies, jelly beans, jaw breakers for direct client sale including retail private labels and re-baggers.”

- Brach's is the process of shifting production from its long standing Chicago operation to Arcor International's facility in Coroba, Argentina, and to a new factory in Linares, Mexico, near Monterrey. In the agreement with Arcor that was to commence in mid-2001, Brach's is outsourcing the manufacture of product lines from the U.S. and thereby doubling imports of candy products from Argentina.
- Bobs Candies has moved part of its hard candy production line that features candy canes from Albany, Georgia, to Reynosa, Mexico.
- Ferrara Pan Candy Company has shifted some of its Chicago product production to a candy supplier in San Luis Potosi Mexico and to a new plant in Ontario, Canada.
- Kraft Foods is in the process of shutting down its Life Savers production operation in Holland, Michigan, and moving operations to a Kraft plant in Mount Royal, Quebec, near Montreal.

Table 9 U.S. Confectionery Product Trade

	Chocolate Type	Non-Chocolate	Chewing Gum	
	Confectionery	Type Confectionery	Sugar & Non-Sugar	Total
		1,000 kilograms		
Imports				
for Consumption				
1998	92,514	207,777	41,044	341,335
1999	99,522	247,945	44,560	392,033
2000	115,867	272,384	43,045	431,296
2001	129,056	300,615	42,106	471,777
2002	136,706	346,350	47,094	530,150
Exports of				
Domestic Merchandise				
1998	76,785	82,001	16,206	174,992
1999	81,799	81,813	14,779	178,391
2000	123,505	98,176	11,806	233,487
2001	174,168	102,407	10,897	287,472
2002	119,705	86,461	17,034	223,200

Source: U.S. Bureau of Census.

U.S. Confectionery Trade Trends—Implications for the U.S. Sugar Industry

The U.S. confectionery industry is a significant importer and exporter of both finished confectionery products and semi-processed cocoa products. For the combined chocolate type confections, non-chocolate type confections and chewing gum

segments, imports have been trending up and reached a record 530,150 tons in calendar year 2002, up 55 percent from five years earlier (Table 9). The growth has been mainly spurred by imports of non-chocolate type confectionery that totaled a record 346,350 tons in 2002, compared with 207,777 tons in 1998. Combined exports for these categories totaled 223,200 tons in 2002 of which chocolate type confectionery accounts for 54 percent.

For the non-confectionery semi-processed cocoa products that include cocoa butter, chocolate coatings, and other chocolate and cocoa products, such as cocoa powder, imports in 2002 totaled 453,713 tons, up 31 percent from 1998 with the bulk of growth coming from other chocolate and cocoa products that accounted for 82 percent of the total. Exports of these products are modest in comparison, totaling 86,667 tons (Table 10). (Detailed U.S. confectionery trade by tariff line is provided for both imports and exports in Appendix D).

Table 10 U.S. Nonconfectionery Semiprocessed Cocoa Products Trade

	Cocoa butter	Chocolate coatings (Blocks, wafers, liquid)	Other chocolate & cocoa products	Total
	1,000 kilograms			
Imports for Consumption				
1998	65,307	7,796	272,501	345,604
1999	80,475	11,082	264,244	355,801
2000	94,649	23,026	291,858	409,533
2001	80,806	20,509	324,252	425,567
2002	54,788	25,818	373,107	453,713
Exports of Domestic Merchandise				
1998	5,606	5,604	49,301	60,511
1999	5,566	2,381	67,194	75,141
2000	9,295	1,934	62,110	73,339
2001	17,496	2,409	68,053	87,958
2002	15,095	4,768	66,804	86,667

Source: U.S. Census Bureau.

Key sources of imports are Canada and Mexico. Imports of hard candies (HTS 1704.90. 3550), the primary non-chocolate item were a record in 2002 of 269,685 tons valued at US\$569.4 million, with significant growth from Canada and Mexico as well as Argentina and Brazil (Table 11 and Figure 2). These products are high in sugar content, averaging around 75 percent, and result in the importation of an estimated 203,000 tons of sugar in these products. Other items high in sugar contents

with growing imports from Mexico, include sweetened cocoa powder (HTS 1806.10.5500) that have grown from 405 tons in 1998 to 22,663 tons in 2002 and chocolate blocks (HTS 1806.20.2090) from Canada, from 28,283 tons to 93,619 tons. Appendix E provides data by country for selected-import and export items.

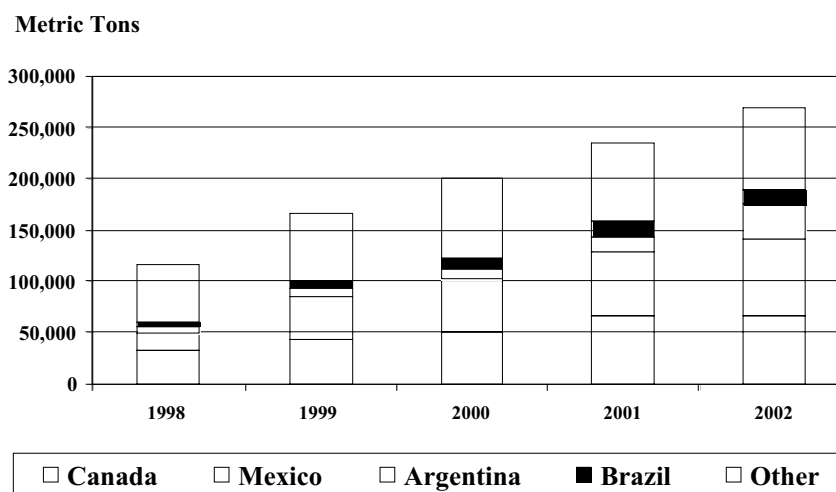
**Table 11 U.S. Confectionery Imports: Hard Candies Ready for Consumption,
Retail Sale (HTS 1704.90.3550)**

Year	Canada	Mexico	Argentina	Brazil	Other	Total	Sugar Content 1/
metric tons							
1998	31,634	16,729	7,521	4,446	55,089	115,419	86,564
1999	42,712	42,069	8,122	7,566	66,084	168,722	126,542
2000	50,010	51,473	10,532	9,735	77,798	199,548	149,661
2001	65,902	62,577	13,993	15,410	76,258	234,140	175,605
2002	67,105	74,937	33,227	13,437	80,979	269,685	202,261
1,000 US \$ Dollars							
1998	72,270	30,365	10,368	5,543	157,301	275,847	
1999	88,862	65,006	11,176	10,314	205,798	381,156	
2000	105,125	75,224	16,590	12,163	234,925	444,027	
2001	153,747	84,618	18,758	18,461	213,662	489,246	
2002	152,324	107,370	40,642	22,534	246,576	569,446	

1/ Assumes 75 percent average sugar content.

Source: U.S. Census Bureau.

U.S. Hard Candy Imports by Country



Source: U.S. Customs Bureau

Utilizing an estimate of a 40-percent sugar content, the 983,863 tons of confectionery and semi-processed cocoa products imported into the U.S. in 2002 contains 394,000 tons of sugar. A portion of these imports, especially those imports from Canada and Mexico, could have been produced in the U.S. with domestic sugar. While these numbers are offset to a degree by exports of 309,867 tons of confectionery with an estimated sugar content of 124,000 tons, a significant share of these exports use non-U.S. re-export sugar as part of USDA's sugar containing product re-export program.

Mexico's Confectionery Structure and Trends in Product Trade

Mexico's confectionery industry consists of an estimated 250 firms producing chocolate and hard candy confectionery. Mexican confectionery manufacturers range in size from one-family micro companies to multi-national firms such as Hershey, Nestle, and Tootsie-Roll. Micro-companies represent around 80 to 90 percent of the number of firms, but less than 40 percent of the total annual production. According to the executive director of the Chocolate and Candy Manufacturing Association of Mexico, the industry is largely self-sufficient in the production of ingredients for confectionery manufacturing including cocoa beans, sugar, and corn syrup.

The Association estimates domestic production of chocolate, candy, and chewing gum in 2001 at 125,170 tons (Table 12). Mexican imports of confectionery have doubled in recent years totaling 96,871 tons in 2001. Two-thirds of these imports have been chocolate type confectionery (HTS 18.06) and the remaining one-third sugar-type confectionery (HTS 17.04).

Table 12 Mexico: Confectionery Production

Year	Hard Candy	Chocolate	Chewing Gum	Total
metric tons				
1994	34,825	23,374	45,959	104,158
1995	26,703	21,602	44,120	92,425
1996	30,900	22,443	43,582	96,925
1997	37,010	25,347	52,518	114,875
1998	35,250	27,673	52,247	115,170
1999	39,436	34,303	50,685	124,424
2000	40,321	34,992	56,163	131,476
2001	33,873	36,602	54,695	125,170

Source: Mexican Chocolate and Candy Association.

Mexico's exports of chocolate and hard candy type confectionery totaled 151,128 tons in 2001, up over 50 percent in the past five years (Table 13). Two-thirds of these exports are sugar-type confectionery and the remaining one-third is chocolate type with the U.S. being the major market. In dollar terms, about one-quarter of domestic consumption of confectionery in Mexico is derived from imports, mainly from the chocolate segment (Table 14). While enjoying the export growth in the hard candy sector, the head of the Association claims that because of reduced tariffs due to NAFTA, imports of chocolate type confections have taken away potential growth in the Mexican domestic confectionery industry.

Table 13 Mexico: Confectionery Trade: Exports

Year	Hard Candies	Chocolate & Cocoa Products	Chewing Gum	Total
metric tons				
1996	59,518	21,578	17,045	98,141
1997	73,961	29,211	22,759	125,931
1998	90,959	20,716	23,680	135,355
1999	98,707	22,204	20,319	141,230
2000	94,423	18,490	18,122	131,035
2001	110,815	21,580	18,733	151,128

Source: Mexico's Chocolate and Candy Association.

Table 14 Mexico: Confectionery Trade: Imports

Year	Hard Candies	Chocolate & Cocoa Products	Chewing Gum	Total
metric tons				
1996	7,648	32,654	964	41,267
1997	7,516	33,388	1,089	41,993
1998	8,521	45,073	1,726	55,320
1999	15,019	50,984	1,243	67,246
2000	18,252	63,667	2,300	84,219
2001	31,282	62,342	3,247	96,871

Source: Mexico's Chocolate and Candy Association.

Mexico's *Maquiladora* Industry and Trends in Confectionery Exports to the U.S.

Mexico's in-bond processing industry or *maquiladora* industry has shown the highest growth rates of any industry in Mexico in recent years. According to the Bank of Mexico *maquiladoras* account for nearly one-half of Mexico's annual value of exports. In 2002, the maquila industry in Mexico employed an estimated 1.16 million people in 3,288 plants. Maquilas are strung out across the U.S.-Mexico border from Matamoros across from Brownsville, Texas, in the Lower Rio Grande Valley to Tijuana across from San Diego, California.

A focal point for the *maquiladora* industry is Juarez across from El Paso, Texas, which has 380 maquila plants employing over 205,000, as reported by the Juarez city government. Currently there are two maquilas producing hard candy in Juarez (Blueberry Hills Foods and Franklin Confections and its subsidiaries Azar Nut Company and Sunrise Confections). In Reynosa across from McAllen, Texas, Bobs' Candies has a maquila operation as does Famous Candies Ltd and about 75 miles to the south in Linares, in the state of Nuevo Leon, Brach's has recently opened a \$50 million plant operated under the name of Vernell. Not all maquilas have to be on the border, for example, Farrera Pan Candies subcontracts for products with the Canel's company headquartered in San Luis Potasi located in central Mexico (Figure 3).

Figure 3 Major Mexico-U.S. Border Cities and Major Interior Cities



Source: USDA

According to Rich Condie, President and CEO of El Paso based Franklin Confections, the primary reason a U.S. confection company moves to Mexico is because of the labor differential between the U.S. and Mexico. In 2001, Sunrise Confections, a subsidiary of Franklin Confections opened a new US\$20 million 175,000 square-foot plant in Juarez. The plant has 400 employees and will churn out an array of hard candies. Refined sugar prices are also a factor and U.S. refined re-export and *PITEX* sugar is available in Juarez for 8 to 10 cents a pound under the current U.S. domestic market price.

Some of the main rationales, features and advantages of Mexico's *Maquiladora* Program are the following:

- Established in 1965 by the Mexican government to alleviate unemployment along the U.S.- Mexico border.
- Allows a non-Mexican firm to establish wholly owned operations in Mexico for the purpose of manufacturing products for exportation.
- Allows for temporary, duty-free (in-bond) importation of the capital equipment, machinery, and materials or ingredients for production.
- Labor costs are low, a key factor for establishment of a labor-intensive manufacturing or processing industry. The current minimum wage for an 8-hour, 48-hour-day-week is US\$4.22 (The new Brach's plant is paying the equivalent of US\$6.00 per day). While labor unions are common in

Mexico, labor law does not require forming a union (Note: Other costs will be presented in an upcoming section focusing on costs comparisons).

Due to provisions of NAFTA, effective November 1, 2000, the *maquiladora* industry began paying import duties in Mexico on primary material or ingredients from non-NAFTA countries and exported to a NAFTA country.

Mexico's *Maquiladoras* Manufacturing: The Case of Hard Candy and Manufacturers' Sources of Sugar

As noted in Table 11, the growth in U.S. imports of hard candies (HTS 1704.90.3550) from Mexico has been particularly strong in recent years, increasing from just 16,729 tons in 1998 to a record 74,937 tons in 2002. The sugar content of imports from this just this one-type of confections for 2002 is estimated 56,200 tons and along with increased shipments for Canada are important factors in explaining the drop-off in domestic sugar demand by the U.S. confectionery industry.

While Mexico's domestic sugar prices are comparable to those in the U.S., Mexican *maquiladoras* have had access to cheaper sugar through the PITEX Program and by importation of re-export refined sugar from the U.S.

PITEX Program

The PITEX Program (*Programa de Importacion Temporal para Producir Articulos de Exportacion*) is an export incentive mechanism that allows Mexican candy manufacturers to import input goods such as sugar on a temporary basis without paying import tariffs, domestic value-added taxes, and compensatory duties, if such goods will be used to manufacture product that subsequently will be re-exported.

While this program is designed for foreign inputs, it has been expanded to allow sugar that is produced in Mexico and that is earmarked for export to the world market as part of the sugar industry's program to remove price depressing excess sugar from the domestic market, to be treated as having been exported upon sale under the PITEX Program. According to sources in Mexico in some recent years the volume of this sugar, which is heavily discounted when sold to *maquiladoras* producing candy and other products for export, has been as high as 200,000 tons. For 2002/03, officials put the number at 150,000 to 200,000 tons.

It should be noted that the Mexican Government in mid-June 2002, in a statement released by then Secretary of the Economy Luis Derbez, revealed that the PITEX was in the process of being cleaned up after abuses of the program had been identified among companies marketing a number of agricultural products including sugar. Concurrently, due to the importance of the *maquiladora* industry to the economy and recent losses of businesses to countries such as China, with even lower wage rates, Minister Derbez also stressed that programs were being developed to revitalize the industry.

U.S. Sugar Re-export Program

Maquiladora candy manufacturers also have access to refined re-export sugar from the U.S. This sugar is imported into the U.S. at world prices and processed at refiners under licenses issued by the USDA. This program along with the related sugar re-export program for products, is designed to help increase capacity utilization of U.S. refiners and aid in making U.S. refined sugar and U.S.-produced sugar containing products competitive in foreign markets. With this re-export sugar, Mexican *maquiladoras* are producing product and re-exporting the product back to the U.S. that due to NAFTA can come into the U.S. duty free. USDA officials estimate that in fiscal year 2002 that Mexico received about 50,000 tons of re-export sugar that was incorporated into products and re-exported back to the U.S.

Due to concerns about the operation of the re-export programs with regard to Mexico and to accommodate the NAFTA agreement, USDA in mid-February, 2003, held a public meeting concerning administrative changes to the program the Department is considering:

- Under NAFTA the U.S. is required to notify Mexico in writing within two days of any re-export. USDA contends that a proposed standardized documentation agreement with licensees will facilitate compliance with this provision. Thus, for a U.S. refiner to gain credit under the re-export program, the sugar must be declared as “U.S. re-export sugar “ on the standard Mexican customs declaration (*pedimento*).
- Taking into account the Breaux “anti-circumvention” language in the trade law and the fact that many *pedimentos* show imports paying no duty, the issue of what form re-export sugar comes in as is being addressed. As of January 1, 2003, NAFTA removed U.S. duties and TRQs applied to all sugar-containing products produced in Mexico. Thus the second condition for the re-export license with regard to Mexico is that the sugar is used in a retail-type product not under a quota as of January 1, 2003.

USDA accepted written comments on these proposed administrative procedures through March 22, 2003. These procedures are likely to remain in place until a proposed comprehensive agreement is negotiated between the U.S. and Mexico addressing sweetener trade issues including re-export and PITEX.

Canadian Confectionery Industry Structure and Trends in Product Trade

According to the most recent data published by Statistics Canada, the Canadian confectionery industry is composed of 102 companies employing 11,886 workers

with shipments valued at \$2.88 billion in 1999 (Table 15). The industry is characterized by a wide-range of companies from small family operations to large plants employing over 1,000 workers. The confectionery industry in Canada is concentrated in the Province of Ontario, but there are confectionery production operations in all of the regions of Canada.

Table 15 Canada: Confectionery Industry Structure

Year	Chocolate & Confectionery <u>Manufacturing from Cocoa beans</u>			Confectionery Manufacturing <u>From Purchased Chocolate</u>			Non-Chocolate <u>Confectionery Manufacturing</u>		
	Companies (numbers)	Employment (numbers)	Shipments (million \$)	Companies (numbers)	Employment (numbers)	Shipments (million \$)	Companies (number)	Employment (number)	Shipments (million \$)
1990	3	1,580	267.2	79	3,765	748.1	23	3,513	443.7
1991	3	1,420	282.7	74	3,688	749.3	21	3,663	476.5
1992	3	1,360	321.7	70	4,355	946.5	22	3,580	516.7
1993	3	1,366	319.6	63	4,706	981.8	20	3,665	560.5
1994	3	1,258	320.4	64	4,620	1,050.9	19	3,614	551.6
1995	4	1,210	394.6	76	4,748	1,163.9	18	3,570	534.5
1996	4	1,295	399.9	83	4,872	1,227.0	21	3,515	583.6
1997	6	2,274	671.5	77	4,027	997.6	21	3,832	642.7
1998	11	2,237	699.6	51	3,833	1,232.8	25	4,209	781.2
1999	13	3,289	804.3	49	3,958	1,186.3	40	4,639	886.2

Note: Data is in Canadian dollars.

Source: Statistics Canada.

Ownership of the confectionery industry is highly concentrated, with the leading eight firms producing nearly 87 percent of the value of shipments. Foreign ownership of the industry also is high. All of the leading multi-national confectionery companies have a position in Canada—Cadbury, Hershey, Nestle and M&M Mars, known as Effem Foods, in Canada. Kraft Foods, also a major confectionery producer, has a large presence at its plant in Mount Royal, Quebec, near Montreal. An estimated two-thirds of annual confectionery shipments is accounted for by foreign-controlled firms.

The structure of production and share of shipments can be separated into three segments: chocolate confectionery manufactured from cocoa beans (28 percent); confectionery manufacturing from purchased chocolate (41 percent); and non-chocolate confectionery manufacturing (31 percent). The most dynamic segment of the industry is the non-chocolate confectionery manufacturing with significant growth in the number of companies and employees and a value of shipments that doubled during the 1990s.

Canada's trade statistics for the confectionery industry are organized in three segments (Table 16). As noted, Canada is a consistent net importer of confectionery manufactured from purchased chocolate, while in recent years the industry has shifted to being a growing net exporter of products from the other two segments. In 2001, chocolate and confectionery manufactured from cocoa beans was a record C\$429 million up from C\$107 million in the early 1990s.

Table 16 Canada: Confectionery Global Trade

Year	Chocolate & Confectionery Manufacturing from Cocoa beans			Confectionery Manufacturing From Purchased Chocolate			Non- Chocolate Confectionery Manufacturing		
	million dollars			million dollars			million dollars		
	Exports	Imports	Balance	Exports	Imports	Balance	Exports	Imports	Balance
1992	106.8	161.7	-54.8	83.6	166.0	-82.4	107.9	121.8	-13.9
1993	129.8	185.3	-55.5	100.4	167.0	-66.6	118.6	139.4	-20.8
1994	154.5	210.2	-55.7	108.1	176.1	-68.0	138.3	158.8	-20.5
1995	185.3	223.3	-38.0	131.5	179.6	-48.1	174.5	178.5	-4.0
1996	219.3	205.1	14.1	148.1	254.9	-106.8	132.7	182.1	-49.4
1997	280.3	239.2	41.2	174.0	292.3	-118.4	158.1	238.1	-80.0
1998	243.5	277.9	65.6	188.8	307.9	-119.1	316.0	257.8	58.2
1999	335.0	265.8	69.2	194.3	297.3	-103.1	308.3	256.4	52.0
2000	355.1	260.2	94.9	242.3	312.6	-70.2	344.9	279.1	65.8
2001	429.1	286.8	142.3	301.7	360.4	-58.7	496.5	304.1	192.4

Source: Statistics Canada.

Non-chocolate confectionery posed a record C\$496 million in exports in 2001, up from C\$108 million in the early 1990s. Nearly all of the exports of both categories were exported to the U.S. market (Table 17). The impressive growth of the non-chocolate segment, which has relatively low unit prices are particularly impressive. No volume data were readily available for this study. The growth in both the number of firms producing these products in Canada and the expansion in exports relates directly to the shift of some segments of the U.S. industry to Canada to capture advantages in production costs, as well as to government programs that encourage investment in manufacturing for export.

Table 17 Canada: Confectionery Trade with the U.S.

Year	Chocolate & Confectionery Manufacturing from Cocoa beans	Confectionery Manufacturing From Purchased Chocolate	Non- Chocolate Confectionery Manufacturing
------	---	---	---

	million dollars			million dollars			million dollars		
	<u>Exports</u>	<u>Imports</u>	<u>Balance</u>	<u>Exports</u>	<u>Imports</u>	<u>Balance</u>	<u>Exports</u>	<u>Imports</u>	<u>Balance</u>
1992	105.1	66.0	39.0	81.0	77.7	3.3	99.8	75.4	24.4
1993	125.2	100.3	25.0	90.2	81.4	8.8	108.8	92.6	16.2
1994	149.8	88.7	61.0	96.7	87.9	8.8	126.7	101.6	25.1
1995	182.2	103.9	78.3	127.2	93.8	33.4	155.6	107.6	48.0
1996	217.0	92.1	124.9	144.4	150.6	-6.1	111.4	116.8	-5.3
1997	275.8	102.3	173.5	168.3	175.7	-7.4	132.6	153.7	-21.1
1998	339.5	115.9	223.9	184.2	168.1	16.1	277.1	168.7	108.4
1999	330.8	127.2	203.6	189.4	167.3	22.1	277.7	167.2	110.4
2000	351.0	132.0	219.1	238.0	176.7	61.3	316.6	181.3	135.3
2001	423.7	175.0	248.5	292.8	212.3	80.5	469.0	209.5	259.5

Source: Statistics
Canada.

Also similar to the USDA program, Agriculture and Agri-Food Canada operates the Agri-Food Trade Program (AFTP), which includes the confection industry. AFTP provides financial contributions to exporter associations such as the Canadian Chocolate Manufacturers Association to promote the industry's products in foreign markets. For example, in May 2003 AFTP will provide funding to promote the Canadian confectionery industry at Chicago's annual "All Candy Expo."

Economics of Confectionery Production in Canada—Dependence on Sugar Imports

The economic performance of the Canadian confectionery industry is influenced By a number of factors:

- Market conditions that influence the ability to maintain high rates of capacity utilization,
- Competition from imports,
- Value of the Canadian dollar, and
- Fluctuating cost of domestic and imported raw materials.

Unlike the U.S. and Mexico, Canada is a net sugar importer to service the needs of confectionery manufacturers and other sugar containing product manufacturers and direct consumers. The Canadian sugar supply situation is characterized by a small

volume of domestically produced sugar and a large volume of raw sugar imports that are processed into refined cane sugar by an increasingly concentrated group of refiners. Domestic beet sugar production after several years of consolidation is concentrated at the Rogers Sugar facility in Taber, Alberta. Beet sugar production in recent years has been between 120,000 and 130,000 tons annually.

Imports of raw sugar, averaging between 1.0 and 1.3 million metric tons, in recent years are processed at three refineries. Lantic Sugar operates a single cane refinery in Montreal and is part of Rogers Sugar Ltd. Rogers also operates a refinery in Vancouver, British Columbia. Redpath Sugars, part of Tate & Lyle, PLC of the UK, is the other raw sugar processor in Canada, operating a cane sugar refinery in Toronto. (Note: A small privately funded refinery is now being constructed in St John, New Brunswick.)

Due to the oligopic structure of Canada's refining industry and lack of transparency in sugar pricing, actual sugar prices are difficult to obtain. In 2000, during a Canadian International Trade Tribunal review of sugar import duties, the Canadian Sugar Users Coalition argued that the refining industry was using the protection of the duties to raise prices and that refiners were acting as a duopoly given their power to control the marketplace.

Cost Variables—Evaluation of the Economic Rationale for the Shift of Segments of the U.S. Confectionery Industry to Mexico and Canada

As documented in this report, in recent years there has developed a trend for segments of the U.S. confectionery industry to shift production from long time U.S. production locations to facilities in Mexico and Canada. Much of this newly located production is subsequently exported from Mexico and Canada to the U.S. market. This trend has cost jobs of U.S. workers and reduced tax revenues and economic activity in U.S. communities. For the U.S. sugar industry, it has led to lost sales to one of the largest industrial users of sugar in the U.S. food-manufacturing sector.

There are a number of cost factors that enter into a confectionery company's decision to shift operations outside the U.S (Table 18). This report will examine several factors including labor and associated costs such as health benefits; various taxing levels; construction and leasing costs for manufacturing facilities; energy costs focusing on electricity rates; and the cost of refined sugar. Cost comparisons are made examining these factors at four locations: Chicago, Illinois, and Holland, Michigan, that are losing confectionery manufacturing due to this trend; and Juarez, Mexico, and Montreal, Canada, that have received the re-located operations. Cost information about other locations is provided where appropriate.

**Table 18 Cost Comparisons for Confectionery Industry:
March, 2003**

Cost Item	Unit	<u>United States</u>		<u>Mexico</u>	<u>Canada</u>
		Chicago, IL,	Holland, Mi.	Juarez	Montreal
Labor:					
Wages	\$ / hr	14.04	15.50	0.56	12.50
Health Care					
Insurance	\$/worker/yr	2,400	2,256	360	605
Taxes:					
Federal & State	%	42%	40%	9%	31%
Electricity:					
Demand	\$/kW/mo.	11.00	8.60	2.38	11.97
Use	\$/kW/hr	0.0420	0.048	0.040	0.0372
Land:					
Construction	\$/sq/ft	50.00	30.00	25.50	37.00
Rental	\$/sq/ft	10.00	2.50	4.00	4.60
Refined					
Sugar	Cent/Lb.	28.3	27.6	18.0 ³	21.0

1/kWh is a measure of use of 1,000 watts of electricity for one hour where as

KW is a measure of demand during a specific time period such as a month.

2/ \$ Pesos 9.48 to U.S. \$ 1.00; \$ Canadian 63.8 to U.S. \$ 1.00.

3/ *Maquiladora* and re-export program price; actual domestic price about 28 cents/lb.

Source: Various Sources Researched by Peter Buzzanell & Associates, Inc.

A basic premise of this analysis is that the fundamental reason for companies like Brach's and Kraft for moving their production abroad is "payroll savings." According to John Boyd, President of the internationally known Boyd Company that specializes in industrial site selection, labor costs account for at least 70 percent of all operating costs. They are the real driver in the site selection process.

Recent study by the consulting firm KPMG, (recently renamed Bearing Point) *Competitive Alternatives: Comparing Business Cost in North America, Europe and Japan*, concludes the costs for Canadian-based food processors are 7.5 percent less than those in the U.S. According to the KPMG study labor costs are the number one cost variable. Total labor costs include wages and salaries, statutory plans (such as pensions and workers' compensation), and other benefits usually provided by the employer. For manufacturing operations such as confectionery facilities the study found that labor costs average 59 percent of location-sensitive costs. Canada was

found to have the lowest costs for statutory plans and other benefits and the lowest overall labor costs.

Taxes represent the second-largest location sensitive cost, at 14 percent of total location sensitive costs for food processing manufacturing. The study found that on average Canada had the lowest corporate income tax rates. The third-largest location sensitive cost is transportation at 6 percent. This is not an important factor for the Canadian confectionery industry owing to the concentration of the geographic concentration of their domestic and U.S. markets. Energy costs represent 5 percent of costs for the manufacturing operations examined in the study. Canada offered the lowest electricity costs. For facility costs, while industrial land costs are generally lower in the U.S. than in Canada; building construction costs are lower in Canada. (Other important location-sensitive costs include depreciation charges and financing costs.) This benchmark study that examined 27 cost variables across 85 cities in North America, Europe and Japan found that in 2002 that Canada is the overall cost leader with a cost index of 85.5, representing a 14.5 percent cost advantage over the U.S. (U.S.=100.0).

With respect to ingredients, it should be noted that, while there costs are important they are not the only reason a company would opt to shift confectionery production from the U.S. to either Mexico or Canada. The composite set of factors was highlighted in the case of the Kraft's move from Holland, Michigan to Mount Royal, Canada, by press statements made by Cathy Pernu, spokesperson for Kraft. According to Ms. Pernu the decision was due to Kraft's assessment of lower operating expenses, including package. A leading non-Kraft confectionery manufacturer in eastern Canada verified that packaging costs were lower in Canada owing to the presence of competitive paper mills in the region. According to the head-marketing specialist for confectionery at Agri-Food Canada, packaging costs are a very important cost factor in the confectionery industry since many products are prepared in small individual servings that require special packaging. This is particularly evident for boxed candies. Presentation (quality packaging) is very important to consumers and product protection is also a factor in higher packaging costs.

Plant capacity underutilization levels at the Holland facility are also a key factor in the move to Canada. As Kraft's Ms. Pernu explained, the Holland plant, known for its Life Savers production, also produced Breath Savers mints and Bubble Yum chewing gum before Hershey Foods Corporation acquired the lines in December 2000. This product transfer resulted in the plant becoming "significantly underutilized" and contributed to its closure.

Labor—Wages and Other Worker Compensation

- **Chicago**—Non-maintenance workers at the Brach's facility, members of Teamsters Local 738, receive between \$12.83 and \$15.24 dollars per hour depending on their job classification. Skilled maintenance workers such as electricians earn \$20.00 per hour. Workers receive high compensation for overtime and work on Sundays. Employees receive one week paid vacation after one year of employment and three weeks after five years.

The company pays \$49 per week for each employee into the Central States Southeast and Southwest Areas Pension Fund. Upon retirement, depending on their age and service, an employee can receive a pension from the company up to \$2,000 per month.

- **Holland**—The Kraft plant in Michigan, known for its production of Life Savers, is a unionized plant and is represented by the Retail, Wholesale, & Department Store Union, Local 822. The plant has 600 workers, who earn an average hourly wage of \$15.50.

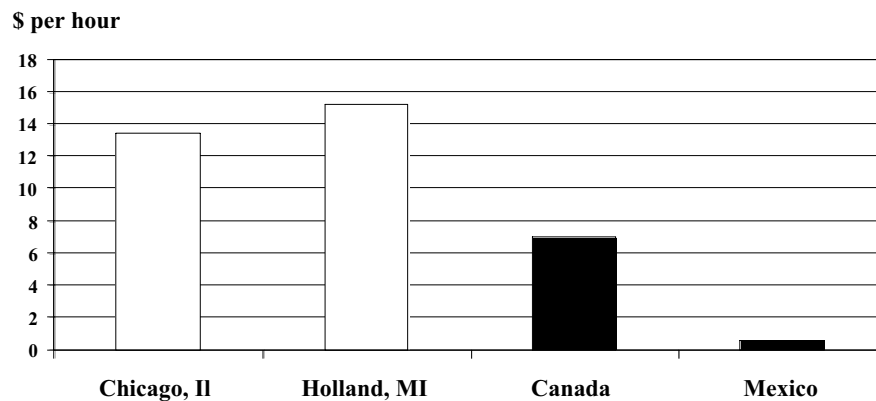
The state of Michigan has a very competitive workers' compensation insurance system.

- **Juarez**—As noted, Juarez is the leading location for *maquiladoras* in Mexico and several confectionery firms have moved operations there. As of October 2002, the minimum daily wage was US\$4.44 for unskilled workers. For skilled workers the daily wage ranged from a maximum of US\$7.66 to US\$5.22. Workers also receive a statutory Christmas and vacation bonus that adds US\$73.35 to the annual salary of unskilled worker. Therefore the total salary per worker based on a 365-day year is US\$1,696. As part of the Minimum Wage Law, employers contribution to social security is 25 percent and for workers risk insurance is 40 percent. Employers are also required to pay 2 percent into a workers retirement fund. All these contributions are based on the employees annual earnings and total less than \$US 1,000 per year.

While outsourcing the production of products to companies in Juarez and to the Arcor company in Argentina, Brach's has recently set-up a new production facility in Mexico under the name of Vernel's, located in the city of Linares in the state of Nova Leon. This northern Mexico plant is about 75 miles south of the U.S.-Mexico border. Currently there are 35 full time workers at the plant and 70 temporary workers. Seventy additional workers are to be hired to operate a new product line. Brach's subcontracts a local employee management firm to provide the work force. According to Chicago union officials, Brach's pays full time workers at the plant earn US\$7.82 per day and temporary workers US\$6.09 per eight-hour, six-day workweek.

- Montreal**—Kraft’s Mount Royal facility, in the province of Quebec and located adjacent to Montreal, is non-unionized. Workers at the facility earn an average of US\$12.50 per hour, \$3 less than their counterparts in Holland, Michigan. According to the Boyd Company, with the Canadian government picking up the tab for health coverage plus the lower non-union wages, the savings for the plant employing several hundred workers totals about \$6.5 million a year. The current minimum wage in Canada is US\$7.00 per hour. The average hourly wage in Greater Montreal ranges from US\$8.07 to \$13.78 according to local government sources (Figure 4).

**Figure 4 Relative Hourly Wages
for Candy Makers:
U.S., Mexico, and Canada**

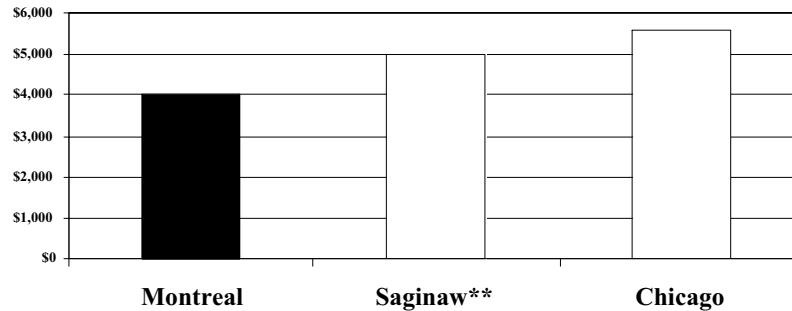


Source: Peter Buzanell & Associates; March 20, 2003

As reported by KPMG, labor costs in Quebec are 31 percent lower than in the U.S. Labor costs in Quebec are well below those in the U.S., particularly employers’ contributions to employee benefit programs. Contributions to national retirement plans, unemployment and health insurance, additional private health insurance plans, and life and retirement insurance are higher in the U.S. than in Quebec (Figure 5).

**Figure 5 Combined Labor Costs* in Selected
North American Cities: Ten Year
Annual Average**

(U.S. \$000)



* Includes Salaries & wages, Statutory Plans, & Other Benefits

** Saginaw Mi surrogate for Holland, Mi.

Source: KPMG's Competitive Alternatives, 2002

Taxes

- Chicago**—Brach's 2.2 million square foot facility on the west side of Chicago has been responsible for 75 percent of the company's candy production. According to Chicago's Center for Labor and Community Research the closing affects the retail base as well as taxes.

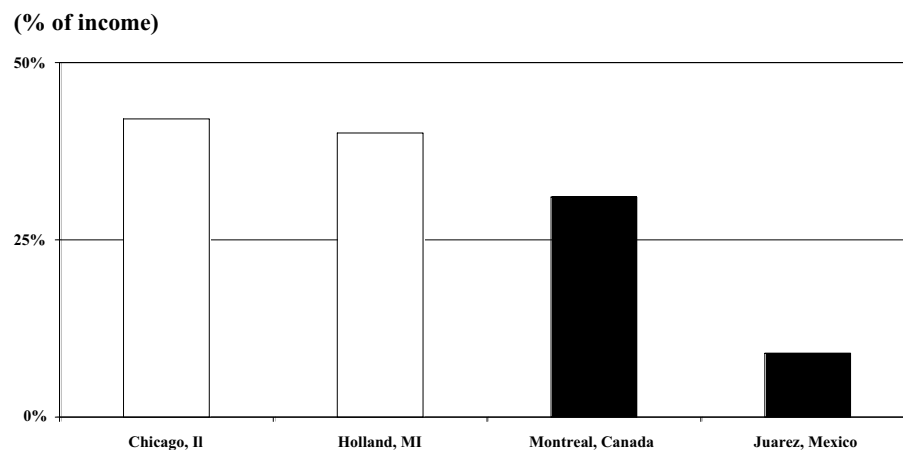
Combined federal and state income tax is 42 percent. The corporate tax rate is 34 percent on income between \$335,000 and \$10 million and goes up to 35 percent over \$18 million. There is a state income tax of 7 to 8 percent. There are sales taxes for Cook County and Chicago and the city has a \$12 "head tax" per worker per year.

- Holland**—According to local authorities the 429,000-square-foot Kraft plant is Holland's third-largest taxpayer. It generates about \$437,000 in local tax revenue each year and another \$1.5 million for various government entities in Ottawa County, Michigan. The federal tax rate is 34 percent of taxable income. The state has a Single Business Tax (SBT) that is a modified value added tax and state sales tax of 6 percent on retail sales. Holland has local property taxes, an intermediate school tax, and a county tax. Together these taxes total \$49.00 per year for every \$1,000 of assessed value of the commercial facility.

In an attempt to keep the plant in Holland, the Michigan Economic Development Corporation (MEDC) put together two plans for Kraft to evaluate. Under the first plan, the state and city would create a Renaissance Zone for the plant that would generate an annual savings of \$25.5 million and retain the current 600 jobs at the plant. The second plan, contingent on the creation of 200 jobs and an investment of \$20 million at the plant, would allow the MEDC to extend an economic incentive package worth \$38.8 million which included brown-field development credits, investment tax credits, job creation tax credits, property tax abatements, and sales tax exemptions. Kraft rejected the plans without explanation.

- Juarez**—The tax structure is designed to foster processing activities that bring employment to the border area. *Maquiladoras* pay Federal taxes of 6.9 percent. There is a 2 percent state payroll tax paid by employers based on the workers annual salary (e.g. US\$35.28 per minimum wage workers). There are no city taxes just usage fees for services such as water and sewage (Figure 6).

Figure 6 Relative Tax Costs for
Candy Makers:
U.S., Mexico, and Canada



Source: Peter Buzanell & Associates; March 20, 2003

- Montreal**—The Montreal area, including Mount Royal has one of the most advantageous corporate tax structures in North America. For the manufacturing sector, the federal tax rate is 22.12 percent. The Provincial tax rate for Quebec is 9.04 percent.

In the province of Quebec, consumption taxes are paid not by the company, but by the end consumer of the goods and services. The

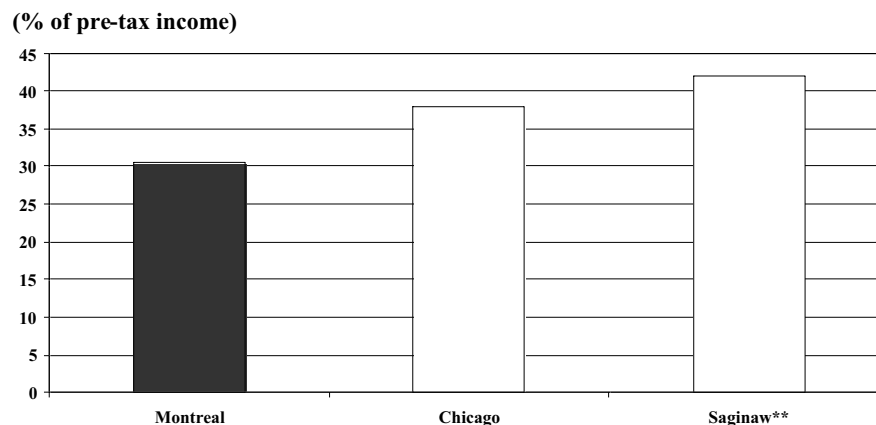
Canadian Goods and Services Tax (GST) is similar to the value-added tax (VAT) in EU member countries. A company collects the GST from its customers, 7 percent of the selling price for the product or service. However, companies generally get a refund or credit for GST paid on the goods and services used in their business activities. The Quebec sales tax (QST) is 7.5 percent and applies to selling prices. As with the GST, firms can usually get a refund for QST paid on their purchases.

Businesses may benefit from a ten-year tax holiday for major investment projects. This exemption covers income taxes, tax on capital and employer contribution to the Health Services Fund. An example would be an investment that gives rise to an increase in payroll of at least \$15 million.

At the federal level, the Taxation Act requires that every employer pay to Ministry of Revenue a contribution payment equal to 4.26 percent of the wages the employer pays an employee.

Comparisons of income and non-income tax rates are provided on Figures 7 and 8.

**Figure 7 Combined Corporate Income Tax Rates* in Selected North American Cities:
Ten Year Annual Average**

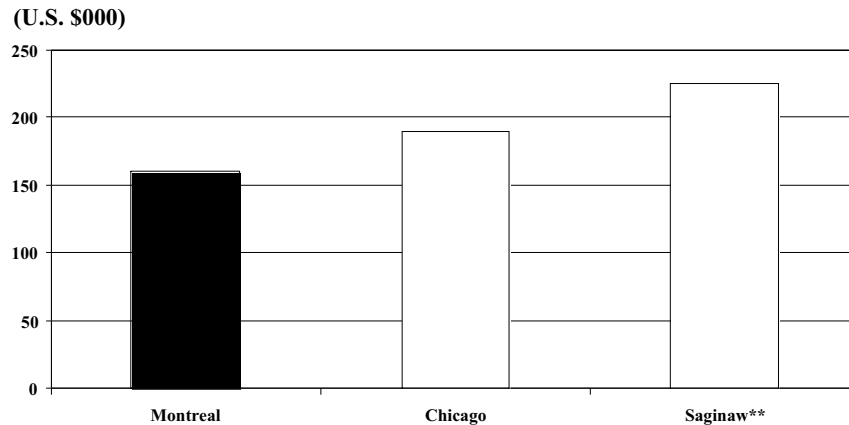


* Includes Federal Taxes, State / Provincial Taxes, Local Taxes

** Saginaw, MI surrogate for Holland, MI

Source: KPMG's Competitive Alternatives, 2002

**Figure 8 Combined Non-Income Taxes* in
Selected North American Cities:
Ten Year Annual Average**



* Includes Property Tax, Capital Tax, Sales Tax, Receipts Tax, and Business Tax

** Saginaw MI, surrogate for Holland, MI

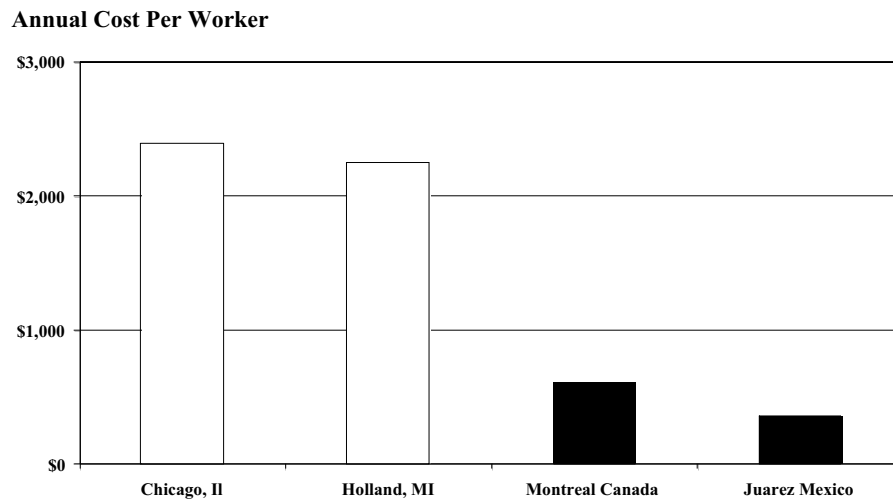
Source: KPMG's Competitive Alternatives, 2002

Health Insurance

- **Chicago**—The norm is that for health care coverage for full time workers, the employer pays about 85 percent of the costs and the employee 15 percent. For example, Brach's workers pay approximately \$88 per month in medical insurance and the company pays between \$200 and \$400 per month for medical insurance for each worker. For the employer in terms of dollars per worker per year it works out to be around \$2,400.
- **Holland**—Kraft employees also pay about 15 percent of their pay into health insurance and the company pays about 85 percent. For the employer, in terms of dollars per worker per year it works out to be \$2,256.
- **Juarez**—Mexico has a national health care program, but the worker pays about 5 percent of his wages into the system and employers pay about 15 percent. For the employer, in terms of dollars per worker per year this works out to be around \$360. According to informed sources, Brach's, which contracts with another company for its workers, does not pay medical insurance for its workers.

- Montreal**—Canada has a predominantly publicly financed, privately delivered health care system known in Canada as Medicare. It provides access to universal medical services. This national health care program is generally funded by higher personal taxes by all individual taxpayers. For example, for Canadians earning above C\$50,000 (US\$32,000) the marginal rate of tax is 46 percent. At the local and provincial level health care services are provided through fiscal transfers from the federal government. In terms of dollars per worker per year it is US\$605.00 calculated as follows; 2,000 hours (250 eight hour work days) x \$7.10 x 4.26 percent (Figure 9).

Figure 9 Relative Health Insurance Costs for Candy Makers: U.S., Mexico, and Canada



Source: Peter Buzanell & Associates; March 20, 2003

Facility Construction and Rental Costs

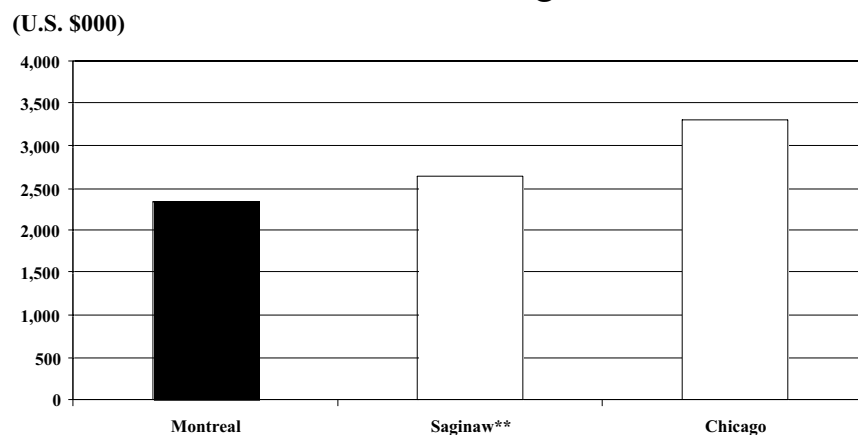
- Chicago**—Commercial manufacturing properties on the West Side of Chicago currently can be built for about US\$50.00 per square foot. Existing manufacturing facilities can be leased for US\$10.00 per square foot per month. Construction and lease rates on the West Side of Chicago that are losing a number of manufacturers, including Brach's, are lower than other parts of the city, according to Chicago's Center for Labor and Community Research.

- **Holland**—Commercial manufacturing properties can be built for about US\$30.00 per square foot, according to a leading commercial real estate firm in the city. Existing manufacturing facilities can be leased for about US\$2.50 per square foot which is extremely competitive nationally.
- **Juarez**—Construction costs for a 60,000 square-foot facility are US\$25.50 to US\$29.00 per square foot. Juarez’s Economic Development Agency reports that land for commercial building in Juarez industrial parks costs US\$3.00 to US\$4.00 per square foot. Lease facilities are readily available at US\$4.50 to US\$5.00 per square foot.
- **Montreal**—According to KPMG, construction costs for industrial buildings in Quebec are some of the lowest in North America and Europe. According to the KPMG study, for a single level factory shell with total floor space ranging from 50,000 to 120,000 square feet, with 10 percent finished office space and all mechanical systems fully installed, costs \$37.00 per square foot in the Montreal area.

Rental space is also economical in Montreal compared to other locations in North America. In the Montreal area existing commercial manufacturing facilities can be currently leased for US\$ 4.60 per square foot according to Colliers International’s Montreal office.

Comparisons of combined facility costs for Montreal, Chicago and a mid-sized city in Michigan are provided in Figure 10.

Figure 10 Combined Facilities Costs* in
Selected North American Cities: Ten Year
Annual Average



* Includes Industrial Land, Building Construction, Office Lease Costs

** Saginaw, MI surrogate for Holland, MI

Source: KPMG’s Competitive Alternatives, 2002

Energy

- **Chicago**—According to Commonwealth Edison in Chicago, the average electricity charge for an industrial customer in the Chicago area is US\$0.050 kWh. There is also a monthly charge of US\$11.00 per kW demand (Note: kWh is a measure of use of 1,000 watts of electricity for one hour, whereas kW is a measure of demand for power during a specific time period, such as a month).
- **Holland**—Industrial electricity rates in Holland, Michigan, are very competitive compared with other parts of Michigan and across the U.S. Utility services are provided by the community-owned enterprise, the Holland Board of Public Works (HBPW). According to HBPW, Kraft's plant averaged \$0.048 per kWh. The monthly demand charge is \$8.60 per kW.

In an effort to keep the plant, the municipal utility offered an annual \$200,000 reduction in electric rates, an offer rejected by Kraft.

- **Juarez**—According to the Economic Development Agency of the City of Juarez the monthly charge per kilowatt (kW) of maximum demand is US\$2.38. The monthly charge for the energy consumed is US\$0.040 per kWh.
- **Quebec**—Thanks to extensive investments in hydroelectricity, Hydro-Quebec, created by the Quebec government in 1944, provides the Montreal/Mount Royal area with among the lowest electricity rates in North America. Hydro-Quebec is the world's largest producer of hydroelectric power. According to provincial law, Hydro-Quebec Production must supply up to 165 TWh of electricity per year to Hydro-Quebec Distribution at an average commodity rate of US\$0.0279 cents per kWh, the lowest in North America for such a large quantity of energy.

According to the KPMG study, the average commercial electricity rate in the Montreal area is US\$0.0450 cents per kWh, compared with US\$0.0513 cents for all of Canada and US\$0.0750 cents for the U.S.

Hydro-Quebec provides some additional information by the size of the commercial facility:

For medium size facilities, whose minimum billing demand is at least 100 kilowatts, but less than 5,000 kilowatts the structure of monthly rates are as follows:

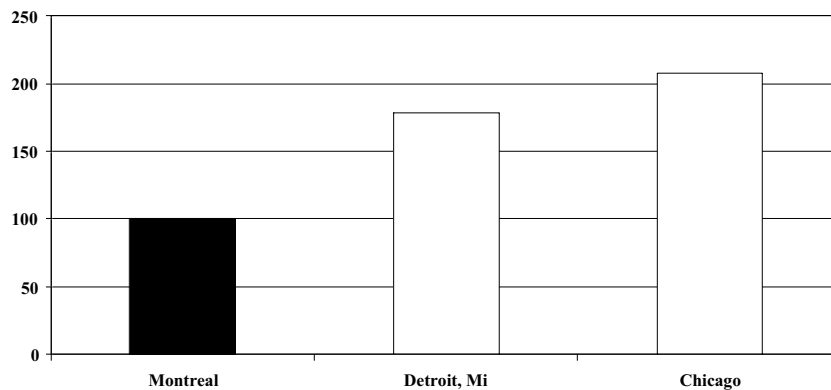
US\$11.97 per kilowatt of billing demand, plus US\$0.0372 cents per kWh for the first 210,000 kWh and US\$0.0242 cents per kWh for the remaining consumption.

For large size facilities, whose minimum billing demand is 5,000 kilowatts or more the structure of monthly rates are as follows:

US\$10.95 per kilowatt of billing demand, plus US\$0.0242 cents per kWh.

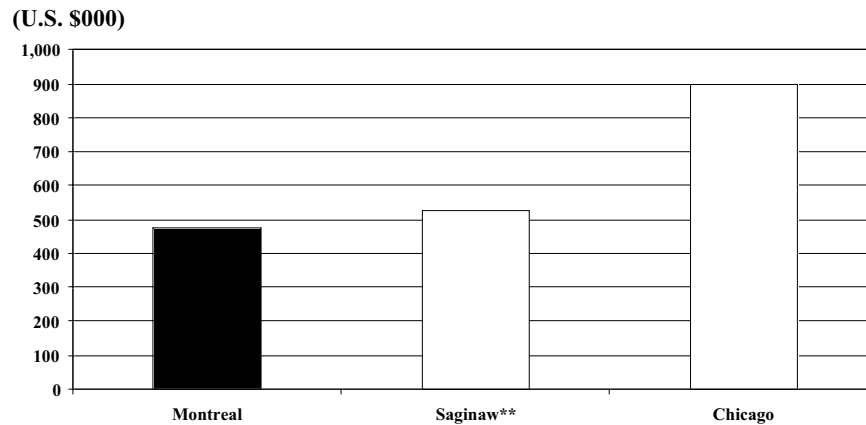
Figure 11 provides a chart comparing electricity rates and Figure 12 Presents combined utility rate comparisons for Montreal, Chicago and Detroit, Michigan.

Figure 11 Electricity Rates: Comparative Index for Selected North American Cities (Montreal = 100)



Source: Hydro -quebec, Comparison Of Electricity Prices In Major North American Cities, 2002

**Figure 12 Combined Utilities Costs* in
Selected North American Cities: Ten Year
Annual Average**



* Includes Electricity, Natural Gas, Tele Communications Costs

** Saginaw, MI surrogate for Holland, MI

Source: KPMG's Competitive Alternatives, 2002

Sugar Costs to Confectioners

- **Chicago**—As of mid-March, 2003 the Midwest refined beet sugar price as reported in the *Milling & Baking News* was 27.0 cents a pound, fob the plant, compared with 26.0 cents for the comparable date in 2002. The delivered bulk price at a Chicago confectioner's plant is about 2.00 cents higher, reflecting transportation charges, for example, from beet sugar processing plants in the Red River Valley of Minnesota and North Dakota. Therefore the current delivered price of sugar to the confectioner's plant in the Chicago area is 29.0 cents. This is a very transparent price and represents actual sales prices for both small and large customers. This is unlike the system in Canada where actual market prices are not readily available and deep discounting from list prices is a common practice.

- **Holland**—Refined sugar prices for the Kraft plant are based on the Midwest beet sugar price, fob plant. Transportation rates for bulk beet sugar plants concentrated in the Saginaw Valley of Michigan to the Holland facility in western Michigan are only about 1.0 cent per pound. Therefore the current delivered price of sugar to the confectioner's plant is about 28.0 cents a pound.

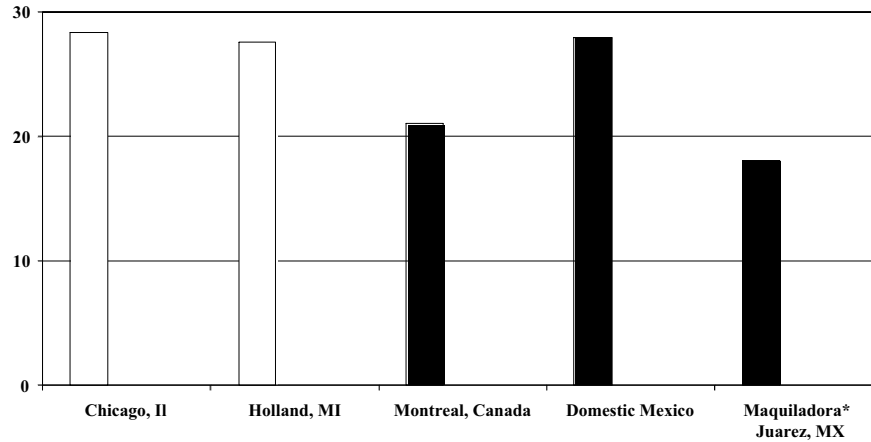
- **Juarez**—For the domestic confectionery industry in Mexico, sugar costs are currently around the equivalent of about 28 cents a pound, based on the

wholesale sugar central market price in Mexico City. For the *maquiladoras* in Juarez and at other locations on the Mexico-U.S. border sugar prices are lower. As described earlier, Mexican PITEX sugar, as well as U.S. re-export sugar, is available for about 18 cents a pound.

- **Quebec**—According to various sources, Kraft's Mount Royal plant can currently purchase refined sugar at prices well under the prevailing price in the U.S. market. With domestic beet sugar production accounting for only about 10 percent of domestic supplies, imported world price raw sugar is the basic source of the refined sugar sold to eastern Canada. The actual price to an industrial user is not readily available, but can be deducted using the following components:
 - World priced raw cane sugar fob Brazil is 8 cents + 1.8 cents transportation to Canadian refineries is 9.9 cents x 7 percent refining loss (0.69 cents) = 10.6 cents a pound.
 - Current refiners list price is C\$1,230 per metric ton. Refiners commonly offer a significant discount to large, regular customers reportedly averaging between C\$450 to C\$700 per ton which would yield a price of C\$780 to C\$530 per ton or C\$34.38 cent to C\$24.00 cents a pound.
 - Using an exchange rate of 67.5 Canadian, this translates to US\$22.88 to US\$ 16.22 cents a pound, or a mid-point of US\$ 20.05 cents. Add to this 1.0 cent per pound for freight, the delivered price would be US\$21.00. While this price is about 7 cents under the U.S. refined sugar price, it also indicates that Canadian refiners that utilize subsidized world price sugar enjoy a very wide profit margin which is only partially passed on to industrial users in Canada. This fact is a long-standing issue between refiners and industrial users of sugar in Canada including confectioners.

These estimates are consistent with financial information released by Rogers Sugar, the only publicly reporting sugar company in Canada. For fiscal 2001, Rogers' revenues were C\$185,430,000 on sales of 261,828 metric tons. Using an exchange rate of 63.8, this works out to be C\$708 per ton or US\$20.5 cents a pound (Figure 13).

**Figure 13 Refined Sugar Prices for Candy
Makers: U.S., Mexico, and Canada**



* Using U.S. Re -Export Refined Sugar and PITEK Sugar From Mexico
Source: Peter Buzanell & Associates; March 20, 2003

Conclusions and Outlook

The confectionery industries of North America, important segments in the food processing and marketing sectors in the U.S., Mexico and Canada, continue to evolve in terms of structure, trade, and costs. It is clear from the analysis of data and interviews with experts in the three countries that there is a shifting of some segments of production from the U.S. to both Mexico and Canada. Much of this new production, mainly non-chocolate type confectionery, is being exported from Mexico and Canada to the U.S. market. All indications suggest that this trend will continue and perhaps intensify in the years ahead.

This development points to a loss of U.S. manufacturing jobs and economic activity in those communities experiencing plant closures. The underlying reasons for the closures and relocation of operations are multifold. Those suggesting that the reason for the shift is due solely to lower sugar prices would be incorrect. As the cost data and analysis have indicated, the reasons for the new trend are several. Clearly lower labor costs and related benefits are the primary factor for the shift of confectionery *maquiladoras* along the Mexico-U.S. border. But lower labor costs, both wages and employee benefit programs, are also an important factor in the relocation of facilities to Canada. Other important factors include lower corporate taxes, and lower energy and facility costs (Table 18, page 28).

Concerning sugar costs, clearly Canada has access to lower priced subsidized world priced sugar. While Canadian confectioners do price their sugar off of the No.11 world raw sugar price and Canadian refiners offer discounts off of their list prices, owing to their oligopoly power in the market they garner very high refining margins, especially compared with their counterparts in the U.S. Lack of a pass through of a greater share of lower world sugar prices is a lingering point of contention between refiners and industrial users of sugar in Canada.

Mexico's internal sugar prices are comparable to those in the U.S. market. As discussed, the *maquiladora* industry has the advantage of having access to lower priced U.S. refined re-export sugar as well as lower priced Mexican origin PITEX sugar. If these programs were eliminated it would have several negative impacts. First, it would reduce throughput at U.S. refiners. Second, it would foster the closing of confectionery-producing *maquiladoras*. This could cause a contraction of procurement of various production inputs now sourced in the U.S. as well as reduced economic activity in U.S. border cities such as El Paso and McAllen, Texas which service much of the retail shopping needs of Mexican workers living in adjacent towns such as Juarez and Reynosa, Mexico. Moreover, the prevailing view among members of the confectionery industry is that the loss of access to these sugar programs would not lead to a re-location of manufacturing back to the U.S., but would lead to a relocation of operations to other areas in Latin America where labor is even cheaper than the *maquiladoras* and sugar prices are lower.

**Appendix A U.S. Confectionery Companies Participating In USDA
Sugar-Containing Product Re-Export Program**

Company Name	City	State
ADM Cocoa	Milwaukee	WI
Albanese Confectionery Group, Inc.	Merrillville	IN
American Candy Company	Selma	AL
Archibald Candy Corp.	Chicago	IL
Atkinson Candy	Lufkin	TX
Barry Callebaut	St. Albans	VT
Blommer Chocolate Company	Chicago	IL

Bobs' Candies, Inc.	Albany	GA
Bosco Products, Inc.	Towaco	NJ
Brach's Confections, Inc.	Woodridge	IL
Crown Candy Corp	Macon	GA
Elmer Candy Corporation	Ponchatoula	LA
F.B. Washburn Candy Corp.	Brockton	MA
Ferrara Pan Candy, Co.	Forest Park	IL
Ferrero, Inc. USA.	Somerset	NJ
Ford Gum	Akron	NY
Goldenberg Candy Company	Philadelphia	PA
Guittard Chocolate Company	Burlingame	CA
Hershey Foods, Inc.	Hershey	PA
Hospitality Mints	Boone	NC
Jelly Belly Candy (Dba Herman Goelitz)	Fairfield	CA
Joyco USA Confectionery, Inc. (Richardson Brand)	South Miami	FL
	South San	
Kraft	Francisco	CA
Morley Candy Makers	Clinton Twp	MI
Nestle USA	Glendale	CA
Pecan Deluxe Candy Company	Dallas	TX
Philadelphia Chewing Gum Corp.	St. Louis	MO
Primrose Candy, Co.	Chicago	IL
R. M. Palmer	West Reading	PA
Rich Products Corp.	Buffalo	NY
Russell Stover	Kansas City	MO
Spangler Candy Company	Bryan	OH
Standard Candy Company	Nashville	TN
Sweet Candy Company	Salt Lake City	UT
Tootsie Roll	Chicago	IL
Wilbur Chocolate	Lititz	PA
Wm. Wrigley Jr. Company	Chicago	IL
Zachary Confections, Inc.	Frankfort	IN

Appendix B Confectionery Definitions and Terms

Chocolate-type products: Products that contain real chocolate or cocoa butter extenders.

Solid chocolate: Includes hollow molded confectionery such as Easter bunnies.

Solid chocolate with inclusions: Solid chocolate with other foods such as nuts.

Enrobed bakery or candy centers: Examples are chocolate-covered cherries or candy bars covered with chocolate with centers of caramel or peanuts.

Panned: Products made by the panning process such as jellybeans.

Non-chocolate type products: All other confectionery products that do not contain Either real chocolate or cocoa and/or chocolate compounds.

Hard candy: Comprised of a sugar mass which is processed to be non-grained, or sugar mass Which is grained through serrations, and brittles. Examples are candy canes, mints, sour balls.

Chewy candy: Plastic-textured grained or non-grained caramel, taffies caramel covered popcorn.

Soft candy: Crystallized and non crystallized creams, fudges, marshmallows, jellies, gummies.

Ice coated: Enrobed non-chocolate confectioner's coated candies such as coconut bonbons.

Licorice-type products: Sugar and starch based products flavored with licorice extract.

Sources: USDA and NCA.

Appendix C Sugar Content of Confectionery Products

Product	Percent Sugar	Product	Percent Sugar
Uncoated candies:		Bars, uncoated:	
Carmels	40	Nougats	40
Creams	40	Peanut brittle	45
Crystallized creams	70		
Mints	90	Solid chocolate:	
Fudges	45	Bittersweet chocolate	40
Fruit drops	65	Sweet chocolate	50
Jellies	45	Milk chocolate	55
Nougats	40		
Pressed tablets	90	Coated bars:	
Taffy	50	Caramel-nougat	45
		Coconut	40

Sugar-panned candies:		Creamed	65
Jelly beans	60	Fudge	50
Carmels	60	Marshmallows	50
Chocolate centers	65	Nougots	45
Creams	70	Peanut brittle	50
		Peanut or nut roll	
Fudges	75	bars	35
Hard candies	70		
Marshmallows	80	Novelty chocolate bars:	
Peanuts and nut		Almond	40
meats	50	Cereal	40
		Peanut	40
Chocolate coated candies:		Miscellaneous	
Brittles	50	items:	
Carmels	35	Chewing gum	55
Creams	60	Chocolate, sweetened for	
Fudges	50	cooking	50
Jellies	35	Cocoa, powder	50
Marshmallow	45		
Nougats	45		
Peanuts and nut			
meats	40		

Source: USDA and confectionery industry.

Appendix D U.S. IMPORTS FOR CONSUMPTION

1998-2002

In Kilograms

HS CODE & DESCRIPTION	1998	1999	2000	2001	2002
CHOCOLATE-TYPE CONFECTIONERY					
1806310041 CHOCO/COCOA PREP CONF BLK/BAR LT=2KG FILLD, PEANUT	7,968,700	12,544,578	20,091,184	27,643,234	26,369,457
1806310049 CHOCO/COCOA PREP CONFEC BLK/BAR LT=2KG FILLD,NESOI	10,312,247	8,779,060	10,338,922	11,469,036	16,681,376
1806310080 CHOC/COCOA PREP NONCNTCTNRY BLK/BAR NTOV 2KG FILLD	2,897,624	2,175,555	2,389,728	2,767,742	1,771,154
1806320100 CHCLT BARS ETC NT BULK UNFILLD GEN NOTE 15	238,469	194,262	6,305	11,461	45,160
1806320400 CHOC BARS NT BULK UNFLD LT 5.5% BTTRFAT ADTL NOT2	1,200	353	4,255	0	0
1806320600 CHOC BARS ETC NT BULK UNFLD LT 21% MLK SOLD GEN 15	373	7,512	0	2,600	0
1806320800 CHOC BARS ETC NT BLK UNFLD LT 5.5% BUTERFAT NESOI	1,752	6,235	4,181	2,642	406
1806321400 CHOC BARS ETC NT BLK UNFLD LT 5.5%BTTTFT ADTL NOT3	1,000	0	0	0	0
1806321600 CHOC BARS ETC NT BULK UNFILLD LT 21% MILK SOLSD	756	14,361	19,925	14,685	11,288
1806321800 CHOCOLATE BARS ETC NT BULK UNFLD LT 5.5% BUTTERFT	0	0	432	0	2,780
1806323000 CHOCOLATE BARS ETC NT BULK UNFILLD NESOI	3,291,953	3,221,714	4,993,783	5,786,827	6,740,797
1806325500 COCOA PREPS, NESOI, BAR ETC, UNFILLD, GEN NOTE 15	89,828	180,679	82,313	54,483	74,837
1806326000 COCOA PRPS(DAIRY)NESOI BAR ETC UNFLD ADD/NOT1-CH4	0	0	540	0	0
1806327000 COCOA PREPS UNFLD DRY LT 21%MLK SOLDSL ADDTL1-CH4	1,144	0	1,160	2,175	1,191
1806328000 DAIRY PRDCTS NESOI BAR ETC UNFLD US ADD NTE1/CH4	11,936	0	0	0	0
1806329000 CHOC/COCOA PREP BAR NOT OVER 2KG NESOI EXCPT FILLD	6,489,460	9,249,282	6,510,319	5,985,605	7,160,482
1806900100 COCOA PREPS NESOI NT BULK NT RETAIL GENERAL NOTE15	40,530	23,987	8,586	55,233	38,734
1806900500 COCOA PRPS NESOI NT BLK NT RETAIL ADDTL NOTE10-CH4	10,689	0	229	518	0

1806900800	COCOA PRPS(DRY) LT 21%MLK SLD NESOI ADTL NTE10-CH4	2,498	2,310	6,499	71,487	2,890
1806901000	COCOA PREPS NESOI NT BLK NT RETAIL ADDTL NTE10-CH4	11,076	6,619	11,951	6,496	9,610
1806901500	COCOA PRPS NESOI NT BLK/RTL GT 5.5%BTTRFT ADTL NT2	0	0	0	0	480
1806901800	COCOA PRPS NESOI NT BLK/RTL LT 21% MILK SOLIDS	5,254	5,135	1,456	14,849	27,244
1806902000	COCOA PREPS NESOI NT BULK NT RETAIL LT 5.5%BTTRFAT	3,065	2,589	7,770	3,860	3,398
1806902500	COCOA PRPS NESOI NT BLK/RTL GT 5.5%BTTRFT ADD NTE3	0	0	0	0	809
1806902800	COCOA PREPS NESOI NT BULK NT RETL LT 21% MLK SOLDS	47,318	2,400	3,860	37,272	9,360
1806903000	COCOA PREPS NESOI NT BULK NT RETAIL NESOI	159	12,215	261	4,450	3,174
1806903900	COCOA PRPS(SYRPS)NESOI NT BLK/RETAIL ADD NTE4-CH17	11,945	3,334	2,567	17,928	40,090
1806904900	COCOA PRP NESOI NT BLK/RTL GT 65%SUG ADD NTE2-CH17	0	4,730	0	135	0
1806905500	COCOA PRP NESOI NT BLK/RTL LT 10%SUG ADD NTE8-CH17	1,219,453	1,785,089	2,152,703	1,394,543	2,542,206
1806905900	COCOA PRPS NESOI NT BLK/RTL GT 10%SUG ADD NT8-CH17	948,249	856,010	2,096,528	1,754,958	1,288,309
1806909010	COCOA PREPS, NESOI, NOT FOR RETAIL, CONFECTIONERY	0	0	0	0	0
1806909011	COCOA PREPS,NESOI,NOT RETAIL,CONFECT,CONT PEANUTS	6,636,062	3,756,154	4,994,455	6,283,690	6,347,993
1806909019	COCOA PREPS, NESOI, NOT FOR RETAIL, CONFECTIONERY	19,197,486	31,365,134	37,928,805	45,455,870	48,976,555
1806909090	COCOA PREPS, NESOI, NOT FOR RETAIL, NESOI	33,073,707	25,323,031	24,207,808	20,214,132	18,556,400
TOTAL		92,513,933	99,522,328	115,866,525	129,055,911	136,706,180
NONCHOCOLATE-TYPE CONFECTIONERY						
1704903520	CONFEC. FOR CONSMPTION, CONTN PEANUTS, RETAIL SALE	38,082,679	25,623,363	27,437,369	8,641,949	6,830,634
1704903550	CONFECTION READY FOR CONSUMPTION,NESOI,RETAIL SALE	115,418,500	168,721,503	199,547,987	234,139,529	269,684,533
1704903590	CONFECTIONS READY FOR CONSUMPTION,NESOI,NOT RETAIL	53,218,777	52,628,374	44,201,674	55,384,668	66,276,828
2106909985	CONFECTIONERY INCL GUM CONTNG SACCHARIN, NESOI	1,057,969	971,375	1,196,816	2,449,133	3,558,428

TOTAL		207,777,925	247,944,615	272,383,846	300,615,279	346,350,423
CHEWING GUM, SUGAR NONSUGAR						
1704100000 CHEWING GUM, WHETHER OR NOT SUGAR COATED		41,044,229	44,566,043	43,044,527	42,106,440	47,093,746
TOTAL		41,044,229	44,566,043	43,044,527	42,106,440	47,093,746
COCOA BUTTER						
1804000000 COCOA BUTTER, FAT AND OIL		65,306,944	80,475,472	94,648,563	80,805,608	54,788,302
TOTAL		65,306,944	80,475,472	94,648,563	80,805,608	54,788,302
CHOCOLATE COATINGS (BLOCKS, WAFERS, LIQUID)						
1806206000 CONFECTIONERS COATINGS/PRODS 6.8% COCOA SOLID BULK		7,796,280	11,081,745	23,026,184	20,509,356	25,817,860
TOTAL		7,796,280	11,081,745	23,026,184	20,509,356	25,817,860
OTHER CHOCOLATE AND COCOA PRODUCTS						
1803100000 COCOA PASTE, NOT DEFATTED		21,893,976	12,823,087	10,901,833	17,936,524	22,214,982
1803200000 COCOA PASTE, WHOLLY OR PARTLY DEFATTED		44,559,347	28,770,996	43,702,767	30,146,737	30,944,262
1805000000 COCOA POWDER, NOT SWEETENED		84,078,104	84,955,908	86,907,976	83,445,362	95,498,951
1806100500 GEN NOT 15 COCOA POWDR SWTN CNT LT 65% SUGAR BY WT		53,949	119,450	127,586	185,365	403,843
1806101000 ADDTL NOTE 1 COCOA SWTN CNTN LT 65% SUGAR BY WT		139,373	599,726	1,336,391	1,437,067	1,322,909
1806101500 COCOA SWTND CNTN LT 65% BY DRY WT OF SUGAR NESOI		20,715	60,011	19,299	8,992	109,004
1806102200 GEN NOTE 15 COCOA SWTN GT 65% LT 90% BY WT SUGAR		43,002	0	5,103	32,821	4,822
1806102800 COCOA SWTN GT 65% SUGR ADDTL NOTE 2-CHAP17 NESOI		3,072	5,324	25,904	0	38,394
1806103400 ADDTL NOTE 1 COCOA SWTN GT 65% LT 90% DRY WT SUGR		0	913,473	410,296	125,726	198,170
1806103800 COCOA PWDR SWTN OV 65% BT LSS THAN 90% SUGAR NESOI		26,216	4,368	1,437	15,316	5,217
1806104300 GEN NOTE 15 COCOA PWDR SWTD CNT GT 90% DRY WT SUGR		0	0	1,497	0	5,184
1806105500 ADDTL NOTE 2-CH17 COCOA PWDR SWTD GT 90% SUG NESOI		404,815	3,312,777	1,074,870	6,819,153	22,663,232
1806106500 ADDTL NOTE 1 COCOA POWDER SWEETEND CONT 90%OR MORE		1,288,948	15,952	0	0	0

1806107500	COCOA POWDER SWEETEND CONT 90% OR MORE SUGAR NESOI	7,950	3,284	953	278,505	87,919
1806202010	CHOC BLOCK/SLAB 4.5KG/MORE EA NO BUTRFT/MILK SOLID	12,285,280	14,830,034	16,429,023	13,125,203	12,088,793
1806202090	CHOC BLCK/SLAB GT 4.5 KG EA CNTG BUTRFT/MILK SOLID	29,234,086	39,615,503	50,935,137	85,614,678	95,247,148
1806202200	GEN NOTE 15 CHOCOLATE BULK FORM NESOI CNTN BTRFAT	1,692	96	0	478	0
1806202400	ADDTL NOTE2 CHOCLT BULK FORM NESOI GT 5.5% BTTRFAT	16,684,812	19,008,406	21,479,449	20,893,331	19,849,346
1806202600	CHOC BLK FRM NESOI GT 5.5% BUTTRFAT,LT 21%MLK SLID	0	0	17,025	92,380	0
1806202800	CHOCOLATE BULK FORM NESOI OVER 5.5% BUTTRFAT NESOI	308,939	376,556	102,275	19,242	34,830
1806203400	ADDTL NOTE 3 CHOCOLATE BULK NESOI NOV 5.5% BTTRFAT	0	0	0	667,000	0
1806203600	CHOC BULK FORM NESOI GT 5.5% BTRFT LT 21% MLK SLDS	2,000	7,625	41,392	51,524	99,860
1806203800	CHOCOLATE BULK FORM NESOI NOV 5.5% BUTTRFAT NESOI	3,218	650	8,880	1,888	832
1806205000	CHOCOLATE BULK NESOI NOT CNTN BFAT/MLK SLDS, NESOI	61,270,970	58,152,323	57,636,869	59,519,835	53,111,656
1806207500	ADTL NOT 8-CH17 COCOA PREP BULK NESOI,GT 10% SUGAR	0	0	0	4,048	46,232
1806207700	ADDL NOTE 2-CH17 COCOA PREP BULK NESOI,GT 10% SUGR	0	0	0	0	1,200
1806207800	COCOA PREP BULK NESOI 65%/MORE SUGAR NESOI	2,333	49,376	19,127	1,885	9,972
1806207900	GEN NOTE 15 COCOA PREPS NESOI, IN BULK FORMS	640	0	0	500	0
1806208100	COCOA PREP(DRY)BULK NESOI GT 65%SUGR ADDL NTE4-CH4	970	0	0	260,043	98,350
1806208200	COCOA PREP(DRY)BLK NESOI LT 21% MLK SOLD AD NT-CH4	960	1,290	625	7,025	1,000
1806208300	COCOA PREP(DRY)BLK NESOI LT 65%SUGAR,ADTL NOT4-CH4	5,000	5,000	27,614	1,598,514	7,171,855
1806208500	COCOA PREP BULK NESOI 65% OR LESS SUGR ADDTL NOTE3	0	0	0	437,000	0
1806208700	COCOA PREP(LOW FAT CHOC) BULK NESOI LT 21% MLK SLD	0	2,355	0	0	0
1806208900	COCOA PREP(LOW FAT CHOC CRMB) BLK NESOI LT 65% SUG	0	0	0	0	0
1806209400	COCOA PREP(BLND SYRPS)BK NESOI LT 65% SUG AD4-CH17	15,492	0	0	0	0

1806209500	COCOA PREP BK NESOI LT 65% GT 10%SUG ADD NTE8-CH17	26,657	5,551	0	172,969	141,520
1806209800	COCOA PREP BLK NESOI LT 65% GT 10% SUG ADDL3-CH 17	10,296	175,723	216,759	194,857	162,942
1806209900	COCOA PREP BULK NESOI 65% OR LESS SUGAR, NESOI	128,549	428,679	427,590	1,158,350	11,544,462
TOTAL		272,501,361	264,243,523	291,857,677	324,252,318	373,106,887

Appendix E U.S. IMPORTS FOR CONSUMPTION

1998-2002

(In Kilograms)

COUNTRY	1998	1999	2000	2001	2002
1704100000 CHEWING GUM, WHETHER OR NOT SUGAR COATED					
CANADA	26,102,114	27,740,669	26,883,542	29,124,622	33,551,672
MEXICO	10,266,853	9,649,876	8,990,987	7,187,903	7,163,693
GUATMAL	78,215	119,926	95,676	149,622	132,975
HONDURA	0	0	0	6,215	0
C RICA	87,356	47,313	84,112	98,359	67,858
PANAMA	77,720	57,100	65,071	37,918	0
JAMAICA	16,223	0	0	0	0
DOM REP	0	0	0	0	3,836
TRINID	150,579	120,690	112,267	91,393	133,195
COLOMB	1,242,108	1,196,771	1,172,773	901,292	1,068,154
VENEZ	11,848	0	0	0	0
ECUADOR	0	26,514	286,426	0	4,675
CHILE	200,950	236,800	199,184	128,177	246,651
BRAZIL	735,337	1,433,076	1,286,285	1,609,570	1,900,046
ARGENT	142,344	109,459	249,242	470,101	607,276
SWEDEN	0	0	0	0	240
FINLAND	7,913	14,332	5,230	9,014	14,021
DENMARK	152,760	186,754	43,435	42,234	47,188
U KING	71,401	87,275	23,523	7,174	18,508
IRELAND	367,499	103,433	116,642	512,351	389,389
NETHLDS	1,442	24,911	10,815	6,755	17,593
BELGIUM	16,878	90,162	12,048	3,666	0
FRANCE	30,843	1,193,267	1,751,453	724,208	81,447
FR GERM	24,534	377,307	244,835	500	0
AUSTRIA	5,500	6,847	5,500	0	200
SWITZLD	7,860	0	67	2,542	1,381
POLAND	0	655	0	500	1,080
SPAIN	555,296	445,267	37,199	61,006	61,200
PORTUGL	0	0	34,802	0	2,045
ITALY	39,994	372,919	1,747	19,767	385,629
SLVENIA	42,347	42,826	37,599	25,066	0
MACEDON	0	0	0	6,266	38,121
GREECE	624	100	110,515	22,501	18,977
TURKEY	28,313	85,305	20,174	2,525	50,513
SYRIA	0	520	0	0	0
LEBANON	8,224	7,799	5,877	2,156	14,987
ISRAEL	25,086	80,033	36,139	224,349	141,828
JORDAN	6,545	16,939	1,980	13,334	30,559
S ARAB	0	0	0	28,876	3,528
INDIA	1,567	0	500	15,120	0
PAKISTN	0	0	1,816	36,864	101,787
THAILND	0	0	0	25,876	0

SINGAPR	1,086	3,369	0	0	0
PHIL R	61,048	12,351	4,655	0	1,400
CHINA	262,384	228,248	791,264	188,362	462,528
KOR REP	84,217	67,635	37,914	109,831	54,715
HG KONG	3,939	232,288	66,343	1,191	2,315
TAIWAN	1,400	4,886	1,835	2,839	1,592
JAPAN	102,525	129,975	88,039	132,933	155,843
AUSTRAL	0	1,800	50,743	43,587	35,848
N ZEAL	0	0	0	0	4,903
FIJI	0	671	0	15	0
TUNISIA	0	0	4,984	0	0
EGYPT	19,950	9,975	9,975	0	0
KENYA	1,407	0	61,314	29,860	74,350
TOTAL	41,044,229	44,566,043	43,044,527	42,106,440	47,093,746

1704903550	CONFECTION READY FOR CONSUMPTION,NESOI,RETAIL SALE				
CANADA	31,633,830	42,711,919	50,010,146	65,901,993	67,105,038
MEXICO	16,729,153	42,069,353	51,472,516	62,576,742	74,937,036
GUATMAL	76,003	6,028	3,160	242,334	37,134
SALVADR	12,564	5,185	13,258	9,450	9,360
HONDURA	34,314	34,540	0	0	0
C RICA	49,153	3,240	45,830	65,696	81,622
PANAMA	20,316	27,603	49,671	46,696	124,689
JAMAICA	433,532	509,384	404,095	20,819	748
DOM REP	19,406	1,164	5,814	14,345	21,015
TRINID	100,297	408,037	537,845	158,764	380,936
N ANTIL	23,926	18,624	36,160	2,016	0
COLOMB	2,215,954	2,902,867	3,631,482	3,842,622	6,504,473
VENEZ	0	0	2,280	0	47,044
ECUADOR	501,951	461,118	541,210	496,509	435,083
PERU	35,000	83,822	0	90,364	0
CHILE	1,217,081	1,839,196	1,807,717	1,717,367	1,400,517
BRAZIL	4,446,362	7,565,740	9,734,609	15,410,040	13,436,868
URUGUAY	349,988	38,006	6,044	6,975	0
ARGENT	7,521,049	8,122,269	10,532,198	13,992,718	33,226,964
ICELAND	17,706	15,552	19,978	17,733	14,344
SWEDEN	688,687	59,579	40,465	26,234	25,718
NORWAY	376	0	24	0	0
FINLAND	20,513	27,533	30,334	34,295	68,763
DENMARK	46,289	6,128	25,001	20,189	27,807
U KING	7,518,921	8,596,209	8,968,184	8,477,160	6,895,363
IRELAND	54,155	80,147	106,023	101,253	109,739
NETHLDS	8,746,360	9,730,516	10,308,112	7,850,554	5,858,076
BELGIUM	835,053	1,457,134	1,478,240	1,225,473	979,376
MONACO	0	450	0	0	357
FRANCE	422,521	446,035	681,181	594,520	739,898
FR GERM	13,397,913	14,318,627	14,459,478	13,004,491	11,849,382
AUSTRIA	18,041	1,970	38,716	124,215	86,970
CZECH	0	0	444,841	2,481,727	4,047,459
HUNGARY	0	38,306	56,816	44,329	244,957

SWITZLD	363,806	150,815	132,804	162,795	124,580
LATVIA	15,713	4,117	14,807	18,175	50,646
LITHUAN	0	0	0	0	19,400
POLAND	49,032	65,221	148,063	364,969	866,730
RUSSIA	0	38,204	47,316	28,605	20,671
BELAR	0	0	0	0	26,807
UKRAINE	9,600	67,865	85,843	79,728	91,700
AZERBJN	0	0	10,008	0	0
MOLDOVA	0	15,114	0	0	0
SPAIN	4,093,127	4,003,236	7,011,840	11,532,900	10,718,560
PORTUGL	901	4,810	5,263	9,224	6,228
ITALY	957,702	1,340,097	1,232,088	989,047	1,146,861
CROATIA	58,361	59,714	28,037	7,009	42,802
SLVENIA	4,224	63,326	68,161	123,124	45,712
BOSNIA	0	0	5,810	3,163	1,692
MACEDON	16,951	0	8,300	16,070	15,460
YUGOSLV	0	0	0	0	3,486
GREECE	120,686	115,978	115,681	196,695	126,474
ROMANIA	0	0	0	7,500	14,386
BULGAR	0	0	0	10,612	12,048
TURKEY	240,911	349,146	553,316	761,435	1,755,727
CYPRUS	1,282	0	0	524	0
SYRIA	15,896	6,455	28,279	7,168	21,855
LEBANON	188,773	154,938	170,472	249,596	216,153
IRAN	0	0	594	11,093	5,587
ISRAEL	203,836	211,471	468,229	527,092	423,066
JORDAN	5,945	2,100	7,353	8,283	8,828
S ARAB	4,500	1,800	0	720	0
ARAB EM	0	147	26,305	7,083	4,196
INDIA	73,867	184,321	226,597	492,407	473,437
PAKISTN	7,000	18,415	29,592	43,093	415,929
SRI LKA	0	0	0	0	10,000
THAILND	753,505	2,388,825	5,792,088	5,292,379	4,601,304
VIETNAM	80,380	101,850	45,553	99,382	305,316
CAMBOD	0	0	13,900	0	0
MALAYSA	84,013	85,304	308,011	9,535	15,398
SINGAPR	19,488	22,402	48,331	55,911	44,451
INDNSIA	756,802	3,648,830	2,837,801	339,620	436,731
PHIL R	32,014	50,370	46,811	41,662	68,739
MACAO	0	3,000	0	0	1,900
CHINA	2,762,635	5,456,474	6,527,293	7,325,367	10,083,911
KOR REP	600,602	582,206	552,761	451,183	837,747
HG KONG	519,291	373,373	425,230	799,785	2,126,313
TAIWAN	4,448,114	5,573,031	3,388,353	2,809,604	3,012,832
JAPAN	716,704	619,308	524,247	552,053	638,823
AUSTRAL	137,434	426,788	1,778,722	1,619,460	1,681,658
N ZEAL	0	722	5,693	7,010	17,208
TOKELAU	250	0	0	0	0
FIJI	0	1,932	5,457	1,195	0
MOROC	0	0	0	0	3,266

TUNISIA	0	0	6,374	0	0
EGYPT	750,829	802,051	1,251,991	462,716	425,826
GHANA	0	0	0	4,000	11,300
NIGERIA	0	0	0	0	2,174
REP SAF	137,912	141,466	73,185	12,934	3,879
TOTAL	115,418,500	168,721,503	199,547,987	234,139,529	269,684,533

1704903590	CONFECTIONS READY FOR CONSUMPTION,NESOI,NOT RETAIL				
CANADA	8,038,108	8,691,301	9,222,209	9,042,446	8,972,030
MEXICO	28,146,499	23,671,517	12,431,635	23,911,049	31,562,889
GUATMAL	2,814	0	0	0	0
SALVADR	8,772	3,908	26,601	7,943	57,965
C RICA	0	0	22,159	171,549	164,121
JAMAICA	121,592	179,616	40,392	0	690
DOM REP	0	0	1,200	9,700	0
TRINID	167,404	17,656	171,865	14,644	74,112
COLOMB	4,205,651	3,869,918	4,904,677	3,888,566	2,221,190
VENEZ	0	0	545	902	1,001
ECUADOR	657,223	1,005,009	952,561	392,422	322,658
PERU	7,077	0	0	5,278	6,190
CHILE	84,652	113,662	14,417	45,070	250,425
BRAZIL	1,519,700	1,071,335	1,376,341	2,575,628	6,551,109
URUGUAY	35,150	0	0	0	4,626
ARGENT	2,144,298	1,504,277	233,711	53,348	260,375
ICELAND	9,960	0	0	0	0
SWEDEN	91,879	77,945	4,739	0	16,953
NORWAY	0	0	526	51	370
FINLAND	0	1,008	2,158	1,714	9,864
DENMARK	56,849	67,352	88,697	94,233	74,808
U KING	1,414,577	3,609,488	3,721,481	3,042,438	2,168,741
IRELAND	9,189	0	3,125	2	520
NETHLDS	1,786,244	2,270,037	2,210,173	1,665,465	1,700,533
BELGIUM	99,516	136,254	227,340	264,227	481,564
FRANCE	79,738	142,239	231,987	328,091	270,840
FR GERM	46,812	35,788	248,380	81,025	92,106
AUSTRIA	0	1,690	0	10,628	0
CZECH	0	1,037,036	1,232,782	1,046,133	781,018
SLOVAK	3	0	0	0	0
HUNGARY	0	1,440	0	0	318
SWITZLD	32,938	50,798	64,409	20,084	35,652
ESTONIA	0	0	0	1,484	0
LATVIA	0	0	968	14,299	7,265
POLAND	21,797	55,757	3,808	6,907	13,418
RUSSIA	53,119	23,312	118,673	71,508	108,275
UKRAINE	50,963	57,728	16,774	104,872	176,377
MOLDOVA	0	3,066	0	0	0
SPAIN	1,307,934	652,670	2,089,589	890,590	766,277
PORTUGL	900	876	0	0	0
ITALY	706,833	1,354,527	1,058,871	816,878	421,040
CROATIA	0	2,151	8,607	7,400	2,068

SLVENIA	0	2,728	222,100	20,430	0
BOSNIA	0	0	0	0	3,288
MACEDON	0	2,166	0	0	3,448
GREECE	64,630	40,426	70,330	54,372	65,863
BULGAR	0	19,998	0	0	0
TURKEY	99,161	187,409	108,795	118,333	55,215
SYRIA	0	1,887	2,900	0	1,047
LEBANON	58,555	49,905	60,246	60,681	42,756
IRAN	0	0	0	0	22,814
ISRAEL	14,785	90,565	62,270	65,925	59,187
JORDAN	0	5,645	2,362	47,493	2,880
S ARAB	0	0	8,394	0	0
OMAN	0	0	0	0	12,351
INDIA	145,052	114,734	96,400	47,706	91,589
PAKISTN	84,147	110,066	189,377	102,355	121,446
BNGLD SH	0	0	0	0	1,725
SRI LKA	0	0	3,120	0	0
THAILND	65,727	108,765	278,641	282,538	295,097
VIETNAM	23,286	45,357	65,573	43,919	59,273
MALAYSA	14,694	17,506	30,384	4,888	0
SINGAPR	6,539	0	1,780	0	0
INDNSIA	204,035	274,398	224,028	2,684,920	2,003,021
PHIL R	14,050	15,794	13,358	15,118	10,589
CHINA	1,129,632	1,359,735	1,019,321	1,998,525	4,857,769
KOR REP	71,837	98,470	53,607	136,405	109,579
HG KONG	134,005	125,206	105,717	106,616	128,691
TAIWAN	29,110	36,153	63,234	36,737	60,413
JAPAN	49,822	75,836	64,542	89,666	133,255
AUSTRAL	2,650	84,173	432,292	384,139	174,967
N ZEAL	3,841	9,071	9,243	24,371	0
TUNISIA	13,075	0	60,192	0	0
EGYPT	77,961	38,187	205,912	449,697	347,482
SIER LN	0	0	1,900	0	0
GHANA	0	0	0	7,060	0
REP SAF	3,992	4,833	14,256	16,200	35,695
TOTAL	53,218,777	52,628,374	44,201,674	55,384,668	66,276,828

1804000000 COCOA BUTTER, FAT AND OIL

CANADA	48,207	140,669	255,083	143,551	53,789
MEXICO	1,126,043	2,712,240	1,807,636	2,040,150	2,840,155
HONDURA	596,800	712,475	811,560	656,375	340,000
C RICA	1,120,625	118,900	0	181,869	345,877
PANAMA	60,000	0	60,000	40,000	0
JAMAICA	100,921	121,605	40,642	20,321	0
DOM REP	1,592,003	1,239,328	1,473,411	1,276,234	988,039
COLOMB	1,221,594	2,457,557	1,100,000	2,360,000	939,850
VENEZ	440,000	380,000	400,000	160,000	360,000
ECUADOR	980,000	6,174,445	9,637,665	4,020,162	640,000
PERU	2,460,356	3,783,222	3,700,000	2,401,060	1,240,000
BRAZIL	6,017,900	4,947,000	12,630,066	11,859,855	8,230,491

U KING	0	160,000	2,225	0	0
NETHLDS	382,500	295,850	344,700	874,770	851,050
BELGIUM	75	0	0	16,500	21,166
FRANCE	2,358	2,812	4,286	5,544	18,096
FR GERM	1,662	0	1,640	12,298	0
SWITZLD	36,600	400	1,300	3,864	630
SPAIN	258,560	345,000	203,000	222,180	232,000
ITALY	19,000	0	800	1,000	6,700
TURKEY	0	80,000	0	0	0
INDIA	0	80,000	40,000	2,980	11,000
THAILND	1,356,000	1,353,000	1,620,000	1,360,000	1,840,000
MALAYSA	15,274,570	19,616,329	19,960,339	21,820,997	10,835,405
SINGAPR	5,821,000	2,194,000	5,950,900	2,026,491	2,547,813
INDNSIA	14,480,745	18,893,725	18,033,380	18,974,341	14,612,200
PHIL R	1,031,900	909,787	640,403	1,177,741	939,940
CHINA	8,276,000	7,836,400	8,253,080	5,611,000	4,099,700
HG KONG	0	40,000	0	0	0
IVY CST	2,601,525	4,738,728	3,032,450	96,325	580,819
GHANA	0	1,120,000	4,599,997	3,440,000	2,207,204
NIGERIA	0	22,000	44,000	0	0
REP SAF	0	0	0	0	6,378
TOTAL	65,306,944	80,475,472	94,648,563	80,805,608	54,788,302

1805000000	COCOA POWDER, NOT SWEETENED				
CANADA	2,934,551	3,360,041	2,084,106	1,519,468	546,836
MEXICO	20,232	40,184	87,994	32,265	41,094
HONDURA	6,025	0	4,000	0	0
C RICA	0	0	0	7,130	36,951
JAMAICA	784	2,093	0	0	965
DOM REP	65,133	6,804	83,904	36,844	26,000
COLOMB	0	39,784	0	0	0
ECUADOR	0	0	256,092	58,000	33,960
PERU	0	2,500	0	0	0
BRAZIL	3,408,885	4,509,263	4,853,025	4,548,742	5,866,049
FINLAND	0	0	0	0	9,072
DENMARK	0	4,536	0	0	0
U KING	1,007,647	1,085,086	2,349,049	1,587,041	3,427,612
IRELAND	0	0	0	1,283	61,236
NETHLDS	55,799,051	52,864,832	58,184,649	62,002,827	59,477,828
BELGIUM	42,884	368,066	35,046	134,022	52,892
FRANCE	2,888,538	6,322,367	1,716,465	1,304,351	4,691,956
FR GERM	1,534,886	1,270,131	2,152,224	495,112	533,812
HUNGARY	0	0	0	3,750	0
SWITZLD	7,060	734,216	936,360	49,240	21,995
POLAND	2,091	0	0	0	0
SPAIN	977,121	782,986	867,135	874,682	3,689,947
PORTUGL	0	0	0	0	1,076
ITALY	314,600	395,083	511,150	584,317	556,894
CROATIA	0	0	1,461	0	0
GREECE	394	0	750	0	0

TURKEY	600	0	0	480	7,383
ISRAEL	1,440	1,440	400	2,115	3,150
THAILND	0	0	0	14,598	0
MALAYSA	28,812	226,753	130,027	4,032	495,366
SINGAPR	9,669,234	6,807,046	5,709,094	4,587,477	5,958,143
INDNSIA	912,817	801,521	679,500	913,000	1,536,487
PHIL R	1,134	1,777	8,476	957	0
CHINA	14,742	0	1,818	11,341	66,578
KOR REP	0	0	9,163	0	0
N ZEAL	0	0	5,880	0	3,856
CAMROON	0	234,000	0	55,045	0
IVY CST	4,438,301	5,095,399	6,213,236	4,534,568	8,328,199
GHANA	1,142	0	26,496	75,407	20,091
NIGERIA	0	0	476	7,268	3,523
TOTAL	84,078,104	84,955,908	86,907,976	83,445,362	95,498,951

1806105500 ADDTL NOTE 2-CH17 COCOA PWDR SWTD GT 90% SUG NESOI

MEXICO	404,815	3,312,777	1,074,870	6,819,153	22,663,232
TOTAL	404,815	3,312,777	1,074,870	6,819,153	22,663,232

1806202090 CHOC BLCK/SLAB GT 4.5 KG EA CNTG BUTRFT/MILK SOLID

CANADA	28,283,058	38,424,716	49,446,247	84,076,294	93,618,888
MEXICO	800	800	0	0	0
GUATMAL	0	41,730	125,390	20,865	39,009
C RICA	0	0	0	980	0
DOM REP	0	0	2,158	0	0
BRAZIL	75,122	20,000	99,940	160,000	75,800
SWEDEN	15,321	7,548	0	0	0
U KING	0	0	0	0	5,676
NETHLD	0	0	3,340	0	0
BELGIUM	459,935	569,427	652,967	674,996	945,724
FRANCE	1,616	22,732	22,670	21,313	15,575
FR GERM	385,544	490,770	557,579	618,172	529,442
SWITZLD	12,690	15,528	24,846	24,003	17,034
KYRGYZS	0	3,750	0	0	0
BULGAR	0	0	0	18,055	0
GHANA	0	18,502	0	0	0
TOTAL	29,234,086	39,615,503	50,935,137	85,614,678	95,247,148

1806205000 CHOCOLATE BULK NESOI NOT CNTN BFAT/MLK SLDS, NESOI

CANADA	58,415,915	56,413,423	55,408,584	57,564,673	50,985,175
SALVADR	0	0	0	0	8,584
HONDURA	0	0	5,016	0	0
DOM REP	471,528	426,928	617,990	432,446	479,270
COLOMB	0	0	0	3,472	0
BRAZIL	1,220,000	180,000	200,000	160,000	180,000
ARGENT	0	0	0	0	14,926
SWEDEN	17,463	68	0	0	0
NORWAY	0	0	450	0	550
U KING	45	800	0	0	0

IRELAND	0	0	0	6,588	0
NETHLDS	5,460	0	7,164	1,152	6,254
BELGIUM	237,626	228,335	515,477	274,572	472,308
FRANCE	486,449	452,457	194,960	509,442	561,083
FR GERM	159,968	222,473	226,828	246,141	209,790
AUSTRIA	103,399	17,234	0	0	0
SWITZLD	152,731	164,394	176,691	100,998	94,430
LATVIA	0	0	0	250	0
POLAND	0	42,013	55,960	47,416	45,797
SPAIN	0	0	0	13,700	0
ITALY	0	0	0	0	1,114
TURKEY	0	4,198	2,448	4,233	1,680
LEBANON	386	0	0	0	0
ISRAEL	0	0	24,780	153,752	50,695
MALAYSA	0	0	200,000	0	0
INDNSIA	0	0	0	1,000	0
KOR REP	0	0	521	0	0
TOTAL	61,270,970	58,152,323	57,636,869	59,519,835	53,111,656

1806310041 CHOCO/COCOA PREP CONF BLK/BAR LT=2KG FILLD, PEANUT

CANADA	7,318,833	12,167,186	19,696,770	25,065,520	24,741,209
MEXICO	168,260	107,200	52,320	515	2,378
SALVADR	0	0	0	0	3,112
DOM REP	0	9,797	6,560	1,017	2,651
ECUADOR	0	0	960	0	0
BOLIVIA	145	0	0	0	0
BRAZIL	2,400	0	12,724	158,083	203,776
ARGENT	0	0	0	6,143	6,160
SWEDEN	0	447	0	0	0
NORWAY	0	0	0	0	600
U KING	27,919	59,782	11,866	34,108	6,324
NETHLDS	400	0	0	0	378
BELGIUM	33,551	20,037	21,203	344	937
FRANCE	0	0	835	0	0
FR GERM	345,798	176,042	258,081	1,842,098	713,810
AUSTRIA	0	0	0	511,901	677,225
HUNGARY	8,935	0	0	0	0
SWITZLD	40,037	1,000	451	2,470	0
POLAND	2,120	1,915	0	0	0
RUSSIA	0	0	9,559	763	0
UKRAINE	0	0	1,200	0	0
SPAIN	14,561	0	0	0	0
PORTUGL	0	0	0	0	800
ITALY	0	1,172	16,214	1,587	459
BULGAR	0	0	0	0	2,918
ISRAEL	5,154	0	0	0	0
PHIL R	587	0	0	0	0
KOR REP	0	0	0	450	0
TAIWAN	0	0	2,005	0	0
JAPAN	0	0	0	523	395

AUSTRAL	0	0	436	17,153	2,618
N ZEAL	0	0	0	559	3,707
TOTAL	7,968,700	12,544,578	20,091,184	27,643,234	26,369,457

1806909019 COCOA PREPS, NESOI, NOT FOR RETAIL, CONFECTIONERY

CANADA	5,700,211	8,568,801	8,946,928	9,820,663	12,383,604
MEXICO	3,902,587	2,033,603	3,850,573	6,435,240	8,977,314
GUATMAL	18,614	29,588	0	0	0
SALVADR	9,145	0	2,945	1,415	1,556
C RICA	0	0	0	3,321	9,138
DOMINCA	0	108	0	0	0
COLOMB	64,131	176,259	159,346	289,399	184,705
VENEZ	0	0	0	0	58,926
ECUADOR	1,794	7,806	24,895	157,032	52,945
PERU	0	0	1,969	7,558	2,506
BOLIVIA	136	0	0	0	0
CHILE	396,846	565,644	641,363	579,686	527,255
BRAZIL	69,197	120,915	339,745	545,164	1,410,426
ARGENT	120,837	19,201	119,162	636,037	533,138
SWEDEN	18,859	5,561	62,886	106,227	82,329
NORWAY	3,224	3,227	5,274	3,352	5,900
FINLAND	2,441	473	6,045	6,099	45,104
DENMARK	71,634	81,545	88,800	155,201	541,329
U KING	2,231,260	10,321,194	12,554,821	13,114,496	9,696,398
IRELAND	242,835	234,742	146,768	136,908	134,341
NETHLDS	301,013	573,415	925,544	1,234,219	981,037
BELGIUM	1,267,240	2,094,115	2,490,308	2,955,563	2,760,465
LUXMBRG	0	1,106	0	0	730
MONACO	0	0	0	0	138
FRANCE	336,178	720,051	1,037,851	1,097,445	1,595,915
FR GERM	1,171,325	1,458,082	2,032,434	2,455,013	2,587,080
AUSTRIA	20,912	127,144	5,378	72,916	129,638
CZECH	0	0	0	2,131	21,946
SLOVAK	0	0	0	0	2,748
HUNGARY	1,292	12,044	2,426	25,383	3,149
SWITZLD	1,908,054	1,895,669	1,732,368	1,379,880	1,782,304
ESTONIA	657	4,600	0	1,120	1,139
LATVIA	3,464	18,807	5,726	28,804	15,183
LITHUAN	0	0	0	7,598	1,043
POLAND	203,605	402,190	707,090	778,922	705,396
RUSSIA	163,148	200,966	244,340	258,630	391,270
UKRAINE	13,883	28,795	15,086	20,501	70,313
ARMENIA	0	0	0	950	0
GEORGIA	0	0	5,500	0	0
MOLDOVA	0	0	9,122	7,608	2,948
SPAIN	115,713	166,824	150,502	185,209	360,872
PORTUGL	746	0	0	3,671	16,539
ITALY	602,598	1,093,205	1,093,630	1,910,193	1,805,539
CROATIA	3,805	19,655	68,775	136,814	85,966
SLVENIA	0	0	5,668	2,675	7,517

BOSNIA	0	0	0	1,315	0
MACEDON	0	0	11,906	3,300	0
YUGOSLV	0	0	0	2,441	14,838
GREECE	4,555	4,625	8,693	22,400	4,518
BULGAR	0	0	0	32,215	23,332
TURKEY	3,916	17,399	10,954	107,041	120,061
SYRIA	0	0	18,493	39,523	12,108
LEBANON	3,779	12,981	17,748	2,760	2,936
ISRAEL	70,802	227,181	308,688	494,270	559,486
JORDAN	0	0	0	35	0
S ARAB	0	0	2,579	0	1,233
ARAB EM	0	0	612	0	0
INDIA	0	0	0	2,500	524
VIETNAM	0	0	0	0	23,137
MALAYSA	0	0	1,367	0	24,328
SINGAPR	0	0	249	0	0
INDNSIA	0	0	0	0	3,000
PHIL R	12,368	2,584	2,789	2,168	18,175
CHINA	6,717	3,240	8,263	26,075	46,300
KOR REP	51,624	22,682	38	4,146	5,486
HG KONG	0	0	6,775	13,375	33,902
TAIWAN	330	0	15,671	4,080	0
JAPAN	22,777	11,626	12,614	19,086	26,868
AUSTRAL	1,788	355	10,465	8,482	21,735
N ZEAL	0	0	500	107,615	52,061
EGYPT	1,825	0	5,954	0	6,552
GHANA	0	5,855	0	0	0
REP SAF	49,621	71,271	1,179	0	186
TOTAL	19,197,486	31,365,134	37,928,805	45,455,870	48,976,555