

# **Dairy Sector Trade Between the United States and Mexico: An Overview**

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## **Introduction**

Mexico is the United States' most important export market for milk, milk products and dairy related supplies. Assuming that there were previously real trade barriers, the NAFTA agreement could intuitively be expected to bolster the U.S. market share of Mexican imports and provide opportunities for increased dairy trade both for the United States and Mexico. With NAFTA soon to be entering its fourth year of existence in January 1997, many interested parties are asking the question, "Is the experiment working?"

This paper will briefly discuss milk supply and utilization in Mexico and the general U.S.-Mexico dairy trade. The major segments of the U.S.-Mexico dairy trade will be examined individually utilizing actual trade data. Finally, the impacts of the NAFTA agreement on trade in the short-term and a discussion of long-term trends will be presented.

## **Total Milk Supply and Utilization in Mexico**

Of Mexico's domestic milk production, approximately 75 percent is estimated to be consumed as fluid milk, 5 percent is converted to whole milk powder and 20 percent is utilized in the manufacture of high-value dairy products (Zertuche). Although fluid milk production has steadily increased in Mexico in recent years, demand has continued to exceed production (figure 1). For all products, on a nonfat milk solids equivalent basis, Mexico is estimated to have a

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shortfall of 9.0 billion pounds in 1996. This is an increase from a shortfall of 6.6 billion pounds in 1986. Mexican domestic milk production has supplied between 70 and 75 percent of domestic needs in the 1990's (figure 2).

The fluid production shortfall has been made up in three ways.

- Sizable quantities of nonfat dry milk (NDM) have been purchased on the world market and from the United States.
- Considerable quantities of cheese, butter, ice cream and yogurt have been purchased from foreign suppliers.
- Modest quantities of fluid milk and cream have been purchased from the United States.

### **The U.S.-Mexico Dairy Trade**

Mexico is the largest dairy trading partner of the United States; a status it has held throughout the 1990's. Figure 3 displays the top ten markets for U.S. dairy trade in 1995. Approximately \$125 million dollars of milk and dairy products were traded to Mexico from the United States.

It should be noted that the dairy trade between the United States and Mexico is very one-sided (Figure 4). While the reciprocal dairy trade from Mexico to the United States has been increasing in recent years, there is a sizable trade gap. This should be expected. Mexico has been importing sizable quantities of milk and dairy products to meet domestic consumption demand for over thirty years. While the Mexican dairy exports to the United States are small in magnitude, a five-fold increase in trade value was noted between 1994 and

1995.

## **The Packaged Milk Market**

The packaged milk market in Mexico has been supplied primarily through domestic production and the reconstitution of purchased nonfat dry milk. In 1995, only an equivalent one tenth of one percent of Mexico's fluid milk production was imported as fluid milk (figure 5).

The imported fluid milk sales have originated from the United States. Exports of packaged milk, bulk milk and cream steadily increased from the early-1990's to 1994 (Figure 6). The vast majority of the exports were packaged milk. Seasonal purchases of bulk milk and cream were noted, centered around November of each year.

Unfortunately, for U.S. suppliers, these milk sales were tied to Mexico's general economic health. After the December 1994 peso devaluation, exports of fluid milk from the United States declined precipitously. Export sales of packaged milk from the United States to Mexico have continued to decline after the devaluation. While a rebound occurred in bulk sales in late-1995 through early-1996, presently, total sales are between 2 and 3 million pounds a month.

The quantities of milk exported to Mexico have been significant for U.S. dairymen, yet at the same time, modest. The historic ball park figure of about 10 million pounds a month represents about 7 tankerloads of milk a day crossing the Rio Grande. Prospects for increased sales would require either a lower asking price or a robust economic recovery in Mexico. Exports of fluid milk from Mexico to the United States are not recorded. It can be assumed that a negligible quantity of packaged milk is walked across the border.

During 1994-95, Texas A&M University sampled actual retail prices for fluid packaged milk in several Mexican and United States supermarkets in the Juarez/El Paso area. Actual Mexican retail prices and their U.S. currency equivalent are presented in figure 7. This figure illustrates the impact of the devaluation on retail packaged milk prices.

Although retail prices in the Mexican supermarkets which were sampled increased during the time period (N\$7.60 to N\$10.84) to adjust for the December 1994 currency devaluation, significant value was lost when the prices are converted to U.S. currency (\$2.45 to \$1.72). Although no surveys have been undertaken since March 1995, it can be expected that Mexican retail packaged milk prices have continued to adjust upward.

### **The Cheese Market**

Mexico has a thriving and diverse cheese market. Unlike the United States, cheese varieties are predominately regional. The market is jointly supplied by several large companies and many small local cheese plants. In Mexico, cheese is predominantly marketed in bulk, even in large supermarkets. The traditional cheese varieties in the United States (cheddar, mozzarella, american, swiss, monterey jack, muenster, etc) would be unfamiliar to most Mexicans.

From 1984 to 1989, cheese production in Mexico kept pace with consumption (figure 8). Recently, imports of cheese have been used to supplement domestic production shortfalls. Production has leveled off as consumption has increased. Mexico will consume an estimated 425,000 metric tons of cheese in 1996.

In 1995, only 4.3 percent of Mexico's cheese consumption was supplied by imports

(Figure 8). Cheese imports in Mexico steadily increased throughout the 1990's until 1994, when a decline was noted (Figure 9).

The U.S. share of Mexican cheese imports has been as high as 30 percent in 1992. The United States is estimated to have had a 26 percent market share of Mexican cheese imports in 1995. Most U.S. exports have been lower-valued product (powdered, grated and processed cheeses). Major competitors of the United States are Uruguay, the Netherlands, Norway, France, Australia and New Zealand.

Cheese is currently one of the few dairy products in which there is a reciprocal trade from Mexico to the United States. Many supermarkets in Texas stock cheeses imported from Mexico.

### **The Nonfat Dry Milk Market**

Mexico is the number one importer of nonfat dry milk (NDM) in the world. These purchases are predominantly used by the government for nutrition programs for the poor. Throughout the last thirteen years, Mexican consumption of nonfat dry milk has far outstripped domestic production. Mexico has relied on imports to fill its needs (Figure 10). While imports lagged behind consumption for most of the later-1980's, in 1989 and 1990, imports exceeded consumption as consumption declined. Subsequently, consumption of NDM has recovered and leveled off to around 200,000 metric tons.

Of the 180,000 metric tons of NDM Mexico imported in 1995, the United States only had a 7.5 percent market share (figure 11). The U.S. market share of Mexican NDM imports has dropped dramatically from a high of 48 percent in 1991. The United States faces major

competition for the Mexican NDM market from Australia and New Zealand. Mexico does not export NDM.

Since 1992, Mexico has been designated for Dairy Export Incentive Program (DEIP) bonuses. Under DEIP, the United States targets nations which import dairy products which are believed to be unfairly subsidized or in which sales would not normally be made. DEIP grants bonuses which can either be in cash, in kind, or through commodity redeemable certificates to U.S. dairy exporters to meet the prevailing world price.

U.S. exports to Mexico of NDM have been a primary beneficiary of DEIP. Since 1992, all U.S. NDM sales to Mexico have been through DEIP. In 1992, the NDM subsidy provided by DEIP allowed for a 66 percent effective reduction in price.

Bids for DEIP awards to Mexico are presented in figure 12. It should be noted that since 1993, Mexico has not accepted all U.S. DEIP bids. Consequently, NDM bids have exceeded total exports to Mexico.

### **The Butter Market**

Butter consumption in Mexico steadily increased from 1984 to 1994 with periods of significant imports fulfilling domestic production shortfalls (Figure 13). The periods of increased imports were centered around 1985 and 1992. Consumption declined in 1995 with a slight recovery projected in 1996. Butter consumption is estimated to be 31,000 metric tons in 1996.

Imports comprised 24 percent of Mexico's butter consumption in 1995. The same year, the United States had a 29 percent market share of Mexican imports. In recent years,

both the U.S. market share and Mexican butter imports have been declining (figure 14). The United States had a 100 percent market share of Mexican butter imports in 1991. Mexico does not export butter.

### **The Market for Ice Cream and Yogurt**

In recent years, there has been tremendous growth in consumption of ice cream and yogurt in Mexico (figure 15). From 1987 to 1993, ice cream consumption nearly doubled from 69,000 metric tons to 123,000 metric tons. During the same time period, yogurt consumption increased nearly fivefold from 37,000 metric tons to 176,000 metric tons. At the same time, consumption has out paced production (10 percent for ice cream and 3 percent for yogurt in 1993). U.S. exports of ice cream and yogurt to Mexico have likewise expanded (figures 16 and 17). The United States is estimated to have a nearly 100 percent market share for Mexican imports of ice cream and yogurt.

### **The Market for Dairy Breeding Stock and Genetic Products**

The United States is a major exporter of dairy breeding stock to Mexico. In 1986, exports of dairy cows to Mexico surged due to the buy out program in the United States (Figure 18). U.S. exports of dairy breeding females to Mexico reached a high of 27,000 head in 1990. Throughout the 1990's, exports of dairy breeding females to Mexico have been strong, though declining. The major reduction noted in 1995 was fallout from the devaluation of the Mexican peso.

The United States has maintained a strong market share of dairy cattle imports by

Mexico (Figure 19). The United States faces competition from Canada and New Zealand.

Dairy bull exports to Mexico from the United States are presented in figure 20. Apparently, in 1991, the Mexican government initiated an import program for dairy bulls.

Dairy cattle semen exports to Mexico from the United States are presented in figure 21. Exports increased throughout the late-1980's to the early-1990's, reaching a value of over 4 million U.S. dollars in 1992. A reduction in export value was noted in 1995 due to the effects of the peso devaluation.

### **The Market for Dairy Equipment, Supplies and Services**

Table 1 summarizes the value of selected dairy-related equipment and supplies. It is important to note that while the traded quantities may be modest, Mexico is a significant market for some merchandise, i.e., U.S. dairy cattle feed and vaccines. Additionally, in all instances in Table 1, Mexico's trade rank for U.S. exports is either first or second. In the instances where Mexico's trade rank is first, Canada generally ranks second and vice versa. With the modernization of the Mexican dairy industry, significant opportunities exist for increased trade in dairy equipment, supplies and services.

Table 1. U.S. Exports of Dairy Related Merchandise to Mexico, 1991-1995

Year	1995	1994	1993	1992	1991
Product	Value in 1,000 U.S. Dollars (trade rank)				
Alfalfa Hay Pellets	---	---	562 (2)	666 (1)	142 (2)
Dairy Cattle Feed	4,280 (1)	12,069 (1)	9,180 (1)	6,698 (1)	5,099 (1)
Milk Replacer	612 (1)	566 (1)	---	---	---
Vaccines For Vet. Medicine	8,187 (2)	8,063 (2)	7,328 (2)	6,577 (2)	4,490 (2)
Vacuum Pumps	5,708 (2)	5,458 (2)	5,630 (2)	5,813 (2)	5,939 (2)
Cream Separators	167 (2)	768 (1)	138 (2)	151 (2)	222 (2)

Source: U.S. Department of Commerce

### Is the Experiment Working?

It is really too soon to tell whether NAFTA is “working”. While overall, there are a few positives for the United States, there are not as many as were expected. Particularly, in the dairy sector, NAFTA is at the same time the cause (increasing expectations) and the victim of the decreased dairy trade brought about by the devaluation of the Mexican peso. As the Mexican economy continues to recover, the level of dairy imports from the United States should likewise increase.

















## **What Impact will NAFTA have on Dairy Trade?**






While NAFTA in the longer-run should increase dairy trade between the United States and Mexico, it should also be remembered that a sizable amount of dairy product dairy trade existed between the United States and Mexico before NAFTA and would certainly exist without NAFTA. The United States's greatest advantage in trading with Mexico is proximity.

Table 2 presents guesses by the authors of long-term U.S. and Mexico dairy trade prospects. For the United States, excellent trade opportunities exist for exports of ice cream and yogurt. The United States faces little competition for these markets. U.S. ice cream and yogurt are valued for their quality and therefore, should be able to maintain a niche. Additionally, as the Mexican dairy sector continues to expand and modernize, excellent prospects exist for exports of breeding stock and dairy related equipment, supplies and services from the United States to Mexico.

Although NAFTA will eliminate trade barriers, the United States faces substantial competition from the rest of the world for the Mexican cheese, butter and NDM markets. U.S.

Table 2. U.S. and Mexican Dairy Trade Prospects

Product	U.S. Export Prospects	Mexican Export Prospects
Fluid Milk and Cream		 ??
Cheese	 	  (Mexican varieties)
Butter	 	?
Nonfat Dry Milk	 	?
Ice Cream and Yogurt	 	?
Breeding Stock	 	?
Dairy Equipment & Supplies	 	?

 Increase     
   Expand     
   Increase or Decrease

exports of these products to Mexico could either increase or decrease. U.S. prices for these products are currently at or near record highs, lowering price competitiveness. In the case of cheese, lower U.S. market prices would make U.S. production of Mexican-style cheeses for export more attractive.

Fluid milk and cream exports to Mexico from the United States should increase. Due to proximity, the United States has a clear advantage for this market. The upper bounds of this trade, though, is limited by economic and political dimensions.

Mexico has excellent export prospects for Mexican-style cheeses tailored to the Hispanic population in the United States. Additionally, if price conditions were right, an enterprising Mexican producer or cooperative association could conceivably export fluid milk into the United States. In the other dairy trade categories, reciprocal trade is not very promising for Mexico in the short-run.

## **References**

Gudmunds, K. *PS&D View*. Electronic Database. Washington, D.C.: U.S. Department of Agriculture, Economic Research Service, November 1991 and updates.

U.S. Department of Agriculture/Economic Research Service. *Foreign Agricultural Trade of the United States*. Washington, D.C.: ERS, various years.

Zertuche, C. *The Mexican Market for Dairy Products*. Mexico City: USDA/FAS Agricultural Trade Office, July 1995.