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# **DISPUTES IN SUGAR AND AGRICULTURAL-BASED SWEETENERS**

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## **INTRODUCTION**

Significant strides have been made toward the goal of achieving free trade in sugar and agricultural-based sweeteners in North America. Although the North American Free Trade Agreement (NAFTA) spells out the steps to be taken that will allow the parties involved to transition to free trade, the process has not been painless. To put it mildly, disagreement exists regarding interpretation of the Agreement. Initial disagreements are exacerbated through a variety of cross-effects as sectors undergo structural change as a result of the agreement and, in turn, affect the profitability of other sectors.

The purpose of this paper is to provide a thorough review of current and potential NAFTA disputes related to sugar and agricultural-based sweeteners. The paper will proceed by, first, providing an overview of the North American Free Trade Agreement as it relates to sugar and high fructose corn syrup (HFCS). The paper then discusses the current environment within the NAFTA countries, particularly the United States and Mexico, with respect to various factors related to production and consumption. Next, various disputes stemming from the Agreement will be outlined. Of particular importance are disputes related to Net Surplus Production Status and various issues related to

dumping. The paper concludes with implications of the Agreement and current disputes.

## **NAFTA SUGAR AGREEMENT OVERVIEW**

The North American Free Trade Agreement, modified by an Executive Agreement between the U.S. and Mexican governments, provides increased duty-free access during a 15-year transition period to the U.S. sugar market for Mexican “net surplus sugar production” beginning January 1994. Upon completion of this transition period, the U.S. and Mexican sugar markets will be merged into a common market.

Between years one and fifteen, Mexico’s allowable duty-free exports to the United States, and U.S. duty-free exports to Mexico, will be the greater of 1) 7258 metric tons (mt); 2) the quantity currently allocated by the United States under the sugar program to “other specified countries and areas”; or 3) the quantity allowed under the definition of “net surplus producer” (FAS). For exports to exceed the current quota level of 7258 metric ton, each country must become a net surplus producer (production exceeding consumption). During years one to six of the agreement, in each year that Mexico or the United States is projected to be a surplus producer of sugar, duty-free access will be provided by the other country for the net production surplus, up to 25,000 mt. In year seven, the net production surplus will increase to 250,000 mt (FAS).

Under the U.S. tariff-rate quota system (TRQ), the initial 16 cent second tier tariff rate imposed on Mexican imports will be reduced by 15 percent during years one to six. Mexico has agreed to align its tariff regime with that of the United States, implementing a TRQ with rates equal to those of the United States, by year seven of the agreement (FAS). Mexico will also adopt the U.S. second-tier tariff as a common border protection to non-NAFTA sugar by year seven of the agreement. During years seven to fifteen, the remaining U.S. and Mexican tariffs on bilateral sugar trade will be reduced to zero (Rosson et al.).

In another key component of the agreement, rules-of-origin, require that for sugar to qualify for preferential tariff treatment it must be produced in the exporting country. The refining of raw sugar does not demonstrate origin.

However, both countries will allow duty-free access for raw sugar imported from the other country if it is refined in the importing country and re-exported to the producing country (FAS). Initial over-quota duties of \$0.16 per pound on Mexican imports will be reduced and eventually eliminated (Rosson et al.).

High fructose corn syrup (HFCS), a product that is a close substitute for sugar in uses such as soft drinks, plays an integral part in the agreement. The Executive Agreement specifies that consumption of HFCS will be used in the determination of net surplus producer status. To achieve net surplus producer status and increased duty-free access to the United States market, Mexico's production of sugar must exceed its combined consumption of sugar and HFCS (American Sugarbeet Grower's Association). Both U.S. and Mexican duties on high fructose corn syrup are set to be phased out over ten years. This should allow United States agribusinesses to export additional HFCS to Mexico as per capita incomes in Mexico increase and import demand for sweeteners expands. It appears unlikely that Mexican capacity exists to keep pace with projected HFCS demand without additional investment in infrastructure and increased corn production (Rosson et al.).

As originally negotiated prior to modifications executed by the Executive Agreement, Mexican access in year seven would have been increased to 150,000 mt, with 10 percent increases annually over the remainder of the fifteen year transition. In addition, the NAFTA would have granted Mexico unlimited access for its exportable surplus sugar in years seven to fifteen whenever Mexico reached net exporter status during two consecutive years (Haley and Suarez).

However, the Executive Agreement eliminates the two-year unlimited access clause. As a result, the 250,000 mt access conceded in year seven is an absolute ceiling. Beginning in year seven, and for the remainder of the transition period for sugar, Mexico will be allowed to ship its net production surplus to the United States duty-free, up to a maximum of 250,000 mt. United States duty-free access to the Mexican market will, in turn, be determined by the United States net production surplus, also with a cap of 250,000 mt. The calculation of net production surplus for both countries will be carried out annually. For the purposes of this calculation, consumption of high fructose corn syrup is

**Table 1: Duty-free Sugar Access Provisions of NAFTA.****NAFTA Sugar Provisions with Side Letter**

<i>Mexican Access to U.S. Market</i>	<i>Provisions</i>
<b>Years 1-6 (1994-1999)</b>	
Mexico not surplus producer <sup>1</sup>	Greater of 7,258 MT or "other country" share of import quota.
Mexico surplus producer <sup>1</sup>	25,000 MT
<b>Years 7-14 (2000-2007)</b>	
Mexico not surplus producer <sup>1</sup>	Greater of 7,258 MT or "other country" share of import quota
Mexico surplus producer <sup>1</sup>	250,000 MT

**NAFTA Sugar Provisions without Side Letter**

<i>Mexican Access to U.S. Market</i>	<i>Provisions</i>
<b>Years 1-6 (1994-1999)</b>	
Mexico not surplus producer <sup>2</sup>	Greater of 7,258 MT or "other country" share of import quota.
Mexico surplus producer <sup>2</sup>	25,000 MT <sup>3</sup>
<b>Years 7-14 (2000-2007)</b>	
Mexico not surplus producer <sup>2</sup>	Greater of 7,258 MT or "other country" share of import quota
Mexico surplus producer <sup>2</sup>	Initially 150,000 MT, increasing 10% per year <sup>3</sup>

<sup>1</sup>Surplus sugar production is calculated as sugar production minus sugar and HFCS consumption.

<sup>2</sup>Surplus sugar production is calculated as sugar production minus sugar consumption.

<sup>3</sup>Maximums can be exceeded if Mexico has achieved net production surplus status for two consecutive marketing years.

Source: Economic Research Service, 1999; and Haley, 2000.

included with consumption of sugar for both countries. More specific details related to this issue are presented in Table 1 (Haley and Suarez).

Continuation of the "Rules-of-Origin" would continue to prevent transshipment of sugar from third countries. Implementation and continuation of the common external tariff discourages Mexico's substitution of imported sugar for its domestic needs to export Mexican produced sugar to the United States. In order to originate, all processing of sugarcane or sugar beets must take place in NAFTA territory. Unprocessed cane or beets may be imported for processing, but they must be re-exported to the original exporting country. To qualify for NAFTA preference, 100 percent of the sugar (production, processing, and refining) must be NAFTA in origin (FAS), a stipulation that may prove difficult to monitor.

The U.S. refined sugar re-export program will remain in place for exports to Mexico. U.S. shipments under the program will receive Mexico's MFN tariff rate, as opposed to the NAFTA preferential rate. The United States and Mexico will each allow duty-free access to imports of raw sugar that will be refined in the importing country and then re-exported to the original exporting country as well as refined sugar that has been refined from raw sugar produced in and exported from the other country (FAS). In recent years the United States has supplied 20-25 percent of the Mexican import market, mainly under the sugar re-export program.

## **THE PRODUCTION / MARKETING ENVIRONMENT**

Increased capacity in the Mexican sugar industry is at the center of much of the dispute. During the four years immediately following the implementation of NAFTA, Mexican production increased by 1.7 million mt raw value (MTRV) to a record of nearly 5.5 million MTRV in 1998. These levels are projected to remain high with production of 5.04 and 5.15 million MTRV for marketing years 1999 and 2000, respectively (Haley and Suarez).

This increase in Mexican sugar production can be attributed, in part, to an increase in the amount of land devoted to sugarcane production combined with several technological and producer incentive measures that have been

implemented. Sugarcane area fell to less than 482,000 hectares in 1992, approximately 18 percent lower than 1987 levels. However, by 1997, a return to 1987 harvested area levels was accompanied by sugar production 22 percent higher than 1987 levels. This can be attributed to new technologies responsible for increased sugar recovery rates, combined with an expansion of the effective milling season from 130 to 175 days (Haley and Suarez). Additional enhancements to the infrastructure have been provided by the Mexican government. These include the provision of several forms of support which enables the Mexican sugar industry to maintain both high domestic prices and high production levels. Among these, a public development bank for the sugar industry, *Financiera Nacional Azucarera SA (FINASA)*, supports the industry by providing over \$US1.3 billion of financing to the Mexican sugar sector (Haley and Suarez).

The Mexican government also controls the quantity of sugar marketed domestically, establishing the amount of sugar that can be exported or must be held in stock. Exportable quantities are divided among sugar companies, with a penalty system used to discourage the domestic sales of targeted exports. In addition, the government provides domestic stockholding subsidies to keep sugar out of the domestic market. At the other end of the spectrum, the government supports the sugar sector through sugar import control. However, under NAFTA Mexico is required to adopt a tariff-rate quota (TRQ) system by the year 2000 with third country rates harmonized to the tariff levels maintained by the United States.

Although increased efficiency in the Mexican sugar industry has created the potential for increased exports to the United States, expanded U.S. HFCS production capability has compounded the problem. The U.S. HFCS industry is hopeful that NAFTA provisions will provide another market for its production. Due to increased capacity, this industry has been plagued in recent years with excess production. Estimates show that HFCS annual production capacity has grown by 3.5 million tons between 1994 and 1997 (Haley and Suarez).

Although HFCS consumption has increased by more than 13 percent during this same time period, the increases have not kept pace with production

capacity. Prices have adjusted accordingly. The ratio of the HFCS-42 spot price to the beet-sugar wholesale price fell below 0.60 in the fourth quarter of 1995, dropped to 0.40 for 1997 and 1998, then increased to 0.42 in early 1999. The Bureau of Labor Statistics producer price index for the HFCS industry declined from 117.6 in the final quarter of 1995 to an average of 77.6 in 1998. Given this pressure on prices, the industry was faced with a difficult adjustment process; many small firms left the sector with others seeking arrangements with larger companies (Haley and Suarez).

The prospect of increased HFCS exports to Mexico was welcomed by the U.S. industry. Given that HFCS-55 is used primarily in soft drinks and that annual sugar use by the Mexican soft drink industry was approximately 1.4 million mt in the late 1990s, the potential of a close market for HFCS excess capacity was welcomed by the U.S. industry. This can be seen in the data as HFCS-55 syrup and solids exports to Mexico rose over a three-year period from 52,000 mt to over 207,000 mt in 1998 (Haley and Suarez).

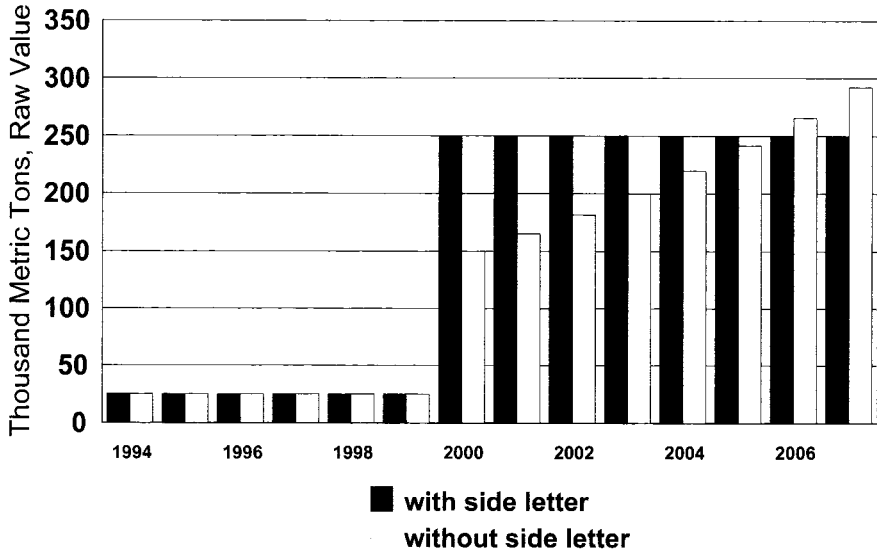
## **NAFTA SUGAR DISPUTES**

Given the previous discussion it is not surprising that disagreement has emerged between the United States and Mexican sugar industries and the United States HFCS industry regarding interpretation of NAFTA. While trade in sugar and other sweeteners is addressed directly by provisions of NAFTA and other trade agreements, the actual process of implementing these agreements has created an uncertain future for sugar and HFCS trade between the U.S. and Mexico.

The original NAFTA document (1995) contained provisions related to trade in sugar that were opposed by many in the U.S. sugar industry. This opposition stemmed from the fear that NAFTA provisions allowing for increased HFCS exports to Mexico would displace sugar consumption in Mexico. This would then lead to a Mexican sugar surplus that would likely be exported to the United States. To secure U.S. Congressional support for NAFTA, the United States and Mexican governments exchanged side-letters in November of 1993, altering provisions of the original text. Since that time, a trade dispute center-



**Figure 1: Duty-Free Mexican Sugar Exportable to the United States Under Alternative Policy Regimes, 1994-2007.**



Source: FAS Online, 1998

ing on interpretation of the content and validity of the side-letter agreement, has emerged.

### Net Surplus Production Status

Mexican sugar exports to the United States were provisional upon several conditions under the original text of the Agreement. During the fifteen-year transition period, Mexican exports were to be capped at no more than Mexico's projected net production surplus of sugar, calculated as sugar production less domestic sugar consumption. Mexico was allowed to ship, at a minimum, 7,258 MTRV of duty-free raw sugar. Duty-free access was limited to 25,000 MTRV for the first six years of the Agreement. Following this, the maximum duty-free access quantity was to become 150,000 MTRV in year seven, and the maximum duty-free quantity was to increase by 10 percent in each subsequent year. An important point to note is that these maximums could

be exceeded if Mexico achieved net production surplus status for two consecutive marketing years (Haley and Suarez).

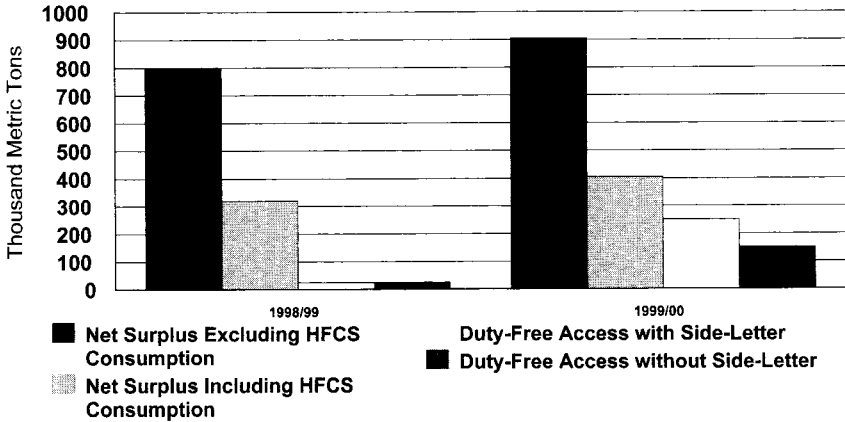
Key NAFTA sugar provisions were changed under the side-letter agreement. The sugar provisions in the NAFTA agreement modified by the side letter also link duty-free sugar access to a "Net Surplus" formula. However, under the amended agreement the net surplus is calculated as the sum of sugar and HFCS consumption minus the production of sugar. For the first six years, through September 30, 2000, duty-free access is limited to the amount of the net surplus but not more than 25,000 MTRV. After this time, duty-free sugar access is limited to the amount of net surplus, but not more than 250,000 MTRV from 2001 to 2007, regardless of Mexico's net surplus producer status. The NAFTA duty on sugar trade above the duty-free levels declines gradually to zero on January 1, 2008 (FAS). A comparison of both maximum access levels (with and without the side-letter) is presented in Figure 1.

The validity of the side letter is under dispute by the two countries. Mexico asserts that its version does not include HFCS consumption in the formula defining net surplus producer status. In addition, Mexico maintains that the side letter does not limit exports to 250,000 mt per year during 2001-2007. Based on Mexico's interpretation of the NAFTA agreement, the conditions have already been met to permit them to export total net surplus production to the United States on a duty-free basis (Haley and Suarez).

In early 1998 the Mexican Secretariat of Commerce and Industrial Development (SECOFI) requested consultations with the United States regarding the validity of the NAFTA side-letter. When no agreement was achieved in November 1998, when Mexico formally requested a NAFTA commission to settle the issue. In this process, the commission would consider several options for resolution; none of which, however, are binding unless both parties agree. If the Commission cannot resolve the dispute within 30 days after it has convened, or some other time agreed upon by both parties, either of the parties may request an arbitration panel to resolve the issue (Haley and Suarez).

Mexico has been a net exporter of sugar since 1994 and, as a result, NAFTA has allowed some duty-free access to the higher priced United States

**Figure 2: Calculation of Mexican Net Surplus Production and Mexican Sugar Exportable Duty-Free to the United States Under Alternative NAFTA Interpretation, 1998/99 -1999/00.**



Source: FAS Online, 1998; Economic Research Service 1999; and Haley, 2000

market. While Mexico's sugar production has been increasing throughout the 1990s, consumption has been declining. Since 1997/98 when net exports were estimated at 650,000 MTRV, Mexico has qualified as a net surplus producer and qualified each year for NAFTA duty-free exports up to 25,000 MTRV (Haley and Suarez).

Figure 2 presents comparisons of net surplus producer calculations and maximum access data under the alternative interpretations of the Agreement for years six and seven. It is interesting to note that in both years Mexico achieves a positive net surplus producer status, regardless of whether HFCS is included in the calculation. In addition, net surplus production is well over the duty-free limit, with or without the side letter. Given this information, it becomes clear that the side-letter provision limiting duty-free access to 250,000 MTRV regardless of net surplus production status will benefit U.S. sugar producers during the transition period (ERS, 1999-b).

## **HFCS Issues**

Events associated with sugar-sweetener trade between the U.S. and Mexico have raised concern that the increased use of lower priced HFCS will displace domestically produced Mexican sugar. Since HFCS costs 10 to 20 percent less than sugar, switching from sugar to HFCS could result in significant cost savings to the agribusiness industry. Approximately one third of Mexico's total caloric sweetener use of 4.4 million mt is for processes that could utilize HFCS. However, many industrial consumers of sugar are closely associated with sugar producers and have less incentive to switch to HFCS (Salsgiver).

When the United States increased its use of HFCS in the 1970s and 1980s, the move was accompanied by the reduction of imports through the adoption of a tariff-rate quota system. Given the decline in domestic sugar consumption, Mexico's switch to HFCS is apt to result in increased sugar exports. Mexico's sugar industry will most likely attempt to control supply in the higher-priced domestic market, while exporting its surplus at the lower world price. Since the United States price is supported at a level that is significantly higher than the world price, the United States is an attractive export market for Mexican surplus production (Salsgiver).

## **HFCS Import Duties: The Broomcorn Dispute**

The provisions of NAFTA relating to HFCS call for the elimination of Mexico's duties from the base tariff of 15 percent. The tariff is scheduled to be eliminated by 2004 through equal yearly reductions over ten years. Based on these provisions, a series of investigations and counter investigations has developed, due in part to the surge in Mexican imports of U.S. produced HFCS. In late 1996 the Mexican government announced increases in import duties on HFCS-42, HFCS-55, and crystalline fructose of 12.5 percent, 2.0 percent points above the scheduled rate of 10.5 percent. This action was designed to compensate for damage stemming from a U.S. increase in tariffs on Mexican broomcorn brooms. In late 1998, the 12.5 percent *ad-valorem* duty imposed by the United States was reduced to the NAFTA specific rate of 6 percent; as a result Mexico removed its retaliatory duties on United States HFCS imports (Haley and Suarez).

## **HFCS Import Duties: U.S. Dumping Allegations**

In early 1997, at about the same time that HFCS import duties were being increased in the broomcorn broom dispute, Mexico's National Sugar Industry Chamber accused U.S. corn wet millers of dumping HFCS in Mexico. Mexico's SECOFI responded by initiating an antidumping investigation, and then imposed temporary tariffs on U.S. HFCS. The temporary tariffs, ranging from \$66.57 to \$175.50 per metric ton on two grades of HFCS, apply to shipments from Cargill Inc., A. E. Staley Manufacturing Co., CPC International Inc., and Archer Daniels Midland Co. U.S. HFCS producers argued that only producers of HFCS in Mexico, not sugar producers, should have legal standing to initiate a dumping claim against imported HFCS. After further investigation, SECOFI made the duties permanent in early 1998 (ERS, 1999-b).

During 1998, SECOFI also investigated charges by the Mexican sugar industry that HFCS-90 was being imported to avoid antidumping duties imposed on HFCS-55. Upon completion of a seven-month investigation, SECOFI imposed compensatory duties. Imports from A. E. Staley Manufacturing Company are charged \$90.26 per metric ton, and imports from Archer Daniels Midland Company are charged \$55.37 per metric ton (ERS, 1999-b).

Also in 1998, the U.S. Corn Refiners' Association (CRA) called for a review of Mexico's antidumping actions under Chapter 19 of NAFTA. Concurrent to these actions under NAFTA, the United States Trade Representative (USTR) announced its plan to utilize the World Trade Organization (WTO) dispute settlement process to challenge Mexico's actions. The USTR made two formal requests for the formation of a WTO panel (the first was blocked by Mexico). A preliminary ruling is expected by early 2000. If the United States wins the trade dispute, Mexico's imports of HFCS will likely continue to grow, thus exacerbating the dispute regarding Mexican sugar exports to the U.S. market (ERS, 1999-b).

In 1998 the USTR also initiated an investigation in response to allegations by the CRA that the Government of Mexico had denied fair and equitable market opportunities to U.S. HFCS exporters. The CRA asserts that the Mexican government encouraged collusion between the Mexican sugar industry and the Mexican soft drink bottling industry. The two parties allegedly conspired

to limit purchases of HFCS by the soft drink bottling industry to 350,000 mt per year in exchange for a 20-percent discount on sugar for soft drinks. The USTR concluded its formal investigation without determining that the allegations were actionable. The USTR did indicate that its investigation raised enough questions regarding the actions of the Mexican government to warrant further examination and continued consultation with the government on issues related to HFCS trade (ERS, 1999-b).

### **Canada – United States Sugar Disputes**

While the focus of this chapter has been on disputes concerning Mexico and the United States, several sugar issues have also been in dispute between Canada and the United States. For example, in 1995 Canada initiated anti-dumping duties on U.S. sugar companies (ERS, 1997). These duties ranged from 69 to 85 percent. In turn, U.S. sugar exports to Canada fell from over 145,000 mt in 1994 (ERS, 1995) to only 5,505 mt in 1997 and 14,500 mt in 1998 (ERS, 1999-a).

Starting in 1995, Canadian sugar was allowed to enter the United States with a low-duty only as part of the U.S. TRQ for refined sugar. In 1997 refined sugar beyond the TRQ was charged the high-duty of 17.65 cents per pound. The U.S. refined sugar TRQ was not allocated, but was distributed on a first-come, first-served basis. As a result Canadian sugar exporters competed with other potential suppliers for a share of the total refined TRQ. In September 1997, the United States and Canada reached an agreement whereby Canada was allocated a quota of 10,300 MTRV for refined sugar originating in Canada. Under terms of the agreement, Canada is also permitted to compete for any quantity of the refined sugar TRQ that is not allocated among supplying countries and is not reserved for specialty sugar (ERS, 1997).

A compromise was also reached concerning trade in sugar-containing products. Canada alleged that certain products being shipped from the United States to Canada under the U.S. sugar-containing products re-export program were in violation of NAFTA. Canada also claimed that exports of these products from Canada to the United States had been adversely affected when, in 1995, the United States reclassified product into a TRQ for sugar-containing products. Beginning with the 1997/98 sugar-containing product TRQ, the United

States allocated 59,250 metric tons to Canada. The total annual sugar-containing product TRQ is 64,709 metric tons. Given these developments, Canada abandoned its NAFTA challenge to the U.S. sugar-containing product re-export program (ERS, 1997).

## **CONCLUSIONS AND IMPLICATIONS**

These disputes make liberalized sweetener trade between Mexico and the United States uncertain in the near future. However, falling world sugar prices also have the potential to increase the amount of Mexican sugar entering the United States through high-tier quotas. NAFTA established a declining tariff schedule for high-tier raw and refined sugar imported into the United States from Mexico. During the NAFTA adjustment period through 2008, the maximum world price at which it becomes profitable to ship Mexican sugar into the U.S. market increases annually. According to Haley and Suarez, given the declining tariff schedule for raw sugar (assuming marketing costs of 1.1 cents per pound for bringing Mexican sugar into the United States, and a United States sugar price of 22 cents per pound), a world price below 7.3 cents per pound in 1999 would introduce the probability of high-tier imports from Mexico.

The TRQ policy has kept the domestic price of sugar high relative to the domestic price of corn. This relationship contributed to the substantial growth in corn sweetener demand, and HFCS has almost entirely displaced sugar in soft drinks. With the expected influx of Mexican sugar into the United States under NAFTA, domestic demand for HFCS will likely fall as sugar is substituted back for corn sweeteners (Uri and Boyd, 1994). Tanyeri-Abur, et al. (1993), analyzing the effects of a complete removal of U.S. import quotas, expect the domestic price of HFCS to drop by five percent, and domestic production to fall by almost two-thirds. This is an extreme analogy, but similar results would be expected under NAFTA. Sugar will become more competitive in domestic industries that use corn sweeteners.

However, most expect a surge of HFCS exports from the United States into Mexico. Mexico will gradually eliminate its fifteen percent tariff on corn sweeteners under NAFTA. By the year 2000, it is expected that a market for approximately two million mt of sugar will exist in Mexico. In addition, HFCS

is a lower priced product than refined sugar, and Mexico is short on high quality domestic refined sugar (Rivero, 1993). Hence, it is expected that NAFTA will have a negative effect on U.S. HFCS demand, but a positive effect on Mexican HFCS demand. NAFTA's effect on domestic production and the price of corn sweeteners remains to be seen. It is noteworthy that HFCS composes a modest share of total corn production, and thus corn prices would likely be unaffected by the NAFTA (Tanyeri-Abur, 1993).

It becomes clear that several significant disputes exist between Mexico and the United States regarding sugar and HFCS trade during the fifteen year NAFTA transition period. Certainly, both sides are acting in the interest of their producers. Will similar disputes arise following the transition period, given that free trade in sugar and agricultural based sweeteners is scheduled to occur at the end of year fifteen of the Agreement? A purpose of the transition period was to gradually ease the Mexican and U.S. sugar industries into a state of free trade in sugar. Although this objective is being achieved to some extent, the number of disputes and protests associated with the transition indicate that it is certainly not painless. Observers should not be surprised if these and other disputes related to sugar and agricultural-based sweeteners continue well past the transition period.

## REFERENCES

- American Sugarbeet Grower's Association. 1993. *How the NAFTA Applies to Sugar*. Document on Internet: [http://membersaol.com/\\_ht\\_a/asga/nafta.htm](http://membersaol.com/_ht_a/asga/nafta.htm). November 8.
- Economic Research Service. 1995. *Foreign Agricultural Trade of the United States, Calendar Year 1994 Supplement*, United States Department of Agriculture, ERS. Washington, D.C. June.
- Economic Research Service. 1997. *Sugar and Sweetener Situation and Outlook Yearbook*, SSS-222, United States Department of Agriculture, ERS. Washington, D.C. December.
- Economic Research Service. 1999(a). *Foreign Agricultural Trade of the United States, Calendar Year 1998 Supplement*, United States Department of Agriculture, ERS. Washington, D.C. May.



- Economic Research Service. 1999(b). *Sugar and Sweetener Situation and Outlook Yearbook*, SSS-225, United States Department of Agriculture, ERS. Washington, D.C. May.
- Foreign Agricultural Service Online. 1998. *NAFTA Agriculture Fact Sheet: Sugar*, United States Department of Agriculture, FAS. Document on Internet: <http://ffas.usda.gov/itp/policy/nafta/sugar.html>.
- Haley, S. 2000. Mexican Estimates of High Fructose Corn Syrup Consumption. Personal Correspondence with Steve Haley, Agricultural Economist, Specialty Crops Branch, Market and Trade Economics Division, Economic Research Service, USDA. January 18.
- Haley, S., and N. Suarez. 1999. "U.S.-Mexico Sweetener Trade Mired in Dispute," *Agricultural Outlook*, United States Department of Agriculture, Economic Research Service. Washington, D.C., September.
- Rivero, N. 1993. "Mexico's Sugar Industry: At the NAFTA Crossroad." *Sugar y Azucar*. December. pp.23-28.
- Rosson, C.P. III, G.A. Benson, K.S. Moulton, L.D. Sanders. 1996. *The North American Free Trade Agreement and United States Agriculture*. Southern Agriculture in a World Economy, Leaflet No. 9. Texas Agricultural Extension Service. College Station, Texas.
- Salsgiver, J. 1997. "HFCS Trade Dispute with Mexico". *Sugar and Sweetener Situation and Outlook*, SSS-221. Economic Research Service, USDA. Washington, DC. September.
- Tanyeri-Abur, A., B.A. McCarl, C.C. Chang, R.D. Knutson, E.W.F. Peterson, and K.H. Coble. 1993. "An Analysis of Possible U.S. Sugar Import Policy Revisions." *Review of Agricultural Economics* 15,2. pp.255-268.
- Uri, N.D. and R. Boyd. 1994. "Assessing the Impact of the Sugar Programme on the U.S. Economy." *Food Policy*, 19, 5. pp. 443-457.