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Summary

Beet sugar production for fiscal year (FY) 2000 is estimated at 4.950 million short tons, raw value (STRV). The National Agricultural Statistics Service (NASS) estimated the sugarbeet crop at 33.319 million tons. Area harvested is estimated at 1.527 million acres, and yield is estimated at 21.8 tons per acre. Both sugarbeet acreage harvested and production represent records. Although winter weather conditions were less than ideal for storage, the beets entered storage in good condition and remained in good shape through the winter months.

Cane sugar production for FY 2000 is estimated at a record 4.130 million STRV. NASS estimated the U.S. sugarcane for sugar crop at 33.736 million tons. Area harvested is estimated at 940,400 acres, and yield is estimated at 35.9 tons per acre. Both sugarcane acreage harvested and production, if realized, would represent records. Production was particularly strong in Louisiana, where increased acreage harvested and yields combined to produce a record crop.

The expected level of sugar tariff-rate quota (TRQ) imports for FY 2000 is now estimated at 1.204 million STRV. As of May 1, 2000, total raw TRQ sugar amounting to 430,316 STRV had entered the U.S. customs territory, or about 34 percent of the amount projected to enter for the fiscal year. As of May 1, 2000, 34,190 STRV or about 89 percent of the remaining refined sugar TRQ, apart from the North American Free Trade Agreement (NAFTA) allocation to Mexico of 27,558 STRV, had entered.

Other imports for FY 2000 are estimated at 523,000 STRV. Most of these imports enter under special programs: the Refined Sugar Re-export Program (250,000 STRV), the Sugar-Containing Products Program (125,000 STRV), and the Polyhydric Alcohol Program (15,000 STRV). Estimated sugar derived from sugar syrups entering under HTS 17029040 are at 125,000 STRV. Monthly sugar syrup imports have been steady through February and are expected to maintain the established pace. High-tier tariff imports are estimated at 8,000 STRV.

Total deliveries for FY 2000 are estimated at 10.25 million STRV. Deliveries through the end of March amounted to 4.957 million STRV, about 3.7 percent higher than last year through March. Deliveries by beet processors have been particularly strong, 2.2303 million STRV through March, or about 7.2 percent higher than the same period last year. Deliveries by cane refiners, on the other hand, are near the same level as last year, 2.710 million STRV.

NASS forecasts sugarbeet area planted for FY 2001 at 1.578 million acres, about 1 percent higher than FY 2000. Beet sugar production for FY 2001 is projected at 4.700 million STRV, with an aggregate U.S. sugar yield expected to be about 3.10 tons per acre. Projection updates throughout the year will continue to take into account the possible plant closings in California beet producing areas.

Cane sugar production for FY 2001 is projected at 4.323 million STRV. This sum represents the aggregation of projected production in Florida (2.090 million STRV), Louisiana (1.720 million STRV), Texas (160,000 STRV), Hawaii (330,000 STRV), and Puerto Rico (22,500 STRV).

The raw and refined sugar TRQ for FY 2001 has not been established. Other imports for FY 2001 are projected to total 448,000 STRV, including 175,000 STRV under the Refined Sugar Re-export Program, 125,000 under the Sugar-Containing Products Program, and 15,000 under the Polyhydric Program. Sugar syrups under HTS 17029040, and high-tier tariff sugar imports are expected to be at the same levels as in FY 2000. Deliveries for FY 2001 are projected at 10.385 million STRV. This level represents growth over the previous year of 1.3 percent, which is less than the growth of 1.8 percent for FY 2000. Deliveries to industrial users are projected up 2.0 percent, while deliveries to non-industrial users are up 0.3 percent.

The USDA currently estimates Mexican sugar production for 1999/2000 at 5.070 million metric tons, raw value (MTRV). Area harvested for sugarcane is estimated at 627,000 hectares, and sugarcane production is estimated at 43.365 million metric tons. The implied sugar recovery rate from the sugarcane is 11.7 percent, which, if realized, would be a record. Sugar consumption for 1999/2000 is estimated at 4.482 million MTRV and exports are estimated at 630,000 MTRV.

The USDA currently forecasts Mexican sugar production for 2000/01 at 5.090 million MTRV. Area harvested for sugarcane is projected at 630,000 hectares, and sugarcane production is projected at 44 million metric tons. Sugar consumption for 2000/01 is projected at 4.482 million MTRV, the same as for 1999/2000, and exports are projected at 700,000 MTRV. On October 1, 2000, Mexico's duty-free access to the U.S. market, as set out in the side-letter agreement to the original NAFTA, increases to the smaller of 250,000 MTRV or Mexico's "net surplus production," which accounts for Mexican consumption of high fructose corn syrup.

U.S. Sugar

On May 12, 2000, the U.S. Department of Agriculture (USDA) released its latest supply and use estimates for fiscal year (FY) 2000 and projections for FY 2001.

Current Year, FY 2000

Production

Beet sugar production for FY 2000 is estimated at 4.950 million short tons, raw value (STRV). The National Agricultural Statistics Service (NASS) estimates the sugarbeet crop at 33.319 million tons. Area harvested is estimated at 1.527 million acres, and yield is estimated at 21.8 tons per acre. Both sugarbeet acreage harvested and production represent records. Although yield is estimated at less than last year's record, generally good growing and harvesting conditions permitted a clean crop, with beets having higher sugar content than last year. Although winter weather conditions were less than ideal for storage, the beets entered storage in good condition and remained in good shape through the winter months.

Beets sliced through March equaled 24,880,867 tons, a record that exceeded last year's to-date total by over 550,000 tons. The September 1999 through March 2000 cumulative extraction of sugar from sliced beets is estimated at 279 pounds per ton. This rate of sugar extraction is about 26 pounds per ton greater than last year's rate through March and about 9 pounds per ton greater than the average through March for FY 1995-1998. It is projected that the September - August extraction rate will be about 290 pounds per ton. Adding estimated sugar production from the desugaring of molasses, the total is estimated at 4.950 million tons, adjusted to match the fiscal year.

Cane sugar production for FY 2000 is estimated at a record 4.130 million STRV. NASS estimates the U.S. sugarcane for sugar crop at 33.736 million tons. Area harvested is estimated at 940,400 acres, and yield is estimated at 35.9 tons per acre. Both sugarcane acreage harvested and production, if realized, would represent records.

Cane sugar in Florida is estimated at 1.980 million STRV. NASS estimates sugarcane for sugar at 15.540 million tons and acreage harvested at 444,000 acres. Although area harvested is estimated at 18,000 acres more than last year, yield is estimated significantly lower at 35.0 tons per acre, compared with 40.1 tons per acre last year. Sugar yield is projected at 4.46 tons per acre, which is lower than last year (5.00 tons per acre) and the previous year (4.57 tons per acre). Sugar recovery (raw sugar production as a percentage of sugarcane for sugar), however, is calculated at 12.74 per-

cent, a record. The harvest was aided by dry, nearly optimal weather conditions through early April.

Cane sugar in Louisiana is estimated at a record 1.680 million STRV. NASS estimates sugarcane for sugar at a record 14.355 million tons and area harvested for sugar at a record 435,000 acres. Because of the large sugarcane crop, harvesting began in September, with raw sugar production estimated at 69,300 STRV, which counts towards last year's production total because the fiscal year does not begin until October. Fall harvest conditions were excellent, and the harvest season ended in early January with no exposure to freezing conditions. With another large sugarcane crop projected for next fiscal year (see below), production in September 2000 is again expected to be high.

Cane sugar in Texas is estimated at 104,680 STRV. NASS estimates sugarcane for sugar at 976,000 tons and acreage harvested at 28,700 acres. The harvest ended in late February. Harvest conditions were considered good because of dry weather and the absence of freezes. NASS estimates a cane yield of 34.0 tons per acre, the highest since FY 1996. Sugar yield is estimated at 3.65 tons per acre, a record; and the recovery rate is estimated at 10.73 percent (or 215 pounds per ton), the highest since 1979.

Cane sugar in Hawaii is currently estimated at 360,000 STRV. Because NASS does not estimate Hawaiian sugarcane acreage until June, the USDA estimate for FY 2000 sugar production was based on a close examination of factors that could change this year's production level from the previous year's level of 384,000 STRV. The most important factor was the closing of the Pioneer Mill on Maui. It was expected that the closure would reduce sugar production between 25,000 and 30,000 STRV. However, technical improvements occurring in other mills, especially by the Hawaiian Commercial & Sugar Company on Maui, were expected to contribute an offset to the decline in sugar production due to the Pioneer closing.

While USDA is still estimating 360,000 STRV, the Hawaiian situation is being closely monitored. In November 1999, AMFAC Sugar on Kauai announced that it was closing the Kekaha Sugar Mill on the western side of the island. At the same time, the Company announced that sugarcane harvested from the western operations would be trucked to the eastern operations of its Lihue Plantation. How much of a strain this arrangement will place on production is unclear, but it may affect future production estimates.

Cane sugar in Puerto Rico is currently projected at 5,000 STRV. Initial reports indicate that the harvest season ended

in early May. Only one plant is operating this year because of hurricane damage to the other.

Imports

As explained in the January 2000 edition of the Sugar and Sweetener Situation and Outlook, the USDA on October 26, 1999, extended a waiver to C&H Sugar Company, Inc. that allowed it to import an additional 50,000 metric tons, raw value (MTRV) over and above its original re-export license of 50,000 MTRV. The waiver also extended the period over which an equivalent quantity of refined sugar had to be re-exported from the standard 90 days to 5 years. On December 29, 1999, the USDA specified that the re-export period granted in the original waiver be reduced to 180 days. To facilitate the export of the sugar, the USDA allowed the sugar to be exported as either raw or refined sugar or some combination of the two.

On February 29, 2000, the USDA announced a 30-day extension of the re-export period up to 210 days. The extension is meant to facilitate the removal, during the fiscal year, of the 100,000 MTRV imported as a result of the October 26, 1999, waiver. Importantly, the USDA also announced that it would accept from the company Certificates for Quota Eligibility (CQEs) issued by any certified authority under the FY 2000 raw sugar tariff-rate quota (TRQ). The CQEs are to be accepted in lieu of exports by the company, provided they are not associated with the importation of raw sugar under the TRQ.

On November 2, 1999, the raw sugar TRQ was set at 1.501 million STRV, but only 1.251 million STRV were made available to the office of the U.S. Trade Representative (USTR) for allocation, with the remainder held in reserve, to be made available to the USTR for allocation at the discretion of the USDA. As of May 1, 2000, total raw TRQ sugar amounting to 430,316 STRV had entered, or about 34 percent of the amount projected to enter for the fiscal year.

The refined sugar TRQ, announced on October 1, 1999, was set at 66,139 STRV. This amount included 27,558 STRV allocated to Mexico under the side-letter agreement to the North American Free Trade Agreement (NAFTA). This sugar can be shipped as either raw or refined. The specialty sugar allocation, which is a subset of the refined sugar TRQ, was set at 16,155 STRV. As of May 1, 2000, the specialty sugar TRQ has been completely filled. Apart from the NAFTA allocation, 18,035 STRV or about 80 percent of the remaining refined sugar TRQ had entered as of May 1, 2000.

The expected level of sugar TRQ imports for FY 2000 is now projected at 1.204 million STRV. This level reflects two adjustments. First, the raw sugar TRQ shortfall is expected to be about 65,000 STRV. Second, CQEs from Jamaica, and St. Kitts and Nevis, totaling 20,770 STRV, were accepted by

the USDA in lieu of imports under the raw sugar TRQ as explained above.

Other imports for FY 2000 are estimated at 523,000 STRV. Most of these imports enter under special programs: the Refined Sugar Re-export Program (250,000 STRV), the Sugar-Containing Products Program (125,000 STRV), and the Polyhydric Alcohol Program (15,000 STRV). Sugar derived from sugar syrups entering under HTS 17029040 are estimated at 125,000 STRV. Monthly sugar syrup imports have been steady through February and are expected to maintain the established pace. High-tier tariff imports are estimated at 8,000 STRV. Most of the high-tier imports have entered for retail sale in areas close to the Mexican border. Unless U.S. sugar prices should rise unexpectedly, it is not currently forecast that additional high-tier tariffs from Mexico will enter.

Deliveries, Exports, and Ending Stocks

Total deliveries for FY 2000 are estimated at 10.25 million STRV. Deliveries through the end of March have amounted to 4.957 million STRV, about 3.7 percent higher than last year through March. Deliveries by beet processors have been particularly strong, 2.2303 million STRV through March, or about 7.2 percent higher than the same period last year. Deliveries by cane refiners, on the other hand, are only at about the same level of last year, 2.710 million STRV.

Demand through March by industrial users of refined sugar has been very strong, about 4.3 percent higher than the same period last year. In particular, deliveries to ice cream and dairy product manufacturers have been running over 20 percent higher: 241,770 tons, actual weight for FY 2000, compared with only 200,020 tons, actual weight for FY 1999, through March. Deliveries to confectionery manufacturers have been running over 6 percent higher than the previous year, and deliveries to bakers and cereal manufacturers have been about 3.9 percent higher. Deliveries to non-industrial users trail in comparison, but are still 1.9 percent higher than last year through March.

U.S. sugar exports are comprised of exports under the Refined Sugar Re-export Program and are currently estimated at 229,000 STRV. While imports under the Program are estimated at 250,000 STRV, exports have been reduced by the amount of the CQEs surrendered in lieu of exports, as set out in the USDA press release dated February 29, 2000 (#PR 0102-00), and as explained in the "Imports" section above.

Total sugar use for FY 2000 is the sum of total deliveries and exports, and is estimated at 10.479 million STRV. Total supply (beginning stocks, production, and imports) is estimated at 12.447 million STRV. The difference of total supply and total use provides an estimate of ending stocks at 1.967 mil-

lion STRV, implying an ending stocks-to-use ratio of 18.8 percent. This ratio is the highest estimated since FY 1986.

Prices and Policy Developments

On May 11, 2000, Agriculture Secretary Glickman announced that USDA will seek to buy U.S. sugar to reduce the cost of expected sugar program loan forfeitures, support sugar growers, and help stabilize low market sugar prices (press release #0159.00). According to the press release, at least 75 percent of the initial approximately 150,000 tons purchased will be refined sugar and may be followed by additional purchases depending on price and market conditions. USDA expects to save as much as \$6 million in administrative costs that the government might otherwise incur from expected loan forfeitures later this summer. The Commodity Credit Corporation (CCC) will purchase the sugar using its authority under the cost reduction options of the Food Security Act of 1985. For now the CCC plans to store the purchased sugar and will not sell it back into the depressed U.S. sugar market.

The Secretary challenged the sugar industry by saying that the USDA expects the sugar industry to rapidly develop conservation and production options that can form the basis of a sustainable sugar policy. He emphasized that relying on continued government purchases over the long term is neither feasible nor realistic. He urged sugar growers and processors to voluntarily increase their participation in USDA's Conservation Reserve Program (CRP). The Secretary said that enrollment in the CRP would help the industry and also improve environmental quality for all Americans.

Good weather, productivity improvements, expanding plantings, and increased imports of sugar from foreign countries outside the TRQ are all factors that underpinned the oversupply of sugar. U.S. raw sugar prices (nearby futures, C.I.F., duty-paid, Contract No. 14, New York) averaged 19.43 cents per pound during April, up 97 points from the March average, but down 314 points from a year earlier. July No. 14 futures prices averaged 18.72 cents per pound on May 15.

World raw sugar prices, which have been in steady decline since mid-1998, averaged 6.48 cents per pound, 1.04 cents a pound above a year ago. As of May 15, the world raw sugar price averaged 6.89 cents a pound, with a maximum of 7.36 cents a pound and a minimum of 6.65 cents. Although world prices have shown strength recently, they may dip during the summer and rise in the fall due to production cutbacks in the European Union, Brazil, and Thailand.

Forecast for FY 2001

Production

NASS forecasts sugarbeet area planted for FY 2001 at 1.578 million acres, about 1 percent higher than FY 2000. Since

the March 2000 forecast release date, there has been some question whether this forecast level can be realized. The situation is made uncertain by the possible closing of California beet processing plants in Woodland and Tracy. It now seems certain that acreage intended for harvest in the spring of 2001 will not be planted. Taking this information into account and applying State-level, 5-year averages of the acreage harvested to planted ratios, the Interagency Sugar Estimates Committee (ISEC) of USDA projects acreage harvested at about 10,000 acres less than last year's total.

Beet sugar production for FY 2001 is projected at 4.700 million STRV. This projection is based on projected acreage harvested and on analysis of sugar yield per acre relationships. The analysis typically takes into account trends and the effect of weather conditions, as well as sugar produced through the process of desugaring molasses. The analysis is updated regularly as new information becomes available. Early in the season, the analysis depends on the assumption of normal weather patterns and other current information. On this basis, the ISEC expects the aggregate U.S. sugar yield to be about 3.10 tons per acre. This rate is not as high as that estimated for FY 2000 (3.24 tons per acre), an exceptional year for beet sugar production. Projection updates throughout the year will continue to take into account the possible plant closings in California.

Cane sugar production for FY 2001 is projected at 4.323 million STRV. This sum represents the aggregation of projected production in Florida (2.090 million STRV), Louisiana (1.720 million STRV), Texas (160,000 STRV), Hawaii (330,000 STRV), and Puerto Rico (22,500 STRV).

Florida cane sugar production for FY 2001 is projected at 2.090 million STRV. Sugarcane acreage harvested for sugar is expected to be at about the same level as FY 2000. Normal weather patterns would imply sugarcane yields falling midway between this year's level (35.0 tons per acre) and that of the previous year (40.1 tons per acre). Analysis of Florida sugar yields indicates an expected value between 4.70 and 4.72 tons per acre. Like the sugarcane yield projection, this amount falls about halfway between this year's yield (4.46 tons per acre) and the previous year's level (5.00 tons per acre).

Louisiana cane sugar production for FY 2001 is projected at 1.720 million STRV. Sugarcane acreage harvested for sugar and seed is expected to expand by about 2.2 percent, with most of the increase going to seed production. For a second year in a row, Louisiana sugarcane acreage will exceed that of Florida. It is expected that the portion of the crop from the high-yielding variety LCP85-384 should continue to increase and result in continued sugarcane yield gains. With normal weather, sugar yields should be in the neighborhood of 3.92 to 3.93 tons per acre. These levels, if realized, would represent records.

Texas cane sugar production for FY 2001 is projected at 160,000 STRV. Although preliminary, it is expected that Texas sugarcane area for sugar and seed will be about 47,000 acres, which, if realized, would represent growth of about 15,800 acres over FY 2000. The acreage growth is consistent with the high percentage (8.01 percent) of the FY 2000 sugarcane acreage reserved for seed. The Texas projection, like the others, assumes normal weather. There seems to be some concern, however, about reservoir water levels for irrigation if current dry conditions persist through the year.

Hawaii cane sugar production for FY 2001 is projected at 330,000 STRV. As explained above, there is some concern about production on Kauai with the closing of the Kekaha Sugar Mill and the planned transport of sugarcane across the island to the Lihue Plantation. Although sugar produced to date for FY 2000 is still on track to meet the FY 2000 projection level of 360,000 STRV, this may be an artifact of strong calendar 1999 production from the last 3 months of the year counting toward the current fiscal year's total level.

Puerto Rico sugar production for FY 2001 is projected at 22,500 STRV. It is expected that the two sugar mills on the island will be back in production next year. Sugarcane area is expected to expand to about 11,900 acres, with plans for as much as 300,000 tons of sugarcane.

Non-TRQ Imports and Exports

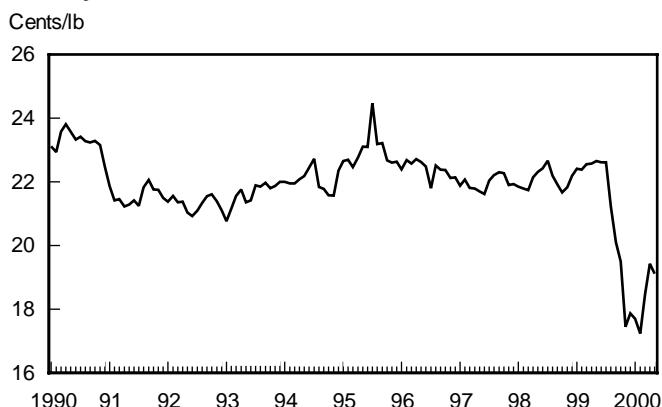
The raw and refined sugar TRQ for FY 2001 has not been established. Other imports for FY 2001 are projected to total 448,000 STRV, including 175,000 STRV under the Refined Sugar Re-export Program, 125,000 under the Sugar-Containing Products Program, and 15,000 under the Polyhydric Program. Sugar syrups under HTS 17029040, and high-tier tariff sugar imports are expected to be at the same levels as in FY 2000.

Deliveries

Deliveries for FY 2001 are projected at 10.385 million STRV. This level represents growth over the previous year of 1.3 percent, which is less than the growth of 1.8 percent estimated between FY 1999 and FY 2000. Growth in deliveries to industrial users is projected at 2.0 percent, while growth in deliveries to non-industrial users is projected at only 0.3 percent. At this point, it is difficult to factor in the effect of possible continued low prices for wholesale sugar. Whether low prices will be passed through to retail or affect industrial demand for sugar will be closely watched.

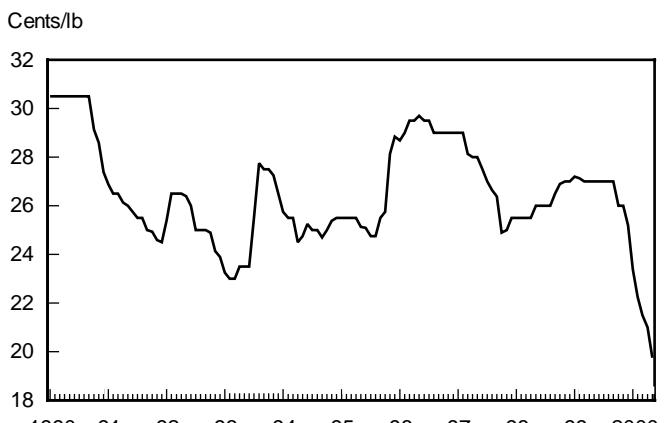
U.S. sugar market at a glance

**U.S. raw sugar prices No. 14 contract,
nearby futures**



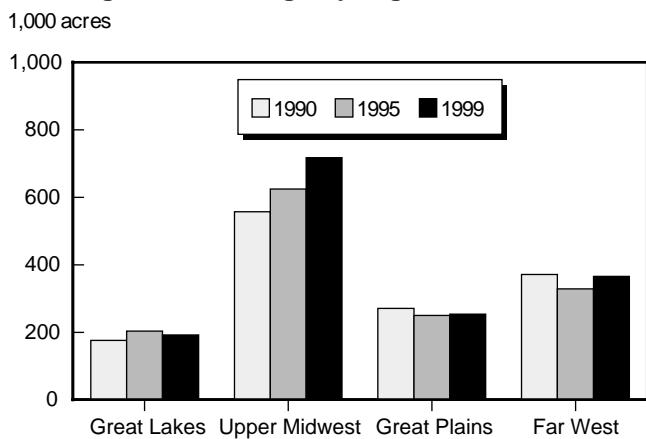
Source: Coffee, Sugar & Cocoa Exchange, Inc.

U.S. wholesale refined beet sugar prices



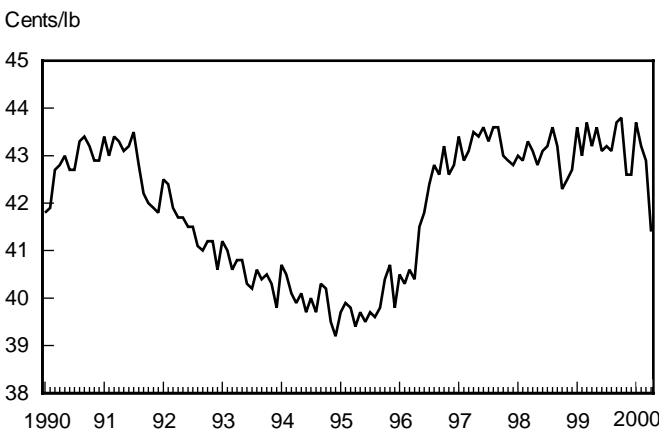
Source: Milling and Baking News.

U.S. sugarbeet acreage by region



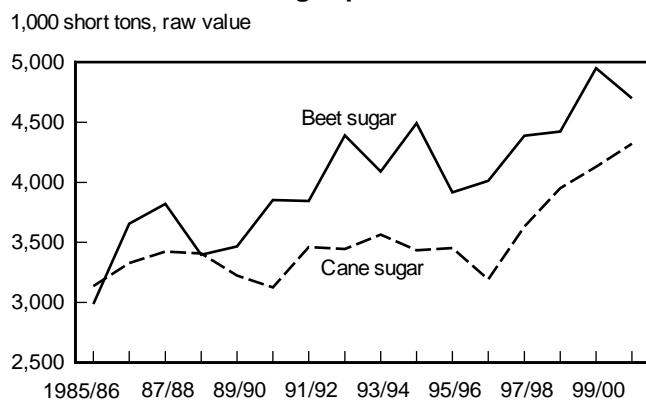
Source: Crop Production, NASS, USDA.

U.S. retail refined sugar prices



Source: Bureau of Labor Statistics.

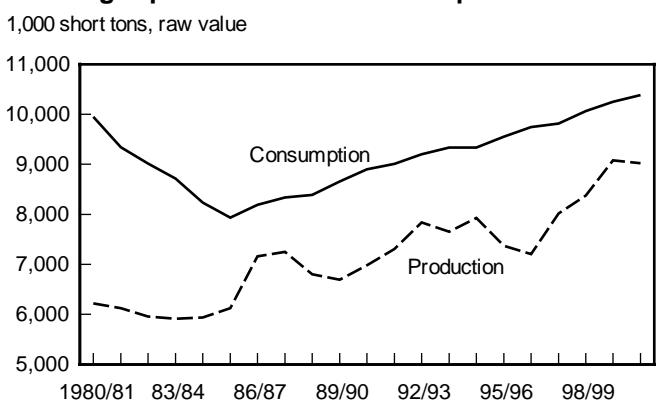
U.S. beet and cane sugar production



1999/00 estimated and 2000/01 forecast.

Source: Farm Service Agency, USDA.

U.S. sugar production and consumption



1999/00 estimated and 2000/01 forecast.

Source: Farm Service Agency, USDA.

Mexican Sugar

The U.S. Department of Agriculture (USDA) currently estimates Mexican sugar production for 1999/2000 at 5.070 million metric tons, raw value (MTRV). Area harvested for sugarcane is estimated at 627,000 hectares, and sugarcane production is estimated at 43.365 million metric tons, for a yield of 69.2 tons per hectare. The implied sugar recovery rate from the sugarcane is 11.7 percent, which, if realized, would be a record.

The harvest has been aided by good weather and dry conditions. According to Mexican sources, about 37.57 million tons of sugarcane have been harvested through May 7, 2000, and about 4.2 million MTRV, tel quel, of sugar has been produced. Sugar produced to date has only been surpassed in the 1997/98 season. Figure 1 shows the cumulative sugar recovery rates (tel quel basis) for the last few years. This year's rate has been consistently above comparable period rates, reflecting good weather and improved milling performance.

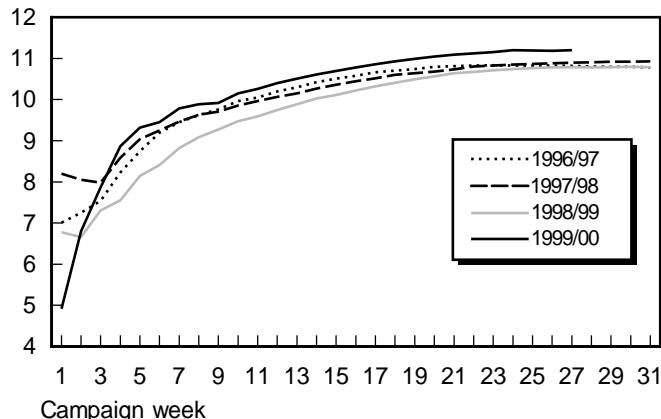
Sugar consumption for 1999/2000 is estimated at 4.482 million MTRV. Despite improved consumer purchasing power, consumption growth has been slow because of the increased usage of alternative sweeteners. Industry sources indicate, however, that high compensatory duties on high fructose corn syrup (HFCS) imported from the United States has aided the demand for sugar in the current marketing year.

Sugar exports for 1999/2000 are estimated at 630,000 MTRV. Mexico's access to the U.S. market for FY 2000 is limited to 25,000 MTRV under the North American Free Trade Agreement (NAFTA), plus an additional 2,954 MTRV covered under the FY 2000 refined sugar tariff-rate quota.

Figure 1

Intra-seasonal, cumulative sugar recovery rates in Mexico

Percentage (sugar, tel que/sugarcane)



Source: FORMA.

Ending stocks are estimated at 623,000 MTRV. The Mexican Government currently provides final assistance to cover storage costs for up to 600,000 MTRV.

The USDA currently forecasts Mexican sugar production for 2000/01 at 5.090 million MTRV. Area harvested for sugarcane is projected at 630,000 hectares, and sugarcane production is projected at 44.000 million metric tons. These projections indicate insignificant growth.

The Mexican sugar industry is harmed by current low world sugar prices and by longstanding financial problems. The Mexican Sugar Financing Institution (or FINA) initiated plans in 1999 to restructure about US\$2.0 billion of the sugar mills' debt. FINA is reportedly no longer a provider of credit to the industry but rather is functioning solely as a debt collector. The largest Mexican sugar group, the Consorcio Industrial Escorpion, whose debt is estimated at \$800 million, has presumably been given to October 2000 by FINA to locate buyers for its mills. (Recent reports, however, indicate that recently-secured short term financing may have forestalled mill sales for the time being.) On May 4, 2000, the second largest Mexican sugar producer, the Grupo Azucarero Mexicano (GAM), asked for protection under existing bankruptcy laws, which are due to become much more stringent later in the month. GAM is reportedly indebted in the neighborhood of US\$126 million.

Sugar consumption for 2000/01 is projected at 4.482 million MTRV, the same as for 1999/2000. Refined sugar purchases by the Mexican soft drink industry are expected to be between 1.0 and 1.2 million metric tons. Lower-priced sugar this year has reportedly displaced sales of the HFCS in the soft drink industry.

Mexican sugar exports are projected at 700,000 MTRV, and ending stocks are currently projected at 531,000 MTRV. The Mexican Government's financial assistance for storage up to 600,000 MTRV will not continue in 2000/01.

According to the NAFTA side-letter agreement, Mexico's duty-free access to the U.S. market will increase to the smaller of 250,000 MTRV or Mexico's "net surplus production". The net surplus production formula is the difference between Mexico's projected production in metric tons, raw value, less the sum of projected consumption of sugar in metric tons, raw value, and projected consumption of HFCS in metric tons. Economic Research Service (ERS) analysis projects HFCS consumption in 1999/2000 in the neighborhood of 475,000-500,000 metric tons. The NAFTA specifies that U.S. and Mexican officials consult by July 1 of each of the first 14 years beginning in 1994 to determine by what quantity either nation is projected to be a net surplus producer in the next marketing year.

Returns from Mexican Sugar Processing: Measuring the Contribution of Capacity Usage, Technological Adaption, and Output Prices

Stephen Haley¹

Abstract: Mexico is soon expected to be a larger supplier of sugar to the U.S. market. The magnitude of Mexican sugar sourcing depends on the profitability of the Mexican sugar milling sector. This article analyzes trends in gross returns from sugar sales and production costs for the Mexican milling sector, and analyzes the contribution of important determinants to earnings per hectare. Technological adaptions have been fundamental in making the Mexican processing sugar sector profitable since the early 1990's. Although high domestic prices that are in part traceable to supporting Mexican Government policies have played their role, the industry has done much to advance its production potential. The data show that processing mills are diverse but almost all show consistently positive rates of return. While some mills are more vulnerable than others with respect to price and supply shocks, most have potential for continuing gains in production. Analysis shows that mills that produce more relative to their rated capacities and have longer campaign lengths receive higher per-unit returns. Results also indicate that mills with lower earnings have relatively more to lose by not maintaining the pace of adapting technological improvements. An associated implication is that the marginal return to technological adaptation is higher for lower-earning mills.

Keywords: Costs of production, Mexico, sugar, sugarcane.

Returns from Mexican Sugar Processing

The U.S. sugar sector is increasingly dependent on developments within the Mexican sugar industry. With the North American Free Trade Agreement (NAFTA) in place, Mexico is soon expected to be a larger supplier of sugar to the U.S. market. Under the terms of the side-letter agreement to the NAFTA, Mexico's duty-free access to the U.S. sugar market will increase up to a maximum of 250,000 metric tons, raw value (MTRV) as of October 1, 2000. By fiscal year (FY) 2008, there will be no quantitative limit on Mexican duty-free imports. The NAFTA high-tier tariff schedule, currently at 12.09 cents a pound for raw sugar and 12.81 cents a pound for refined sugar, decreases at a rate of 1.51 and 1.60 cents a pound for raw and refined sugar for each fiscal year through 2007. The U.S. Department of Agriculture's (USDA) sugar baseline shows high-tier sugar imports from Mexico at 121,000 short tons, raw value (STRV) in FY 2003 and above 600,000 STRV for FY 2004 through 2007 (USDA, 2000). By FY 2004, 8.1 percent of U.S. sugar consumption is projected as coming from Mexico. This rises to

above 9 percent in FY 2005 and grows steadily thereafter.² Downward price adjustments emanating from the expansion of U.S. sugar supply from duty-free Mexican imports cannot be directly offset by the USDA.

Under the terms of the Uruguay Round Agreement (URA), the United States agreed to bind sugar imports under the sugar tariff-rate quota (TRQ) at a minimum access level of 1.256 million STRV. With record increases in U.S. sugar production, the USDA does not project sugar TRQ imports above minimum access levels through 2010. Also, the declining NAFTA high-tier tariff implies an eventual upward limit on U.S. sugar prices. The incentive for Mexico to change its level of high-tier sugar exports is signaled by a pricing threshold. This threshold is the sum of the world price for sugar, marketing costs, applicable premiums and discounts, and the NAFTA high-tier tariff. As the tariff is reduced each year, the threshold is reduced and the likelihood of increased imports is enhanced. As long as Mexico has enough sugar to ship at the threshold level, this level

¹ Agricultural Economist, Specialty Crops Branch, Market and Trade Economics Division, ERS.

² For a full exposition, see special article entitled "Conceptual Overview of the U.S. Sugar Baseline: Incorporating the Effects of the North American Free Trade Agreement," in the *Sugar and Sweetener Situation and Outlook*. SSS-227, January 2000, pp. 11-19.

sets the price of sugar in the U.S. market. Without specific policy interventions, a U.S. price higher than the threshold would result only if Mexican export potential were limited. In this case, pricing would be higher than the implied threshold level but less than the level implied if there were no high-tier tariff imports from Mexico.

Mexican export potential is influenced by a variety of factors. On the demand side, the chief influence is how much high fructose corn syrup (HFCS) will substitute for sugar in beverage and food processing industries. According to the original NAFTA, the tariff on imports of U.S.-sourced HFCS was to reach zero in 2004. Although the Mexican Government currently levies an anti-dumping duty on HFCS imports from the United States, the incentive to eventually switch from sugar to HFCS is huge and could therefore make available for export over an additional million tons of sugar beyond that already projected. On the supply side, an important question is how much Mexican sugar production can be expected to expand in the future. Garcia and others are pessimistic regarding Mexican production potential (Garcia and others, 1999). They cite the preponderance of unsustainable high-cost sugar mills and the heavy indebtedness (about \$2.5 billion) of the largest of the sugar groups that own many of the mills. Although the USDA does not do an official baseline for Mexican sugar, it implicitly assumes that production will continue to expand through 2010 and that Mexico will have over 1.0 million STRV to export.

The purpose of this article is to examine more closely factors underlying Mexico's capacity to produce sugar. In particular, it analyzes trends in gross returns from sugar sales and production costs for the Mexican milling sector. These data are made available by the *Fideicomiso Para El Mercado Azucar* (FORMA). Besides sales and cost data, FORMA makes available data on area harvested in hectares (ha), sugar and sugarcane production, sucrose recovery rates, campaign length, petroleum use in milling, and milling capacity levels. These data are reported on factory, State, and national levels for the 1988-98 marketing years. They provide a rich data set that is amenable to analysis. In order to account for inflationary trends in the data reported in pesos, these data have been converted into U.S. dollars at the prevailing exchange rates.

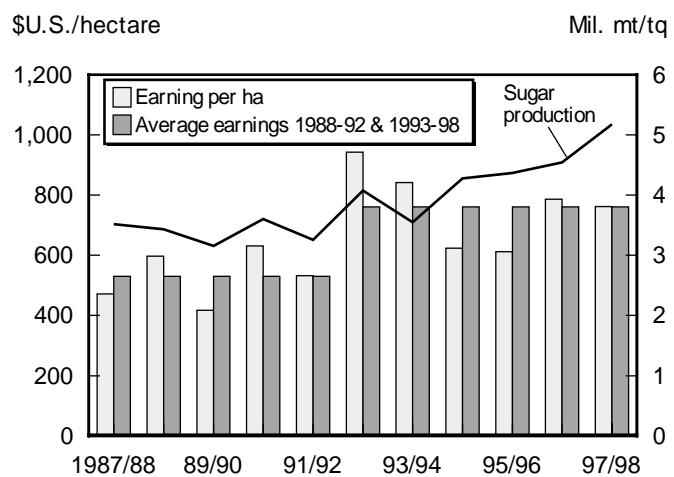
The hypothesis of this paper is that technological adaptions have been fundamental in making the Mexican processing sugar sector profitable since the early 1990's. Although high domestic prices that are in part traceable to supporting Mexican Government policies have played their role, the industry has done much to advance its production potential. The data show that processing mills are diverse, but almost all show consistently positive rates of return. While some mills are more vulnerable than others with respect to price and supply shocks, most have potential for continuing gains in production.

The analysis is carried out in three ways. The first way examines earnings, gross returns, and costs across firms for the period 1993-98. The goal is to determine which variables within the available data set help explain earning differences between factories. Although this analysis reveals certain illuminating relationships based on capacity usage measures, its basic conclusion is that differing endowment factors differentiate firms according to earnings potentials. This conclusion suggests a second way of analyzing the data based on the examination of subsets of the data across time. This analysis emphasizes the effects of exogenous price movements and adaption of technology to improve earnings for groupings of mills along endowment, ownership, and location characteristics. The third analytical method modifies the second by using its results to project earnings out to 2011. This sensitivity analysis draws out the implications of estimation results for future developments within the Mexican sugar sector, about which there is much interest and speculation.

Cross-Factory Analysis

Figure A-1 shows net earnings per hectare (revenues less costs divided by total hectares harvested) and sugar production at the national level for the period 1988 through 1998. The data reveal contrasts in the two periods. The first covers the years 1988-92 where the average earnings per hectare amounted to \$529.85. The average for 1993-98 is almost 44 percent higher at \$761.16. The first period corresponds to that period when the mills were undergoing privatization after having been run by the Mexican Government. Most of the mills had been suffering from a lack of investment. Many of the mills had been sold at inflated values that would later contribute to the debt repayment problems experienced by some sugar companies. In this pre-NAFTA

Figure A-1
Sugar in Mexico: Earnings per hectare and production



Source: FORMA.

period, many analysts doubted the potential of the industry to produce at levels high enough to justify exports. Sugar production, along with earnings, grew in the second period. It increased an average of 940,000 metric tons, tel quel (MTTQ) over the first period average, up to 4.332 million MTTQ. Sugar production in 1998 grew to a record 5.174 million MTTQ.

Table A-1 presents some of the earnings data for the individual sugar mills for 1993-98. There are 64 mills but only 61 have been operating since 1992. The mills are organized into six categories based on the average earnings per hectare. Group no. 1 is comprised of the 11 mills (not counting the inoperative mills) with the lowest earnings. Groups numbered 2 through 6 represent grouped mills of 10 each and are ordered on the basis of ascending earnings per acre. Columns 2 and 3 show the companies that own each of the mills and the Mexican State where each mill is located. Data include gross returns per ton, costs per ton, daily cane milling capacity, average sugarcane harvested, and average campaign length.

Analysis of Data Through Scattergrams

Relationships between the data are not immediately apparent. Figures A-2 and A-3 show scattergrams between average earnings per hectare and milling capacities and sugarcane milled. The regression lines shown in the figures represent the relationship between the variables: a positive or negative slope would indicate that as one variable changes, so does the other, either in the same (positive slope) or opposite (negative slope) direction. The flatness of the lines in both figures indicate no relationship between earnings per hectare and capacity or volume of sugarcane milled for the mills. If there were economies of scale in sugar milling, positive relationships would have been expected.

Further pursuit yields more insight. Figure A-4 shows a scattergram between earnings per hectare and capacity usage (that is, the ratio of average daily sugarcane milled to rated daily capacity). The regression line slopes upward. The coefficient on the slope parameter indicates that as capacity usage increases by 1 percent, average earnings per hectare increases by \$10.27. This result, while statistically significant, explains less than 9 percent ($R^2 = 0.0881$) of the variance in earnings per hectare. Another constructed variable from the data set that measures capacity usage is total sugarcane milled relative to daily capacity. This measure essentially takes the previously defined capacity usage measure and multiplies it by the campaign length. Figure A-5 shows the scattergram and regression line. The line slopes upward and an increased amount of earnings variance is explained, about 15 percent, or 6 percent more than the daily capacity usage measure.

Regression Analysis

These scattergram results suggest that more sophisticated regression analysis involving gross unit returns and unit costs would likely benefit from the inclusion of capacity usage measures as explanatory variables. Also, the low level of the R^2 measures from the scattergram analysis suggest that other factors may help explain earnings differences between mills. One possibility is that firm ownership or geographical location may influence earnings differences between mills. A regression model encompassing these factors is specified as follows:

$$Z = A + \sum B_i * FIRM_i + \sum B_j * STATE_j + \sum D_k * X_k$$

The variable Z represents either gross returns per ton or costs per ton on a factory-level basis. The general explanatory variables X are capacity usage variables. In one case, average daily capacity usage and number of campaign days can be used in a single regression. In an alternative case, the two measures are combined in the single measure of total sugarcane milled relative to a mill's daily grinding capacity. The variables $FIRM_i$ and $STATE_j$ are indicator variables whose respective values are equal to 1 if a factory is owned by the i^{th} firm or located in the j^{th} State; the value is zero, otherwise.

In results discussed below, firm-specific and State-specific effects are not both included in a single equation. This means that if firm-specific (location-specific) effects are analyzed in an equation, the B_j (B_i) coefficients corresponding to the location-specific (firm-specific) are restricted to zero. In other words, multiple regressions are run including only one set of specific factors at a time, and then the specifications are compared for their relative advantage in making out-of-sample predictions.³ This approach potentially allows a determination of which specific factors are better in explaining earnings differences among mills.

Table A-2 shows the estimation results for eight cases. Cases numbered 1-4 examine gross returns per ton, and cases 5-8 examine costs per ton. Cases 1, 2, 5, and 6 include firm-specific factors, while cases 3, 4, 7, and 8 consider State-specific factors. Cases 1, 3, 5, and 7 include two measures of capacity usage (daily capacity usage and campaign length), while cases 2, 4, 6, and 8 consider the composite measure (total sugarcane milled relative to daily capacity). Originally, all firm- or State-specific variables were included in their respective equations. Most of the estimated coefficients did not test differently from zero—only those whose t-statistics indicate statistical significance are presented in the table.

³ The Schwarz Information Criterion (SIC) is used. It is a measure of the 1-step ahead out-of-sample prediction error variance. A smaller value associated with an equation indicates that the equation has better forecasting ability relative to those equations with higher values.

Figure A-2

Relationship between earnings per hectare and milling capacity, by factory

Earning (\$U.S.)/hectare 1993-98

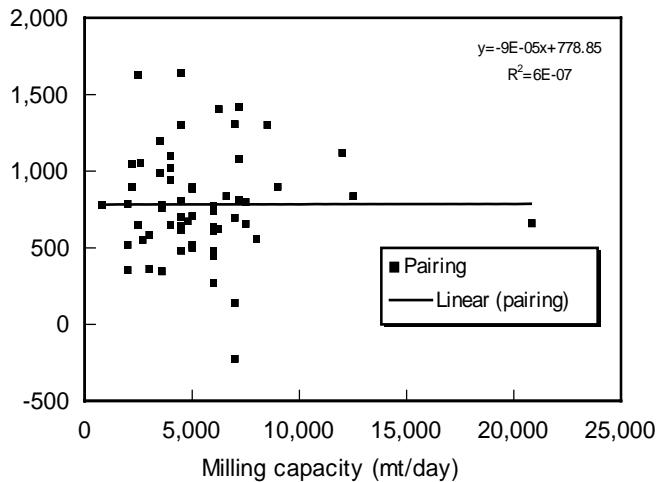
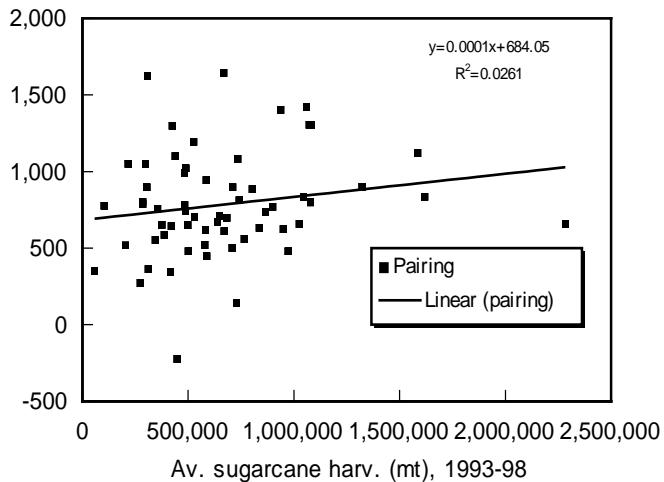


Figure A-3

Relationship between earnings per hectare and sugarcane milled, by factory

Earning (\$U.S.)/hectare 1993-98



For the analysis of gross returns per ton, results indicate that all the capacity usage measures make a positive and significant contribution to accounting for differences among mills. Judging from the lower Schwarz criterion values (cases 2 and 4 relative to 1 and 3, respectively), the single measure of total sugarcane milled relative to capacity is more successful in explaining differences. This result is not unexpected considering that daily capacity usage and campaign length have a positive correlation coefficient of over 0.55. Each affect is likely partially picking up the effect of the other.

Consideration of firm-specific effects (cases 1 and 2) indicate that mills owned by the Grupo Porres and the

Figure A-4

Relationship between earnings per hectare and ratio of average daily sugarcane milled to capacity, by factory

Earning (\$U.S.)/hectare 1993-98

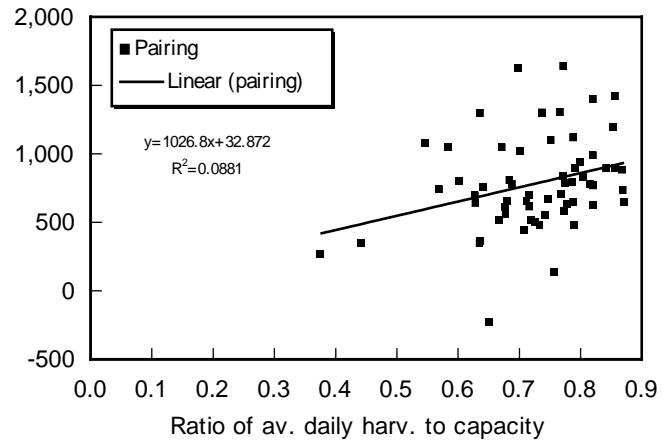
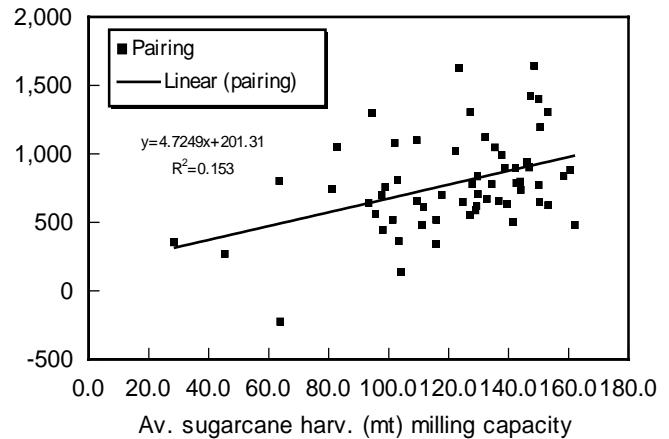


Figure A-5

Relationship between earnings per hectare and sugarcane milled relative to milling capacity, by factory

Earning (\$U.S.)/hectare 1993-98



Consorcio Industrial Escorpion (CAZE) have higher returns than accounted for by capacity usage alone. Likewise, consideration of State-specific effects (cases 3 and 4) indicate that mills in the State of San Luis Potosi have higher returns and that mills in the State of Sinaloa have lower returns than accounted for by capacity usage alone. Lower Schwarz criterion values associated with cases 3 and 4 imply that State-level characteristics have more predictive power in forecasting than firm-specific effects.

Cases 5-8 examine costs per ton for the mills. The capacity effects are much less certain compared with their effects on gross returns per ton. In cases 5 and 6 (the firm-specific cases), the coefficients on campaign length and total sugar-

Table A-1--Sugar mills in Mexico--earnings, costs, milling capacities, sugarcane production, and campaign lengths

Mill Name	Owner	Estado	Average earnings per hectare, 1993-98	Gross return, per ton, 1993-98	Costs per ton, 1993-98	Cane milling capacity 1998	Average cane harvested, 1993-98	Average length of campaign 1993-98
				--\$ U.S.--		Tons per 24 hours	Metric tons	Days
Group # 1								
La Purisima	(Closed)	Jalisco	na	na	na	na	0	0
Puruaran	(Closed)	Michoacan	na	na	na	na	0	0
L. Portillo Juchitan	(Closed)	Oaxaca	na	na	na	na	0	0
San Rafael de Pucte (Alvaro Obregon)*	Beta San Miguel Group	Quintana Roo	495	23.36	14.53	6,000	930,328	206
Santo Domingo	Concorcio Machado	Oaxaca	354	19.12	12.50	2,000	56,736	64
Los Mochis*	Consorcio AGA	Sinaloa	141	21.58	20.24	7,000	727,968	137
EI Dorado	Grupo Azucarero Mexico	Sinaloa	346	22.46	18.62	3,600	417,057	182
A. Saenz (Xicotencatl)*	Grupo Saenz	Tamaulipas	480	24.41	16.83	6,000	972,679	205
EI Mante*	Grupo Saenz	Tamaulipas	502	26.05	16.89	5,000	707,176	195
Independencia	Grupo Seoane	Veracruz	272	17.73	13.33	6,000	272,495	121
La Primavera	Grupo Zucarmex	Sinaloa	-224	20.05	23.70	7,000	447,058	98
CIA Industrial Azucarera (Cuatotlapam)*	Impulsora de Marcas Mexicanas	Veracruz	479	23.18	13.80	4,500	500,199	152
La Joya	Independente	Campeche	362	24.46	16.25	3,000	310,148	163
Belisario Dominguez (Huixtla)	Porres Group	Chiapas	446	21.42	15.22	6,000	588,278	139
Group # 2								
San Pedro	Administracion Multiple	Veracruz	560	23.07	15.11	8,000	765,094	141
Constancia	Beta San Miguel Group	Veracruz	616	24.24	14.54	4,500	581,703	181
Zapoapita	Concorcio Machado	Veracruz	612	25.90	17.06	6,000	669,847	165
Santa Rosalia	Fideliq	Tabasco	642	23.81	11.95	4,500	419,883	149
Pedernales	Grupo Santos	Michoacan	554	25.49	18.98	2,700	343,304	171
EI Higo	Grupo Zucarmex	Veracruz	520	25.00	15.99	5,000	578,745	161
Plan de Ayala*	Impulsora de Marcas Mexicanas	San Luis Potosi	633	26.76	14.94	6,000	835,935	179
San Gabriel	Impulsora de Marcas Mexicanas	Veracruz	588	23.61	14.69	3,000	386,840	167
Tenosique (H. Galeana)	Independente	Tabasco	520	23.35	14.29	2,000	202,749	152
Adolfo Lopez Mateos	Promotora Industrial Azucarera	Oaxaca	624	21.98	13.90	6,200	949,489	187
Group # 3								
San Francisco Naranjal	Administracion Multiple	Veracruz	741	23.63	13.51	6,000	485,806	142
Queseria	Beta San Miguel Group	Chiapas	674	23.24	15.00	4,800	637,269	178
Central Motzorongo	Concorcio Machado	Veracruz	658	25.68	15.14	7,500	1,025,243	192
Central Progresso	Concorcio Machado	Veracruz	702	25.70	13.36	4,500	529,767	164
Plan de San Luis*	Consorcio Industrial Escorpion (CAZE)	San Luis Potosi	697	28.16	15.89	7,000	683,562	156
San Cristobal*	Consorcio Industrial Escorpion (CAZE)	Veracruz	659	24.64	14.40	20,844	2,283,645	161
La Providencia*	Consorcio Industrial Escorpion (CAZE)	Veracruz	706	26.11	15.30	5,000	648,765	169
Bellavista	Grupo Santos	Jalisco	650	26.33	17.64	4,000	498,968	158
Alianza Popular	Grupo Santos	San Luis Potosi	737	27.11	14.57	6,000	864,424	166
San Nicolas	Independente	Veracruz	652	24.13	14.44	2,500	375,604	173

See notes at end of table.

Table A-1--Sugar mills in Mexico--earnings, costs, milling capacities, sugarcane production, and campaign lengths--continued

Mill Name	Owner	Estado	Average earnings per hectare, 1993-98	Gross return, per ton, 1993-98	Costs per ton, 1993-98	Cane milling capacity 1998	Average cane harvested, 1993-98	Average length of campaign 1993-98
			--\$ U.S.--			Tons per 24 hours	Metric tons	Days
Group # 4								
San Miguel del Naranjo (Ponciano Arriago)	Beta San Miguel Group	San Luis Potosi	771	27.06	13.05	6,000	900,458	183
Jose M. Moreles	Concordio Machado	Jalisco	779	24.60	14.36	3,600	483,695	165
El Rufugio	Concordio Machado	Oaxaca	757	24.21	13.42	3,600	355,637	154
Puga	Consorcio AGA	Nayarit	798	26.32	15.76	7,500	1,078,727	183
Jose M. Martinez (Tala)	Grupo Azucarero Mexico	Jalisco	835	26.10	15.46	12,500	1,619,337	161
Lazaro Cardenas	Grupo Azucarero Mexico	Michoacan	788	26.83	17.09	2,000	285,062	184
Rosales*	Grupo Azucarero Mexico	Sinaloa	803	19.99	26.26	4,500	285,823	106
Benito Juarez*	Grupo Azucarero Mexico	Tabasco	811	24.61	12.16	7,200	740,886	151
Tamazula*	Grupo Saenz	Jalisco	836	28.37	20.36	6,600	1,044,616	205
Dos Patrias	Independente	Tabasco	778	22.53	12.46	800	102,278	186
Group # 5								
San Francisco Ameica	Beta San Miguel Group	Jalisco	896	27.20	15.54	5,000	711,117	169
Don Pablo Machada Llosas (La Margarita)	Concordio Machado	Oaxaca	885	26.00	12.93	5,000	802,341	185
La Gloria	Grupo Seoane	Veracruz	1,082	27.89	16.68	7,200	734,621	187
Mahuixtlan	Grupo Zucarmex	Veracruz	896	24.37	14.60	2,200	305,131	162
El Molina	Independente	Nayarit	943	25.37	13.45	4,000	584,996	183
Calipam	Independente	Puebla	1,051	25.00	14.06	2,600	215,467	142
San Jose De Abajo	Independente	Veracruz	990	27.63	13.96	3,500	481,729	168
El Carmen*	Independente	Veracruz	1,020	24.34	13.50	4,000	489,097	174
La Concepcion	Independente	Veracruz	1,048	25.41	14.50	2,200	297,832	202
Tres Valles*	Promotora Industrial Azucarera	Veracruz	901	28.00	15.60	9,000	1,321,430	186
Group # 6								
E. Zapata (Zacatepec)*	Consorcio Industrial Escorpion (CAZE)	Morelos	1,403	26.68	14.18	6,250	937,244	183
Casasano La Abeja*	Consorcio Industrial Escorpion (CAZE)	Morelos	1,624	25.20	11.55	2,500	308,571	177
Atencingo*	Consorcio Industrial Escorpion (CAZE)	Puebla	1,303	26.68	15.18	8,500	1,081,425	173
El Potrero*	Consorcio Industrial Escorpion (CAZE)	Veracruz	1,121	27.90	13.41	12,000	1,584,929	168
San Miguelito	Consorcio Industrial Escorpion (CAZE)	Veracruz	1,195	27.13	13.47	3,500	526,569	177
El Modelo	Consorcio Industrial Escorpion (CAZE)	Veracruz	1,423	27.21	14.35	7,200	1,060,369	172
Pujiltic	Grupo Zucarmex	Chiapas	1,306	27.30	12.21	7,000	1,071,109	200
Melchor Ocampo	Grupo Zucarmex	Jalisco	1,644	27.71	12.38	4,500	667,801	192
Santa Clara	Porres Group	Michoacan	1,099	28.13	16.33	4,000	437,722	146
San Sebastian	Porres Group	Michoacan	1,300	28.90	16.42	4,500	424,362	148

*=Joint sugarcane mill and refinery.

Source: FORMA

Table A-2--Across-firm regression results: Gross returns and costs per ton

Independent Variables / statistics	Model: Variable Z = A + $\sum B_i * FIRM_i + \sum C_j * STATE_j + D * (Variable X)$															
	Case 1		Case 2		Case 3		Case 4		Case 5		Case 6		Case 7		Case 8	
	T-Coeff.	statistic	T-Coeff.	statistic	T-Coeff.	statistic	T-Coeff.	statistic	T-Coeff.	statistic	T-Coeff.	statistic	T-Coeff.	statistic	T-Coeff.	statistic
	----- Gross return per ton -----															
Constant (A)	13.171	7.203	18.279	17.399	14.993	8.396	19.587	18.743	19.170	8.213	17.624	13.390	14.427	7.914	14.462	13.997
Firm-specific effects (Bi)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Consorcio AGA	--	--	--	--	--	--	--	--	3.240	1.993	3.576	2.225	--	--	--	--
Grupo Saenz	--	--	--	--	--	--	--	--	4.683	3.346	4.378	3.193	--	--	--	--
Grupo Santos	--	--	--	--	--	--	--	--	2.437	1.794	2.848	2.140	--	--	--	--
Grupo Azucarero Mexico	--	--	--	--	--	--	--	--	3.143	2.990	3.157	3.003	--	--	--	--
Porres Group	2.634	2.456	2.614	2.410	--	--	--	--	--	--	--	--	--	--	--	--
Consorcio Industrial Escorpion (CAZE)	1.605	2.484	1.576	2.405	--	--	--	--	--	--	--	--	--	--	--	--
State-specific effects (Cj)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sinaloa	--	--	--	--	-2.299	2.480	-2.327	2.504	--	--	--	--	7.949	8.555	7.911	8.757
Tamaulipas	--	--	--	--	--	--	--	--	--	--	--	--	2.659	2.147	2.691	2.223
San Luis Potosi	--	--	--	--	1.954	2.253	1.934	2.200	--	--	--	--	--	--	--	--
Jalisco	--	--	--	--	--	--	--	--	--	--	--	--	1.746	2.352	1.764	2.425
Michoacan	--	--	--	--	2.592	3.003	2.624	2.988	--	--	--	--	2.976	3.435	2.972	3.470
(Average daily sugarcane harv./milling capacity) (D)	5.595	1.984	--	--	6.113	2.313	--	--	1.268	0.345	--	--	-0.139	0.051	--	--
Length of campaign - days (D)	0.045	4.098	--	--	0.033	3.072	--	--	-0.034	2.328	--	--	-0.001	0.055	--	--
(Total sugarcane harv./milling capacity) (D)	--	--	0.052	6.263	--	--	0.043	5.301	--	--	-0.026	2.441	--	--	-0.002	--
Adjusted R2	0.457	--	0.437	--	0.524	--	0.506	--	0.278	--	0.278	--	0.601	--	0.608	--
Standard error of regression	1.766	--	1.798	--	1.654	--	1.686	--	2.226	--	2.226	--	1.656	--	1.640	--
Schwarz criterion	4.227	--	4.214	--	4.145	--	4.134	--	4.788	--	4.739	--	4.196	--	4.128	--

-- = Not applicable.

cane milled relative to capacity are statistically significant and negatively related to unit costs, as would be expected. In cases 7 and 8, these same coefficients cannot be distinguished from zero. The State-specific effects are sufficient to produce a relatively high adjusted R²s above 0.60 and much lower values for the Schwarz criterion. These results imply that unit costs are similar in most producing areas except for these States, arranged in order of increased unit costs: Jalisco (6 mills), Tamaulipas (2 mills), Michoacan (4 mills), and Sinaloa (4 mills). These States account for about 23 percent of total hectares harvested in Mexico. Mills in Sinaloa seem the worst off, considering their lower relative gross returns (cases 3 and 4) and their higher unit costs.

Summarizing, mills that produce more relative to their rated capacities and have longer campaign lengths receive higher per-unit returns. There is less variation on unit costs except for mills in 4 of the 15 States where there is sugar production. Better statistical results from inclusion of State-specific factors suggest that agronomic or locational conditions rather than ownership patterns are likely more important for differentiating mills on the basis of earnings.

Times-Series Analysis

The next step in the analysis is to extend it dynamically by considering what factors are important in causing earnings to change over time. The static results presented in the previous section suggest diversity across mills that probably hinders accurate analysis of factors accounting for the changes. For this reason, the data are divided into various subsets according to the level of earnings (the six groupings previously described), ownership by the 14 major sugar-processing companies and the independents considered together, and the 15 States.

Data Analysis

Table A-3 presents some basic production and earnings data for the groupings. Within each grouping, the members are organized on the basis of ascending earnings per hectare. In order to emphasize changes through time, averages for the early (1988-92) and more recent (1993-98) periods are presented side-by-side for comparison.

The changes have been noteworthy. Total hectares harvested have increased 5.2 percent; sugarcane yields have increased 6.6 percent; and most remarkably, sugar yields per hectare have increased by nearly 20 percent. Gross unit returns have increased 26 percent, but unit costs have increased only 21 percent. On a sugarcane-metric-ton basis, earnings have increased almost 35 percent over the early period.

Within each of the groupings, both sugarcane yield and sugar yield data increase significantly, going from the lower earning group member to the highest. For the grouping based on earnings, the average increase is 6.3 mt/ha for sugarcane and 0.98 mttq/ha for sugar. Corresponding increases

are 1.3 mt/ha and 0.20 mttq/ha for the company classification, and 3.4 mt/ha and 0.46 mttq/ha for the State classification. Although these increases have little value in themselves, they indicate that earnings are correlated with productivity in both production and processing.

Annual computed increases in sugarcane and sugar yields, on the other hand, do not correlate with the within-group ordering. It is more relevant to note that across all earning group members, and across most company and State group members, annual yield growth rates have been significantly positive. This suggests that productivity gains have been distributed fairly evenly across almost all mills.

Table A-4 shows how mills are distributed across the company and State groupings by earnings per hectare. Individual companies own mills that typically span across the earnings spectrum. The same is true for mills in individual States except possibly for Sinoloa, Campeche, Tamaulipas, and Quintana Roo at the low end, and for Puebla and Morelos at the high-earnings end. The ninth and tenth columns show average earnings per hectare, and the eleventh column shows the ratio of the later period to the earlier. Earnings growth has been evident in all companies and in almost all States. The aggregate increase has been almost 44 percent.

Regression Analysis

The major hypothesis of this article, supported by the analysis presented thus far, is that productivity growth and technology adaption have been the primary factors in increasing earnings of Mexican sugar mills. The next step is to explicitly test the hypothesis. The model employed for the testing is as follows:

$$\begin{aligned} \text{Log}(Earning per hectare) = & A + B * (\text{Time Trend}) + \\ & C * \text{Log}(Sales revenue per ton of sugar) + D * \text{Log}(Sugar yield) \end{aligned}$$

Earnings per hectare are modeled as a function of the unit value of sugar sales (average sugar prices faced by mills), sugar yield per hectare, and a time trend. Sugar yield is interpreted as an output measure for technological adaptation. Sugar yield has both trend and weather-related random aspects. As seen in appendix table 2, the weather-related portion is correlated highly with sugarcane yields, leaving a trend portion that is interpreted as that portion of output gain from a fixed land input measure. As seen both in the appendix table and in table A-3, the sugar yield growth rate has averaged about 1.90 percent a year over 1988-98 and has been statistically significant across almost all elements of the three data groupings (earnings level, mill ownership, and State location). The value of unit sugar sales is interpreted as the average price at which mills have sold their sugar. It, along with sugar yield, is expected to be highly correlated with earnings per hectare. The time trend variable is included to account for miscellaneous effects not specifically captured by the other two variables.

Table A-3--Area harvested, sugarcane yields, sugar yields, gross returns, and costs, by earnings classifications, companies, and State, 1988-98

	Area harvested		Sugarcane yield			Sugar yield			Gross return per ton		Cost per ton	
	Averages		Averages		Yearly growth rate	Averages		Yearly growth rate	Averages		Averages	
	1988-92	1993-98	1988-92	1993-98	1988-98	1988-92	1993-98	1988-98	1988-92	1993-98	1988-92	1993-98
	Hectares		Tons/ha		Percent	Tons/lb		Percent	----- U.S. dollars -----			
Earnings Classifications 1/												
Number 1 - Low earnings group	92,845	93,706	60.22	63.21	0.63	4.93	5.70	1.44	18.29	22.89	12.73	16.68
Number 2	79,610	88,030	63.48	65.62	0.95	5.78	6.91	2.01	19.42	24.25	11.59	14.97
Number 3	113,417	121,958	60.27	65.66	1.41	5.50	7.00	2.68	19.33	25.48	12.28	14.85
Number 4	87,230	92,348	69.60	74.54	0.94	6.75	8.00	1.65	20.98	26.98	13.46	16.39
Number 5	67,046	73,422	73.07	80.86	2.27	7.35	8.94	1.54	21.34	26.55	12.57	14.67
Number 6 - High earnings group	78,153	84,087	93.55	96.44	0.99	9.80	11.11	1.41	22.38	27.37	12.12	13.66
Company												
Consorcio AGA	23,073	24,134	65.45	74.78	2.24	5.82	7.59	2.25	19.54	24.51	14.03	17.24
Impulsora de Marcas Mexicanas	29,371	31,077	53.88	55.26	0.42	4.97	5.76	1.74	19.34	25.05	10.38	14.34
Grupo Saenz	35,497	37,424	65.60	73.17	1.33	6.19	7.48	1.55	20.54	26.41	13.87	18.18
Administracion Multiple	17,791	17,238	69.11	72.54	0.94	5.60	7.22	3.93	17.50	23.26	11.66	14.54
Fideliq	8,062	7,677	62.40	56.83	-1.63	5.03	4.89	4.90	17.22	23.81	9.98	11.95
Beta San Miguel Group	50,842	57,347	60.85	65.38	0.78	5.76	6.74	0.55	20.54	25.07	12.61	14.45
Grupo Santos	20,012	24,318	66.99	68.18	0.09	7.05	7.77	1.13	21.80	26.54	13.15	16.39
Grupo Azucarero Mexico	42,583	44,517	72.12	75.81	0.83	6.61	7.73	1.72	20.32	26.83	13.14	17.16
Concordio Machado	56,115	59,039	59.38	66.38	1.84	5.43	7.05	2.83	19.22	25.45	12.06	14.45
Grupo Seoane	10,892	11,864	72.00	84.41	2.89	6.80	9.02	1.39	20.39	24.84	13.58	15.57
Promotora Industrial Azucarera	28,990	29,999	66.52	76.21	3.71	6.72	8.85	2.79	21.66	25.53	13.45	14.92
Independente	38,869	41,426	72.48	73.71	2.26	7.03	7.56	0.83	20.45	25.00	12.10	14.05
Porres Group	13,514	16,288	95.14	89.52	1.04	9.53	9.64	1.49	21.54	25.80	14.28	15.99
Grupo Zucarmex	34,592	37,227	79.46	80.84	0.77	7.84	8.65	1.36	21.25	25.72	11.82	14.79
Consorcio Industrial Escorpion (CAZE)	108,098	113,976	76.34	80.68	0.92	7.34	8.96	2.57	20.68	26.56	11.90	14.14
States 2/												
Sinaloa	29,623	25,750	73.94	73.39	-0.48	5.52	6.27	2.08	17.74	24.63	13.43	23.01
Campeche	6,672	6,993	46.83	45.01	2.49	4.25	4.43	1.27	19.74	24.46	14.89	16.25
Tamaulipas	26,471	27,197	51.90	61.62	1.97	4.47	5.71	1.37	18.78	25.10	13.12	16.84
Quintana Roo	13,688	15,958	58.94	59.05	-0.53	5.12	5.22	0.58	19.58	23.14	12.44	14.54
Colima	8,129	7,485	57.95	83.19	6.74	4.73	7.96	3.72	18.30	23.24	15.37	15.00
San Luis Potosi	48,938	57,748	53.07	57.23	-1.45	5.32	6.28	1.42	20.82	27.27	11.81	14.50
Tabasco	22,008	23,229	66.23	63.03	-0.51	5.66	5.86	3.30	18.05	23.95	10.98	12.37
Oaxaca	37,724	30,316	60.83	71.52	1.57	5.84	7.71	2.55	20.04	24.06	12.06	13.56
Veracruz	203,341	219,552	66.91	72.20	1.37	6.25	7.60	2.26	19.99	25.65	12.11	14.57
Nayarit	20,118	21,769	70.82	76.12	0.98	7.12	8.29	2.64	20.90	25.98	12.57	14.96
Jalisco	53,888	58,341	80.92	86.42	2.04	8.35	9.54	1.12	22.23	26.84	13.53	16.23
Michoacan	15,276	16,303	93.93	91.86	0.05	10.17	10.81	1.48	22.96	27.52	15.41	17.08
Chiapas	16,076	19,725	82.79	84.15	2.37	8.38	8.58	0.18	21.52	25.33	11.15	13.25
Puebla	11,418	11,553	106.67	111.26	0.34	10.50	12.00	2.67	21.00	26.40	12.65	14.98
Morelos	12,850	11,631	108.53	108.41	0.39	10.43	11.56	3.35	20.87	26.47	11.41	13.00
Mexico	526,219	553,551	68.85	73.42	1.60	6.52	7.81	1.90	20.35	25.74	12.48	15.13

■ 1/ Mills are sorted by ascending average earnings per hectare for 1993-98, and divided into 6 nearly-equal groups - #1 constitutes the 11 mills with the lowest earnings, #2 constitutes the 10 mills with the next highest average, and so on. 2/ Average hectares harvested for 1988-92 includes 7,919 hectares for mills that ceased operation after 1992.

Table A-4--Earnings classification of Mexican sugar mills, earnings per hectare, and milling capacities, by company and state

Lowest-to-highest earnings classification:	Number of factories within earnings per hectare classification 1/						Average earnings per hectare			Average capacity
	#1	#2	#3	#4	#5	#6	1988-92	1993-98	Ratio	
Company								--U.S. dollars--		Tons/day
Consorcio AGA	1	0	0	1	0	0	355	538	1.51	7,250
Impulsora de Marcas Mexicanas	1	2	0	0	0	0	469	580	1.23	4,500
Grupo Saenz	2	0	0	1	0	0	412	583	1.41	5,867
Administracion Multiple	0	1	1	0	0	0	404	622	1.54	7,000
Fideliq	0	1	0	0	0	0	446	642	1.44	4,500
Beta San Miguel Group	1	1	1	1	1	0	465	679	1.46	5,260
Grupo Santos	0	1	2	0	0	0	575	681	1.18	4,233
Grupo Azucarero Mexico	1	0	0	4	0	0	486	714	1.47	5,960
Concordio Machado	1	1	2	2	1	0	424	721	1.70	4,600
Grupo Seoane	1	0	0	0	1	0	510	767	1.51	6,600
Promotora Industrial Azucarera	0	1	0	0	1	0	567	781	1.38	7,600
Independente	1	1	1	1	5	0	595	798	1.34	2,733
Porres Group	1	0	0	0	0	2	671	848	1.26	4,833
Grupo Zucarmex	1	1	0	0	1	2	728	870	1.19	5,140
Consorcio Industrial Escorpion (CAZE)	0	0	3	0	0	6	654	980	1.50	8,088
States										
Sinaloa	3	0	0	1	0	0	299	115	0.39	5,525
Campeche	1	0	0	0	0	0	224	362	1.62	3,000
Tamaulipas	2	0	0	0	0	0	281	489	1.74	5,500
Quintana Roo	1	0	0	0	0	0	410	495	1.21	6,000
Colima	0	0	1	0	0	0	161	674	4.18	4,800
San Luis Potosi	0	1	2	1	0	0	465	710	1.53	6,250
Tabasco	0	2	0	2	0	0	432	711	1.64	3,625
Oaxaca	1	1	0	1	1	0	507	745	1.47	4,200
Veracruz	2	5	6	0	6	3	521	784	1.51	6,097
Nayarit	0	0	0	1	1	0	588	847	1.44	5,750
Jalisco	0	0	1	3	1	1	685	901	1.32	6,033
Michoacan	0	1	0	1	0	2	691	950	1.37	3,300
Chiapas	1	0	0	0	0	1	856	976	1.14	6,500
Puebla	0	0	0	0	1	1	878	1,254	1.43	5,550
Morelos	0	0	0	0	0	2	1,037	1,458	1.41	4,375
All Mexico	11	10	10	10	10	10	530	761	1.44	5,428

1/ Mills are sorted by ascending average earnings per hectare for 1993-98, and divided into 6 nearly equal groups - #1 constitutes the 11 mills with the lowest earnings, #2 constitutes the 10 mills with the next highest average, and so on.

Source: FORMA

Regression results for the three groupings and the Mexican industry as a whole are displayed in appendix table 3. For the earnings grouping, the adjusted R² are in the range 0.628-0.919, with an average of 0.763. Serial correlation is not a problem. Only for group members 1 and 2 (representing the 21 poorest performing mills) are the time trend coefficients significantly different from zero, and they are negative. Results for the company and State groupings are roughly similar. With the exception of two cases, all adjusted R² are greater than 0.500. The average R² for the company regressions is 0.768, and is 0.838 for the State regressions. The whole Mexico adjusted R² is 0.818.

Coefficient values on the sugar price and sugar yield variables that are significantly different from zero are shown in table A-5. The values of the sugar price coefficients tend to be slightly under the value of 1.0. This is true for 6 of the 6 cases for the earnings' grouping; 10 of the 15 cases for the company grouping, and 7 of the 15 cases for the State grouping. The coefficient value for whole Mexico cases is 0.754. The coefficient value on the values of the sugar yield coefficients, on the other hand, are mostly greater than one, indicating that earnings per hectare are elastic with respect to changes in yield values. This is true for 6 of the 6 cases for the earnings' grouping; 11 of the 15 cases for the company grouping, and 9 of the 15 cases for the State grouping. The coefficient value for whole Mexico case is 2.026.

This indicates that the effect of sugar price changes are likely very uniform on earnings per hectare across the grouping.⁴ Applying the test to the sugar yield coefficients yields the opposite result: the coefficients differ according to the grouping of the data for analysis. The coefficient value for the group no. 1 is 3.516, which is about 2.5 times as much as the average of group nos. 2-6. Applying the test while excluding group no. 1 still indicates that the yield coefficients differ significantly from each other for group nos. 2-6.

Beta Coefficients

It is difficult to gauge the importance of how explanatory variables account for changes in a dependent variable by focusing on elasticities alone. An elasticity reports how much the dependent variable changes when the independent variable changes by 1 percent. If there is more than a single independent variable in an equation, it may be that the likelihood of one variable changing by a single percentage point is vastly different from the likelihood of the other independent variable changing by the same amount. Essentially, one

⁴ The formal test run is the Wald Coefficient Test. It measures how close an unrestricted regression comes to a regression with restrictions placed on particular coefficient values. The resulting statistic follows a chi-square distribution if the unrestricted estimates are close to those in the restricted case. The Wald statistic for the sugar price coefficients restriction is 3.37, which is consistent with the chi-square distribution.

of the independent variables may be much more variable than the others. In order to adjust for differing relative variances, a regression coefficient can be weighted by the ratio of its standard deviation to the standard deviation of the dependent variable. The interpretation of the resulting coefficient, called a beta coefficient, is that a one-standard deviation change in the independent variable leads to a standard deviation change in the dependent variable equal to the value of the beta coefficient. The normalization process that transforms regression coefficients into beta coefficients allows the effects of differing independent variables to be directly comparable.

Table A-5 reports beta coefficients for the sugar price and sugar yield. The underlying model from which the beta coefficients are calculated is the non-logarithmic version of the model defined in the equation above. The sugar price beta coefficient values average about 0.70; and except for group no. 3, are pretty close in value to each other. The sugar yield beta values show more variability. They decrease in size, going from the low earnings group to the higher groups.

The last column shows the ratio of the sugar yield betas to the price betas. The descending pattern going from group 1 to 6 is very evident, indicating that sugar yield changes have a relatively less effect on earnings for higher earning firms. An implication is that the mills with lower earnings have relatively more to lose by not maintaining the pace of adapting technological improvements. An associated implication is that the marginal return to technological adaptation (which of course must be weighed against marginal costs) is higher for lower-earning mills.

Simulation Analysis

The estimation results presented thus far can be used to project earnings per hectare into the future. The goal, however, is not to forecast but rather to illustrate the importance of technological adaption to the Mexican sugar industry. Certain exogenous assumptions must be made, including that estimated relationships will hold for the future.

Table A-6 shows the equations of a projections model for Mexican sugar earnings per hectare. The equations track each of the elements of the earnings grouping. Model coefficient values for the first three equations are taken from the results in the appendix tables 1-3. Cane yield is a function of trend and hectares harvested. Sugar yield is a function of trend and cane yield. Earnings per hectare are a function of trend, sugar price, and sugar yield. Sugar prices faced by mills are a function of a national price, which is assumed constant to its 1998 value throughout the baseline simulation. Hectares harvested are assumed to grow at a 1-percent rate throughout the projections period.

Figure A-6 shows baseline results for earnings per hectare for each of the earnings group members. The two lowest

Table A-5--Responsiveness of earnings per hectare to changes in sugar prices and sugar yields

	Elasticity of earnings per hectare with respect to: 1/		Beta coefficients defined with respect to: 2/		Ratio of sugar yield beta coefficient to the sugar price beta
	Sugar price	Sugar yield	Sugar price	Sugar yield	
Earnings Classifications 3/					
Number 1	0.883	3.516	0.779	1.117	1.433
Number 2	0.856	1.579	0.720	0.831	1.154
Number 3	0.763	1.379	0.508	0.626	1.231
Number 4	0.884	1.483	0.710	0.458	0.645
Number 5	0.906	1.207	0.706	0.469	0.664
Number 6	0.792	1.330	0.726	0.401	0.552
Company					
Consorcio AGA	0.613	3.831	0.442	1.315	2.972
Impulsora de Marcas Mexicanas	1.080	2.133	0.958	1.052	1.098
Grupo Saenz	4/ n.s.	2.615	n.s.	0.998	5/ n.d
Administracion Multiple	0.898	2.654	0.702	1.507	2.146
Fideliq	0.233	n.s.	0.188	n.s.	n.d
Beta San Miguel Group	0.570	2.054	0.470	0.702	1.493
Grupo Santos	0.605	n.s.	0.512	n.s.	n.d
Grupo Azucarero Mexico	1.194	2.200	0.935	0.509	0.544
Concordio Machado	0.855	1.615	0.629	0.809	1.287
Grupo Seoane	0.874	0.779	0.634	0.467	0.737
Promotora Industrial Azucarera	1.240	n.s.	0.841	n.s.	n.d
Independente	0.806	1.257	0.741	0.428	0.578
Porres Group	1.262	2.008	0.561	0.449	0.799
Grupo Zucarmex	0.881	2.000	0.870	0.618	0.711
Consorcio Industrial Escorpion (CAZE)	0.521	1.626	0.434	0.725	1.668
States					
Sinaloa	1.724	n.s.	0.977	n.s.	n.d
Campeche	n.s.	2.586	n.s.	0.774	n.d
Tamaulipas	n.s.	3.483	n.s.	1.173	n.d
Quintana Roo	0.873	n.s.	0.755	n.s.	n.d
Colima	n.s.	1.654	n.s.	0.698	n.d
San Luis Potosi	0.992	1.936	0.584	0.793	1.359
Tabasco	1.414	2.196	1.090	0.570	0.523
Oaxaca	1.204	0.670	0.821	0.342	0.416
Veracruz	0.713	1.868	0.613	0.804	1.311
Nayarit	0.833	1.330	0.597	0.612	1.027
Jalisco	0.679	0.938	0.733	0.383	0.523
Michoacan	0.569	n.s.	0.556	n.s.	n.d
Chiapas	1.210	1.121	1.105	0.259	0.234
Puebla	n.s.	1.637	n.s.	0.697	n.d
Morelos	0.808	n.s.	0.725	0.620	0.855
Mexico	0.754	2.026	1.062	0.662	0.623

1/ Coefficients "C" and "D" from model: $\log(\text{Earnings per hectare}) = A + B * (\text{Time Trend}) + C * \log(\text{Sales revenue per ton of sugar})$

+ D * LOG(Sugar yield); see appendix table 3 for complete estimation results.

2/ Beta coefficients are regression coefficients weighted by the ratio of the standard deviations of the explanatory variable to the earnings per hectare. Model: $(\text{Earnings per hectare}) = A + B * (\text{Time Trend}) + C * (\text{Sales revenue per ton of sugar}) + D * (\text{Sugar yield})$

3/ Mills are sorted by ascending average earnings per hectare for 1993-98, and divided into 6 nearly equal groups -

#1 constitutes the 11 mills with the lowest earnings, #2 constitutes the 10 mills with the next highest average, and so on.

4/ n.s. = Not significantly different from zero at $\alpha = .05$

5/ n.d. = Not defined

Table A-6--Model Specification

Cane Yield for i = Income Group

$$\text{Log}(Cane\ Yield(t)_i) = A_i + B_i * (\text{Time Trend}) + C_i * \text{Log}(\text{Hectares Harvested}(t)_i)$$

Sugar Yield for i = Income Group

$$\text{Log}(Sugar\ Yield(t)_i) = D_i + E_i * \text{Log}(\text{Time Trend}) + F_i * \text{Log}(Cane\ Yield(t)_i)$$

Earnings for i = Income Group

$$(\frac{\text{Earnings}}{\text{Hectare}}(t)_i) = G_i + H_i * (\text{Time Trend}) + I_i * (\text{Sugar Price}(t)_i) + J_i * (\text{Sugar Yield}(t)_i)$$

Sugar Price for i = Income Group

$$\text{Log}(Sugar\ Price(t)_i) = K + L_i * (\text{Time Trend}) + M_i * \text{Log}(\text{Sugar Price}_{\text{National level}})$$

National Sugar Price

$$\text{Sugar Price}_{\text{National level}} = N(t)$$

Hectares Harvested for i = Income Group

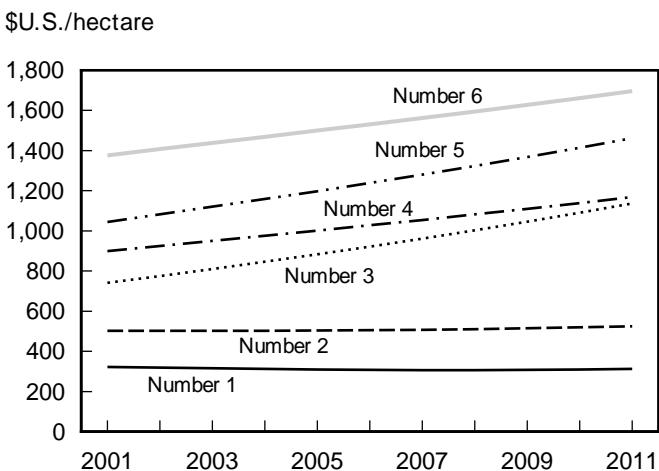
$$\text{Hectares Harvested}(t)_i = O_i * (\text{Hectares Harvested}(t-1))$$

i = Incomes for Groups 1 through 6

t = 2001 through 2011

Figure A-6

Sugar processing in Mexico: Projected earnings per hectare, by earning categories



Source: ERS projection.

groups (1 and 2) are projected to have flat earnings throughout the 10-year projections horizon. Earnings per hectare are 3 percent less in 2011 than in 2001 for group no. 1, and are only projected 4.7 percent higher for group no. 2. Yearly sugar yield growth rates of 1.4 percent for

group no. 1 and 2.0 percent for group no. 2 are insufficiently high to counter the observed downward trend in earnings for these two groupings.

The other four earnings groups are projected to have high earnings growth. Relative to 2001, earnings per hectare in 2011 are projected 53 percent higher for group no. 3, 30 percent for group no. 4, 40 percent for group no. 5, and 23 percent for group no. 6. Each of these groups are projected to have good yearly sugar yield growth: 2.7 percent - group no. 3; 1.6 percent - group no. 4; 1.5 percent - group no. 5; and 1.4 percent - group no. 6. Unlike groups 1 and 2, there is no negative trend growth to offset to achieve higher earnings per hectare.

To highlight the importance of technological adaption, three scenarios are run that remove the effects of the following: (1) sugarcane yield growth; (2) sugar yield growth; and (3) combined sugarcane and sugar growth. Table A-7 shows projected earnings for 2006, the middle of the projection period, for the groups for the base and for the scenarios. Percentage changes from the base are shown in the three right-most columns.

The percentage changes attributable to the lack of technological adaptation are inversely proportional to the earnings ranking of the mills; that is, the largest percentage changes are concentrated in the lower earnings groups 1 and 2 and

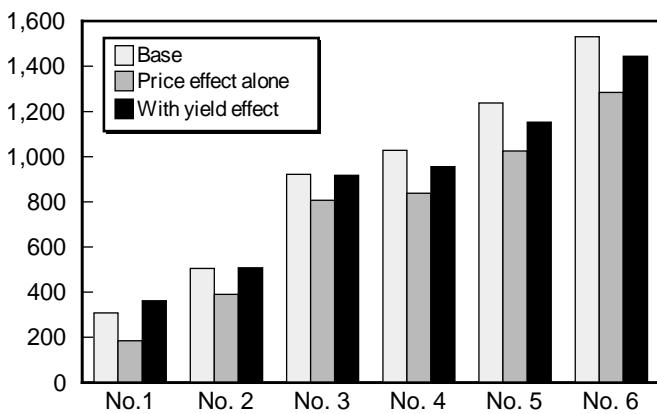
become smaller with the higher earning groupings. As would be expected, the percentage changes from scenarios 2 and 3 are correlated very highly with the sugar yield beta coefficients from table A-5: scenario no. 2, 0.978; and scenario no. 3, 0.963. The results imply that technology adaptation is particularly crucial to sugar mills with lower returns.

Another way to see the importance of technological adaptation to lower earning mills is illustrated in figure A-7. Two scenarios are run: the first specifies a 25-percent decrease in the national sugar price, and the second imposes a 10-percent increase in sugar yields on top of the price decrease scenario. The effect of the price decrease hits the lower earning groups 1 and 2 especially hard: 40 percent and 23 percent earnings drop per hectare. Earnings per hectare reductions for group nos. 3-6 are between 12 and 18 percent.

Figure A-7

Projected earnings, 2006: 25 percent price reduction and 10 percent yield increase

\$U.S./hectare



Source: ERS projection.

cent. The sugar yield effect serves to offset the price reduction effect. The offset effect is the strongest for groups 1 and 2: earnings per hectare are higher than in the baseline. The offset effect becomes progressively smaller, going from group no. 3 up through no. 6.

Extensions

There are many uncertainties for the Mexican sugar producing sector. Many of the firms are heavily indebted, and returns to selling on the world market have been low. The terms under which they will be able to ship into the U.S. market are in dispute. The industry faces demand-side competition from high fructose corn syrup that is imported from the United States and also produced in Mexico.

Relationships between the mills and sugarcane growers have not been cordial. Nonetheless, the sector has realized gains in production that were not predicted by most observers only a few years ago. Although analysis presented in this article points to further potential gains, the future remains hard to predict with a high degree of reliability. Additional analysis is needed for enhancing forecast ability. This article has focused on the demand by processors for hectares planted to sugarcane. More work needs to be done on the suppliers of area, or actual producers. Data on alternative crops in each of the producing areas, especially cost and return data, are needed. Emergent technologies that enhance yields and sucrose recovery need to be analyzed for their potential to expand production. This work, along with that on the demand-side, will lead to better forecasting ability.

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Table A-7--Simulation result: Effect on earnings of productivity changes in sugar production and processing

	Projected earnings (U.S. dollars) per hectare, 2006			Percentage change relative to base		
	Base	Simulation #1: No trend growth in cane yields	Simulation #2: No trend growth in sugar yields	Simulation #3: No trend growth in cane and sugar yields	Simulation #1:	Simulation #2:
Number 1	307	200	130	41	-34.9	-57.7
Number 2	505	448	350	301	-11.3	-30.7
Number 3	922	858	773	680	-6.9	-16.2
Number 4	1,028	969	899	847	-5.7	-12.5
Number 5	1,238	1,074	1,109	961	-13.2	-10.4
Number 6	1,531	1,445	1,381	1,303	-5.6	-9.8

Appendix table 1--Regression results - cane yield

Model: log(Cane Yield) = A + B*(Time Trend) + C*log(Hectares)							
	Coefficient values and T-statistics					Adj. R2	Durbin-Watson 1/
	Coeff. A	T-stat	Coeff. B	T-stat	Coeff. C	T-stat	
Earnings Classifications 2/							
Number 1	5.133	9.297	0.006	2.899	-0.091	-1.883	0.295
Number 2	6.888	6.635	0.010	2.046	-0.244	-2.656	0.000
Number 3	4.074	355.244	0.014	6.191	na	na	0.472
Number 4	4.233	200.260	0.009	2.220	na	na	0.140
Number 5	7.805	6.013	0.023	5.960	-0.320	-2.730	0.612
Number 6	7.836	6.199	0.010	3.514	-0.295	-2.617	0.064
Company							
Consorcio AGA	7.160	3.194	0.022	2.859	-0.300	-1.340	0.390
Impulsora de Marcas Mexicanas	3.977	79.298	0.004	0.490	na	na	0.000
Grupo Saenz	4.175	110.090	0.013	2.078	na	na	0.249
Administracion Multiple	4.215	355.710	0.009	4.608	na	na	0.624
Fideliq	9.286	4.679	-0.016	-2.486	-0.572	-2.593	0.456
Beta San Miguel Group	4.109	141.034	0.008	1.599	na	na	0.040
Grupo Santos	4.209	167.564	0.001	0.213	na	na	0.000
Grupo Azucarero Mexico	4.262	107.714	0.008	1.246	na	na	0.052
Concordia Machado	4.047	85.160	0.018	2.301	na	na	0.204
Grupo Seoane	5.661	4.371	0.029	3.499	-0.155	-1.102	0.509
Promotora Industrial Azucarera	25.699	5.284	0.037	6.428	-2.100	-4.431	0.588
Independente	20.357	2.502	0.023	1.922	-1.526	-1.976	0.171
Porres Group	10.996	7.216	0.010	1.573	-0.680	-4.202	0.610
Grupo Zucarmex	6.601	4.421	0.008	1.410	-0.215	-1.500	0.087
Consorcio Industrial Escorpion (CAZE)	4.320	157.068	0.009	2.015	na	na	0.103
States							
Sinaloa	6.562	6.098	-0.005	-0.720	-0.220	-2.093	0.040
Campeche	16.573	4.342	0.025	2.098	-1.462	-3.353	0.390
Tamaulipas	-2.246	-0.757	0.020	2.141	0.607	2.087	0.402
Quintana Roo	4.100	72.362	-0.005	-0.555	na	na	0.000
Colima	3.906	44.202	0.067	4.510	-2.246	-0.757	0.659
San Luis Potosi	-3.389	-0.819	-0.015	-1.003	0.686	1.783	0.113
Tabasco	4.191	140.298	-0.005	-1.011	na	na	0.002
Oaxaca	8.806	4.544	0.016	1.888	-0.450	-2.451	0.665
Veracruz	4.175	135.214	0.014	2.620	na	na	0.370
Nayarit	4.244	59.541	0.010	0.810	na	na	0.000
Jalisco	9.792	4.777	0.020	3.220	-0.500	-2.647	0.496
Michoacan	9.778	7.627	0.001	0.134	-0.544	-4.063	0.467
Chiapas	9.732	2.414	0.024	1.554	-0.554	-1.321	0.074
Puebla	4.675	145.317	0.003	0.624	na	na	0.000
Morelos	4.664	97.946	0.004	0.486	na	na	0.000
Mexico	10.222	5.065	0.016	4.310	-0.458	-2.976	0.696
1/ Presence of * indicates that the equation has been estimated correcting for serial correlation.							
2/ Mills are sorted by ascending average earnings per hectare for 1993-98, and divided into 6 nearly equal groups -							
#1 constitutes the 11 mills with the lowest earnings, #2 constitutes the 10 mills with the next highest average, and so on.							

Appendix table 2--Regression results - sugar yield

Model: log(Sugar Yield) = A + B*log(Time Trend) + C*log(Cane Yield)							
	Coefficient values and T-statistics					Adj. R2	Durbin-Watson 1/
	Coeff. A	T-stat	Coeff. B	T-stat	Coeff. C		
Earnings Classifications 2/							
Number 1	-4.287	-8.079	0.014	5.763	1.427	11.152	0.957
Number 2	-1.307	-3.560	0.020	8.381	0.737	8.338	0.937
Number 3	-0.829	-1.837	0.027	6.039	0.611	5.511	0.843
Number 4	-1.408	-3.739	0.016	5.083	0.778	8.740	0.845
Number 5	-1.747	-4.389	0.015	5.459	0.868	9.291	0.931
Number 6	-1.351	-5.316	0.014	13.704	0.799	14.204	0.970
Company							
Consorcio AGA	-2.671	-10.050	0.023	11.494	1.049	16.371	0.981
Impulsora de Marcas Mexicanas	-3.001	-2.969	0.017	2.655	1.149	4.524	0.751
Grupo Saenz	-2.082	-2.148	0.016	2.858	0.926	3.990	0.841
Administracion Multiple	-1.465	-0.679	0.039	3.318	0.730	1.429	0.719
Fideliq	-0.212	-0.099	0.049	0.371	0.346	1.545	0.099
Beta San Miguel Group	-3.637	-2.807	0.005	0.911	1.313	4.160	0.710
Grupo Santos	-2.339	-1.630	0.011	2.600	1.018	2.986	0.598
Grupo Azucarero Mexico	-2.039	-2.748	0.017	2.493	0.912	5.233	0.850
Concordio Machado	-2.739	-4.082	0.028	3.095	1.065	6.554	0.916
Grupo Seoane	-4.579	-5.010	0.014	1.114	1.500	7.085	0.910
Promotora Industrial Azucarera	-1.221	-2.702	0.028	5.895	0.734	6.679	0.966
Independente	-2.048	-3.652	0.008	3.216	0.931	7.107	0.867
Porres Group	-4.104	-5.680	0.015	4.483	1.391	8.844	0.832
Grupo Zucarmex	-0.990	-1.012	0.014	3.716	0.692	3.087	0.745
Consorcio Industrial Escorpion (CAZE)	-0.400	-0.310	0.026	4.720	0.544	1.815	0.843
States							
Sinaloa	-3.512	-3.474	0.021	3.700	1.203	5.122	0.783
Campeche	-3.010	-10.548	0.013	3.149	1.150	15.436	0.961
Tamaulipas	-3.485	-4.429	0.014	1.817	1.252	6.280	0.878
Quintana Roo	-1.575	-2.410	0.006	0.509	0.781	5.067	0.646
Colima	-2.254	-5.078	0.037	4.057	0.923	8.138	0.978
San Luis Potosi	-3.741	-4.159	0.014	1.794	1.357	6.031	0.800
Tabasco	-1.895	-2.580	0.033	1.192	0.824	5.273	0.831
Oaxaca	-1.707	-3.029	0.025	4.909	0.836	6.027	0.956
Veracruz	-1.459	-1.201	0.023	3.739	0.777	2.671	0.854
Nayarit	-1.873	-4.211	0.026	3.246	0.880	8.285	0.944
Jalisco	-1.975	-2.569	0.011	2.593	0.930	5.284	0.861
Michoacan	-3.097	-5.102	0.015	5.363	1.187	8.925	0.894
Chiapas	-1.648	-2.538	0.002	0.767	0.853	5.777	0.806
Puebla	-4.496	-3.171	0.027	1.606	1.450	4.879	0.726
Morelos	-1.214	-1.775	0.034	2.315	0.731	4.936	0.834
Mexico	-1.744	-1.705	0.019	4.344	0.849	3.498	0.879

1/ Presence of * indicates that the equation has been estimated correcting for serial correlation.

2/ Mills are sorted by ascending average earnings per hectare for 1993-98, and divided into 6 nearly equal groups -

#1 constitutes the 11 mills with the lowest earnings, #2 constitutes the 10 mills with the next highest average, and so on.

Appendix table 3--Regression results - earnings per hectare

Model: log(Earnings per hectare) = A +B*(Time Trend)+ C*log(Sales revenue per ton of sugar) + D*log(Sugar Yield)									
	Coefficient values and T-statistics							Adj. R2	Durbin-Watson 1/
	Coeff. A	T-stat	Coeff. B	T-stat	Coeff. C	T-stat	Coeff. D	T-stat	
Earnings Classifications 2/									
Number 1	-4.378	3.158	-0.098	6.406	0.883	4.678	3.516	6.929	0.648
Number 2	-0.910	0.915	-0.060	4.605	0.856	5.462	1.579	4.906	0.628
Number 3	-0.335	0.418	na	na	0.763	5.465	1.379	8.758	0.781
Number 4	-1.322	1.818	na	na	0.884	8.044	1.483	7.945	0.802
Number 5	-0.758	1.833	na	na	0.906	13.237	1.207	11.854	0.919
Number 6	-0.371	0.510	na	na	0.792	7.247	1.330	5.230	0.799
Company									
Consortio AGA	-3.835	-2.675	-0.141	-4.965	0.613	2.193	3.831	6.394	0.878
Impulsora de Marcas Mexicanas	-2.787	-2.721	-0.069	-6.220	1.080	7.322	2.133	7.437	0.851
Grupo Saenz	-0.952	-0.322	-0.066	-1.657	0.455	1.128	2.615	2.526	0.522
Administracion Multiple	-3.147	-3.917	-0.076	-5.638	0.898	8.486	2.654	9.966	0.927
Fideliq	4.409	5.336	0.054	8.490	0.233	2.221	0.212	0.721	0.841
Beta San Miguel Group	-0.539	-0.360	na	na	0.570	2.383	2.054	4.086	0.698
Grupo Santos	3.124	1.465	na	na	0.605	2.175	0.053	0.065	0.627
Grupo Azucarero Mexico	-4.300	-2.171	-0.043	-1.659	1.194	5.542	2.200	2.989	0.814
Concordio Machado	-1.116	-1.545	-0.020	-1.845	0.855	7.749	1.615	8.466	0.963
Grupo Seoane	0.142	0.086	na	na	0.874	2.974	0.779	2.290	0.583
Promotora Industrial Azucarera	-1.207	-1.014	na	na	1.240	5.822	0.517	1.572	0.797
Independente	-0.307	-0.409	na	na	0.806	7.179	1.257	3.935	0.900
Porres Group	-4.829	1.151	na	na	1.262	2.603	2.008	2.247	0.585
Grupo Zucarmex	-2.135	-1.079	-0.034	-1.809	0.881	4.784	2.000	2.350	0.740
Consortio Industrial Escorpion (CAZE)	0.456	0.419	na	na	0.521	2.864	1.626	4.916	0.789
States									
Sinaloa	-6.201	0.944	-0.159	1.387	1.724	1.987	1.611	0.941	0.118
Campeche	-1.302	0.647	0.041	1.640	0.549	1.477	2.586	7.108	0.871
Tamaulipas	-4.039	1.155	-0.100	2.135	0.862	1.488	3.483	5.122	0.748
Quintana Roo	-0.687	0.459	0.000	0.000	0.873	3.993	1.206	1.845	0.665
Colima	1.966	0.689	0.000	0.000	0.174	0.323	1.654	4.998	0.881
San Luis Potosi	-2.235	1.642	-0.033	2.255	0.992	4.281	1.936	8.129	0.927
Tabasco	-5.190	3.405	0.000	0.000	1.414	8.738	2.196	4.243	0.883
Oaxaca	-1.294	1.219	0.000	0.000	1.204	6.303	0.670	2.249	0.834
Veracruz	-0.903	0.928	-0.022	1.474	0.713	5.790	1.868	4.685	0.924
Nayarit	-0.591	1.090	-0.009	1.234	0.833	8.348	1.330	7.898	0.963
Jalisco	0.948	0.920	0.000	0.000	0.679	3.535	0.938	2.449	0.741
Michoacan	2.124	1.633	0.000	0.000	0.569	2.944	0.674	1.443	0.762
Chiapas	-2.033	1.617	-0.023	2.637	1.210	10.121	1.121	2.346	0.919
Puebla	1.938	0.829	0.000	0.000	0.188	0.513	1.637	2.975	0.422
Morelos	-0.281	0.226	0.000	0.000	0.808	4.883	1.259	3.682	0.775
Mexico	-1.450	0.931	-0.030	1.429	0.754	4.185	2.026	3.118	0.818
1/ Presence of * indicates that the equation has been estimated correcting for serial correlation.									
2/ Mills are sorted by ascending average earnings per hectare for 1993-98, and divided into 6 nearly equal groups - #1 constitutes the 11 mills with the lowest earnings, #2 constitutes the 10 mills with the next highest average, and so on.									

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Table 1--World production, supply, and distribution, centrifugal sugar

Country	Beginning stocks	Production	Imports	Total supply	Exports	Domestic consumption	Ending stocks
1,000 metric tons, raw value							
NORTH AMERICA							
Canada							
1994/1995	98	182	1,020	1,300	46	1,139	115
1995/1996	115	164	1,174	1,453	36	1,209	208
1996/1997	208	157	1,057	1,422	15	1,220	187
1997/1998	187	105	1,061	1,353	18	1,240	95
1998/1999	95	93	1,110	1,298	15	1,240	43
1999/2000	43	122	1,130	1,295	16	1,240	39
2000/2001	39	110	1,170	1,319	16	1,240	63
Mexico							
1994/1995	575	4,556	15	5,146	235	4,310	601
1995/1996	601	4,660	180	5,441	587	4,140	714
1996/1997	714	4,835	75	5,624	750	4,240	634
1997/1998	634	5,490	10	6,134	1,224	4,240	670
1998/1999	670	4,985	0	5,655	590	4,400	665
1999/2000	665	5,070	0	5,735	630	4,482	623
2000/2001	623	5,090	0	5,713	700	4,482	531
United States 1/							
1994/1995	1,213	7,191	1,664	10,068	472	8,470	1,126
1995/1996	1,126	6,686	2,536	10,348	327	8,667	1,354
1996/1997	1,354	6,536	2,517	10,407	191	8,866	1,350
1997/1998	1,350	7,276	1,962	10,588	162	8,903	1,523
1998/1999	1,523	7,597	1,655	10,775	209	9,079	1,487
1999/2000	1,487	8,237	1,567	11,291	208	9,299	1,784
2000/2001	1,784	8,186	NA	NA	159	9,421	NA
TOTAL NORTH AMERICA							
1994/1995	1,886	11,929	2,699	16,514	753	13,919	1,842
1995/1996	1,842	11,510	3,890	17,242	950	14,016	2,276
1996/1997	2,276	11,528	3,649	17,453	956	14,326	2,171
1997/1998	2,171	12,871	3,033	18,075	1,404	14,383	2,288
1998/1999	2,288	12,675	2,765	17,728	814	14,719	2,195
1999/2000	2,195	13,429	2,697	18,321	854	15,021	2,446
2000/2001	2,446	13,386	NA	NA	875	15,143	NA
CARIBBEAN							
Barbados							
1994/1995	2	40	15	57	40	15	2
1995/1996	2	60	20	82	62	16	4
1996/1997	4	65	10	79	60	16	3
1997/1998	3	46	17	66	48	16	2
1998/1999	2	60	16	78	58	17	3
1999/2000	3	60	15	78	50	18	10
2000/2001	10	50	20	80	50	20	10
Cuba							
1994/1995	170	3,300	0	3,470	2,600	470	400
1995/1996	400	4,450	0	4,850	3,800	650	400
1996/1997	400	4,200	0	4,600	3,600	700	300
1997/1998	300	3,200	0	3,500	2,500	710	290
1998/1999	290	3,780	0	4,070	3,200	720	150
1999/2000	150	4,100	0	4,250	3,100	730	420
2000/2001	420	4,000	0	4,420	3,500	740	180
Dominican Republic							
1994/1995	146	482	65	693	295	306	92
1995/1996	92	590	70	752	325	306	121
1996/1997	121	715	6	842	364	305	173
1997/1998	173	470	25	668	270	305	93
1998/1999	93	395	80	568	190	315	63
1999/2000	63	440	50	553	190	290	73
2000/2001	73	440	50	563	190	290	83

continued--

Table 1--World production, supply, and distribution, centrifugal sugar--continued

Country	Beginning stocks	Production	Imports	Total supply	Exports	Domestic consumption	Ending stocks
1,000 metric tons, raw value							
Haiti							
1994/1995	5	10	40	55	0	50	5
1995/1996	5	10	65	80	0	70	10
1996/1997	10	10	85	105	0	80	25
1997/1998	25	10	85	120	0	85	35
1998/1999	35	10	80	125	0	90	35
1999/2000	35	10	90	135	0	95	40
2000/2001	40	10	100	150	0	100	50
Jamaica							
1994/1995	30	212	48	290	145	125	20
1995/1996	20	238	69	327	170	125	32
1996/1997	32	236	68	336	181	125	30
1997/1998	30	187	85	302	168	129	5
1998/1999	5	205	97	307	177	124	6
1999/2000	6	208	95	309	177	124	8
2000/2001	8	215	90	313	180	124	9
St. Kitts and Nevis							
1994/1995	10	20	0	30	17	4	9
1995/1996	9	20	0	29	17	4	8
1996/1997	8	20	0	28	17	4	7
1997/1998	7	25	0	32	18	4	10
1998/1999	10	24	0	34	20	4	10
1999/2000	10	18	0	28	12	4	12
2000/2001	12	20	0	32	18	5	9
Trinidad and Tobago							
1994/1995	2	117	22	141	54	80	7
1995/1996	7	118	35	160	74	80	6
1996/1997	6	100	52	158	63	82	13
1997/1998	13	78	55	146	50	84	12
1998/1999	12	100	50	162	60	86	16
1999/2000	16	120	35	171	60	90	21
2000/2001	21	110	45	176	60	95	21
TOTAL OTHER							
1994/1995	10	0	27	37	0	27	10
1995/1996	10	0	35	45	0	33	12
1996/1997	12	0	38	50	0	35	15
1997/1998	15	0	38	53	0	37	16
1998/1999	16	0	36	52	0	38	14
1999/2000	14	0	36	50	0	38	12
2000/2001	12	0	36	48	0	38	10
TOTAL CARIBBEAN							
1994/1995	375	4,181	217	4,773	3,151	1,077	545
1995/1996	545	5,486	294	6,325	4,448	1,284	593
1996/1997	593	5,346	259	6,198	4,285	1,347	566
1997/1998	566	4,016	305	4,887	3,054	1,370	463
1998/1999	463	4,574	359	5,396	3,705	1,394	297
1999/2000	297	4,956	321	5,574	3,589	1,389	596
2000/2001	596	4,845	341	5,782	3,998	1,412	372
CENTRAL AMERICA							
Belize							
1994/1995	9	105	0	114	98	11	5
1995/1996	5	110	0	115	98	12	5
1996/1997	5	110	0	115	95	12	8
1997/1998	8	118	0	126	95	14	17
1998/1999	17	123	0	140	100	16	24
1999/2000	24	120	0	144	105	18	21
2000/2001	21	120	0	141	100	20	21

continued--

Table 1--World production, supply, and distribution, centrifugal sugar--continued

Country	Beginning stocks	Production	Imports	Total supply	Exports	Domestic consumption	Ending stocks
1,000 metric tons, raw value							
Costa Rica							
1994/1995	90	331	0	421	158	193	70
1995/1996	70	353	0	423	158	194	71
1996/1997	71	333	0	404	150	199	55
1997/1998	55	380	0	435	145	207	83
1998/1999	83	375	0	458	172	215	71
1999/2000	71	350	0	421	150	215	56
2000/2001	56	360	0	416	150	220	46
El Salvador							
1994/1995	27	312	0	339	118	210	11
1995/1996	11	310	0	321	98	208	15
1996/1997	15	393	0	408	170	215	23
1997/1998	23	463	0	486	244	216	26
1998/1999	26	435	0	461	213	224	24
1999/2000	24	490	0	514	262	230	22
2000/2001	22	431	0	453	196	236	21
Guatemala							
1994/1995	68	1,333	0	1,401	931	395	75
1995/1996	75	1,334	0	1,409	923	411	75
1996/1997	75	1,566	0	1,641	1,075	432	134
1997/1998	134	1,720	0	1,854	1,361	447	46
1998/1999	46	1,561	0	1,607	1,086	451	70
1999/2000	70	1,617	0	1,687	1,140	451	96
2000/2001	96	1,591	0	1,687	1,140	455	92
Honduras							
1994/1995	16	214	14	244	15	188	41
1995/1996	41	235	0	276	22	202	52
1996/1997	52	248	0	300	17	210	73
1997/1998	73	261	0	334	23	231	80
1998/1999	80	197	35	312	11	224	77
1999/2000	77	322	20	419	80	253	86
2000/2001	86	330	4	420	75	260	85
Nicaragua							
1994/1995	27	250	0	277	111	156	10
1995/1996	10	301	0	311	115	180	16
1996/1997	16	354	0	370	171	184	15
1997/1998	15	357	0	372	168	186	18
1998/1999	18	334	0	352	111	176	65
1999/2000	65	408	0	473	180	180	113
2000/2001	113	370	0	483	200	185	98
Panama							
1994/1995	17	121	0	138	47	83	8
1995/1996	8	137	0	145	50	84	11
1996/1997	11	160	0	171	52	88	31
1997/1998	31	175	0	206	65	91	50
1998/1999	50	170	0	220	60	98	62
1999/2000	62	165	0	227	55	100	72
2000/2001	72	165	0	237	60	105	72
TOTAL CENTRAL AMERICA							
1994/1995	254	2,666	14	2,934	1,478	1,236	220
1995/1996	220	2,780	0	3,000	1,464	1,291	245
1996/1997	245	3,164	0	3,409	1,730	1,340	339
1997/1998	339	3,474	0	3,813	2,101	1,392	320
1998/1999	320	3,195	35	3,550	1,753	1,404	393
1999/2000	393	3,472	20	3,885	1,972	1,447	466
2000/2001	466	3,367	4	3,837	1,921	1,481	435

continued--

Table 1--World production, supply, and distribution, centrifugal sugar--continued

Country	Beginning stocks	Production	Imports	Total supply	Exports	Domestic consumption	Ending stocks
1,000 metric tons, raw value							
SOUTH AMERICA							
Argentina							
1994/1995	53	1,180	180	1,413	55	1,310	48
1995/1996	48	1,590	20	1,658	170	1,350	138
1996/1997	138	1,380	36	1,554	163	1,143	248
1997/1998	248	1,750	23	2,021	261	1,560	200
1998/1999	200	1,830	1	2,031	189	1,520	322
1999/2000	322	1,670	1	1,993	200	1,530	263
2000/2001	263	1,650	1	1,914	250	1,540	124
Bolivia							
1994/1995	87	270	0	357	60	210	87
1995/1996	87	265	0	352	65	210	77
1996/1997	77	300	0	377	45	225	107
1997/1998	107	332	0	439	74	230	135
1998/1999	135	280	0	415	65	235	115
1999/2000	115	280	0	395	35	240	120
2000/2001	120	300	0	420	50	245	125
Brazil							
1994/1995	455	12,500	55	13,010	4,300	8,000	710
1995/1996	710	13,700	0	14,410	5,800	8,100	510
1996/1997	510	14,650	0	15,160	5,800	8,500	860
1997/1998	860	15,700	0	16,560	7,200	8,800	560
1998/1999	560	18,300	0	18,860	8,750	9,100	1,010
1999/2000	1,010	19,700	0	20,710	10,500	9,100	1,110
2000/2001	1,110	14,500	0	15,610	6,000	9,200	410
Chile							
1994/1995	156	505	74	735	0	615	120
1995/1996	120	598	134	852	0	720	132
1996/1997	132	473	217	822	0	680	142
1997/1998	142	388	276	806	0	680	126
1998/1999	126	505	157	788	0	685	103
1999/2000	103	494	201	798	0	690	108
2000/2001	108	500	201	809	0	690	119
Colombia							
1994/1995	118	2,071	54	2,243	523	1,344	376
1995/1996	376	2,002	3	2,381	694	1,390	297
1996/1997	297	2,132	8	2,437	821	1,350	266
1997/1998	266	2,110	4	2,380	1,020	1,296	64
1998/1999	64	2,199	7	2,270	960	1,261	49
1999/2000	49	2,250	7	2,306	920	1,291	95
2000/2001	95	2,280	6	2,381	940	1,318	123
Ecuador							
1994/1995	50	339	93	482	17	404	61
1995/1996	61	373	52	486	22	400	64
1996/1997	64	451	0	515	40	406	69
1997/1998	69	189	135	393	4	380	9
1998/1999	9	345	72	426	17	380	29
1999/2000	29	395	12	436	69	360	7
2000/2001	7	430	0	437	50	380	7
Guyana							
1994/1995	2	254	7	263	227	30	6
1995/1996	6	280	8	294	256	32	6
1996/1997	6	276	8	290	256	32	2
1997/1998	2	248	0	250	216	32	2
1998/1999	2	260	8	270	198	30	42
1999/2000	42	290	8	340	275	32	33
2000/2001	33	300	0	333	268	33	32

continued--

Table 1--World production, supply, and distribution, centrifugal sugar--continued

Country	Beginning stocks	Production	Imports	Total supply	Exports	Domestic consumption	Ending stocks
1,000 metric tons, raw value							
Paraguay							
1994/1995	14	95	0	109	0	101	8
1995/1996	8	126	0	134	7	105	22
1996/1997	22	110	20	152	10	106	36
1997/1998	36	130	15	181	10	116	55
1998/1999	55	140	8	203	30	121	52
1999/2000	52	120	14	186	5	125	56
2000/2001	56	120	0	176	20	126	30
Peru							
1994/1995	85	641	368	1,094	76	820	198
1995/1996	198	641	240	1,079	65	834	180
1996/1997	180	605	314	1,099	83	883	133
1997/1998	133	460	470	1,063	60	905	98
1998/1999	98	655	343	1,096	21	940	135
1999/2000	135	700	300	1,135	45	960	130
2000/2001	130	720	300	1,150	45	975	130
Surinam							
1994/1995	3	1	12	16	0	13	3
1995/1996	3	1	12	16	0	13	3
1996/1997	3	1	12	16	0	13	3
1997/1998	3	1	13	17	0	14	3
1998/1999	3	1	15	19	0	15	4
1999/2000	4	1	16	21	0	16	5
2000/2001	5	1	16	22	0	16	6
Uruguay							
1994/1995	20	25	83	128	6	100	22
1995/1996	22	25	80	127	8	102	17
1996/1997	17	25	85	127	10	105	12
1997/1998	12	20	105	137	15	110	12
1998/1999	12	20	100	132	5	115	12
1999/2000	12	10	120	142	0	120	22
2000/2001	22	10	110	142	0	120	22
Venezuela							
1994/1995	78	530	245	853	53	760	40
1995/1996	40	550	331	921	76	758	87
1996/1997	87	588	271	946	80	706	160
1997/1998	160	588	271	1,019	80	701	238
1998/1999	238	535	355	1,128	60	670	398
1999/2000	398	535	72	1,005	50	680	275
2000/2001	275	535	75	885	60	680	145
TOTAL SOUTH AMERICA							
1994/1995	1,121	18,411	1,171	20,703	5,317	13,707	1,679
1995/1996	1,679	20,151	880	22,710	7,163	14,014	1,533
1996/1997	1,533	20,991	971	23,495	7,308	14,149	2,038
1997/1998	2,038	21,916	1,312	25,266	8,940	14,824	1,502
1998/1999	1,502	25,070	1,066	27,638	10,295	15,072	2,271
1999/2000	2,271	26,445	751	29,467	12,099	15,144	2,224
2000/2001	2,224	21,346	709	24,279	7,683	15,323	1,273
EUROPEAN UNION 2/							
1994/1995	3,004	16,761	2,137	21,902	5,449	14,659	1,794
1995/1996	1,794	17,234	1,813	20,841	4,629	14,146	2,066
1996/1997	2,066	18,221	1,808	22,095	5,228	14,332	2,535
1997/1998	2,535	19,305	1,829	23,669	6,361	14,307	3,001
1998/1999	3,001	17,818	1,867	22,686	5,329	14,357	3,000
1999/2000	3,000	19,546	1,835	24,381	6,600	14,256	3,525
2000/2001	3,525	16,951	1,825	22,301	5,200	14,300	2,801

continued--

Table 1--World production, supply, and distribution, centrifugal sugar--continued

Country	Beginning stocks	Production	Imports	Total supply	Exports	Domestic consumption	Ending stocks
1,000 metric tons, raw value							
OTHER WESTERN EUROPE							
Norway							
1994/1995	11	0	165	176	0	165	11
1995/1996	11	0	170	181	0	170	11
1996/1997	11	0	175	186	0	170	16
1997/1998	16	0	185	201	0	185	16
1998/1999	16	0	185	201	0	185	16
1999/2000	16	0	200	216	0	190	26
2000/2001	26	0	190	216	0	192	24
Switzerland							
1994/1995	139	128	150	417	0	293	124
1995/1996	124	135	160	419	0	295	124
1996/1997	124	200	130	454	0	300	154
1997/1998	154	200	120	474	0	310	164
1998/1999	164	190	115	469	0	315	154
1999/2000	154	190	135	479	0	320	159
2000/2001	159	190	140	489	0	325	164
Total Other							
1994/1995	10	0	32	42	0	32	10
1995/1996	10	0	36	46	0	34	12
1996/1997	12	0	37	49	0	36	13
1997/1998	13	0	41	54	0	39	15
1998/1999	15	0	43	58	0	42	16
1999/2000	16	0	43	59	0	43	16
2000/2001	16	0	43	59	0	43	16
TOTAL OTHER WESTERN EUROPE							
1994/1995	160	128	347	635	0	490	145
1995/1996	145	135	366	646	0	499	147
1996/1997	147	200	342	689	0	506	183
1997/1998	183	200	346	729	0	534	195
1998/1999	195	190	343	728	0	542	186
1999/2000	186	190	378	754	0	553	201
2000/2001	201	190	373	764	0	560	204
EASTERN EUROPE							
Albania							
1994/1995	6	10	40	56	0	50	6
1995/1996	6	10	45	61	0	50	11
1996/1997	11	7	48	66	0	55	11
1997/1998	11	3	50	64	0	60	4
1998/1999	4	5	65	74	0	65	9
1999/2000	9	5	70	84	0	69	15
2000/2001	15	5	70	90	0	70	20
Bulgaria							
1994/1995	50	13	400	463	124	279	60
1995/1996	60	15	400	475	124	291	60
1996/1997	60	9	288	357	87	240	30
1997/1998	30	6	401	437	41	245	151
1998/1999	151	5	247	403	35	250	118
1999/2000	118	5	230	353	19	255	79
2000/2001	79	5	257	341	21	260	60
Czech Republic							
1994/1995	54	375	11	440	31	406	3
1995/1996	3	477	22	502	26	456	20
1996/1997	20	610	9	639	132	455	52
1997/1998	52	480	100	632	50	450	132
1998/1999	132	380	70	582	50	450	82
1999/2000	82	380	75	537	50	455	32
2000/2001	32	370	119	521	14	455	52

continued--

Table 1--World production, supply, and distribution, centrifugal sugar--continued

Country	Beginning stocks	Production	Imports	Total supply	Exports	Domestic consumption	Ending stocks
1,000 metric tons, raw value							
Hungary							
1994/1995	61	425	5	491	20	400	71
1995/1996	71	484	0	555	30	420	105
1996/1997	105	490	0	595	20	440	135
1997/1998	135	480	0	615	40	450	125
1998/1999	125	400	1	526	24	390	112
1999/2000	112	420	0	532	21	390	121
2000/2001	121	380	0	501	10	400	91
Poland							
1994/1995	250	1,492	120	1,862	22	1,728	112
1995/1996	112	1,714	59	1,885	5	1,762	118
1996/1997	118	2,435	87	2,640	558	1,804	278
1997/1998	278	2,239	11	2,528	442	1,783	303
1998/1999	303	2,239	13	2,555	489	1,740	326
1999/2000	326	1,957	10	2,293	370	1,716	207
2000/2001	207	1,900	5	2,112	186	1,746	180
Romania							
1994/1995	15	212	197	424	0	414	10
1995/1996	10	270	200	480	0	465	15
1996/1997	15	318	210	543	0	528	15
1997/1998	15	284	440	739	1	600	138
1998/1999	138	245	260	643	0	573	70
1999/2000	70	150	400	620	0	570	50
2000/2001	50	140	423	613	0	573	40
Slovakia							
1994/1995	40	130	80	250	0	210	40
1995/1996	40	145	50	235	10	210	15
1996/1997	15	246	50	311	40	225	46
1997/1998	46	250	30	326	25	235	66
1998/1999	66	170	55	291	25	235	31
1999/2000	31	210	55	296	15	240	41
2000/2001	41	240	0	281	10	242	29
Former Yugoslavia 3/							
1994/1995	20	340	330	690	0	660	30
1995/1996	30	242	375	647	0	640	7
1996/1997	7	580	160	747	15	670	62
1997/1998	62	530	160	752	0	675	77
1998/1999	77	453	215	745	0	680	65
1999/2000	65	460	275	800	0	685	115
2000/2001	115	360	260	735	0	670	65
TOTAL EASTERN EUROPE							
1994/1995	496	2,997	1,183	4,676	197	4,147	332
1995/1996	332	3,357	1,151	4,840	195	4,294	351
1996/1997	351	4,695	852	5,898	852	4,417	629
1997/1998	629	4,272	1,192	6,093	599	4,498	996
1998/1999	996	3,897	926	5,819	623	4,383	813
1999/2000	813	3,587	1,115	5,515	475	4,380	660
2000/2001	660	3,400	1,134	5,194	241	4,416	537
FORMER SOVIET UNION							
Belarus, Republic of							
1994/1995	60	107	240	407	0	360	47
1995/1996	47	152	215	414	0	360	54
1996/1997	54	140	280	474	30	375	69
1997/1998	69	165	340	574	115	380	79
1998/1999	79	185	335	599	130	385	84
1999/2000	84	160	370	614	125	390	99
2000/2001	99	150	375	624	130	395	99

continued--

Table 1--World production, supply, and distribution, centrifugal sugar--continued

Country	Beginning stocks	Production	Imports	Total supply	Exports	Domestic consumption	Ending stocks
1,000 metric tons, raw value							
Kazakhstan, Republic of							
1994/1995	109	60	382	551	0	510	41
1995/1996	41	50	400	491	0	450	41
1996/1997	41	65	400	506	0	460	46
1997/1998	46	87	390	523	0	460	63
1998/1999	63	85	400	548	0	460	88
1999/2000	88	90	450	628	0	465	163
2000/2001	163	85	340	588	0	465	123
Russian Federation							
1994/1995	1,520	1,655	2,700	5,875	100	4,900	875
1995/1996	875	2,060	3,200	6,135	100	5,000	1,035
1996/1997	1,035	1,300	3,600	5,935	130	5,100	705
1997/1998	705	1,300	4,210	6,215	150	4,960	1,105
1998/1999	1,105	1,300	5,400	7,805	160	4,995	2,650
1999/2000	2,650	1,500	5,170	9,320	190	6,130	3,000
2000/2001	3,000	1,520	4,170	8,690	200	5,820	2,670
Ukraine							
1994/1995	570	3,600	200	4,370	1,700	2,300	370
1995/1996	370	3,800	300	4,470	1,487	2,250	733
1996/1997	733	2,935	175	3,843	1,620	2,150	73
1997/1998	73	2,032	153	2,258	144	1,900	214
1998/1999	214	2,000	265	2,479	134	2,050	295
1999/2000	295	1,720	381	2,396	30	2,070	296
2000/2001	296	1,800	300	2,396	50	2,070	276
Uzbekistan, Republic of							
1994/1995	100	0	430	530	0	450	80
1995/1996	80	0	410	490	0	430	60
1996/1997	60	0	450	510	0	435	75
1997/1998	75	0	460	535	0	445	90
1998/1999	90	0	460	550	0	455	95
1999/2000	95	0	500	595	0	465	130
2000/2001	130	0	450	580	0	470	110
TOTAL OTHER NON-BALTIC STATES 4/							
1994/1995	146	171	761	1,078	39	900	139
1995/1996	139	205	665	1,009	40	840	129
1996/1997	129	205	688	1,022	30	866	126
1997/1998	126	227	725	1,078	53	884	141
1998/1999	141	207	735	1,083	40	900	143
1999/2000	143	177	750	1,070	20	915	135
2000/2001	135	177	748	1,060	5	925	130
BALTIC STATES 5/							
1994/1995	44	80	180	304	0	270	34
1995/1996	34	115	145	294	0	260	34
1996/1997	34	105	185	324	0	280	44
1997/1998	44	168	170	382	15	295	72
1998/1999	72	206	136	414	20	315	79
1999/2000	79	195	160	434	15	322	97
2000/2001	97	195	155	447	10	332	105
TOTAL FORMER SOVIET UNION							
1994/1995	2,549	5,673	4,893	13,115	1,839	9,690	1,586
1995/1996	1,586	6,382	5,335	13,303	1,627	9,590	2,086
1996/1997	2,086	4,750	5,778	12,614	1,810	9,666	1,138
1997/1998	1,138	3,979	6,448	11,565	477	9,324	1,764
1998/1999	1,764	3,983	7,731	13,478	484	9,560	3,434
1999/2000	3,434	3,842	7,781	15,057	380	10,757	3,920
2000/2001	3,920	3,927	6,538	14,385	395	10,477	3,513

continued--

Table 1--World production, supply, and distribution, centrifugal sugar--continued

Country	Beginning stocks	Production	Imports	Total supply	Exports	Domestic consumption	Ending stocks
1,000 metric tons, raw value							
NORTH AFRICA							
Algeria							
1994/1995	105	10	990	1,105	100	910	95
1995/1996	95	0	1,000	1,095	80	915	100
1996/1997	100	0	920	1,020	1	920	99
1997/1998	99	0	925	1,024	1	930	93
1998/1999	93	0	940	1,033	1	935	97
1999/2000	97	0	1,000	1,097	0	940	157
2000/2001	157	0	900	1,057	0	950	107
Egypt							
1994/1995	180	1,088	584	1,852	63	1,620	169
1995/1996	169	1,092	617	1,878	3	1,647	228
1996/1997	228	1,156	1,305	2,689	206	1,890	593
1997/1998	593	1,170	915	2,678	118	1,920	640
1998/1999	640	1,180	653	2,473	150	1,950	373
1999/2000	373	1,260	558	2,191	0	1,960	231
2000/2001	231	1,280	710	2,221	0	1,970	251
Libya							
1994/1995	55	0	210	265	0	210	55
1995/1996	55	0	215	270	0	215	55
1996/1997	55	0	230	285	0	220	65
1997/1998	65	0	250	315	0	230	85
1998/1999	85	0	230	315	0	240	75
1999/2000	75	0	260	335	0	245	90
2000/2001	90	0	250	340	0	250	90
Morocco							
1994/1995	186	470	455	1,111	0	950	161
1995/1996	161	436	477	1,074	0	900	174
1996/1997	174	438	513	1,125	0	930	195
1997/1998	195	406	586	1,187	0	990	197
1998/1999	197	490	561	1,248	0	990	258
1999/2000	258	500	457	1,215	0	990	225
2000/2001	225	475	465	1,165	0	990	175
Sudan							
1994/1995	33	470	0	503	40	430	33
1995/1996	33	500	0	533	60	430	43
1996/1997	43	540	0	583	50	480	53
1997/1998	53	600	0	653	100	500	53
1998/1999	53	610	0	663	110	510	43
1999/2000	43	640	0	683	110	515	58
2000/2001	58	620	0	678	110	515	53
Tunisia							
1994/1995	76	26	210	312	0	245	67
1995/1996	67	30	230	327	0	260	67
1996/1997	67	30	230	327	0	260	67
1997/1998	67	25	275	367	0	275	92
1998/1999	92	20	260	372	0	280	92
1999/2000	92	20	280	392	0	290	102
2000/2001	102	20	275	397	0	295	102
TOTAL NORTH AFRICA							
1994/1995	635	2,064	2,449	5,148	203	4,365	580
1995/1996	580	2,058	2,539	5,177	143	4,367	667
1996/1997	667	2,164	3,198	6,029	257	4,700	1,072
1997/1998	1,072	2,201	2,951	6,224	219	4,845	1,160
1998/1999	1,160	2,300	2,644	6,104	261	4,905	938
1999/2000	938	2,420	2,555	5,913	110	4,940	863
2000/2001	863	2,395	2,600	5,858	110	4,970	778

continued--

Table 1--World production, supply, and distribution, centrifugal sugar--continued

Country	Beginning stocks	Production	Imports	Total supply	Exports	Domestic consumption	Ending stocks
1,000 metric tons, raw value							
SUB-SAHARA AFRICA							
Cote d'Ivoire							
1994/1995	47	150	15	212	20	165	27
1995/1996	27	130	30	187	5	160	22
1996/1997	22	150	30	202	18	165	19
1997/1998	19	115	75	209	14	170	25
1998/1999	25	140	60	225	30	175	20
1999/2000	20	140	70	230	15	180	35
2000/2001	35	130	70	235	15	180	40
Ethiopia							
1994/1995	25	200	0	225	50	150	25
1995/1996	25	200	0	225	50	150	25
1996/1997	25	170	40	235	50	160	25
1997/1998	25	200	20	245	25	175	45
1998/1999	45	270	5	320	65	190	65
1999/2000	65	280	15	360	40	210	110
2000/2001	110	260	0	370	20	210	140
Kenya							
1994/1995	68	302	250	620	0	560	60
1995/1996	60	386	250	696	0	600	96
1996/1997	96	388	165	649	24	620	5
1997/1998	5	480	220	705	15	650	40
1998/1999	40	449	250	739	50	650	39
1999/2000	39	470	310	819	20	660	139
2000/2001	139	446	240	825	20	665	140
Malawi							
1994/1995	56	200	0	256	45	155	56
1995/1996	56	200	0	256	50	155	51
1996/1997	51	215	13	279	54	175	50
1997/1998	50	195	10	255	45	180	30
1998/1999	30	225	8	263	43	185	35
1999/2000	35	240	0	275	50	195	30
2000/2001	30	230	5	265	30	200	35
Mauritius							
1994/1995	40	532	0	572	508	42	22
1995/1996	22	572	31	625	560	40	25
1996/1997	25	665	0	690	593	42	55
1997/1998	55	658	0	713	644	45	24
1998/1999	24	670	1	695	550	45	100
1999/2000	100	400	0	500	320	45	135
2000/2001	135	610	0	745	650	46	49
Nigeria							
1994/1995	140	40	490	670	30	500	140
1995/1996	140	30	542	712	12	590	110
1996/1997	110	15	555	680	10	600	70
1997/1998	70	15	660	745	20	640	85
1998/1999	85	16	700	801	20	675	106
1999/2000	106	20	825	951	20	715	216
2000/2001	216	50	700	966	100	735	131
South Africa, Republic of							
1994/1995	288	1,770	0	2,058	369	1,315	374
1995/1996	374	1,769	23	2,166	399	1,393	374
1996/1997	374	2,408	53	2,835	1,056	1,405	374
1997/1998	374	2,560	46	2,980	1,160	1,400	420
1998/1999	420	2,808	62	3,290	1,355	1,375	560
1999/2000	560	2,685	55	3,300	1,330	1,400	570
2000/2001	570	2,700	55	3,325	1,450	1,425	450

continued--

Table 1--World production, supply, and distribution, centrifugal sugar--continued

Country	Beginning stocks	Production	Imports	Total supply	Exports	Domestic consumption	Ending stocks
1,000 metric tons, raw value							
Swaziland							
1994/1995	18	495	0	513	296	166	51
1995/1996	51	447	0	498	307	170	21
1996/1997	21	502	0	523	293	180	50
1997/1998	50	518	0	568	272	225	71
1998/1999	71	540	0	611	300	225	86
1999/2000	86	515	0	601	250	225	126
2000/2001	126	520	0	646	350	230	66
Tanzania, United Republic of							
1994/1995	12	135	58	205	13	180	12
1995/1996	12	130	105	247	15	200	32
1996/1997	32	110	125	267	15	220	32
1997/1998	32	80	170	282	10	250	22
1998/1999	22	115	175	312	10	270	32
1999/2000	32	120	190	342	5	290	47
2000/2001	47	120	190	357	5	300	52
Zaire							
1994/1995	15	60	68	143	0	115	28
1995/1996	28	83	32	143	0	120	23
1996/1997	23	85	25	133	0	120	13
1997/1998	13	90	60	163	0	122	41
1998/1999	41	70	65	176	0	127	49
1999/2000	49	70	70	189	0	130	59
2000/2001	59	70	65	194	0	135	59
Zimbabwe							
1994/1995	25	524	0	549	250	272	27
1995/1996	27	524	0	551	187	309	55
1996/1997	55	338	80	473	156	317	0
1997/1998	0	573	0	573	224	343	6
1998/1999	6	570	0	576	182	394	0
1999/2000	0	584	0	584	127	414	43
2000/2001	43	587	0	630	190	410	30
TOTAL OTHER							
1994/1995	187	697	850	1,734	120	1,447	167
1995/1996	167	742	852	1,761	110	1,471	180
1996/1997	180	807	911	1,898	90	1,571	237
1997/1998	237	816	977	2,030	88	1,678	264
1998/1999	264	860	1,052	2,176	110	1,787	279
1999/2000	279	855	1,201	2,335	80	1,879	376
2000/2001	376	834	1,175	2,385	73	1,909	403
TOTAL SUB-SAHARAN AFRICA							
1994/1995	921	5,105	1,731	7,757	1,701	5,067	989
1995/1996	989	5,213	1,865	8,067	1,695	5,358	1,014
1996/1997	1,014	5,853	1,997	8,864	2,359	5,575	930
1997/1998	930	6,300	2,238	9,468	2,517	5,878	1,073
1998/1999	1,073	6,733	2,378	10,184	2,715	6,098	1,371
1999/2000	1,371	6,379	2,736	10,486	2,257	6,343	1,886
2000/2001	1,886	6,557	2,500	10,943	2,903	6,445	1,595
MIDDLE EAST							
Cyprus							
1994/1995	6	0	23	29	0	23	6
1995/1996	6	0	25	31	0	23	8
1996/1997	8	0	35	43	0	30	13
1997/1998	13	0	30	43	0	35	8
1998/1999	8	0	40	48	0	40	8
1999/2000	8	0	45	53	0	45	8
2000/2001	8	0	45	53	0	45	8

continued--

Table 1--World production, supply, and distribution, centrifugal sugar--continued

Country	Beginning stocks	Production	Imports	Total supply	Exports	Domestic consumption	Ending stocks
1,000 metric tons, raw value							
Iran							
1994/1995	400	900	800	2,100	0	1,830	270
1995/1996	270	940	940	2,150	0	1,850	300
1996/1997	300	700	1,350	2,350	0	1,870	480
1997/1998	480	810	1,200	2,490	0	1,900	590
1998/1999	590	875	900	2,365	0	2,000	365
1999/2000	365	875	1,500	2,740	0	2,100	640
2000/2001	640	835	1,300	2,775	0	2,200	575
Iraq							
1994/1995	10	12	498	520	0	510	10
1995/1996	10	12	515	537	0	525	12
1996/1997	12	12	540	564	0	550	14
1997/1998	14	5	580	599	0	570	29
1998/1999	29	5	565	599	0	580	19
1999/2000	19	5	605	629	0	600	29
2000/2001	29	5	595	629	0	600	29
Israel							
1994/1995	73	0	328	401	0	330	71
1995/1996	71	0	358	429	0	360	69
1996/1997	69	0	390	459	0	390	69
1997/1998	69	0	405	474	0	410	64
1998/1999	64	0	450	514	0	440	74
1999/2000	74	0	500	574	0	450	124
2000/2001	124	0	410	534	0	455	79
Jordan							
1994/1995	10	0	182	192	0	182	10
1995/1996	10	0	185	195	0	182	13
1996/1997	13	0	195	208	0	187	21
1997/1998	21	0	190	211	0	192	19
1998/1999	19	0	195	214	0	192	22
1999/2000	22	0	205	227	0	195	32
2000/2001	32	0	205	237	0	200	37
Lebanon							
1994/1995	20	18	100	138	0	117	21
1995/1996	21	25	90	136	0	120	16
1996/1997	16	30	90	136	0	125	11
1997/1998	11	30	100	141	0	130	11
1998/1999	11	30	105	146	0	135	11
1999/2000	11	30	105	146	0	135	11
2000/2001	11	30	107	148	0	137	11
Saudi Arabia							
1994/1995	80	0	490	570	0	495	75
1995/1996	75	0	525	600	0	520	80
1996/1997	80	0	540	620	0	540	80
1997/1998	80	0	565	645	0	555	90
1998/1999	90	0	560	650	0	570	80
1999/2000	80	0	640	720	0	580	140
2000/2001	140	0	520	660	0	590	70
Syria							
1994/1995	77	115	405	597	0	525	72
1995/1996	72	115	450	637	0	550	87
1996/1997	87	109	465	661	0	570	91
1997/1998	91	95	490	676	0	590	86
1998/1999	86	110	500	696	0	610	86
1999/2000	86	110	525	721	0	620	101
2000/2001	101	100	530	731	0	630	101

continued--

Table 1--World production, supply, and distribution, centrifugal sugar--continued

Country	Beginning stocks	Production	Imports	Total supply	Exports	Domestic consumption	Ending stocks
1,000 metric tons, raw value							
Turkey							
1994/1995	177	1,678	322	2,177	126	1,830	221
1995/1996	221	1,375	736	2,332	4	1,900	428
1996/1997	428	2,025	153	2,606	113	1,960	533
1997/1998	533	2,372	10	2,915	236	2,020	659
1998/1999	659	2,947	5	3,611	433	2,080	1,098
1999/2000	1,098	2,159	10	3,267	700	2,110	457
2000/2001	457	2,065	0	2,522	200	2,145	177
Yemen							
1994/1995	40	0	350	390	0	355	35
1995/1996	35	0	360	395	0	355	40
1996/1997	40	0	355	395	0	355	40
1997/1998	40	0	368	408	0	368	40
1998/1999	40	0	390	430	0	385	45
1999/2000	45	0	405	450	0	400	50
2000/2001	50	0	405	455	0	405	50
PERSIAN GULF STATES 6/							
1994/1995	84	0	373	457	0	373	84
1995/1996	84	0	385	469	0	379	90
1996/1997	90	0	390	480	0	389	91
1997/1998	91	0	409	500	0	410	90
1998/1999	90	0	430	520	0	416	104
1999/2000	104	0	448	552	0	424	128
2000/2001	128	0	430	558	0	429	129
TOTAL MIDDLE EAST							
1994/1995	977	2,723	3,871	7,571	126	6,570	875
1995/1996	875	2,467	4,569	7,911	4	6,764	1,143
1996/1997	1,143	2,876	4,503	8,522	113	6,966	1,443
1997/1998	1,443	3,312	4,347	9,102	236	7,180	1,686
1998/1999	1,686	3,967	4,140	9,793	433	7,448	1,912
1999/2000	1,912	3,179	4,988	10,079	700	7,659	1,720
2000/2001	1,720	3,035	4,547	9,302	200	7,836	1,266
ASIA							
Bangladesh							
1994/1995	58	290	40	388	0	332	56
1995/1996	56	200	150	406	0	350	56
1996/1997	56	150	215	421	0	375	46
1997/1998	46	180	250	476	0	420	56
1998/1999	56	165	270	491	0	460	31
1999/2000	31	180	315	526	0	485	41
2000/2001	41	180	310	531	0	500	31
China, People's Republic of							
1994/1995	1,168	6,299	4,110	11,577	414	7,948	3,215
1995/1996	3,215	6,686	1,775	11,676	952	8,040	2,684
1996/1997	2,684	7,789	1,014	11,487	435	8,268	2,784
1997/1998	2,784	8,631	420	11,835	308	9,012	2,515
1998/1999	2,515	8,969	517	12,001	453	9,000	2,548
1999/2000	2,548	7,203	700	10,451	205	9,180	1,066
2000/2001	1,066	8,045	1,400	10,511	205	9,364	942
India 7/							
1994/1995	2,776	16,410	685	19,871	40	13,841	5,990
1995/1996	5,990	18,225	0	24,215	940	14,820	8,455
1996/1997	8,455	14,616	27	23,098	422	15,697	6,979
1997/1998	6,979	14,592	1,000	22,571	21	16,700	5,850
1998/1999	5,850	17,436	1,075	24,361	10	16,977	7,374
1999/2000	7,374	18,935	380	26,689	10	17,829	8,850
2000/2001	8,850	17,360	0	26,210	10	18,350	7,850

continued--

Table 1--World production, supply, and distribution, centrifugal sugar--continued

Country	Beginning stocks	Production	Imports	Total supply	Exports	Domestic consumption	Ending stocks
1,000 metric tons, raw value							
Indonesia							
1994/1995	414	2,450	301	3,165	0	2,800	365
1995/1996	365	2,090	919	3,374	0	2,900	474
1996/1997	474	2,094	1,091	3,659	0	3,100	559
1997/1998	559	2,190	921	3,670	0	3,150	520
1998/1999	520	1,492	1,788	3,800	6	2,800	994
1999/2000	994	1,489	1,600	4,083	17	3,100	966
2000/2001	966	1,450	1,600	4,016	0	3,200	816
Japan							
1994/1995	140	817	1,703	2,660	3	2,520	137
1995/1996	137	901	1,673	2,711	4	2,520	187
1996/1997	187	709	1,608	2,504	6	2,374	124
1997/1998	124	799	1,592	2,515	10	2,418	87
1998/1999	87	852	1,542	2,481	4	2,313	164
1999/2000	164	795	1,573	2,532	7	2,300	225
2000/2001	225	780	1,600	2,605	10	2,350	245
Korea, Republic of							
1994/1995	102	0	1,345	1,447	305	1,015	127
1995/1996	127	0	1,411	1,538	276	1,122	140
1996/1997	140	0	1,497	1,637	271	1,214	152
1997/1998	152	0	1,424	1,576	348	1,092	136
1998/1999	136	0	1,403	1,539	328	1,118	93
1999/2000	93	0	1,440	1,533	300	1,150	83
2000/2001	83	0	1,460	1,543	290	1,173	80
Malaysia							
1994/1995	256	102	1,030	1,388	95	1,030	263
1995/1996	263	105	1,120	1,488	110	1,096	282
1996/1997	282	108	1,166	1,556	135	1,170	251
1997/1998	251	107	1,065	1,423	156	1,090	177
1998/1999	177	107	1,186	1,470	215	1,120	135
1999/2000	135	110	1,280	1,525	200	1,160	165
2000/2001	165	113	1,310	1,588	200	1,200	188
Pakistan							
1994/1995	576	3,212	4	3,792	349	2,900	543
1995/1996	543	2,643	128	3,314	0	3,090	224
1996/1997	224	2,560	771	3,555	0	3,050	505
1997/1998	505	3,805	21	4,331	628	3,200	503
1998/1999	503	3,791	8	4,302	540	3,210	552
1999/2000	552	2,685	320	3,557	0	3,210	347
2000/2001	347	3,434	0	3,781	0	3,250	531
Philippines							
1994/1995	412	1,647	40	2,099	150	1,849	100
1995/1996	100	1,791	827	2,718	237	1,970	511
1996/1997	511	1,829	153	2,493	248	1,900	345
1997/1998	345	1,802	160	2,307	206	1,918	183
1998/1999	183	1,630	693	2,506	146	1,900	460
1999/2000	460	1,500	400	2,360	146	1,920	294
2000/2001	294	1,700	400	2,394	150	1,930	314
Sri Lanka							
1994/1995	60	60	400	520	0	460	60
1995/1996	60	60	405	525	0	465	60
1996/1997	60	60	430	550	0	480	70
1997/1998	70	30	460	560	0	500	60
1998/1999	60	62	448	570	0	515	55
1999/2000	55	60	510	625	0	525	100
2000/2001	100	50	450	600	0	535	65

continued--

Table 1--World production, supply, and distribution, centrifugal sugar--continued

Country	Beginning stocks	Production	Imports	Total supply	Exports	Domestic consumption	Ending stocks
1,000 metric tons, raw value							
Taiwan							
1994/1995	142	441	93	676	14	490	172
1995/1996	172	392	105	669	20	490	159
1996/1997	159	348	187	694	24	480	190
1997/1998	190	330	190	710	20	490	200
1998/1999	200	312	245	757	18	495	244
1999/2000	244	310	227	781	13	510	258
2000/2001	258	300	235	793	15	515	263
Thailand							
1994/1995	367	5,448	0	5,815	3,809	1,500	506
1995/1996	506	6,223	0	6,729	4,537	1,560	632
1996/1997	632	6,013	0	6,645	4,194	1,651	800
1997/1998	800	4,245	0	5,045	2,839	1,756	450
1998/1999	450	5,386	0	5,836	3,352	1,825	659
1999/2000	659	5,670	0	6,329	3,400	1,850	1,079
2000/2001	1,079	5,300	0	6,379	3,700	1,900	779
Vietnam							
1994/1995	77	450	160	687	0	620	67
1995/1996	67	535	140	742	0	660	82
1996/1997	82	550	130	762	0	680	82
1997/1998	82	600	100	782	0	695	87
1998/1999	87	655	55	797	0	710	87
1999/2000	87	725	100	912	10	750	152
2000/2001	152	700	65	917	75	770	72
TOTAL OTHER ASIA							
1994/1995	95	115	575	785	50	648	87
1995/1996	87	115	591	793	50	645	98
1996/1997	98	105	691	894	110	669	115
1997/1998	115	105	701	921	110	694	117
1998/1999	117	95	730	942	110	712	120
1999/2000	120	70	805	995	75	745	175
2000/2001	175	80	765	1,020	75	761	184
TOTAL ASIA							
1994/1995	6,643	37,741	10,486	54,870	5,229	37,953	11,688
1995/1996	11,688	39,966	9,244	60,898	7,126	39,728	14,044
1996/1997	14,044	36,931	8,980	59,955	5,845	41,108	13,002
1997/1998	13,002	37,416	8,304	58,722	4,646	43,135	10,941
1998/1999	10,941	40,952	9,960	61,853	5,182	43,155	13,516
1999/2000	13,516	39,732	9,650	62,898	4,383	44,714	13,801
2000/2001	13,801	39,492	9,595	62,888	4,730	45,798	12,360
OCEANIA							
Australia							
1994/1995	125	5,196	2	5,323	4,321	850	152
1995/1996	152	5,049	2	5,203	4,242	860	101
1996/1997	101	5,659	2	5,762	4,564	970	228
1997/1998	228	5,567	2	5,797	4,554	990	253
1998/1999	253	4,997	4	5,254	4,076	995	183
1999/2000	183	5,481	3	5,667	4,205	995	467
2000/2001	467	5,000	3	5,470	4,230	995	245
Fiji							
1994/1995	25	535	0	560	512	40	8
1995/1996	8	481	15	504	434	50	20
1996/1997	20	508	0	528	415	50	63
1997/1998	63	370	0	433	280	52	101
1998/1999	101	270	0	371	240	52	79
1999/2000	79	440	0	519	310	55	154
2000/2001	154	450	0	604	460	60	84

continued--

Table 1--World production, supply, and distribution, centrifugal sugar--continued

Country	Beginning stocks	Production	Imports	Total supply	Exports	Domestic consumption	Ending stocks
1,000 metric tons, raw value							
New Zealand							
1994/1995	40	0	170	210	3	167	40
1995/1996	40	0	170	210	3	170	37
1996/1997	37	0	175	212	5	170	37
1997/1998	37	0	185	222	5	180	37
1998/1999	37	0	190	227	5	185	37
1999/2000	37	0	195	232	0	190	42
2000/2001	42	0	190	232	0	195	37
Papau New Guinea							
1994/1995	11	35	0	46	9	28	9
1995/1996	9	35	0	44	5	30	9
1996/1997	9	35	0	44	5	35	4
1997/1998	4	40	0	44	3	37	4
1998/1999	4	48	0	52	5	38	9
1999/2000	9	45	0	54	0	41	13
2000/2001	13	45	0	58	5	42	11
TOTAL OTHER OCEANIA							
1994/1995	6	0	32	38	0	32	6
1995/1996	6	0	33	39	0	32	7
1996/1997	7	0	46	53	0	46	7
1997/1998	7	0	50	57	0	49	8
1998/1999	8	0	51	59	0	50	9
1999/2000	9	0	51	60	0	51	9
2000/2001	9	0	51	60	0	51	9
TOTAL OCEANIA							
1994/1995	207	5,766	204	6,177	4,845	1,117	215
1995/1996	215	5,565	220	6,000	4,684	1,142	174
1996/1997	174	6,202	223	6,599	4,989	1,271	339
1997/1998	339	5,977	237	6,553	4,842	1,308	403
1998/1999	403	5,315	245	5,963	4,326	1,320	317
1999/2000	317	5,966	249	6,532	4,515	1,332	685
2000/2001	685	5,495	244	6,424	4,695	1,343	386

continued--

Table 1--World production, supply, and distribution, centrifugal sugar--continued

World production, supply and distribution, centrifugal sugar--continued									
	Beginning stocks	Production	Imports	Total supply	Exports	Domestic consumption	Ending stocks	Unrecorded	Total distribution
1,000 metric tons, raw value									
UNRECORDED 8/									
1994/1995				-1,114					
1995/1996				1,962					
1996/1997				3,172					
1997/1998				2,854					
1998/1999				1,461					
1999/2000				2,858					
2000/2001				NA					
TOTAL WORLD 9/									
1994/1995	19,228	116,145	30,288	165,661	30,288	113,997	22,490	-1,114	165,661
1995/1996	22,490	122,304	34,128	178,922	34,128	116,493	26,339	1,962	178,922
1996/1997	26,339	122,921	35,732	184,992	35,732	119,703	26,385	3,172	184,992
1997/1998	26,385	125,239	35,396	187,020	35,396	122,978	25,792	2,854	187,020
1998/1999	25,792	130,669	35,920	192,381	35,920	124,357	30,643	1,461	192,381
1999/2000	30,643	133,143	37,934	201,720	37,934	127,935	32,993	2,858	201,720
2000/2001	32,993	124,386	32,951	NA	32,951	129,504	NA	NA	NA

1/ The U.S. PS&D estimates conform to those released in the World Agricultural Supply and Demand Estimates (WASDE) with the WASDE "miscellaneous" category allocated to domestic consumption. All data are presented on a fiscal year (October- September) basis. The U.S. PS&D includes Puerto Rico.

2/ Includes French overseas departments of Reunion, Guadeloupe, and Martinique. Domestic consumption was revised up to account for a change in ending stocks. 1994/95 imports and exports include sugar-containing products.

3/ Includes Bosnia-Hercegovina, Croatia, Macedonia, Montenegro, Serbia, and Slovenia.

4/ Includes Armenia, Azerbaijan, Georgia, Kyrgyzstan, Moldova, Tajikistan, and Turkmenistan.

5/ Includes Estonia, Latvia, and Lithuania.

6/ Includes Bahrain, Kuwait, Oman, Qatar, and the United Arab Emirates.

7/ Indian data include production of khandsari sugar, a native type, semi-white centrifugal sugar. Estimated output of khandsari sugar in thousands (raw-value equivalent) is as follows: 1994/95 - 750; 1995/96 - 770; 1996/97 - 800; 1997/98 - 850; 1998/99 - 776; 1999/2000-745.

8/ The "Unrecorded" category is a balancing mechanism to equalize world exports and imports. Each year it is assumed that a certain quantity of trade will go unrecorded, with the results that imports and exports will differ by a certain statistical variation. This variation is added to total.

9/ The format of the TOTAL WORLD aggregate has been altered to include "Unrecorded" and "Total Distribution" columns. Unrecorded imports have been removed from the "Domestic Consumption". TOTAL WORLD "Domestic Consumption" is the summation of each individual country's consumption.

The volume of unrecorded sugar is a statistical discrepancy between total world imports and exports, which is added to both the TOTAL WORLD "Imports" and to World Demand as "Unrecorded" to maintain a balanced Total Supply and Total Distribution.

Table 2--World refined sugar price, monthly, quarterly, and by calendar and fiscal year 1/

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	1st Q.	2nd Q.	3rd Q.	4th Q.	Calendar	Fiscal
Cents per pound																		
1985	6.43	6.25	6.03	6.00	5.90	6.00	6.19	7.16	7.95	7.71	8.02	7.86	: 6.24	5.97	7.10	7.86	: 6.79	6.63
1986	7.63	7.97	8.95	10.10	9.49	8.43	8.11	8.51	8.03	8.16	8.26	8.05	: 8.18	9.34	8.22	8.16	: 8.47	8.40
1987	8.65	9.23	9.45	8.66	8.64	8.24	8.09	8.09	8.36	8.56	8.96	10.03	: 9.11	8.51	8.18	9.18	: 8.75	8.49
1988	11.41	10.51	10.67	10.86	11.25	12.39	14.85	12.46	11.62	11.94	12.76	13.39	: 10.86	11.50	12.98	12.70	: 12.01	11.13
1989	12.63	13.41	14.52	15.19	15.90	17.70	21.19	22.45	19.79	18.00	18.08	17.00	: 13.52	16.26	21.14	17.69	: 17.16	15.91
1990	19.01	19.55	20.03	20.31	20.33	18.36	17.42	16.54	14.39	13.99	14.01	13.85	: 19.53	19.67	16.12	13.95	: 17.32	18.25
1991	13.39	13.40	13.86	12.90	12.99	13.94	14.73	14.40	13.09	13.03	12.71	12.46	: 13.55	13.28	14.07	12.73	: 13.41	13.71
1992	12.18	11.92	12.19	12.54	12.89	13.41	13.41	12.96	12.29	11.94	11.68	11.26	: 12.10	12.95	12.89	11.63	: 12.39	12.67
1993	11.60	11.97	13.05	13.38	13.39	12.64	12.20	13.05	12.90	13.23	13.15	12.97	: 12.21	13.14	12.72	13.12	: 12.79	12.42
1994	13.14	14.11	15.46	14.92	15.77	16.05	15.54	15.62	15.42	15.46	17.77	18.65	: 14.24	15.58	15.53	17.29	: 15.66	14.62
1995	18.75	18.17	17.45	16.31	17.05	19.16	20.27	20.01	16.58	17.29	17.64	17.21	: 18.12	17.51	18.95	17.38	: 17.99	17.97
1996	17.36	17.90	18.14	18.02	17.79	18.00	16.99	16.81	15.74	14.87	14.09	13.95	: 17.80	17.94	16.51	14.30	: 16.64	17.41
1997	13.87	13.98	14.05	14.19	14.61	14.93	15.07	15.66	14.51	13.58	13.81	13.64	: 13.97	14.58	15.08	13.68	: 14.33	14.48
1998	13.52	12.78	12.23	11.63	12.00	11.80	11.65	11.62	10.05	10.00	10.78	10.97	: 12.84	11.81	11.11	10.58	: 11.59	12.36
1999	10.99	10.50	9.85	8.79	9.13	9.93	9.47	9.04	8.28	7.85	7.73	7.61	: 10.45	9.28	8.93	7.73	: 9.10	9.81
2000	7.70	7.67																

1/ Contract No. 5, London Daily Price, for refined sugar, f.o.b. Europe, spot.

Source: LIFFE, London.

Table 3--World raw sugar price, monthly, quarterly, and by calendar and fiscal year 1/

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	1st Q.	2nd Q.	3rd Q.	4th Q.	Calendar	Fiscal
Cents per pound																		
1985	3.59	3.66	3.78	3.37	2.77	2.74	3.15	4.35	5.14	5.01	5.53	5.37	: 3.68	2.96	4.21	5.30	: 4.04	3.76
1986	4.87	5.55	7.07	8.36	7.64	6.36	5.58	5.50	4.67	5.42	5.93	5.66	: 5.83	7.45	5.25	5.67	: 6.05	5.96
1987	6.47	7.32	7.51	6.64	6.71	6.40	6.03	5.57	5.79	6.60	7.28	8.25	: 7.10	6.58	5.80	7.38	: 6.71	6.29
1988	9.64	8.40	8.48	8.49	8.85	10.52	14.04	11.09	10.18	10.29	10.82	11.28	: 8.84	9.29	11.77	10.80	: 10.17	9.32
1989	9.69	10.49	11.54	12.14	11.93	12.63	14.01	13.96	14.13	14.42	15.02	13.52	: 10.57	12.23	14.03	14.32	: 12.79	11.91
1990	14.38	14.63	15.39	15.24	14.62	12.99	11.92	10.92	11.00	9.77	10.00	9.72	: 14.80	14.28	11.28	9.83	: 12.55	13.67
1991	8.88	8.57	9.22	8.55	7.88	9.37	10.26	9.45	9.39	9.10	8.79	9.03	: 8.89	8.60	9.70	8.97	: 9.04	9.26
1992	8.43	8.06	8.22	9.53	9.62	10.52	10.30	9.78	9.28	8.66	8.54	8.15	: 8.24	9.89	9.79	8.45	: 9.09	9.22
1993	8.27	8.61	10.75	11.30	11.87	10.35	9.60	9.30	9.52	10.27	10.10	10.47	: 9.21	11.17	9.47	10.28	: 10.03	9.58
1994	10.29	10.80	11.71	11.10	11.79	12.04	11.73	12.05	12.62	12.75	13.88	14.76	: 10.93	11.64	12.13	13.80	: 12.13	11.25
1995	14.87	14.43	14.58	13.63	13.49	13.99	13.46	13.75	12.72	11.94	11.96	12.40	: 14.63	13.70	13.31	12.10	: 13.44	13.86
1996	12.57	12.97	13.07	12.43	11.94	12.54	12.83	12.33	11.87	11.65	11.29	11.38	: 12.87	12.34	11.44	12.24	: 12.40	
1997	11.13	11.06	11.17	11.50	11.54	12.02	12.13	12.54	12.65	12.86	13.19	12.90	: 11.12	11.69	12.44	12.98	: 12.06	11.67
1998	11.71	11.06	10.66	10.27	10.17	9.33	9.70	9.50	8.21	8.24	8.73	8.59	: 11.14	9.92	9.14	8.52	: 9.68	10.80
1999	8.40	7.05	6.11	5.44	5.83	6.67	6.11	6.39	6.98	6.90	6.54	6.00	: 7.19	5.98	6.49	6.48	: 6.54	7.05
2000	5.64	5.51	5.54	6.48	7.33									5.56				

1/ Contract No. 11-f.o.b. stowed Caribbean port, including Brazil, bulk spot price.

Source: Coffee, Sugar & Cocoa Exchange, Inc.

Table 4--U.S. raw sugar price, duty fee paid, New York, monthly, quarterly, and by calendar and fiscal year 1/

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	1st Q.	2nd Q.	3rd Q.	4th Q.	Calendar	Fiscal
Cents per pound																		
1985	20.72	20.38	20.91	20.97	21.09	21.27	21.23	20.59	19.51	18.68	18.89	19.89	: 20.67	21.11	20.44	19.15	: 20.34	20.89
1986	20.67	21.01	20.95	20.85	20.88	20.99	20.97	20.87	20.87	21.08	21.17	21.12	: 20.88	20.91	20.90	21.12	: 20.95	20.46
1987	21.50	21.76	21.76	21.81	22.01	22.06	22.07	21.88	21.88	21.69	21.75	21.76	: 21.67	21.96	21.94	21.73	: 21.83	21.68
1988	21.83	22.11	22.16	22.16	22.13	22.54	23.43	21.90	21.77	21.74	21.70	21.99	: 22.03	22.28	22.37	21.81	: 22.12	22.10
1989	21.88	22.07	22.12	22.30	22.45	22.99	23.56	23.57	23.50	23.14	23.24	22.84	: 22.02	22.58	23.54	23.07	: 22.81	22.49
1990	23.11	22.93	23.58	23.81	23.58	23.33	23.42	23.27	23.23	23.29	23.15	22.47	: 23.21	23.57	23.31	22.97	: 23.26	23.29
1991	21.86	21.42	21.46	21.23	21.29	21.42	21.25	21.83	22.06	21.76	21.75	21.50	: 21.58	21.31	21.71	21.67	: 21.57	21.89
1992	21.38	21.56	21.36	21.38	21.04	20.92	21.10	21.34	21.55	21.61	21.39	21.11	: 21.43	21.11	21.33	21.37	: 21.31	21.39
1993	20.76	21.16	21.56	21.76	21.36	21.42	21.89	21.85	21.97	21.80	21.87	22.00	: 21.16	21.51	21.90	21.89	: 21.62	21.49
1994	22.00	21.95	21.95	22.08	22.18	22.44	22.72	21.84	21.78	21.58	21.57	22.35	: 21.97	22.23	22.11	21.83	: 22.04	22.05
1995	22.65	22.69	22.46	22.76	23.10	23.09	24.47	23.18	23.21	22.67	22.60	22.63	: 22.60	22.98	23.62	22.63	: 22.96	22.76
1996	22.39	22.68	22.57	22.71	22.62	22.48	21.80	22.51	22.38	22.37	22.12	22.14	: 22.55	22.60	22.23	22.21	: 22.40	22.50
1997	21.88	22.07	21.81	21.79	21.70	21.62	22.04	22.21	22.30	22.27	21.90	21.93	: 21.92	21.70	22.18	22.03	: 21.96	22.00
1998	21.85	21.79	21.74	22.14	22.31	22.42	22.66	22.19	21.92	21.67	21.83	22.19	: 21.79	22.29	22.26	21.90	: 22.06	22.09
1999	22.41	22.38	22.55	22.57	22.65	22.61	22.61	21.24	20.10	19.50	17.45	17.87	: 22.45	22.61	21.32	18.27	: 21.16	22.07
2000	17.70	17.24	18.46	19.43	19.12								17.80					

1/ Contract No. 14, duty fee paid New York. Average of nearest futures month for which an entire month of prices will be available. For example, April 2000's price average of 19.43 cents is the average of closes for the July 2000 futures during the month of April since there was not a full month of May 2000 futures in April (the May 2000 futures expired April 11th, May 2000 became the nearest futures, so July 2000 was used for the entire month of April).

Source: Coffee, Sugar & Cocoa Exchange, Inc.

Table 5--U.S. wholesale refined beet sugar price, Midwest markets, monthly, quarterly, and by calendar and fiscal year

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	1st Q.	2nd Q.	3rd Q.	4th Q.	Calendar	Fiscal
Cents per pound																		
1985	23.50	23.42	23.00	23.12	23.55	23.12	23.25	23.50	23.44	23.13	22.50	22.62	: 23.31	23.26	23.40	22.75	: 23.18	23.55
1986	23.45	23.31	23.25	23.50	23.30	23.00	23.25	24.10	24.19	23.50	22.81	22.88	: 23.34	23.27	23.85	23.06	: 23.38	23.30
1987	23.30	23.50	23.50	23.50	24.15	24.31	24.50	24.50	24.00	22.85	22.50	22.55	: 23.43	23.99	24.33	22.63	: 23.60	23.70
1988	22.75	22.75	22.75	23.45	24.19	25.25	27.10	27.75	27.50	27.25	26.75	27.80	: 22.75	24.30	27.45	27.27	: 25.44	24.28
1989	28.75	29.00	29.50	29.50	29.50	29.30	28.81	28.76	28.45	27.63	29.00	30.50	: 29.08	29.43	28.67	29.04	: 29.06	28.61
1990	30.50	30.50	30.50	30.50	30.50	30.50	30.50	30.50	30.50	29.13	28.60	27.38	: 30.50	30.50	30.50	28.37	: 29.97	30.14
1991	26.88	26.50	26.50	26.13	26.00	25.75	25.50	25.50	25.00	24.94	24.60	24.50	: 26.63	25.96	25.33	24.68	: 25.65	26.57
1992	25.40	26.50	26.50	26.50	26.40	26.00	25.00	25.00	25.00	24.90	24.13	23.90	: 26.13	26.30	25.00	24.31	: 25.44	25.53
1993	23.25	23.00	23.00	23.50	23.50	23.50	25.50	27.75	27.50	27.50	27.25	26.50	: 23.08	23.50	26.92	27.08	: 25.15	24.45
1994	25.75	25.50	25.50	24.50	24.75	25.25	25.00	25.00	24.70	25.00	25.38	25.50	: 25.58	24.83	24.90	25.29	: 25.15	25.60
1995	25.50	25.50	25.50	25.50	25.13	25.10	24.75	24.75	25.50	25.75	28.13	28.85	: 25.50	25.24	25.00	27.58	: 25.83	25.26
1996	28.69	29.00	29.50	29.50	29.70	29.50	29.50	29.00	29.00	29.00	29.00	29.00	: 29.06	29.57	29.17	29.00	: 29.20	28.84
1997	29.00	29.00	28.13	28.00	28.00	27.50	27.00	26.65	26.38	24.90	25.00	25.50	: 28.71	27.83	26.68	25.13	: 27.09	28.06
1998	25.50	25.50	25.50	25.50	26.00	26.00	26.00	26.00	26.50	26.90	27.00	27.00	: 25.50	25.83	26.17	26.97	: 26.12	25.66
1999	27.20	27.13	27.00	27.00	27.00	27.00	27.00	27.00	27.00	26.00	26.00	25.20	: 27.11	27.00	27.00	25.73	: 26.71	27.02
2000	23.38	22.25	21.50	21.00	19.75								: 22.38					

Source: Milling & Baking News. Simple average of the lower end of the range of quotations for days in that month. Quotations are weekly.

Table 6--U.S. retail refined sugar price, monthly, quarterly, and by calendar and fiscal year

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	1st Q.	2nd Q.	3rd Q.	4th Q.	Calendar	Fiscal
Cents per pound																		
1985	35.90	36.00	35.80	35.60	35.40	34.60	35.20	35.40	35.40	35.10	35.00	34.70	35.90	35.20	35.33	34.93	35.34	35.67
1986	35.20	35.30	35.40	35.40	35.50	35.30	34.80	34.80	34.90	34.70	34.90	34.80	35.30	35.40	34.83	34.80	35.08	35.12
1987	35.20	34.90	34.90	34.50	35.30	35.10	34.90	35.50	35.90	35.90	35.70	35.60	35.00	34.97	35.43	35.73	35.28	35.05
1988	35.80	35.70	35.70	35.50	35.60	35.70	36.10	37.00	37.60	38.00	38.10	38.40	35.73	35.60	36.90	38.17	36.60	35.99
1989	38.90	39.20	39.90	39.90	39.80	40.20	40.30	40.50	40.70	40.40	40.60	40.33	39.87	40.33	40.57	40.03	39.43	
1990	41.80	41.90	42.70	42.80	43.00	42.70	42.70	43.30	43.40	43.20	42.90	42.90	42.13	42.83	43.13	43.00	42.78	42.17
1991	43.40	43.00	43.40	43.30	43.10	43.20	43.50	42.80	42.20	42.00	41.90	41.80	43.27	43.20	42.83	41.90	42.80	43.08
1992	42.50	42.40	41.90	41.70	41.70	41.50	41.50	41.10	41.00	41.20	41.20	40.60	42.27	41.63	41.20	41.00	41.53	41.75
1993	41.20	41.00	40.60	40.80	40.80	40.30	40.20	40.60	40.40	40.50	40.30	39.80	40.93	40.63	40.40	40.20	40.54	40.74
1994	40.70	40.50	40.10	39.90	40.10	39.70	40.00	39.70	40.30	40.20	39.50	39.20	40.43	39.90	40.00	39.63	39.99	40.13
1995	39.70	39.90	39.80	39.40	39.70	39.50	39.70	39.60	39.80	40.40	40.70	39.80	39.80	39.53	39.70	40.30	39.83	39.67
1996	40.50	40.30	40.60	40.40	41.50	41.80	42.40	42.80	42.60	43.20	42.60	42.80	40.47	41.23	42.60	42.87	41.79	41.15
1997	43.40	42.90	43.10	43.50	43.40	43.60	43.30	43.60	43.60	43.00	42.90	42.80	43.13	43.50	43.50	42.90	43.26	43.25
1998	43.00	42.90	43.30	43.10	42.80	43.10	43.20	43.60	43.20	42.30	42.50	42.70	43.07	43.00	43.33	42.50	42.98	43.08
1999	43.60	43.00	43.70	43.20	43.60	43.10	43.20	43.10	43.70	43.80	42.60	42.60	43.43	43.30	43.33	43.00	43.27	43.14
2000	43.70	43.20	42.90	41.40									43.27					

Source: Bureau of Labor Statistics.

Table 7--U.S. wholesale list price for glucose syrup, Midwest markets, monthly, quarterly, and by calendar and fiscal year 1/

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	1st Q.	2nd Q.	3rd Q.	4th Q.	Calendar	Fiscal
Cents per pound, dry weight 2/																		
1985	10.31	10.50	11.25	11.25	11.25	11.42	11.48	11.29	10.63	11.12	11.43	11.43	10.69	11.31	11.13	11.33	11.11	11.13
1986	11.43	11.43	11.43	11.43	10.28	10.16	10.16	10.16	10.16	10.16	10.16	10.16	11.43	10.62	10.16	10.16	10.59	10.89
1987	10.16	10.16	10.16	10.16	10.16	10.16	10.16	10.16	10.16	10.10	9.85	9.85	10.16	10.16	10.16	9.93	10.10	10.16
1988	9.85	9.85	9.85	9.85	9.85	9.85	13.15	13.54	13.54	13.54	13.54	13.54	9.85	9.85	13.41	13.54	11.66	10.76
1989	13.54	12.97	12.65	13.03	13.03	14.89	14.89	14.89	14.89	13.03	13.03	13.03	13.05	13.65	14.89	13.03	13.66	13.78
1990	13.26	13.96	14.59	14.58	14.59	14.86	15.60	15.60	14.95	13.00	13.00	13.00	13.94	14.68	15.38	13.00	14.25	14.26
1991	13.00	13.00	14.14	15.85	15.85	15.85	15.85	15.85	16.01	16.48	16.48	16.48	13.38	15.85	15.90	16.48	15.40	14.53
1992	16.48	16.48	16.48	16.48	16.48	16.48	16.48	16.48	16.48	11.37	11.37	11.25	16.48	16.48	16.48	11.33	15.19	16.48
1993	11.06	11.06	11.22	12.20	12.96	12.96	14.83	14.83	14.83	14.83	13.81	14.20	11.11	12.71	14.83	14.28	13.23	12.50
1994	14.41	15.07	15.19	15.32	15.32	15.32	15.92	16.06	15.88	15.13	15.13	14.38	14.89	15.32	15.95	14.88	15.26	15.11
1995	14.43	14.20	14.20	14.20	14.20	14.38	14.20	14.20	14.20	14.82	15.44	15.44	14.28	14.26	14.20	15.23	14.49	14.40
1996	16.38	16.38	16.38	16.38	16.38	16.38	16.38	16.38	16.38	16.38	16.38	16.38	16.38	16.38	16.38	16.38	16.38	16.09
1997	14.06	10.59	10.59	10.59	10.59	10.59	10.59	10.59	10.59	10.59	10.59	10.59	11.75	10.59	10.59	10.59	10.88	12.33
1998	13.57	13.57	13.57	12.33	12.33	12.33	12.33	12.33	12.33	12.52	12.52	12.20	13.57	12.33	12.33	12.41	12.66	12.21
1999	11.89	11.89	12.17	12.45	12.45	12.45	12.45	12.45	12.45	13.39	13.39	13.39	11.98	12.45	12.45	13.39	12.57	12.32
2000	13.08	12.76	12.76	12.76									12.87					

1/ In tank cars (jumbos to West Coast). 2/ To convert to commercial (wet) weight, multiply by 0.803.

Source: Milling & Baking News.

Table 8--U.S. wholesale list price for dextrose, Midwest markets, monthly, quarterly, and by calendar and fiscal year 1/

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	1st Q.	2nd Q.	3rd Q.	4th Q.	Calendar	Fiscal	
Cents per pound, dry weight																			
1985	26.38	23.91	23.91	23.91	23.91	23.91	23.91	23.91	23.91	23.91	23.91	23.91	: 24.73	23.91	23.91	23.91	: 24.12	24.82	
1986	23.91	23.91	23.91	23.91	23.91	23.91	23.91	23.91	22.83	22.83	22.83	22.83	: 23.91	23.91	23.55	22.83	: 23.55	23.82	
1987	22.83	22.83	22.55	21.74	21.74	21.74	22.28	22.28	22.70	23.91	23.91	23.91	: 22.74	21.74	22.42	23.91	: 22.70	22.43	
1988	24.46	24.46	24.46	24.46	24.46	24.46	25.54	25.82	26.63	26.63	26.63	26.63	: 24.46	24.46	26.00	26.63	: 25.39	24.71	
1989	26.63	26.63	26.74	25.00	25.00	25.00	25.00	25.00	25.00	24.50	24.50	24.50	: 26.67	25.00	25.00	24.50	: 25.29	25.82	
1990	24.50	24.50	24.50	24.50	24.50	24.50	24.50	24.50	24.50	24.50	24.50	24.50	: 24.50	24.50	24.50	24.50	: 24.50	24.50	
1991	24.50	24.50	24.50	24.50	24.50	24.50	24.50	24.50	24.50	24.50	24.50	24.50	: 24.50	24.50	24.50	24.50	: 24.50	24.50	
1992	24.50	24.50	24.50	24.50	24.50	24.50	24.50	24.50	24.50	24.50	24.50	24.50	: 24.50	24.50	24.50	24.50	: 24.50	24.50	
1993	24.50	24.50	24.50	24.50	24.50	24.50	24.50	24.50	24.50	24.50	24.50	24.50	: 24.50	24.50	24.50	24.50	: 24.50	24.50	
1994	25.25	26.00	26.00	26.00	26.00	26.00	26.00	26.00	26.00	26.00	26.00	26.00	: 25.88	25.50	: 25.75	26.00	25.79	: 25.89	25.56
1995	25.50	25.50	25.50	25.50	25.50	25.50	25.50	25.50	25.50	25.50	25.50	25.50	: 25.50	25.50	25.50	25.50	: 25.50	25.57	
1996	25.50	25.50	25.50	25.50	25.50	25.50	25.50	25.50	25.50	25.50	25.50	25.50	: 25.50	25.50	25.50	25.50	: 25.50	25.50	
1997	25.50	25.50	25.50	25.50	25.50	25.50	25.50	25.50	25.50	25.50	25.50	25.50	: 25.50	25.50	25.50	25.50	: 25.50	25.50	
1998	25.50	25.50	30.65	30.65	30.65	30.65	30.65	30.65	30.65	30.65	30.65	30.65	: 27.22	30.65	30.65	30.65	: 29.79	28.50	
1999	30.65	30.65	26.93	15.75	15.75	15.75	15.75	15.75	15.75	15.75	15.75	15.75	: 29.41	15.75	15.75	15.75	: 19.17	22.89	
2000	15.75	15.75	15.75	15.75									: 15.75						

1/ 400-to-600 sack cars.

Source: Milling & Baking News.

Table 9--U.S. spot price for HFCS-42, Midwest markets, monthly, quarterly, and by calendar and fiscal year

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	1st Q.	2nd Q.	3rd Q.	4th Q.	Calendar	Fiscal
Cents per pound, dry weight 1/																		
1994	17.96	18.31	18.94	20.29	20.42	20.42	20.42	20.42	18.52	17.08	16.20	16.20	: 18.40	20.38	19.79	16.49	: 18.77	NA
1995	16.02	15.85	15.85	15.85	15.58	15.49	15.49	15.49	15.49	15.49	15.49	15.49	: 15.91	15.64	15.49	15.49	: 15.63	15.88
1996	14.70	14.44	14.44	14.44	14.44	14.44	14.44	14.44	14.44	14.44	14.44	14.44	: 14.53	14.44	14.44	14.44	: 14.46	14.72
1997	12.18	10.56	10.56	10.56	10.56	10.56	10.56	10.56	10.56	10.56	10.56	10.56	: 11.10	10.56	10.56	10.56	: 10.70	11.67
1998	11.97	11.71	10.92	10.21	10.21	10.12	9.86	9.86	9.99	10.38	10.75	11.01	: 11.53	10.18	9.90	10.71	: 10.58	10.54
1999	11.27	11.27	11.44	11.62	11.62	11.62	11.62	11.62	11.62	12.18	12.32	12.32	: 11.33	11.62	11.62	12.27	: 11.71	11.32
2000	11.88	11.27	11.27	11.27	11.27								: 11.47					

1 / To convert to commercial (wet) weight, multiply by 0.71.

Source: Milling & Baking News.

Table 10--U.S. producer price index for HFCS and sugar, monthly

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Annual
High fructose corn syrup, June 1985=100 1/													
1987	94.1	86.4	85.1	86.5	89.5	90.7	101.4	103.0	103.1	102.5	101.8	90.0	94.5
1988	78.1	76.6	76.8	76.6	78.8	83.3	90.0	92.1	92.7	93.5	93.0	92.6	85.3
1989	91.5	97.3	97.7	110.4	113.5	122.4	124.8	126.1	126.1	105.1	107.4	106.4	110.7
1990	102.9	101.9	101.5	115.4	116.4	115.7	128.0	130.6	130.0	112.8	112.9	112.3	115.0
1991	105.7	104.4	104.4	115.4	116.0	116.2	135.9	133.1	133.5	114.0	115.1	115.1	117.4
1992	113.4	113.8	113.2	119.0	118.9	117.5	128.3	127.1	126.9	98.9	100.5	101.6	114.9
1993	99.6	99.6	99.2	90.8	98.5	98.7	113.4	113.1	113.1	114.8	115.1	114.0	105.8
1994	117.1	116.4	118.7	136.9	137.7	136.5	136.4	136.5	135.9	114.7	114.8	114.3	126.3
1995	115.9	117.9	117.8	118.0	118.0	117.9	118.0	117.9	117.9	118.1	118.2	116.5	117.7
1996	114.4	111.9	112.0	111.8	111.3	111.5	111.8	111.9	112.0	112.1	112.0	113.1	112.2
1997	108.6	106.0	105.8	105.4	105.4	105.4	105.5	105.2	105.3	74.3	75.7	75.7	98.2
1998	77.5	79.3	82.6	76.3	76.1	76.8	77.3	77.1	76.9	76.7	77.2	77.6	77.6
1999 2/	80.9	80.7	80.6	83.0	82.9	83.0	83.1	82.4	82.1	84.5	83.9	84.5	82.6
2000 2/	86.5	85.0	84.6	85.3									
Raw cane sugar, June 1982=100 1/													
1987	104.8	106.6	107.0	107.4	107.7	108.1	108.7	108.2	108.0	107.7	107.2	106.8	107.4
1988	106.8	108.4	108.5	108.9	108.9	109.7	114.9	108.8	108.6	107.7	107.3	109.1	109.0
1989	108.1	108.9	109.4	109.4	110.8	112.4	115.2	115.2	115.7	114.9	114.8	114.4	112.4
1990	115.8	114.8	115.7	117.1	116.5	116.1	116.4	116.4	116.2	116.6	116.4	114.8	116.1
1991	111.4	110.1	110.4	110.1	109.9	110.4	109.6	110.0	111.4	111.2	111.3	110.5	110.5
1992	109.6	109.4	109.7	109.3	108.4	107.7	107.8	108.7	109.7	110.6	109.8	108.0	109.1
1993	106.4	106.6	109.1	110.9	108.4	109.4	111.2	112.9	112.2	111.6	111.6	112.3	110.2
1994	112.1	111.5	111.9	112.4	112.5	113.9	114.2	112.0	111.4	110.2	109.9	113.0	112.1
1995	114.6	115.3	114.2	115.3	115.8	117.0	121.8	118.2	118.1	116.3	116.0	115.8	116.5
1996	114.9	115.8	115.0	115.2	116.0	115.6	115.2	115.8	116.3	116.5	115.0	114.8	115.5
1997	114.5	112.1	113.2	113.1	112.9	112.4	114.5	115.3	115.2	114.9	113.4	113.6	113.8
1998	113.5	113.3	112.7	114.4	115.0	114.9	116.5	115.1	112.9	112.7	113.4	114.8	114.1
1999 2/	115.6	115.3	115.0	116.4	115.2	116.3	117.3	112.2	111.0	106.7	97.2	94.4	111.1
2000 2/	94.2	90.2	97.6	98.9									
Refined beet sugar, June 1982=100 1/													
1987	107.1	107.2	106.8	106.6	106.2	106.4	106.5	106.5	106.1	105.5	106.1	105.6	106.4
1988	106.0	105.5	105.5	105.5	105.4	106.9	109.6	111.8	110.8	116.7	116.3	117.6	109.8
1989	121.7	120.8	121.1	121.0	121.3	121.9	122.0	121.2	120.3	117.2	119.5	122.0	120.8
1990	122.2	121.5	121.5	121.6	121.9	122.0	122.0	121.1	121.0	119.1	119.2	118.9	121.0
1991	119.0	118.8	118.6	118.7	116.5	117.2	118.0	118.0	117.6	115.5	115.3	114.8	117.3
1992	112.6	114.5	113.4	113.1	112.9	112.8	112.8	112.6	112.1	111.5	111.0	110.4	112.5
1993	108.7	108.7	107.8	109.4	109.2	108.2	108.1	110.2	110.2	111.0	109.2	109.7	109.2
1994	108.8	109.5	108.9	108.8	108.6	108.3	108.7	108.9	108.9	110.0	110.6	110.2	109.2
1995	110.6	110.5	110.3	110.7	110.8	110.8	110.7	108.5	108.7	108.2	109.2	109.9	109.9
1996	109.9	110.1	110.5	114.0	114.1	119.2	119.3	119.9	119.9	117.1	116.9	120.0	115.9
1997	119.9	119.9	119.7	119.0	120.8	118.7	118.4	117.2	115.0	112.2	110.7	110.5	116.8
1998	111.0	112.5	113.1	113.0	112.4	111.0	111.2	112.0	113.4	114.6	116.2	115.5	113.0
1999 2/	113.5	113.9	114.4	115.0	115.0	115.2	115.6	114.9	114.9	113.2	112.0	108.1	113.8
2000 2/	102.4	103.2	99.9	99.1									
Refined cane sugar, June 1982=100 1/													
1987	104.6	105.2	105.2	106.6	106.4	107.1	107.6	107.5	107.4	107.3	107.3	106.7	106.6
1988	105.1	107.2	107.0	107.5	106.7	107.1	108.4	110.3	111.8	112.4	112.6	113.9	109.2
1989	116.5	117.0	117.4	117.5	117.8	120.3	122.8	120.8	123.0	121.9	121.7	124.0	120.1
1990	124.1	125.1	123.0	124.0	124.0	124.4	125.0	124.4	125.0	125.0	124.6	124.4	124.4
1991	124.9	124.9	124.5	123.5	123.6	122.9	123.1	123.1	123.4	123.3	123.6	123.3	123.7
1992	123.8	123.5	123.8	123.8	123.5	123.6	123.6	124.5	123.4	123.7	123.8	124.4	123.8
1993	122.9	123.4	123.7	123.2	123.2	122.7	123.0	124.6	123.7	122.5	123.5	123.2	123.3
1994	122.8	122.8	122.8	122.8	123.3	123.5	124.0	123.8	122.9	123.0	123.6	124.7	123.3
1995	124.9	126.0	126.4	122.5	123.1	123.4	123.9	123.9	124.0	124.9	125.1	125.8	124.5
1996	127.5	127.4	128.6	128.7	127.5	128.0	128.5	127.0	128.1	128.0	128.3	126.7	127.9
1997	128.5	127.9	129.2	128.0	127.7	126.9	126.1	126.3	127.0	126.8	125.5	125.1	127.1
1998	124.5	125.7	125.5	123.7	123.4	125.6	123.6	124.4	124.5	122.6	120.4	121.0	123.7
1999 2/	121.7	123.4	126.3	125.5	126.7	126.4	125.8	125.6	124.6	124.7	124.1	123.8	124.9
2000 2/	124.8	121.8	123.9	116.8									

1/ Based on a sample of domestic producers. 2/ Preliminary, all indexes are subject to revision four months after original publishing.

Source: Bureau of Labor Statistics.

Table 11--U.S. consumer price index for sugar and selected sweetener-containing products 1/

Year and month	Five sweetener-containing cereal and bakery categories							Average of 5 cereal and bakery items
	Non- alcoholic beverages 2/	Sugar and sweets 3/	Flour and prepared flour mixes	Cereal	White bread	Cookies, fresh cakes, and cup- cakes 4/	Other bakery products 5/	
	1982-84=100							
1990	113.5	124.7	125.2	158.6	136.4	142.7	140.9	140.7
1991	114.1	129.3	125.7	168.1	139.3	151.1	146.8	146.2
1992	114.3	133.0	132.5	175.4	146.2	155.6	151.8	152.3
1993	114.6	133.4	132.4	183.2	152.2	159.3	157.8	157.0
1994	123.2	135.2	134.8	190.6	159.0	165.1	162.7	162.4
1995	131.7	137.5	140.8	192.5	165.5	169.1	168.3	167.2
1996	128.6	143.7	151.6	189.9	177.5	174.1	176.5	173.9
1997	133.4	147.8	156.2	187.5	183.8	179.2	180.2	177.4
1998	133.0	150.2	159.1	189.9	187.3	181.2	184.3	180.3
1999	134.3	152.3	160.9	195.2	192.5	185.0	186.7	184.1
1998								
Jan.	134.1	150.3	158.3	187.2	184.5	180.1	181.4	178.3
Feb.	134.8	149.6	156.3	188.4	186.3	181.9	180.7	178.7
Mar.	134.2	150.8	157.8	188.1	185.1	181.1	182.3	178.9
Apr.	133.9	150.1	156.9	189.0	185.5	180.3	184.2	179.2
May	132.9	149.5	161.8	189.3	186.4	179.9	183.9	180.3
June	132.8	150.5	161.9	189.2	186.1	180.7	186.0	180.8
July	132.3	149.9	162.6	190.2	188.9	180.2	185.7	181.5
Aug.	132.0	150.2	163.7	192.0	189.2	181.6	185.9	182.5
Sep.	132.2	150.8	160.9	189.8	189.4	179.9	185.6	181.1
Oct.	132.6	150.5	160.4	191.3	188.2	181.4	186.4	181.5
Nov.	132.7	149.6	154.5	192.0	188.2	182.9	185.1	180.5
Dec.	131.7	150.1	153.6	192.7	189.6	184.0	183.9	180.8
1999								
Jan.	133.5	151.7	162.6	193.2	191.4	185.3	185.8	183.7
Feb.	134.5	151.3	159.8	192.2	191.7	184.0	185.2	182.6
Mar.	134.5	151.0	158.7	195.6	192.1	182.7	183.0	182.4
Apr.	134.3	151.7	158.1	195.4	194.3	184.5	187.1	183.9
May	134.2	153.0	163.3	195.8	191.4	185.0	188.1	184.7
June	134.3	152.4	164.8	197.1	193.1	183.8	188.4	185.4
July	134.3	152.4	166.8	196.2	192.6	185.2	190.1	186.2
Aug.	134.5	152.7	167.2	194.7	190.6	184.9	186.1	184.7
Sep.	134.2	153.5	165.7	195.2	191.7	183.1	187.9	184.7
Oct.	134.6	153.3	159.1	196.4	192.7	185.8	186.4	184.1
Nov.	133.9	152.1	154.3	194.1	194.9	186.3	184.7	182.9
Dec.	134.7	152.3	150.8	196.7	192.9	189.4	187.3	183.4
2000								
Jan.	137.1	154.8	161.7	193.6	194.8	186.4	187.8	184.9
Feb.	138.4	154.4	154.9	196.1	197.7	186.6	188.5	184.8
Mar.	138.5	154.6	160.9	196.5	196.0	187.0	186.3	185.3
Apr.	137.5	152.4	158.2	197.9	197.6	186.9	189.7	186.1

continued--

Table 11--U.S. consumer price index for sugar and selected sweetener-containing products 1--continued

Year and month	Five other categories of sweetener-containing products					Average of 5 miscel- laneous categories	Average of 10 categories containing sweeteners	Sugar and artificial sweeteners 11/
	Carbonated drinks 6/	Non- carbonated drinks 7/	Canned and dried fruits 8/ 9/	Sweets, including candy 10/	Ice cream and related products			
1982-84=100								
1990	112.1	125.0	121.7	127.3	126.8	122.6	131.7	118.4
1991	113.0	129.1	126.1	133.1	128.5	125.9	136.1	119.9
1992	114.9	131.3	131.0	138.1	130.9	129.2	140.8	120.4
1993	115.9	131.9	132.9	138.1	131.7	130.1	143.5	121.7
1994	115.7	133.0	134.3	139.7	134.8	131.5	147.0	123.9
1995	119.5	134.6	137.0	141.8	137.4	134.1	150.7	126.8
1996	119.9	137.5	143.5	148.1	144.6	138.7	156.3	132.6
1997	118.3	140.5	148.5	153.0	150.6	142.2	159.8	134.8
1998	117.5	99.3	102.0	101.0	155.5	NA	NA	135.6
1999	118.8	102.1	105.2	102.3	161.7	NA	NA	137.2
1998								
Jan.	118.3	100.0 12/	100.6 9/	101.2 13/	153.5	NA	NA	136.4
Feb.	120.1	99.6 12/	100.3 9/	100.9 13/	150.8	NA	NA	135.9
Mar.	119.4	99.0 12/	100.4 9/	101.6 13/	150.0	NA	NA	136.4
Apr.	118.7	98.8 12/	99.9 9/	101.1 13/	152.4	NA	NA	134.5
May	116.9	98.6 12/	101.9 9/	99.8 13/	150.9	NA	NA	135.3
June	117.1	99.4 12/	102.1 9/	101.3 13/	153.2	NA	NA	135.9
July	116.6	98.6 12/	103.9 9/	100.6 13/	153.1	NA	NA	136.6
Aug.	116.6	98.4 12/	102.7 9/	100.5 13/	155.2	NA	NA	137.0
Sep.	116.7	99.0 12/	103.7 9/	101.1 13/	157.9	NA	NA	137.4
Oct.	117.1	99.8 12/	103.2 9/	101.2 13/	162.3	NA	NA	134.1
Nov.	117.1	100.1 12/	102.7 9/	101.0 13/	163.9	NA	NA	133.6
Dec.	114.9	100.1 12/	102.7 9/	101.1 13/	162.8	NA	NA	133.8
1999								
Jan.	117.4	102.2 12/	103.5 9/	101.7 13/	165.2	NA	NA	137.8
Feb.	119.2	101.9 12/	103.7 9/	101.7 13/	163.5	NA	NA	136.8
Mar.	120.4	101.2 12/	105.1 9/	101.3 13/	160.2	NA	NA	137.9
Apr.	119.0	101.9 12/	105.0 9/	101.7 13/	162.4	NA	NA	136.9
May	118.8	102.1 12/	105.9 9/	102.4 13/	160.0	NA	NA	138.8
June	119.1	102.5 12/	106.0 9/	102.1 13/	161.7	NA	NA	137.9
July	118.9	102.1 12/	106.8 9/	102.3 13/	158.8	NA	NA	137.4
Aug.	117.9	103.0 12/	106.9 9/	102.2 13/	159.2	NA	NA	138.1
Sep.	118.3	102.0 12/	105.4 9/	103.1 13/	159.8	NA	NA	139.2
Oct.	119.7	101.2 12/	106.3 9/	103.4 13/	163.8	NA	NA	137.5
Nov.	118.1	101.8 12/	104.6 9/	102.9 13/	162.0	NA	NA	133.9
Dec.	118.6	102.9 12/	102.9 9/	103.0 13/	164.1	NA	NA	134.2
2000								
Jan.	122.1	103.9 12/	106.3 9/	104.0 13/	164.3	NA	NA	139.1
Feb.	125.2	103.4 12/	105.9 9/	103.9 13/	166.0	NA	NA	138.1
Mar.	124.5	104.5 12/	107.4 9/	104.0 13/	162.6	NA	NA	138.0
Apr.	123.3	103.6 12/	105.4 9/	103.8 13/	164.2	NA	NA	135.0

1/ All-urban, unadjusted, U.S. city average. 2/ Nonalcoholic beverages include cola, other carbonated drinks, and noncarbonated drinks, including coffee. 3/ Sugar and sweets include sugar and artificial sweeteners, candy and chewing gum, and other sweets. 4/ Starting Jan. 1987, the fresh cakes and cupcakes category was combined with the cookie category. 5/ Starting Jan. 1987, the fresh sweet rolls, coffeecakes, and donuts category was combined with frozen and refrigerated bakery products category, which also includes fresh pies, tarts, and turnovers. 6/ Starting Jan. 1987, the cola drinks category was combined with the other carbonated drinks category, which includes diet cola. 7/ Coffee not included. 8/ Canned fruit accounted for about 85 percent of this category. 9/ Starting 1998, canned fruit only; indexes on a December 1997=100 base; special index based on a substantially smaller sample; not seasonally adjusted.

10/ Starting Jan. 1987, the candy and chewing gum category was combined with the other sweets category. 11/ Sugar accounts for about 98 percent of this category. 12/ Index on a December 1997=100 base frozen and nonfrozen carbonated drinks and juices. 13/ Starting in 1998, candy and chewing gum. Indexes on a December 1997=100 base.

Source: Bureau of Labor Statistics.

Table 12--Sugarbeet: Price per ton, by State and United States, 1980-98

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Dollars																			
California	51.20	32.00	33.00	40.20	35.10	33.10	35.70	33.60	36.70	42.30	41.60	37.10	35.90	35.50	33.50	39.40	43.00	40.60	39.80
Colorado	47.50	33.80	35.00	33.40	22.40	27.40	32.90	35.40	42.10	43.70	39.80	39.80	39.50	38.40	35.70	35.40	41.20	34.10	35.40
Idaho	46.20	32.50	37.20	40.50	37.10	36.60	36.40	38.70	43.30	43.60	41.70	38.30	39.60	41.20	38.00	40.50	46.10	40.60	39.90
Michigan	40.70	26.50	35.80	36.20	34.40	29.60	30.00	31.00	36.00	41.90	38.30	38.10	36.40	35.80	37.60	33.80	41.60	38.50	36.70
Minnesota	44.10	20.00	34.30	35.40	35.40	36.00	29.20	43.80	43.90	40.80	49.00	40.20	47.80	40.90	42.30	38.00	47.10	38.70	35.10
Montana	51.40	37.20	42.40	37.60	35.50	35.10	39.10	42.20	45.20	43.60	43.20	37.30	43.80	43.60	41.90	39.90	48.10	40.50	36.90
Nebraska	47.00	33.70	34.90	31.60	22.70	28.50	32.50	35.50	43.20	43.20	40.10	39.00	39.60	35.70	36.50	34.40	44.40	35.60	35.20
New Mexico	47.30	32.60	36.10		---	---	35.50	41.30	---	---	---	---	---	---	---	---	31.70	31.20	---
North Dakota	46.30	20.50	35.70	35.40	37.00	35.50	39.30	43.90	44.00	40.20	48.30	39.60	46.00	41.10	40.40	39.10	46.10	37.90	35.40
Ohio	46.20	28.90		34.70	23.60	27.90	29.80	32.90	35.20	---	---	---	---	---	---	---	42.00	38.40	37.50
Oregon	42.30	30.00	36.30	40.70	36.50	35.00	34.20	36.60	40.70	40.80	37.80	36.70	37.10	40.10	34.80	39.30	42.50	39.90	41.00
Texas	42.70	30.60	36.70	35.70	33.20	29.40	24.00	33.50	37.60	41.30	37.20	30.70	34.50	31.00	36.80	36.50	32.50	34.00	---
Washington	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	42.90	38.90	22.90
Wyoming	50.90	38.00	38.80	34.20	32.00	32.10	36.60	39.30	45.10	45.10	40.50	38.30	40.70	40.70	38.20	37.70	46.50	38.50	39.00
Others	---	---	---	---	---	---	---	---	---	40.70	39.70	36.30	36.10	37.30	34.60	38.40	---	---	---
National average	47.20	29.20	35.40	37.00	33.90	33.80	35.90	38.20	41.20	42.10	43.00	38.50	41.10	39.00	38.80	38.10	45.40	38.80	36.40

--- = Not available.

Source: USDA.

Table 13--Sugarcane: Price per ton, by State, 1980-98

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Dollars																			
Florida	39.40	28.60	28.20	28.60	28.90	28.20	29.00	30.90	32.60	30.70	31.50	31.00	29.80	30.40	30.60	30.60	29.40	28.70	29.50
Hawaii	---	23.50	26.20	29.33	30.30	28.10	27.90	27.20	27.60	29.70	32.70	29.90	28.30	29.60	30.40	32.30	30.50	29.20	32.00
Louisiana	33.20	22.90	25.10	25.30	23.90	22.20	23.10	28.70	26.20	27.00	26.60	24.70	25.40	25.00	25.90	27.00	26.20	27.10	23.20
Texas	27.10	15.90	19.50	15.20	21.70	20.70	27.50	24.80	24.60	21.00	25.00	25.40	25.40	25.80	29.90	26.60	25.50	25.60	24.90
National Average	26.00	38.50	24.90	26.50	27.80	28.20	26.70	27.30	29.10	29.40	30.80	29.00	28.10	28.50	29.20	29.50	28.30	28.10	27.30

Source: USDA.

Table 14--U.S. sugarbeet crops: Area planted, acres harvested, yield per acre, and production, by State and region 1/

State and region	Area planted												
	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
1,000 acres													
Great Lakes:													
Michigan	144.0	152.0	154.0	160.0	171.0	179.0	189.0	195.0	190.0	153.0	163.0	177.0	194.0
Ohio	16.8	17.3	13.6	20.0	20.3	21.2	19.1	17.0	16.3	4.9	0.9	1.3	1.8
Total	160.8	169.3	167.6	180.0	191.3	200.2	208.1	212.0	206.3	157.9	163.9	178.3	195.8
Upper Midwest:													
Minnesota	311.0	339.0	342.0	368.0	369.0	372.0	390.0	415.0	427.0	441.0	453.0	473.0	480.0
North Dakota	163.3	177.8	180.2	193.9	195.0	195.5	193.8	205.8	207.0	226.6	231.4	250.0	251.6
Total	474.3	516.8	522.2	561.9	564.0	567.5	583.8	620.8	634.0	667.6	684.4	723.0	731.6
Great Plains:													
Colorado	37.4	39.1	40.6	40.8	40.7	40.2	40.3	44.3	42.8	54.8	67.9	62.5	72.1
Montana	49.2	49.6	52.7	55.2	56.6	55.9	54.4	54.3	55.7	57.7	59.9	64.0	61.8
Nebraska	61.6	63.9	70.1	75.1	81.9	85.6	82.3	82.1	75.9	55.8	67.3	53.8	72.7
New Mexico	0.6	0.7								1.1	1.6	0.0	0.0
Texas	32.8	34.0	36.6	41.9	41.7	40.1	40.3	25.4	20.2	14.1	16.4	0.0	0.0
Wyoming	54.1	56.5	61.8	65.0	69.0	71.0	66.0	63.0	63.0	58.0	63.0	56.0	58.0
Total	235.7	243.8	261.8	278.0	289.9	292.8	283.3	269.1	257.6	241.5	276.1	236.3	264.6
Far West:													
California	219.0	215.0	176.0	173.0	165.0	154.0	138.0	143.0	116.0	84.0	101.0	101.0	110.0
Idaho	163.0	168.0	179.0	188.0	196.0	202.0	206.0	202.0	198.0	187.0	198.0	204.0	211.0
Oregon	13.9	14.3	15.9	17.2	18.9	18.4	16.0	16.7	18.4	17.4	17.6	17.9	20.1
Washington	---	---	---	---	---	---	---	---	---	13.0	18.3	37.3	27.5
Total	395.9	397.3	370.9	378.2	379.9	374.4	360.0	361.7	332.4	301.4	334.9	360.2	368.6
Others 2/	---	---	1.9	2.3	2.3	1.8	2.5	12.2	14.3	0.0	0.0	0.0	0.0
U.S. total	1,266.7	1,327.2	1,324.4	1,400.4	1,427.4	1,436.7	1,437.7	1,475.8	1,444.6	1,368.4	1,459.3	1,497.8	1,560.6

	Acres harvested												
	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
1,000 acres													
Great Lakes:													
Michigan	142.0	145.0	150.0	157.0	166.0	175.0	187.0	187.0	188.0	130.0	160.0	173.0	190.0
Ohio	16.2	14.7	11.9	19.2	18.5	20.5	17.5	16.0	15.3	4.6	0.9	1.1	1.7
Total	158.2	159.7	161.9	176.2	184.5	195.5	204.5	203.0	203.3	134.6	160.9	174.1	191.7
Upper Midwest:													
Minnesota	310.0	334.0	341.0	364.0	363.0	370.0	379.0	411.0	420.0	438.0	446.0	458.0	470.0
North Dakota	161.3	175.5	180.1	193.2	193.9	194.7	190.9	201.5	204.2	225.3	227.5	242.6	247.0
Total	471.3	509.5	521.1	557.2	556.9	564.7	569.9	612.5	624.2	663.3	673.5	700.6	717.0
Great Plains:													
Colorado	37.0	38.6	40.0	40.0	40.2	39.9	40.0	43.2	41.1	51.1	66.4	57.3	68.5
Montana	48.9	48.9	51.9	55.1	56.3	55.8	54.1	54.0	55.5	57.5	58.3	62.4	61.7
Nebraska	60.2	62.2	62.2	71.0	78.1	77.5	79.6	74.1	72.3	51.2	60.3	47.4	66.2
New Mexico	---	---	---	---	---	---	---	---	---	0.9	1.6	0.0	0.0
Texas	31.5	33.0	35.3	41.0	30.5	39.9	39.2	24.5	19.3	12.6	15.0	0.0	0.0
Wyoming	53.4	56.0	59.3	63.8	66.4	69.1	64.4	61.3	61.5	56.8	60.9	53.4	57.1
Total	231.0	238.7	248.7	270.9	271.5	282.2	277.3	257.1	249.7	230.1	262.5	220.5	253.4
Far West:													
California	216.0	212.0	169.0	168.0	158.0	150.0	136.0	141.0	114.0	82.0	99.0	99.0	108.0
Idaho	162.0	166.0	177.0	186.0	195.0	200.0	204.0	201.0	197.0	184.0	197.0	203.0	210.0
Oregon	13.7	14.1	15.2	16.7	18.6	17.3	15.2	16.4	17.8	16.3	17.4	17.7	19.7
Washington	---	---	---	---	---	---	---	---	---	13.0	18.0	35.8	27.4
Total	391.7	392.1	361.2	370.7	371.6	367.3	355.2	358.4	328.8	295.3	331.4	355.5	365.1
Others 2/	0.2	0.7	1.6	2.2	2.2	1.8	2.5	12.0	14.1	0.0	0.0	0.0	0.0
U.S. total	1,252.4	1,300.7	1,294.5	1,377.2	1,386.7	1,411.5	1,409.4	1,443.0	1,420.1	1,323.3	1,428.3	1,450.7	1,527.3

continued--

Table 14--U.S. sugarbeet crops: Area planted, acres harvested, yield per acre, and production, by State and region 1--continued

State and region	Yield per acre												
	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Short tons													
Great Lakes:													
Michigan	20.5	16.5	17.1	20.8	15.5	17.7	17.0	16.2	15.8	15.1	19.0	16.0	19.0
Ohio	16.6	15.9	16.7	18.5	16.0	16.0	12.1	16.5	15.0	18.7	19.0	17.3	18.3
Total	20.1	16.4	17.1	20.6	15.6	17.5	16.6	16.2	15.7	15.2	19.0	16.0	18.6
Upper Midwest:													
Minnesota	20.0	14.2	16.0	14.8	17.0	18.5	14.1	20.6	17.7	18.2	18.5	21.2	20.1
North Dakota	19.6	14.7	15.7	14.4	18.4	17.4	16.3	21.2	19.2	18.7	18.5	22.2	20.8
Total	19.9	14.4	15.9	14.7	17.5	18.1	14.8	20.8	18.2	18.4	18.5	21.5	20.3
Great Plains:													
Colorado	21.7	22.8	22.8	23.6	24.0	23.9	23.1	21.9	17.4	20.2	19.7	22.7	21.3
Montana	22.2	21.1	19.9	22.5	23.3	22.8	21.6	24.2	21.5	22.6	21.0	22.6	23.8
Nebraska	18.3	21.2	18.8	21.0	20.2	17.9	18.5	20.3	16.4	17.8	16.8	19.7	19.0
New Mexico										30.0	30.6	---	---
Texas	19.7	21.9	21.0	24.8	22.0	21.0	21.0	20.3	18.2	19.2	18.0	---	---
Wyoming	21.1	20.3	19.2	20.5	20.6	20.8	19.7	18.0	20.3	18.9	20.4	20.3	21.1
Total	20.5	21.3	20.1	22.1	21.7	20.9	20.4	20.8	18.8	19.9	19.4	21.4	21.3
Far West:													
California	28.2	25.0	27.3	25.8	25.5	28.2	26.0	28.0	28.0	29.5	30.0	27.5	32.0
Idaho	26.4	24.6	22.8	26.0	26.0	24.5	23.2	27.9	24.0	24.8	26.4	27.1	24.3
Oregon	30.8	26.7	25.7	29.2	28.2	22.8	24.5	27.8	22.7	25.5	28.4	26.6	25.1
Washington										35.5	33.1	33.3	30.1
Total	27.5	24.9	25.0	26.1	25.9	25.9	24.3	27.9	25.3	26.6	28.0	27.8	27.1
Others 2/	10.0	12.9	27.5	29.5	35.0	40.0	41.2	37.7	34.3	0.0	0.0	0.0	0.0
U.S. total	22.4	19.1	19.4	20.0	20.3	20.6	18.6	22.1	19.8	20.2	20.9	22.4	21.9
Production													
	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
	1,000 short tons												
Great Lakes:													
Michigan	2,911	2,393	2,565	3,266	2,573	3,098	3,179	3,029	2,970	1,963	3,040	2,768	3,534
Ohio	269	234	199	355	296	328	212	264	230	86	17	19	33
Total	3,180	2,627	2,764	3,621	2,869	3,426	3,391	3,293	3,200	2,049	3,057	2,787	3,567
Upper Midwest:													
Minnesota	6,200	4,743	5,456	5,387	6,171	6,845	5,344	8,467	7,434	7,971	8,251	9,710	9,447
North Dakota	3,161	2,580	2,828	2,782	3,568	3,388	3,112	4,272	3,929	4,213	4,205	5,386	5,138
Total	9,361	7,323	8,284	8,169	9,739	10,233	8,456	12,739	11,363	12,184	12,456	15,096	14,585
Great Plains:													
Colorado	803	880	912	944	965	954	924	946	715	1,032	1,308	1,301	1,459
Montana	1,086	1,032	1,033	1,240	1,312	1,272	1,169	1,307	1,193	1,300	1,224	1,410	1,468
Nebraska	1,102	1,319	1,169	1,491	1,578	1,387	1,473	1,504	1,186	913	1,013	934	1,258
New Mexico	---	---	---	---	---	---	---	---	---	27	49	0	0
Texas	621	723	743	1,017	671	838	823	497	351	242	270	0	0
Wyoming	1,127	1,137	1,139	1,308	1,368	1,437	1,269	1,103	1,249	1,074	1,240	1,084	1,205
Total	4,739	5,091	4,996	6,000	5,894	5,888	5,658	5,357	4,694	4,588	5,104	4,729	5,390
Far West:													
California	6,091	5,300	4,614	4,334	4,029	4,230	3,536	3,948	3,192	2,419	2,970	2,723	3,456
Idaho	4,277	4,084	4,038	4,836	5,070	4,900	4,733	5,608	4,728	4,563	5,210	5,501	5,103
Oregon	422	376	391	488	525	394	372	456	404	416	494	471	494
Washington	---	---	---	---	---	---	---	---	---	461	595	1,192	825
Total	10,790	9,760	9,043	9,658	9,624	9,524	8,641	10,012	8,324	7,859	9,269	9,887	9,878
Others 2/	2	9	44	65	77	72	103	452	484	0	0	0	0
Total U.S.	28,072	24,810	25,131	27,513	28,203	29,143	26,249	31,853	28,065	26,680	29,886	32,499	33,420

-- = No data. 1/ Relates to year of intended harvest except for overwintered spring planted beets in California. The 1990 crop is 1990/91, etc. 2/ Includes New Mexico and Washington prior to 1996. 3/ Forecast.

Table 15-U.S. sugarcane: Area, yield, production, output, recovery rate, and sugar yield per acre, crop years

Crop year	Total	Area for seed	For sugar	Percent area for seed	Sugarcane yield for sugar	Sugarcane production for sugar	Sugar production 1/	Recovery rate	Sugar yield per acre 2/
		1,000 acres		Percent	Tons/acre	1,000 short tons	1,000 tons, raw value	Percent	Short tons, raw value
Florida									
1984/85	387.0	15.1	371.9	3.9	32.5	12,087	1,412	11.68	3.80
1985/86	398.7	15.3	383.4	3.8	32.9	12,615	1,413	11.20	3.69
1986/87	405.0	15.0	390.0	3.7	33.1	12,916	1,476	11.43	3.78
1987/88	417.0	15.0	402.0	3.6	32.3	12,990	1,517	11.68	3.77
1988/89	421.0	17.0	404.0	4.0	31.6	12,766	1,566	12.27	3.88
1989/90	420.0	15.0	405.0	3.6	31.4	12,717	1,399	11.00	3.45
1990/91	434.0	15.0	419.0	3.5	35.5	14,874	1,806	12.14	4.31
1991/92	443.0	15.0	428.0	3.4	34.9	14,937	1,832	12.26	4.28
1992/93	443.0	17.0	426.0	3.8	33.2	14,143	1,710	12.09	4.01
1993/94	444.0	19.0	425.0	4.3	34.1	14,493	1,770	12.21	4.16
1994/95	444.0	21.0	423.0	4.7	33.6	14,213	1,725	12.14	4.08
1995/96	437.0	20.0	417.0	4.6	34.6	14,428	1,771	12.27	4.25
1996/97	438.0	21.0	417.0	4.8	33.1	13,803	1,679	12.16	4.03
1997/98	440.0	19.0	421.0	4.3	36.9	15,535	1,925	12.39	4.57
1998/99	447.0	21.0	426.0	4.7	40.1	17,083	2,132	12.48	5.00
1999/2000	460.0	17.0	443.0	3.7	35.0	15,505	1,976	12.75	4.46
Hawaii									
1985	89.4	6.4	83.0	7.2	95.4	7,916	971	12.27	11.70
1986	90.2	6.6	83.6	7.3	100.2	8,379	1,017	12.14	12.17
1987	86.5	7.0	79.5	8.1	100.8	8,014	979	12.22	12.31
1988	86.1	7.2	78.9	8.4	96.4	7,606	969	12.74	12.28
1989	81.4	6.7	74.7	8.2	94.8	7,082	846	11.95	11.33
1990	79.0	7.0	72.0	8.9	90.8	6,538	850	13.00	11.81
1991	74.0	6.6	67.4	8.9	86.9	5,857	722	12.33	10.71
1992	67.9	6.2	61.7	9.1	88.0	5,430	689	12.69	11.17
1993	69.9	5.1	64.8	7.3	85.0	5,508	658	11.95	10.15
1994	69.3	5.0	64.3	7.2	81.9	5,266	705	13.39	10.96
1995	53.0	4.5	48.5	8.5	81.5	3,953	499	12.62	10.29
1996	46.0	3.1	42.9	6.7	82.6	3,544	458	12.92	10.68
1997	34.2	2.2	32.0	6.4	91.4	2,925	340	11.62	10.63
1998	32.5	2.2	30.3	6.8	90.0	2,727	350	12.83	11.55
1999	37.3	1.9	35.4	5.1	81.7	2,892	384	13.27	10.84
2000 3/	33.2	2.2	31.0	6.6	83.9	2,602	360	13.84	11.61
Louisiana									
1984/85	230.0	25.0	205.0	10.9	22.0	4,510	452	10.02	2.20
1985/86	250.0	24.0	226.0	9.6	24.0	5,430	532	9.80	2.35
1986/87	270.0	22.0	248.0	8.1	27.3	6,770	671	9.91	2.71
1987/88	285.0	22.0	263.0	7.7	22.7	5,970	731	12.24	2.78
1988/89	305.0	26.0	279.0	8.5	25.3	7,050	797	11.30	2.86
1989/90	315.0	25.0	290.0	7.9	25.7	7,440	844	11.34	2.91
1990/91	245.0	44.0	201.0	18.0	20.6	4,150	438	10.55	2.18
1991/92	345.0	24.0	321.0	7.0	22.1	7,090	763	10.76	2.38
1992/93	375.0	30.0	345.0	8.0	23.2	8,010	876	10.94	2.54
1993/94	390.0	30.0	360.0	7.7	22.8	8,220	893	10.86	2.48
1994/95	380.0	28.0	352.0	7.4	24.4	8,589	1,021	11.89	2.90
1995/96	400.0	32.0	368.0	8.0	25.6	9,421	1,057	11.22	2.87
1996/97	370.0	35.0	335.0	9.5	27.9	9,347	1,052	11.25	3.14
1997/98	410.0	30.0	380.0	7.3	28.2	10,716	1,262	11.78	3.32
1998/99	435.0	35.0	400.0	8.0	29.7	11,880	1,327	11.17	3.32
1999/2000	465.0	30.0	435.0	6.5	32.7	14,225	1,680	11.81	3.86

continued--

Table 15-U.S. sugarcane: Area, yield, production, output, recovery rate, and sugar yield per acre, crop years--continued

Crop year	Total	Area for seed	For sugar	Percent area for seed	Sugarcane yield for sugar	Sugarcane production for sugar	Sugar production 1/	Recovery rate	Sugar yield per acre 2/
	1,000 acres			Percent	Tons/acre	1,000 short tons	1,000 tons, raw value	Percent	Short tons, raw value
Texas									
1984/85	35.1	0.8	34.3	2.3	27.9	957	81	8.46	2.36
1985/86	31.9	1.5	30.4	4.7	30.1	916	76	8.30	2.50
1986/87	31.0	1.9	29.1	6.1	29.9	871	91	10.45	3.13
1987/88	35.1	1.3	33.8	3.7	31.1	1,052	106	10.08	3.14
1988/89	33.2	1.5	31.7	4.5	33.3	1,057	107	10.12	3.38
1989/90	35.5	1.9	33.6	5.4	24.7	830	69	8.31	2.05
1990/91	36.2	1.8	34.4	5.0	26.5	913	88	9.64	2.56
1991/92	34.9	1.7	33.2	4.9	32.4	1,076	109	10.13	3.28
1992/93	39.3	1.6	37.7	4.1	34.2	1,290	138	10.70	3.66
1993/94	44.4	0.9	43.5	2.0	32.5	1,414	146	10.33	3.36
1994/95	43.5	1.1	42.4	2.5	31.5	1,336	144	10.78	3.40
1995/96	42.3	1.1	41.2	2.6	32.4	1,335	137	10.26	3.33
1996/97	34.9	0.3	34.6	0.9	28.7	993	91	9.16	2.63
1997/98	29.8	2.5	27.3	8.4	30.3	827	80	9.62	2.91
1998/99	32.6	0.6	32.0	1.8	32.9	1,053	106	10.07	3.31
1999/2000	31.0	3.0	28.0	9.7	34.1	955	105	10.99	3.75
Puerto Rico									
1984/85	---	---	55.9	---	22.7	1,270	108	8.50	1.93
1985/86	---	---	52.5	---	22.0	1,153	96	8.33	1.83
1986/87	---	---	50.1	---	24.1	1,209	96	7.94	1.92
1987/88	---	---	53.1	---	26.2	1,390	102	7.34	1.92
1988/89	---	---	52.4	---	23.2	1,216	91	7.48	1.74
1989/90	---	---	45.3	---	19.1	863	68	7.88	1.50
1990/91	---	---	42.0	---	22.1	929	74	7.97	1.76
1991/92	---	---	35.1	---	23.0	807	68	8.43	1.94
1992/93	---	---	36.0	---	22.2	799	65	8.14	1.81
1993/94	---	---	30.6	---	20.5	628	50	7.96	1.63
1994/95	---	---	25.1	---	22.2	556	46	8.27	1.83
1995/96	---	---	21.4	---	20.8	446	34	7.62	1.59
1996/97	---	---	18.5	---	18.3	339	27	7.96	1.46
1997/98	---	---	17.5	---	12.9	226	16	7.08	0.91
1998/99	---	---	8.7	---	4.9	43	3	6.98	0.34
1999/2000 3/	---	---	4.9	---	12.9	63	4	6.71	0.86
Total cane									
1985/86	822.5	47.2	744.8	5.7	36.1	26,885	3,134	11.66	4.21
1986/87	846.3	45.5	774.8	5.4	37.4	28,944	3,313	11.45	4.28
1987/88	876.7	45.3	804.5	5.2	34.8	28,033	3,425	12.22	4.26
1988/89	897.7	51.7	816.8	5.8	34.9	28,486	3,407	11.96	4.17
1989/90	897.2	48.6	822.4	5.4	34.1	28,077	3,230	11.50	3.93
1990/91	836.2	67.8	748.5	8.1	35.4	26,483	3,128	11.81	4.18
1991/92	932.0	47.3	872.6	5.1	33.2	28,968	3,461	11.95	3.97
1992/93	961.2	54.8	892.6	5.7	32.4	28,881	3,447	11.94	3.86
1993/94	978.9	55.0	913.8	5.6	32.4	29,643	3,564	12.02	3.90
1994/95	961.9	55.1	903.9	5.7	32.5	29,412	3,435	11.68	3.80
1995/96	953.7	57.6	895.5	6.0	32.5	29,145	3,457	11.86	3.86
1996/97	907.4	59.4	847.8	6.5	32.7	27,695	3,189	11.51	3.76
1997/98	931.5	53.7	860.3	5.8	34.9	30,010	3,632	12.10	4.22
1998/99	947.1	58.8	888.3	6.2	36.9	32,743	3,952	12.07	4.45
1999/2000 3/	989.2	52.2	937.0	5.3	35.5	33,287	4,125	12.39	4.40

---= Not available. 1/ As published by National Agricultural Statistics Service (NASS) until it ceased publishing sugar production data as of June 1994. The final NASS sugar production estimate was for the 1993 crop (1993/94). Beginning with 1994/95, crop year is based on monthly data from the Farm Service Agency. Crop year is September/August for Florida, Louisiana, Texas, and Puerto Rico. Crop year for Hawaii is the calendar year.

2/ Yield per acre harvested for sugar only (excludes sugarcane for seed). 3/ Forecast.

Sources: "Crop Production," National Agricultural Statistics Service; "Sweetener Market Data," Farm Service Agency, USDA.

Table 16--U.S. beet and cane sugar production (including Puerto Rico), fiscal year and share of total

Crop year	Fiscal year 1/ (October/September)			Share of production		
	Beet	Cane	Beet and cane	Beet	Cane	Beet and cane
	1,000 short tons, raw value			Percent		
1985/86	2,988	3,136	6,124	48.8	51.2	100
1986/87	3,653	3,506	7,159	51.0	49.0	100
1987/88	3,822	3,425	7,247	52.7	47.3	100
1988/89	3,396	3,408	6,804	49.9	50.1	100
1989/90	3,466	3,225	6,691	51.8	48.2	100
1990/91	3,854	3,124	6,978	55.2	44.8	100
1991/92	3,845	3,461	7,306	52.6	47.4	100
1992/93	4,392	3,446	7,838	56.0	44.0	100
1993/94	4,090	3,565	7,655	53.4	46.6	100
1994/95	4,493	3,434	7,927	56.7	43.3	100
1995/96	3,916	3,454	7,370	53.1	46.9	100
1996/97	4,013	3,192	7,205	55.7	44.3	100
1997/98	4,389	3,631	8,020	54.7	45.3	100
1998/99	4,423	3,951	8,374	52.8	47.2	100
1999/2000 2/	4,950	4,125	9,075	54.5	45.5	100
2000/01 2/	4,700	4,323	9,023	52.1	47.9	100

1/ Reported quarterly by "Sugar Market Statistics," NASS, prior to IV quarter 1991, and currently by "Sweetener Market Data," FSA, USDA.

2/ Forecast.

Sources: National Agricultural Statistics Service and Farm Service Agency, USDA.

Table 17--U.S. sugarbeet area, yield, and production, 1985-99

Crop Year	Planted	Harvested	Sugarbeets	Yield per harvested acre		
				Tons	1,000 tons	Percent
	---1,000 acres---		1,000 short tons			
1985	1,125	1,102	22,529	20.4	2,988	13.3
1986	1,232	1,191	25,162	21.1	3,653	13.6
1987	1,267	1,252	28,072	22.4	3,822	14.2
1988	1,327	1,301	24,810	19.1	3,396	13.7
1989	1,324	1,295	25,131	19.4	3,466	13.8
1990	1,400	1,377	27,513	20.0	3,854	14.0
1991	1,427	1,387	28,203	20.3	3,845	13.6
1992	1,437	1,412	29,143	20.6	4,392	15.1
1993	1,438	1,409	26,249	18.6	4,090	15.6
1994	1,476	1,443	31,853	22.1	4,493	14.1
1995	1,445	1,420	28,065	19.8	3,916	14.0
1996	1,368	1,323	26,680	20.2	4,013	15.0
1997	1,459	1,428	29,886	20.9	4,389	14.7
1998	1,498	1,451	32,499	22.4	4,423	13.6
1999 1/	1,561	1,527	33,420	21.9	4,950	14.8

1/ Forecast by Interagency Sugar Estimates Committee, USDA.

Table 18--U.S. production of beet sugar and cane sugar by State, monthly, quarterly, fiscal, and calendar year

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	1st Q.	2nd Q.	3rd Q.	4th Q.	Calendar year	Fiscal year
	1,000 short tons, raw value																1/	
Florida:																		
1995	386	350	351	5	0	0	0	0	0	21	384	397	1,087	5	0	802	1,894	1,725
1996	434	367	169	0	0	0	0	0	0	36	314	387	970	0	0	737	1,707	1,771
1997	426	376	140	0	0	0	0	0	0	87	385	289	942	0	0	761	1,703	1,679
1998	447	306	309	101	0	0	0	0	0	99	282	422	1,062	101	0	804	1,967	1,924
1999	439	397	366	126	0	0	0	0	0	78	385	385	1,202	126	0	848	2,175	2,132
2000	454	396	214	65														
																	1,064	
Louisiana:																		
1995	2	0	0	0	0	0	0	0	0	294	414	344	3	0	0	1,053	1,055	1,019
1996	4	0	0	0	0	0	0	0	0	236	421	382	4	0	0	1,038	1,043	1,057
1997	7	0	0	0	0	0	0	0	8	406	473	374	8	0	8	1,253	1,269	1,055
1998	9	0	0	0	0	0	0	0	0	289	421	453	9	0	0	1,163	1,172	1,262
1999	95	0	0	0	0	0	0	0	69	506	515	531	95	0	69	1,553	1,717	1,327
2000	67	0	0	0													67	
Texas:																		
1995	20	25	24	0	0	2	0	0	3	17	15	20	69	2	3	52	125	144
1996	28	26	29	0	0	0	0	0	0	11	24	27	82	0	0	61	144	134
1997	25	5	0	0	0	0	0	0	0	4	16	29	30	0	0	50	80	91
1998	30	0	0	0	0	0	0	0	0	0	4	22	30	0	0	26	56	80
1999	25	24	24	7	0	0	0	0	0	12	24	30	73	7	0	67	147	106
2000	28	11	0	0													38	
Hawaii:																		
1995	8	8	26	48	58	65	75	62	58	61	12	9	42	171	195	83	491	499
1996	7	10	23	36	54	72	53	59	62	34	14	9	40	161	174	56	432	458
1997	0	0	1	24	35	61	50	65	48	38	24	17	1	121	162	79	363	340
1998	1	10	10	21	30	40	52	59	47	46	32	5	21	91	159	83	354	350
1999	0	2	11	43	62	49	43	47	44	35	23	8	13	153	135	67	368	384
2000	0	8	12	37													20	
Puerto Rico: 2/																		
1995	0	7	20	14	5	0	0	0	0	0	0	0	28	18	0	0	46	46
1996	0	6	17	8	3	0	0	0	0	0	0	0	22	12	0	0	34	34
1997	0	3	10	12	2	0	0	0	0	0	0	0	13	14	0	0	27	27
1998	0	0	3	8	4	1	0	0	0	0	0	0	0	3	13	0	0	16
1999	0	0	0	1	2	0	0	0	0	0	0	0	0	0	3	0	0	3
2000	0	0	1	2													1	
Total U.S. cane sugar:																		
1995	417	391	420	66	63	67	75	62	60	393	825	770	1,229	196	198	1,989	3,611	3,434
1996	473	409	238	44	57	72	53	59	62	316	773	805	1,119	173	174	1,894	3,359	3,454
1997	458	383	152	37	37	61	50	65	56	536	898	709	993	135	171	2,143	3,441	3,192
1998	486	316	322	130	34	41	52	59	47	435	739	902	1,124	205	159	2,076	3,564	3,631
1999	558	422	402	177	64	49	43	47	113	631	948	955	1,382	290	204	2,534	4,409	3,952
2000	549	414	228	104													1,191	

continued--

Table 18--U.S. production of beet sugar and cane sugar by State, monthly, quarterly, fiscal, and calendar year--continued

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Calendar : Fiscal				
													1st Q.	2nd Q.	3rd Q.	4th Q.	year : year 1/
1,000 short tons, raw value																	
U.S. beet sugar:																	
1995	594	329	281	290	237	152	114	102	280	649	675	665	1,204	679	496	1,988	4,367 : 4,494
1996	469	295	245	253	164	104	66	79	252	626	669	686	1,010	522	397	1,981	3,909 : 3,916
1997	474	279	329	284	162	98	101	81	224	638	652	655	1,082	544	405	1,945	3,976 : 4,013
1998	559	411	283	281	206	132	103	131	341	625	653	605	1,252	618	574	1,883	4,327 : 4,389
1999	547	399	308	318	301	123	73	118	354	709	722	703	1,254	741	545	2,134	4,674 : 4,423
2000	662	458	370	299													1,491
Total beet and cane:																	
1995	1,011	721	701	356	300	219	189	164	340	1,042	1,500	1,435	2,433	875	694	3,977	7,978 : 7,928
1996	942	703	483	297	221	176	118	139	313	942	1,442	1,491	2,129	694	570	3,874	7,268 : 7,370
1997	932	662	481	321	200	159	151	146	280	1,174	1,550	1,364	2,075	679	576	4,088	7,418 : 7,205
1998	1,045	726	604	411	240	173	155	190	388	1,059	1,392	1,507	2,376	824	733	3,959	7,891 : 8,020
1999	1,105	822	710	495	364	172	117	166	467	1,340	1,670	1,657	2,636	1,031	749	4,667	9,083 : 8,375
2000	1,211	872	598	403													2,681

NA=Not available. 1/ Twelve months beginning previous October.

2/ Prior to January 1994, data from industry sources in Puerto Rico.

Note: This table commenced in October 1991 when USDA began reporting monthly production data. Totals may not add due to rounding.

Sources: "Sugar Market Statistics," National Agricultural Statistics Service; "Sweetener Market Data," Farm Service Agency, USDA.

Table 19--U.S. cane and beet sugar deliveries, monthly, quarterly, and by fiscal and calendar year

Totals may not add due to rounding.

Note: This table commenced in October 1991 when USDA began reporting monthly production data. Puerto Rico data were added beginning October 1993.

1/ Fiscal year totals prior to 1994 differ from supply and use (table) since WASDE includes Puerto Rico.

Source: "Sweetener Market Data," Farm Service Agency, USDA.

Table 20-U.S. sugar deliveries for human consumption by type of user, quarterly and calendar year 1/

Year/ quarter	Bakery, cereal, and allied products	Confectionery and related products	Ice cream and dairy products	Bever- ages	Canned, bottled, & frozen foods	All other food uses	Non- food use	Subtotal industrial use	Hotels, restaurants, and institutions	Wholesale grocers, jobbers, sugar dealers	Retail grocers, chain stores	All other deliv- eries 2/	Subtotal non- industrial use	Total U.S.
1,000 short tons, refined														
1985	1,494	1,059	456	340	428	441	131	4,349	85	1,874	1,045	119	3,123	7,472
1986	1,432	1,051	447	266	387	443	138	4,164	84	1,867	1,066	58	3,075	7,239
1987	1,513	1,146	449	212	398	534	149	4,401	91	2,040	996	72	3,199	7,600
1988	1,541	1,107	411	237	354	528	121	4,299	88	2,200	940	86	3,314	7,613
1989	1,532	1,187	426	222	342	637	126	4,472	106	2,051	1,026	75	3,258	7,730
1990	1,608	1,279	462	228	332	642	109	4,660	108	2,130	1,077	76	3,391	8,051
1991	1,632	1,277	439	204	331	623	88	4,594	100	2,079	1,182	108	3,469	8,063
1992	1,719	1,246	429	164	315	649	69	4,591	101	2,104	1,230	233	3,668	8,259
1993	1,785	1,292	424	158	336	725	85	4,805	108	2,075	1,235	171	3,589	8,394
1994	1,952	1,313	453	156	322	704	77	4,977	93	2,039	1,269	197	3,598	8,575
1995	1,905	1,372	452	169	279	863	64	5,103	103	2,173	1,236	189	3,701	8,804
1996	1,993	1,335	445	196	318	849	66	5,202	80	2,241	1,263	175	3,759	8,962
1997	2,161	1,350	436	158	308	793	66	5,272	78	2,283	1,281	186	3,828	9,100
1998	2,301	1,336	438	165	331	907	76	5,556	79	2,223	1,230	229	3,761	9,317
1999	2,312	1,361	499	179	346	862	71	5,630	72	2,257	1,263	212	3,804	9,434
1999														
Jan.	179	98	27	16	21	64	5	411	5	150	74	16	245	656
Feb.	174	102	34	12	23	70	5	421	6	150	82	17	255	676
Mar.	191	106	46	17	26	81	6	474	6	180	110	17	313	787
I	544	307	107	46	70	215	16	1,306	17	479	266	50	812	2,118
Apr.	184	118	47	19	25	72	6	471	6	169	94	12	281	752
May	194	129	48	18	33	77	6	505	6	188	87	15	296	801
June	199	125	47	16	39	76	5	508	6	211	100	22	339	846
II	577	373	141	52	98	225	17	1,483	18	567	282	49	916	2,399
July	191	113	44	14	35	62	5	465	6	198	106	15	324	789
Aug.	220	128	44	14	38	77	6	527	6	202	111	21	340	868
Sept.	219	106	44	14	36	70	6	494	6	216	113	22	357	852
III	629	347	132	43	108	209	17	1,486	18	616	330	58	1,022	2,508
Oct.	212	133	39	14	27	81	7	512	6	202	128	22	358	870
Nov.	184	117	42	13	24	72	6	458	6	206	136	16	364	822
Dec.	164	85	38	11	19	60	7	384	6	187	122	17	332	716
IV	560	335	119	38	70	213	20	1,355	18	595	385	55	1,054	2,409
2000														
Jan.	178	103	36	12	23	69	6	426	5	149	69	16	238	664
Feb.	180	108	43	12	24	63	8	436	7	163	80	18	268	705
Mar.	209	123	45	15	24	75	6	496	9	187	97	31	325	820
I	567	333	123	38	70	206	20	1,358	21	499	246	65	831	2,189

1/ Does not include Hawaii until fourth-quarter 1991. Does not include Puerto Rico until fourth-quarter 1993.

2/ Includes deliveries to Government agencies.

Sources: "Sugar Market Statistics," National Agricultural Statistics Service; "Sweetener Market Data," Farm Service Agency, USDA.

Table 21--U.S. sugar imports under tariff-rate quota (TRQ), by country, fiscal years 1996-2000

Country 1/	10/95-9/96			10/96-9/97			10/97-9/98		
	TRQ allocation	Early 1995/96 entries 2/	Actual imports 3/	TRQ allocation 4/	Actual imports	Estimated balance	TRQ allocation 4/	Actual imports	Estimated balance
Metric tons, raw value									
Raw cane sugar									
Argentina	95,867	3,062	95,867	87,236	87,226	-10	65,563	65,517	-46
Australia	185,044	0	185,044	168,386	168,756	370	126,552	127,062	510
Barbados	12,311	0	0	11,359	0	-11,359	7,830	0	-7,830
Belize	24,523	0	24,524	22,316	22,420	104	16,772	16,796	24
Bolivia	17,835	0	17,660	16,230	16,339	109	12,198	11,413	-785
Brazil	323,271	0	323,268	294,169	294,207	38	221,084	220,358	-726
Colombia	53,506	0	53,126	48,690	53,177	4,487	36,593	33,751	-2,842
Congo	7,258	0	5,643	7,258	7,312	54	7,258	7,296	38
Costa Rica	33,411	0	33,441	30,431	30,519	88	22,871	22,835	-36
Cote D'Ivoire	7,258	80	80	7,258	7,289	31	7,258	31	-7,227
Dominican Republic	350,940	0	329,516	357,060	355,454	-1,606	268,350	267,130	-1,220
Ecuador	24,523	21	24,523	22,316	22,353	37	16,772	16,772	0
El Salvador	57,966	342	57,966	52,748	52,748	0	39,643	39,925	282
Fiji	20,065	8,519	20,065	18,259	18,355	96	13,722	10,795	-2,927
Gabon	7,258	0	0	7,258	0	-7,258	7,258	0	-7,258
Guatemala	107,014	34	107,014	97,380	97,884	504	73,186	72,907	-279
Guyana	26,754	4,422	26,754	24,345	24,558	213	18,297	18,329	32
Haiti	7,258	0	0	7,258	0	-7,258	7,258	0	-7,258
Honduras	22,294	0	20,173	20,288	20,339	51	15,247	15,317	70
India	15,951	0	14,311	16,230	16,076	-154	12,198	12,554	356
Jamaica	24,523	648	24,523	22,316	22,068	-248	16,772	16,616	-156
Madagascar	7,258	1	7,258	7,258	7,307	49	7,258	7,312	54
Malawi	22,294	0	17,970	20,288	10,847	-9,441	15,247	11,968	-3,279
Mauritius	26,754	0	23,695	24,345	24,488	143	18,297	18,526	229
Mexico 5/	7,258	0	6,973	25,000	23,892	-1,108	25,000	25,000	0
Mozambique	28,983	0	25,686	26,374	26,689	315	19,821	20,083	262
Nicaragua	46,819	0	45,901	42,604	42,417	-187	32,019	32,137	118
Panama	57,825	0	48,158	58,834	55,049	-3,785	44,217	44,138	-79
Papua New Guinea	7,258	0	0	7,258	7,362	104	7,258	104	-7,154
Paraguay	7,258	0	7,258	7,258	5,934	-1,324	7,258	5,023	-2,235
Peru	91,407	6,738	91,407	83,179	83,310	131	62,513	62,578	65
Philippines	237,422	0	237,110	273,881	254,431	-19,450	205,837	202,090	-3,747
South Africa	51,278	19,346	51,278	46,661	46,385	-276	35,069	35,173	104
St.Kitts and Nevis	7,258	0	4,096	7,258	7,219	-39	7,258	7,237	-21
Swaziland	35,673	11,653	35,673	32,460	32,720	260	24,395	24,480	85
Taiwan	26,754	70	26,754	24,345	24,374	29	18,297	18,300	3
Thailand	31,213	0	31,212	28,403	28,481	78	21,346	21,313	-33
Trinidad-Tobago	15,606	0	15,606	14,201	14,164	-37	10,673	10,946	273
Uruguay	7,258	7,493	7,023	7,258	6,997	-261	7,258	7,404	146
Zimbabwe	26,754	12,636	26,754	24,345	24,420	75	18,297	18,244	-53
Rounding									
Subtotal raw cane sugar	2,167,160	75,065	2,073,310	2,100,001	2,043,566	---	1,600,000	1,547,460	---
TRQ shortfall	---	---	93,850	---	56,435	---	---	52,540	---
Refined sugars									
Mexico (NAFTA) 5/	---	---	---	25,000	23,892	---	25,000	25,000	---
Mexico (Sept. 1997, 1998, 1999, and 2000 allocation)	---	---	---	---	---	---	2,954	2,954	---
Canada (Sept. 1997, 1998, 1999, and 2000 allocation)	---	---	---	---	---	---	10,300	9,521	---
Specialty sugar 6/	1,656	---	129	1,656	1,656	---	4,656	4,367	---
Other refined sugars 6/	20,344	---	20,344	20,344	20,344	---	7,090	7,090	---
Subtotal refined sugars	22,000	---	20,473	47,000	22,000	---	50,000	48,932	---
Potential TRQ not yet allocated	---	---	---	---	---	---	---	---	---
Grand total 7/	2,189,160	75,064	2,093,783	2,147,001	2,065,566	-56,435	1,625,000	1,571,392	-52,540
Grand total (short tons)	2,413,138	82,744	2,308,003	2,366,666	2,276,899	-59,036	1,791,257	1,732,165	-57,915

continued--

Table 21--U.S. sugar imports under tariff-rate quota (TRQ), by country, fiscal years 1996-2000--continued

Country 1/	10/98-9/99			10/99-9/00		
	TRQ allocation	Actual imports	Estimated balance	TRQ allocation	Entered thru 5/1/00	Estimated balance
Metric tons, raw value						
Raw cane sugar						
Argentina	46,581	45,178	-1,403	45,283	17,101	-28,182
Australia	89,912	89,402	-510	87,408	52,780	-34,628
Barbados	7,583	0	-7,583	7,372	0	-7,372
Belize	11,916	11,916	0	11,584	11,584	0
Bolivia	8,666	8,555	-111	8,425	6,354	-2,071
Brazil	157,076	157,076	0	152,700	71,095	-81,605
Colombia	25,999	23,685	-2,314	25,274	564	-24,710
Congo	7,258	6,891	-367	7,258	0	-7,258
Costa Rica	16,249	16,249	0	15,797	56	-15,741
Cote D'Ivoire	7,258	0	-7,258	7,258	0	-7,258
Dominican Republic	190,657	190,621	-36	185,346	24,900	-160,446
Ecuador	11,916	11,916	0	11,584	11,584	0
El Salvador	28,165	27,961	-204	27,381	78	-27,303
Fiji	9,750	9,750	0	9,478	9,478	0
Gabon	7,258	0	-7,258	7,258	0	-7,258
Guatemala	51,997	51,997	0	50,549	9,938	-40,611
Guyana	12,999	12,999	0	12,637	12,637	0
Haiti	7,258	0	-7,258	7,258	0	-7,258
Honduras	10,833	10,833	0	10,531	10,531	0
India	8,666	8,503	-163	8,425	192	-8,233
Jamaica	11,916	11,742	-174	11,584	0	0
Madagascar	7,258	7,059	-199	7,258	7,225	-33
Malawi	10,833	10,833	0	10,531	234	-10,297
Mauritius	12,999	5,941	-7,058	12,637	3,819	-8,818
Mexico 5/	25,000	23,715	-1,285	25,000	0	-25,000
Mozambique	14,083	14,083	0	13,690	13,690	0
Nicaragua	22,749	22,584	-165	22,115	20,664	-1,451
Panama	31,415	31,412	-3	30,540	22,278	-8,262
Papua New Guinea	7,258	7,258	0	7,258	7,258	0
Paraguay	7,258	6,976	-282	7,258	3,826	-3,432
Peru	44,415	44,350	-65	43,177	22,920	-20,257
Philippines	146,243	145,448	-795	142,169	94,445	-47,724
South Africa	24,915	24,915	0	24,221	244	-23,977
St.Kitts and Nevis	7,258	0	-7,258	7,258	0	0
Swaziland	17,332	17,332	0	16,850	300	-16,550
Taiwan	12,999	12,999	0	12,637	258	-12,379
Thailand	15,166	15,109	-57	14,743	125	-14,618
Trinidad-Tobago	7,583	7,249	-334	7,372	0	-7,372
Uruguay	7,258	7,258	0	7,258	7,258	0
Zimbabwe	12,999	12,999	0	12,637	12,637	0
Rounding	3	3	1			
Subtotal raw cane sugar	1,164,937	1,112,794		1,135,000	456,053	
TRQ shortfall	---	52,143	---	---	65,000	
Refined sugars						
Mexico (NAFTA) 5/	25,000	23,715		25,000	---	
Mexico (Sept. 1997, 1998,1999 and 2000 allocation)	2,954	2,954		2,954	---	
Canada (Sept. 1997, 1998,1999 and 2000 allocation)	10,300	10,300		10,300	9,272	
Specialty sugar 6/	4,656	4,656		14,656	14,656	
Other refined sugars 6/	7,090	7,090		7,090	7,090	
Subtotal refined sugars	50,000	48,715		60,000	31,018	
Potential TRQ not yet allocated	---	---		227,000	---	231,000
Grand total 7/	1,189,937	1,137,794	-52,140	1,397,000	487,071	-660,104
Grand total (short tons)	1,311,682	1,254,204	-57,475	1,539,930	536,904	-727,641
	20,770					

---Not applicable. Note: Imports are reported on an actual weight basis, adjusted upward by Customs by a factor of 1.035. When final polarization results are received or when adjustments are made to raw value on final vessels, cumulative import data are adjusted accordingly. To convert from metric tons to short tons, multiply by 1.10231225. Numbers may not add due to rounding. 1/ A country's excess of cumulative and adjustments over its TRQ allocation are carried over and applied against the country's allocation for the next TRQ period. 2/ Entered during August and September 1995, but counted against the 10/95-9/96 TRQ.

3/ October 1, 1995 through September 30, 1996, plus early entries. 4/ As adjusted in March and May 1997. 5/ Mexico may ship either raw or refined. 6/ Other refined sugars are on first-come-first-served basis beginning fiscal 1996. Beginning in fiscal 1997, the specialty sugar is also on first-come-first-served basis.

7/ In fiscal years 1997 thru 2000, total is 25,000 metric tons less than the sum of individual components so as to not double-count Mexico.

Source: Foreign Agricultural Service, USDA.

Table 22-U.S. sugar stocks held by primary distributors, by quarters 1/

Year and month	Cane sugar								Total U.S. stocks	
	Refiners			Mainland cane mills	Total 2/	Commodity Credit Corporation		Beet processors	Total mainland 2/	
	Refined	Raw	Total			1,000 short tons, raw value				
January 1										
1990	155	381	536	899	1,421	0	1,412	2,847	2,947	
1991	168	371	539	812	1,403	0	1,327	2,677	2,729	
1992 3/	194 4/	619	813	890	1,703	0	1,336	NA	3,039	
1993 3/	183 4/	507	690	895	1,585	0	1,640	NA	3,225	
1994 3/	218 4/	438	656	1,160	1,816	0	1,696	NA	3,512	
1995 3/	185 4/	448	633	906	1,539	6	1,594	NA	3,139	
1996 3/	195 4/	334	530	996	1,526	0	1,383	NA	2,908	
1997 3/	196 4/	323	519	1,156	1,675	0	1,520	NA	3,195	
1998 3/	212 4/	322	534	1,308	1,842	0	1,535	NA	3,377	
1999 3/	255 4/	332	587	1,335	1,922	0	1,499	NA	3,422	
2000 3/	208 4/	356	564	1,737	2,301	0	1,554	NA	3,855	
April 1										
1990	199	393	592	1,017	1,609	0	1,470	3,079	3,112	
1991	226	430	656	1,255	1,911	0	1,577	3,488	3,530	
1992 3/	261 4/	487	748	1,415	2,163	0	1,461	NA	3,624	
1993 3/	231 4/	424	655	1,388	2,043	0	1,861	NA	3,904	
1994 3/	290 4/	448	738	1,482	2,220	0	1,799	NA	4,019	
1995 3/	251 4/	488	739	1,404	2,143	0	1,786	NA	3,929	
1996 3/	239 4/	342	581	1,296	1,877	0	1,408	NA	3,285	
1997 3/	216 4/	456	672	1,481	2,153	0	1,748	NA	3,901	
1998 3/	232 4/	280	512	1,634	2,146	0	1,772	NA	3,917	
1999 3/	313 4/	284	597	1,948	2,545	0	1,674	NA	4,219	
2000 3/	265 4/	292	557	2,010	2,567	0	1,984	NA	4,551	
July 1										
1990	226	363	589	600	1,189	0	924	2,113	2,165	
1991	198	338	536	797	1,333	0	1,098	2,431	2,487	
1992 3/	235 4/	565	800	922	1,722	0	1,037	NA	2,759	
1993 3/	206 4/	524	730	922	1,652	0	1,362	NA	3,014	
1994 3/	262 4/	444	707	875	1,582	9	1,075	NA	2,657	
1995 3/	279 4/	297	576	631	1,207	0	1,368	NA	2,575	
1996 3/	268 4/	305	573	735	1,308	0	977	NA	2,285	
1997 3/	271 4/	384	654	747	1,401	0	1,333	NA	2,734	
1998 3/	265 4/	299	564	1,016	1,580	0	1,301	NA	2,881	
1999 3/	330 4/	397	727	1,183	1,910	0	1,273	NA	3,184	
October 1										
1990	215	332	547	205	752	0	396	1,148	1,210	
1991	212	380	592	367	944	0	437	1,381	1,496	
1992 3/	239 4/	378	617	368	985	0	465	NA	1,450	
1993 3/	279 4/	331	610	380	990	0	714	NA	1,704	
1994 3/	263 4/	288	551	346	897	6	434	NA	1,337	
1995 3/	224 4/	281	505	215	720	0	522	NA	1,241	
1996 3/	247 4/	424	672	289	960	0	430	NA	1,492	
1997 3/	274 4/	345	619	277	896	0	590	NA	1,487	
1998 3/	270 4/	360	630	363	993	0	686	NA	1,679	
1999 3/	245 4/	372	617	447	1,064	0	575	NA	1,639	

NA=Not available. Note: Stock data include Puerto Rico beginning in October 1993. 1/ Beginning stocks, approximately first day of month shown. Latest quarter is preliminary. 2/ May not add due to rounding. 3/ Includes Hawaii. 4/ Includes dry sugar equivalent of liquid sugar.

Sources: "Sugar Market Statistics," National Agricultural Statistics Service, USDA; Hawaiian Sugar Planters' Association, and "Sweetener Market Data," FSA, USDA.

Table 23-U.S. sugar (including Puerto Rico) supply and use, fiscal years 1985/86-1991/92

Items	1985/86	1986/87	1987/88	1988/89	1989/90	1990/91	1991/92
1,000 short tons, raw value							
Beginning stocks 1/	1,772	1,670	1,508	1,326	1,244	1,224	1,524
Total production	6,124	7,159	7,247	6,804	6,691	6,978	7,306
Beet sugar	2,988	3,653	3,822	3,396	3,466	3,854	3,845
Cane sugar	3,136	3,506	3,425	3,408	3,225	3,124	3,461
Florida	1,414	1,571	1,520	1,563	1,404	1,802	1,832
Louisiana	532	737	731	797	844	480	763
Texas	77	123	104	110	59	88	109
Hawaii	1,017	979	969	846	850	722	689
Puerto Rico	96	96	101	92	68	74	68
Total imports	2,395	1,767	1,272	2,025	2,568	2,825	2,194
Quota-sugar imports	1,839	1,221	874	1,376	1,950	2,298	1,486
Oct.-Dec. 2/	541	449	226	351	218	407	162
Jan.-Sep.	1,298	772	648	1,025	1,732	1,891	1,324
Canada and high-duty imports	0	0	0	0	0	32	39
Quota-exempt imports for re-export	484	553	426	557	537	599	667
Quota-exempt imports for polyhydric alcohol	30	30	9	6	10	8	10
Statistical adjustments 3/	42	-37	-37	86	71	-112	-8
Total supply	10,291	10,596	10,027	10,155	10,503	11,027	11,024
Total exports	455	542	383	460	561	627	554
Quota-exempt for re-export	512	547	344	451	564	706	562
Other exports	0	0	24	9	0	0	0
CCC disposal, for export	0	177	0	0	0	0	0
Statistical difference 3/	-57	-182	15	0	-3	-79	-8
Miscellaneous	231	354	-19	60	60	-25	-13
CCC disposal, for domestic non-food use	127	0	0	0	0	0	0
Refining loss adjustment	58	30	8	53	7	61	0
Statistical adjustment 4/	46	324	-27	7	53	-86	-13
Total deliveries	7,935	8,192	8,337	8,391	8,658	8,901	9,006
Transfer to sugar-cont. products for exports under re-export program	22	35	43	31	35	59	88
Transfer to polyhydric alcohol	30	30	9	6	10	8	11
Deliveries for domestic food and beverage use	7,883	8,127	8,285	8,354	8,613	8,834	8,907
Total use	8,621	9,088	8,701	8,911	9,279	9,503	9,547
Ending stocks 1/	1,670	1,508	1,326	1,244	1,224	1,524	1,477
Privately owned	1,474	1,508	1,326	1,244	1,224	1,524	1,477
CCC	196	0	0	0	0	0	0
Percent							
Stocks-to-use ratio	19.4	16.6	15.2	14.0	13.2	16.0	15.5
Millions							
Population, including Puerto Rico, (April 1)	243.5	245.5	247.8	250.2	252.8	255.7	258.5
Pounds							
Per capita sugar deliveries, for domestic food and beverage use, refined basis	60.5	61.9	62.5	62.4	63.7	64.6	65.1

1/ Stocks in hands of primary distributors and CCC. 2/ Projected sugar import quotas do not necessarily reflect the determination by the Secretary, which will be made pursuant Additional U.S., Note 3 of Chapter 17 of the Harmonized Tariff Schedule of the United States. 3/ Receipts compiled by NASS differ from U.S. Customs data.

4/ Calculated as a residual. Largely consists of invisible stocks change.

Sources: Data are from Sugar Market Statistics and Crop Production Summary, National Agricultural Statistics Service, USDA. Quota sugar data

Table 24--U.S. sugar (including Puerto Rico) supply and use, fiscal years 1/

Items	1992/93 1993/94 1994/95 1995/96 1996/97 1997/98 1998/99						1999/00		2000/01	
			Estimates		Projections					
	May	June		May	June		May	June		
1,000 short tons, raw value										
Beginning stocks 2/	1,477	1,704	1,337	1,241	1,492	1,488	1,679	1,639	1,639	1,938
Total production 3/ 4/	7,838	7,655	7,927	7,370	7,205	8,020	8,374	9,080	9,080	9,023
Beet sugar	4,392	4,090	4,493	3,916	4,013	4,389	4,423	4,950	4,950	4,700
Cane sugar	3,446	3,565	3,434	3,454	3,191	3,631	3,951	4,130	4,125	4,323
Florida	1,710	1,771	1,725	1,771	1,679	1,924	2,132	1,980	1,976	2,090
Louisiana	876	893	1,019	1,057	1,054	1,262	1,327	1,680	1,680	1,720
Texas	138	146	144	134	91	80	106	105	105	160
Hawaii	658	705	499	458	340	350	384	360	360	330
Puerto Rico	65	50	46	34	27	16	3	5	4	23
Total imports	2,039	1,772	1,853	2,777	2,774	2,163	1,824	1,727	1,702	NA
Tariff-rate quota imports 5/	1,335	1,113	1,564	2,236	2,277	1,729	1,256	1,204	1,204	NA
Oct.-Dec.	171	193	242	211	300	NA	NA	NA	NA	NA
Jan.-Sept.	1,164	920	1,322	2,025	1,977	NA	NA	NA	NA	NA
Canada, high duty imports, USHTS 1702.90.40	40	56	50	1	4	85	182	133	133	133
Quota-exempt imports for re-export	601	641	230	530	479	335	374	375	350	300
Quota-exempt imports for polyhydric alcohol	10	16	10	10	14	14	12	15	15	15
Statistical adjustments 3/	53	-53	-1	0	0	0	0	0	0	0
Total supply	11,354	11,131	11,117	11,388	11,471	11,671	11,877	12,446	12,417	NA
Total exports 3/	405	454	502	385	211	179	230	229	229	175
Quota-exempt for re-export	397	432	444	377	211	179	230	229	229	175
Other exports	10	30	58	8	0	0	0	0	0	0
CCC disposal, for export	0	0	0	0	0	0	0	0	0	0
Statistical difference 6/	-2	-8	0	0	0	0	0	0	0	0
Miscellaneous	48	7	37	-43	30	-2	-58	0	0	0
CCC disposal, for domestic non-food use	0	0	0	0	0	0	0	0	0	0
Refining loss adjustment	0	0	0	0	0	0	0	0	0	0
Statistical adjustment 7/	48	7	37	-43	30	-2	-58	0	0	0
Total deliveries	9,197	9,333	9,337	9,554	9,742	9,815	10,066	10,250	10,250	10,385
Transfer to sugar-cont. products										
for exports under re-export program	148	143	88	100	157	123	169	125	100	125
Transfer to polyhydric alcohol, feed	15	15	10	13	21	20	25	22	35	22
Deliveries for domestic food and beverage use	9,034	9,175	9,239	9,441	9,564	9,672	9,872	10,103	10,115	10,238
Total use	9,650	9,794	9,876	9,896	9,983	9,992	10,238	10,479	10,479	10,560
Ending stocks 3/	1,704	1,337	1,241	1,492	1,488	1,679	1,639	1,967	1,938	NA
Privately owned	1,704	1,331	1,241	1,492	1,488	1,679	1,639	1,967	1,797	NA
CCC	0	6	0	0	0	0	0	0	141	0
Stocks-to-use ratio	17.7	13.7	12.6	15.1	14.9	16.8	16.0	18.8	18.5	NA
Millions										
Population, including Puerto Rico 8/	261.27	263.86	266.3	268.72	271.12	273.2	273.9	274.2	274.2	274.2
Per capita total deliveries, refined basis 9/	65.7965	66.114	65.536	66.4556	67.1634	67.152	68.693	69.872	69.87	70.792

NOTE: Numbers may not add due to rounding.

1/ Fiscal year beginning October 1. 2/ Stocks in hands of primary distributors and CCC. 3/ Historical data are from FSA (formerly ASCS), Sweetener Market Data, and NASS, Sugar Market Statistics prior to 1992. 4/ Projections for 2000/01 are based on analysis by the Interagency Commodity Estimates Committee for sugar. 5/ Actual arrivals under the tariff-rate quota (TRQ) with late entries, early entries, and (TRQ) overfills assigned to the fiscal year in which they actually arrived. The 1999/2000 available TRQ includes projected shortfall of 65,000 tons. 6/ Receipts compiled by NASS and FSA differ from U.S. Customs data. 7/ Calculated as a residual. Largely consists of invisible stocks change. 8/ Population data obtained from the U.S. Census Bureau, with data estimates developed by the Economic Research Service. Population data include Puerto Rico.

Table 25--Monthly estimates of fiscal 1999 U.S. sugar supply and use

	Month of estimate																			
	May 1998	June 1998	July 1998	Aug. 1998	Sep. 1998	Oct. 1998	Nov. 1998	Dec. 1998	Jan. 1999	Feb. 1999	Mar. 1999	Apr. 1999	May 1999	June 1999	July 1999	Aug. 1999	Sep. 1999	Oct. 1999	Nov. 1999	Dec. 1999
1,000 short tons, raw value																				
Beginning stocks	1,431	1,452	1,427	1,502	1,495	1,495	1,675	1,679	1,679	1,679	1,679	1,679	1,679	1,629	1,629	1,629	1,629	1,679	1,679	1,679
Total production	7,935	7,935	7,945	7,900	7,980	7,975	8,047	8,127	8,257	8,157	8,037	8,037	8,073	8,127	8,226	8,226	8,329	8,329	8,374	8,374
Beet sugar	4,350	4,350	4,350	4,375	4,420	4,420	4,500	4,500	4,500	4,400	4,225	4,225	4,225	4,275	4,375	4,375	4,375	4,423	4,423	4,423
Cane sugar	3,585	3,585	3,595	3,525	3,560	3,555	3,547	3,627	3,757	3,757	3,812	3,848	3,852	3,851	3,851	3,954	3,954	3,951	3,951	3,951
Total imports	NA	NA	NA	NA	NA	2,228	2,178	2,178	2,178	2,037	2,047	1,907	2,027	1,862	1,887	1,807	1,807	1,805	1,805	1,820
Tariff-rate quota imports	NA	NA	NA	NA	NA	1,808	1,733	1,733	1,733	1,567	1,577	1,412	1,412	1,247	1,247	1,247	1,247	1,252	1,252	1,252
Other imports	440	440	440	440	420	420	445	445	445	470	470	495	615	615	640	560	560	553	553	568
Total supply	NA	NA	NA	NA	NA	11,698	11,900	11,984	12,114	11,873	11,763	11,623	11,779	11,668	11,792	11,712	11,815	11,813	11,858	11,873
Exports	150	150	150	150	150	150	175	175	175	175	175	175	175	200	225	225	225	225	230	230
Adjustments	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total deliveries	10,075	10,075	10,075	10,075	10,075	10,075	10,025	10,025	10,025	10,025	9,975	9,975	9,975	10,025	10,075	10,075	10,075	10,075	10,066	10,066
Domestic consumption	9,900	9,900	9,900	9,910	9,905	9,905	9,855	9,855	9,855	9,815	9,778	9,753	9,753	9,798	9,848	9,873	9,873	9,873	9,872	9,872
Other use	175	175	175	165	170	170	170	170	170	210	197	222	222	227	227	202	202	202	117	132
Total use	10,225	10,225	10,225	10,225	10,225	10,225	10,200	10,200	10,200	10,200	10,150	10,150	10,150	10,225	10,300	10,300	10,300	10,300	10,219	10,234
Ending stocks	NA	NA	NA	NA	NA	1,473	1,700	1,784	1,914	1,673	1,613	1,473	1,629	1,443	1,492	1,412	1,515	1,513	1,639	1,639
Stocks/use ratio	NA	NA	NA	NA	NA	14.4	16.7	17.5	18.8	16.4	15.9	14.5	16.0	14.1	14.5	13.70	14.70	14.69	16.04	16.02

NA = Not available.

Source: WASDE, USDA.

Table 26--Monthly estimates of fiscal 2000 U.S. sugar supply and use

	Month of estimate											
	May 1999	June 1999	July 1999	Aug. 1999	Sep. 1999	Oct. 1999	Nov. 1999	Dec. 1999	Jan. 2000	Feb. 2000	Mar. 2000	Apr. 2000
1,000 short tons, raw value												
Beginning stocks	1,629	1,443	1,492	1,412	1,515	1,513	1,639	1,639	1,639	1,639	1,639	1,639
Total production	8,400	8,400	8,460	8,755	8,885	8,915	8,905	8,745	8,750	8,913	9,028	9,082
Beet sugar	4,530	4,530	4,590	4,625	4,670	4,700	4,650	4,650	4,725	4,800	4,900	4,950
Cane sugar	3,870	3,870	3,870	4,130	4,215	4,215	4,255	4,095	4,025	4,113	4,128	4,132
Total imports	NA	NA	NA	NA	NA	NA	1,720	1,795	1,795	1,795	1,798	1,773
Tariff-rate quota imports	NA	NA	NA	NA	NA	NA	1,225	1,225	1,225	1,225	1,225	1,225
Other imports	725	725	725	590	500	500	495	570	570	570	573	548
Total supply	NA	NA	NA	NA	NA	NA	12,264	12,179	12,184	12,347	12,465	12,494
Exports	175	175	175	175	175	175	175	175	250	250	250	250
Adjustments	0	0	0	0	0	0	0	0	0	0	0	0
Total deliveries	10,150	10,150	10,250	10,250	10,250	10,250	10,250	10,250	10,250	10,250	10,250	10,250
Domestic consumption	9,953	9,953	10,053	10,053	10,053	10,053	10,053	10,053	10,053	10,053	10,053	10,053
Other use	197	197	197	197	197	197	197	197	197	197	197	197
Total use	10,325	10,325	10,425	10,425	10,425	10,425	10,425	10,425	10,500	10,500	10,500	10,500
Ending stocks	NA	NA	NA	NA	NA	NA	1,839	1,754	1,684	1,847	1,965	1,994
Stocks/use ratio	NA	NA	NA	NA	NA	NA	17.64	16.82	16.04	17.59	18.71	18.99

NA = Not available.

Source: WASDE, USDA.

Table 27--U.S. sugarbeet factories: Company, location, and capacity

Company	Factory location	Daily milling capacity, 1999/2000
Amalgamated Sugar	Mini-Cassia, ID Twin Falls, ID Nampa, ID Nyssa, OR	12,500 6,500 12,000 <u>9,000</u> 40,000
American Crystal Sugar Co.	Moorhead, MN Hillsboro, ND Crookston, MN E. Grand Forks, ND Drayton, ND	5,400 7,700 5,400 9,000 <u>6,000</u> 33,500
Imperial Sugar Company Holly Sugar Corp.	Hereford, TX Torrington, WY Worland, WY Sidney, MT	Molasses Desugaring Only 5,500 6,300 <u>6,300</u> 18,100
Michigan Sugar Co.	Caro, MI Carrollton, MI Croswell, MI Sebewaing, MI	3,600 3,200 3,850 <u>5,550</u> 16,200
Spreckels Sugar Co.	Tracy, CA Brawley, CA Woodland, CA Medota, CA	5,000 8,500 3,500 <u>4,200</u> 21,200
Minn-Dak	Wahpeton, ND	7,500
Monitor Sugar Co.	Bay City, MI	8,000
Southern Minnesota	Renville, MN	11,000
Western Sugar Co.	Scottsbluff, NE Bayard, NE Billings, MT Lovell, WY Greeley, CO Fort Morgan, CO	5,000 2,900 4,600 3,050 4,000 <u>5,800</u>

Table 28--U.S. cane sugar millers: Factory, location, and capacity

Factory name	Factory location	Estimated number of days of campaign	Daily milling capacity 1998/99
Louisiana			
Alma Plantation, Ltd.	Lakeland	73	7,000
Cajun Sugar Cooperative	New Iberia	81	11,000
Caldwell Sugar Cooperative	Thibodaux	75	6,000
Cinclare Central	Brusly	73	5,500
Cora Texas Manufacturing	White Castle	80	12,000
Enterprise Factory	Jeanerette	90	15,500
Evan Hall Sugar Cooperative	Donaldsonville	86	7,500
Glenwood Cooperative	Napoleonville	78	5,800
Iberia Sugar Cooperative	New Iberia	85	6,500
Jeanerette Sugar Company	Jeanerette	91	7,000
Leighton (Lafourche Sugar)	Thibodaux	71	8,500
Lula Factory	Belle Rose	81	8,000
Raceland factory	Raceland	86	11,500
St. James Sugar Cooperative	St. James	85	7,000
St. Martin (LaSuCa Coop, Inc.)	St. Martinville	80	7,000
St. Mary Sugar Cooperative	Jeanerette	83	10,000
Sterling Sugars, Inc	Franklin	87	11,250
Westfield Factory	Paincourtville	74	9,000
Florida			
Atlantic Sugar Association, Inc.	Belle Glade	119	13,300
Glades Sugar House	Belle Glade	145	21,000
Okeelanta Corporation	South Bay	148	24,000
Osceola Farms Company	Pahokee	147	14,500
U.S. Sugar - Clewiston Factory	Clewiston	157	24,000
U.S. Sugar - Bryant Factory	Bryant	156	18,000
Hawaii			
Gay and Robinson, Inc.	Kaumakani, Kauai	177	2,880
Lihue Plantation	Lihue, Kauai	189	3,600
Kekaha Sugar	Lihue, Kauai	171	3,200
Hawaiian Commercial & Sugar Co.	Puunene, Maui	212	7,200
Hawaiian Commercial & Sugar Co.	Paia, Maui	177	3,800
Texas			
W.R. Cowley Sugar House	Santa Rosa	108	11,000
Puerto Rico			
Central Agraso	Aguadilla	86	6,000
Central Roig	Yabucoa	76	4,000

Source: Gilmore Sugar Manual

Table 29--U.S. beetpulp exports, by major destination, calendar year 1/

Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
	Metric tons										
Japan	363,798	342,597	298,148	310,030	380,879	367,595	398,007	361,034	359,848	262,907	312,554
Netherlands	171,399	76,739	169,625	166,145	138,538	74,743	135,752	80,629	27,747		
Spain	9,622	48,666	62,549	90,294	62,982	120,143	142,194	163,423	131,908	153,528	136,738
Denmark			2,274		39,294	24,294	81,982	65,950	59,191	80,516	58,623
Ireland	25,151	21,450	34,430	45,617	32,291	27,406	26,814	6,215	4,447	19,167	19,426
France		36,740	37,263	7,299			4,064	9,997			
United Kingdom	3,288	0	5,736	14,632	56	34,513	16,589	2,191	81	13,313	7,301
Canada	11,666	1,301	1,247	1,976	1,175	2,878	2,648	5,762	16,957	17,889	16,840
Morocco				22,585	4,972		26,586	4,400			8,018
Belgium		13,980	13,108		15,537						
Germany						577		18,130	77		687
Italy	3,809	5,614			3,300						
Taiwan	576	248	77	940	1,600	1,016	849	273	2,734	4,218	2,869
Mexico	718	1,541	1,198	557	1,810	292	1,291	2,493	717	1,014	985
Rest-of-World	689	353	203	194	7,402	442	92	128	32	2,552	6,083
Total Exports	590,716	549,229	625,858	660,269	689,836	653,899	836,868	720,625	603,739	555,104	570,124

1/ HTS 2303200020 and 2303200040.

Source: U.S. Customs Service.

Table 30--U.S. wet-milled use of field corn, crop year 1/

Description	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98	1998/99	1999/2000	2000/01
									2/	3/	3/
Million bushels											
HFCS	379	392	414	444	465	482	504	513	530	565	580
Glucose syrup and dextrose	200	210	214	223	231	237	246	229	219	225	230
Total corn sweetener	579	602	628	667	696	719	750	742	749	790	810
Corn starch	232	237	238	223	226	219	229	246	240	250	255
Total wet milling 2/	811	839	866	890	922	938	979	988	989	1,040	1,065
U.S. corn crop	7,934	7,475	9,477	6,336	10,103	7,374	9,233	9,207	9,759	9,437	9,740
Percent											
Corn sweetener share	7.30	8.05	6.63	10.53	6.89	9.75	8.12	8.06	7.67	8.37	8.32
Wet milling share 4/	10.22	11.22	9.14	14.05	9.13	12.72	10.60	10.73	10.13	11.02	10.93

1/ September/August crop year. 2/ Preliminary. 3/ Forecast.

4/ Includes estimated use of field corn for sweetener and starch output--does not include estimates for wet milled fuel ethanol.

Source: Economic Research Service, USDA.

Table 31--U.S. high fructose corn syrup (HFCS) deliveries, quarterly, fiscal, and calendar year 1/

Quarter and year	1992	1993	1994	1995	1996	1997	1998	1999	2000 2/
1,000 short tons, dry weight									
Quarter									
I	1,611	1,616	1,648	1,762	1,833	1,920	1,975	2,072	2,129
II	1,866	1,939	2,083	2,126	2,241	2,311	2,439	2,482	2,526
III	1,723	1,955	2,065	2,097	2,141	2,286	2,399	2,440	2,519
IV	1,527	1,663	1,685	1,748	1,841	2,000	2,066	2,188	2,221
Year									
Fiscal	6,703	7,037	7,460	7,671	7,964	8,358	8,812	9,061	9,363
Calendar	6,727	7,173	7,481	7,733	8,057	8,517	8,879	9,183	9,395

1/ Includes Puerto Rico. 2/ Forecast.

Source: Economic Research Service, USDA.

Table 32--U.S. high fructose corn syrup (HFCS) production, quarterly, fiscal, and calendar year 1/

Quarter and year	1992	1993	1994	1995	1996	1997	1998	1999	2000 2/
1,000 short tons, dry weight									
Quarter									
I	1,584	1,592	1,634	1,760	1,830	1,946	2,012	2,122	2,169
II	1,845	1,915	2,073	2,136	2,267	2,352	2,540	2,547	2,596
III	1,699	1,929	2,067	2,111	2,163	2,348	2,476	2,503	2,589
IV	1,506	1,661	1,693	1,752	1,897	2,031	2,123	2,240	2,291
Year									
Fiscal	6,631	6,942	7,434	7,701	8,012	8,543	9,059	9,295	9,593
Calendar	6,634	7,097	7,467	7,759	8,157	8,677	9,150	9,412	9,645

1/ Includes Puerto Rico. 2/ Forecast.

Source: Economic Research Service, USDA.

Table 33--U.S. high fructose corn syrup (HFCS) supply and use, calendar year 1/

Calendar year	Supply				Utilization				
	Domestic production		Total	Imports	Total supply	Exports	Domestic disappearance		
	HFCS-42	HFCS-55					HFCS-42	HFCS-55	Total
1,000 short tons, dry weight									
1992	2,793	3,841	6,634	193	6,827	100	2,822	3,905	6,727
1993	2,924	4,173	7,097	189	7,286	113	2,918	4,255	7,173
1994	2,994	4,474	7,467	137	7,605	123	3,005	4,476	7,481
1995	3,055	4,705	7,759	79	7,838	104	3,075	4,658	7,733
1996	3,076	5,081	8,157	123	8,280	224	3,095	4,962	8,057
1997	3,187	5,490	8,677	116	8,793	276	3,225	5,291	8,517
1998	3,296	5,854	9,150	117	9,267	388	3,318	5,561	8,879
1999	3,523	5,889	9,412	121	9,532	350	3,546	5,637	9,183
2000 2/	3,553	6,092	9,645	120	9,765	371	3,579	5,816	9,395

1/ Includes Puerto Rico. 2/ Forecast.

Source: Economic Research Service, USDA.

Table 34--U.S. dextrose supply and use (including Puerto Rico), by calendar year

Year	Production	Imports	Total supply	Net change in stocks	Total use	Exports	Non-food use	Food and beverage use
1,000 short tons, dry weight								
1992	645	0	645	-11	656	33	128	495
1993	672	0	672	3	669	24	146	499
1994	704	0	704	3	701	34	157	510
1995	745	0	745	3	742	51	164	527
1996	778	0	778	3	776	67	174	535
1997	745	0	745	-12	757	74	163	520
1998	731	0	731	-4	735	64	160	511
1999	707	0	707	-3	710	59	155	496

Sources: Economic Research Service, USDA and U.S. Customs Service.

Table 35--U.S. glucose supply and use (including Puerto Rico), by calendar year

Year	Production	Imports	Total supply	Net change in stocks	Total use	Exports	Non-food use	Food and beverage use
1,000 short tons, dry weight								
1992	2,654	17	2,671	-11	2,682	30	331	2,321
1993	2,732	19	2,751	8	2,743	33	328	2,381
1994	2,833	18	2,851	13	2,838	39	360	2,439
1995	2,932	17	2,949	13	2,936	43	395	2,497
1996	3,000	21	3,021	-51	3,073	82	425	2,565
1997	3,225	28	3,253	47	3,207	82	455	2,670
1998	3,089	28	3,118	-24	3,142	90	444	2,608
1999	3,000	24	3,024	-28	3,052	86	432	2,535

Sources: Economic Research Service, USDA and U.S. Customs Service.

Table 36--Corn starch products: Supply and utilization

Year	U.S. population	Production	Imports	Supply	Exports	Consumption	Change in stocks	Per capita consumption
							Millions	1,000 short tons
1992	255.382	2,775	45	2,820	65	2,729	0	21.4
1993	258.089	2,842	52	2,894	64	2,775	15	21.5
1994	260.602	2,894	58	2,952	74	2,821	15	21.6
1995	263.039	2,951	56	3,006	122	2,876	19	21.9
1996	265.453	2,879	58	2,937	115	2,835	-14	21.4
1997	267.901	3,108	62	3,170	139	2,994	53	22.3
1998	270.258	3,012	61	3,073	101	2,961	-11	21.9
1999	272.948	3,021	52	3,073	100	2,967	2	21.7

Source: Economic Research Service, USDA.

Table 37-Net cost of corn starch to U.S. wet-millers, Midwest markets

Period	Yellow dent corn 1/	Corn byproducts			Byproduct credits			Net cost			
		Corn oil	Corn gluten feed	Corn gluten meal	Corn oil	Corn gluten feed	Corn gluten meal	Total byproduct	Corn starch	Corn sweetener	
		Dollars per bu.	Cents per lb.	Dollars per short ton	---Cents per bushel---			Dollars per bu.	Dollars per bu.	--Cents per lb.--	
1990	2.45	26.59	100.17	245.58	41.21	67.61	32.54	1.41	1.03	3.28	3.10
1991	2.40	28.36	101.57	256.07	43.96	68.56	33.93	1.46	0.94	2.97	2.81
1992	2.33	23.89	102.80	259.72	37.03	69.39	34.41	1.41	0.92	2.93	2.77
1993	2.27	21.52	87.99	296.53	33.35	59.39	39.29	1.32	0.95	3.02	2.85
1994	2.40	27.22	89.59	262.50	42.19	60.47	34.78	1.37	1.03	3.26	3.08
1995	2.70	26.67	88.34	244.02	41.33	59.63	32.33	1.33	1.37	4.34	4.10
1996	3.82	24.52	116.25	332.40	38.00	78.47	44.04	1.61	2.22	7.04	6.65
1997	2.67	24.87	83.99	345.22	38.55	56.69	45.74	1.41	1.26	4.00	3.78
1998	2.23	29.90	64.86	260.54	46.34	43.78	34.52	1.25	0.98	3.12	2.95
1999	1.92	23.59	58.77	231.88	36.56	39.67	30.72	1.07	0.85	2.68	2.54
1998											
Jan.	2.60	26.34	76.90	321.90	40.83	51.91	42.65	1.35	1.25	3.96	3.74
Feb.	2.58	27.64	76.50	295.00	42.84	51.64	39.09	1.34	1.24	3.95	3.73
Mar.	2.59	28.61	69.30	270.50	44.35	46.78	35.84	1.27	1.32	4.19	3.96
I	2.59	27.53	74.23	295.80	42.67	50.11	39.19	1.32	1.27	4.03	3.81
Apr.	2.41	30.87	64.00	238.10	47.85	43.20	31.55	1.23	1.18	3.76	3.55
May	2.37	33.25	64.60	236.25	51.54	43.61	31.30	1.26	1.11	3.51	3.32
June	2.29	32.68	61.90	225.60	50.65	41.78	29.89	1.22	1.07	3.39	3.20
II	2.36	32.27	63.50	233.32	50.01	42.86	30.91	1.24	1.12	3.55	3.36
July	2.16	31.45	58.75	252.50	48.75	39.66	33.46	1.22	0.94	2.99	2.82
Aug.	1.86	30.00	57.50	245.00	46.50	38.81	32.46	1.18	0.68	2.17	2.05
Sep.	1.78	29.26	51.50	210.00	45.35	34.76	27.83	1.08	0.70	2.22	2.10
III	1.93	30.24	55.92	235.83	46.87	37.74	31.25	1.16	0.77	2.46	2.32
Oct.	1.94	29.44	56.90	227.50	45.63	38.41	30.14	1.14	0.80	2.53	2.39
Nov.	2.09	29.64	66.10	313.10	45.94	44.62	41.49	1.32	0.77	2.44	2.31
Dec.	2.08	29.60	74.40	291.00	45.88	50.22	38.56	1.35	0.73	2.33	2.20
IV	2.04	29.56	65.80	277.20	45.82	44.42	36.73	1.27	0.77	2.44	2.30
1999											
Jan.	2.07	29.19	75.90	257.50	45.24	51.23	34.12	1.31	0.76	2.43	2.29
Feb.	2.05	26.66	62.50	222.50	41.32	42.19	29.48	1.13	0.92	2.92	2.76
Mar.	2.09	22.98	56.00	198.00	35.62	37.80	26.24	1.00	1.09	3.47	3.28
I	2.07	26.28	64.80	226.00	40.73	43.74	29.95	1.14	0.93	2.94	2.78
Apr.	2.05	26.28	54.25	192.50	40.73	36.62	25.51	1.03	1.02	3.24	3.06
May	2.03	23.11	56.90	201.25	35.82	38.41	26.67	1.01	1.02	3.24	3.06
June	1.99	22.95	57.90	209.50	35.57	39.08	27.76	1.02	0.97	3.07	2.90
II	2.02	24.11	56.35	201.08	37.37	38.04	26.64	1.02	1.00	3.18	3.01
July	1.67	22.48	51.75	241.25	34.84	34.93	31.97	1.02	0.65	2.07	1.96
Aug.	1.84	22.43	54.30	252.50	34.77	36.65	33.46	1.05	0.79	2.51	2.37
Sep.	1.81	22.05	55.50	258.13	34.18	37.46	34.20	1.06	0.75	2.39	2.25
III	1.77	22.32	53.85	250.63	34.60	36.35	33.21	1.04	0.73	2.32	2.20
Oct.	1.72	22.03	58.38	265.00	34.15	39.41	35.11	1.09	0.63	2.01	1.90
Nov.	1.82	21.77	62.80	250.00	33.74	42.39	33.13	1.09	0.73	2.31	2.18
Dec.	1.84	21.13	59.00	234.40	32.75	39.83	31.06	1.04	0.80	2.55	2.41
IV	1.79	21.64	60.06	249.80	33.54	40.54	33.10	1.07	0.72	2.29	2.16
2000											
Jan.	1.95	20.54	55.50	238.75	31.84	37.46	31.63	1.01	0.94	2.99	2.82
Feb.	2.03	19.61	51.90	248.50	30.40	35.03	32.93	0.98	1.05	3.32	3.14
Mar.	2.08	19.00	51.50	243.13	29.45	34.76	32.21	0.96	1.12	3.54	3.35

1/ Reported prices are Illinois points. These corn values represent country elevator producer bid prices and do not reflect the additional costs of handling and transporting the corn to Midwest processing plants.

Sources: "Grain and Feed Market News," Agricultural Marketing Service, Livestock and Seed Division; Economic Research Service, USDA, byproduct credits and net cost calculations.

Table 38--U.S. corn sweetener exports to Mexico and Canada, fiscal years 1994-2000

Fiscal year	Dextrose 1/	Glucose syrup 2/	HFCS-42 syrup 3/	Crystalline fructose 4/	HFCS-55 syrup 5/	HFCS-55 solid 6/	Total, HFCS and crystalline fructose	Total, listed corn sweeteners	
U.S. Exports to Mexico									
Volume									
				Metric tons, dry basis					
1994	7,126	418	21,165	75	45,251	738	67,229	74,773	
1995	6,756	2,053	9,488	895	31,465	7,988	49,837	58,646	
1996	11,116	381	11,349	471	47,273	18,607	77,700	89,197	
1997	15,324	2,566	17,590	973	156,252	13,701	188,516	206,406	
1998	10,997	8,287	3,514	1,757	133,586	19,758	158,615	177,900	
1999	7,864	3,653	5,444	6,316	159,815	7,676	179,251	190,768	
Oct.99-Feb. 2000	3,474	684	1,573	2,523	53,118	3,992	61,206	65,364	
Value									
				Thousand dollars					
1994	4,816	287	6,783	118	17,801	515	25,217	30,319	
1995	4,435	610	4,268	437	13,423	2,773	20,900	25,946	
1996	6,064	116	7,488	457	20,080	5,332	33,357	39,537	
1997	9,811	735	8,757	1,692	67,494	3,155	81,098	91,644	
1998	7,055	2,580	1,570	2,232	51,568	5,581	60,951	70,586	
1999	4,611	1,498	2,025	3,170	52,878	2,356	60,429	66,538	
Oct.99-Feb. 2000	1,942	391	548	1,764	17,030	1,515	20,857	23,190	
Unit value									
				Cents per pound, dry basis					
1994	30.7	31.1	14.5	71.4	17.8	31.7	17.0	18.4	
1995	29.8	13.5	20.4	22.1	19.4	15.7	19.0	20.1	
1996	24.7	13.8	29.9	44.0	19.3	13.0	19.5	20.1	
1997	29.0	13.0	22.6	78.9	19.6	10.4	19.5	20.1	
1998	29.1	14.1	20.3	57.6	17.5	12.8	17.4	18.0	
1999	26.6	18.6	16.9	22.8	15.0	13.9	15.3	15.8	
Oct.99-Feb. 2000	25.4	25.9	15.8	31.7	14.5	17.2	15.5	16.1	
U.S. Exports to Canada									
Volume									
				Metric tons, dry basis					
1994	11,594	34,490	1,519	4,933	19,187	0	25,639	71,724	
1995	23,297	36,334	10,145	3,012	7,725	0	20,882	80,513	
1996	23,955	66,449	9,393	3,851	7,452	0	20,696	111,100	
1997	30,234	62,545	4,008	5,916	35,086	0	45,010	137,789	
1998	27,290	66,566	26,667	3,979	92,082	0	122,728	216,584	
1999	28,409	61,371	32,822	4,753	47,961	0	85,536	175,316	
Oct.99-Feb. 2000	11,982	27,562	9,450	2,674	12,623	0	24,747	64,291	
Value									
				Thousand dollars					
1994	5,413	17,748	504	3,134	8,516	0	12,154	35,316	
1995	11,004	18,705	3,712	1,816	3,537	0	9,066	38,775	
1996	11,226	25,869	3,433	2,436	3,247	0	9,116	46,211	
1997	15,727	23,583	1,665	3,122	14,575	0	19,362	58,672	
1998	14,000	25,294	8,436	2,214	38,985	0	49,635	88,929	
1999	14,412	25,589	10,084	2,500	20,197	0	32,781	72,782	
Oct.99-Feb. 2000	6,255	10,804	2,913	1,496	5,208	0	9,617	26,676	
Unit value									
				Cents per pound, dry basis					
1994	21.2	23.3	15.1	28.8	20.1	NA	21.5	22.3	
1995	21.4	23.4	16.6	27.4	20.8	NA	19.7	21.8	
1996	21.3	17.7	16.6	28.7	19.8	NA	20.0	18.9	
1997	23.6	17.1	18.8	23.9	18.8	NA	19.5	19.3	
1998	23.3	17.2	14.3	25.2	19.2	NA	18.3	18.6	
1999	23.0	18.9	13.9	23.9	19.1	NA	17.4	18.8	
Oct.99-Feb. 2000	23.7	17.8	14.0	25.4	18.7	NA	17.6	18.8	

Note: Fiscal year is October-September.

NA = Not available.

1/ Harmonized Tariff Code 1702.30.0000 and 1702.30.0020. Dry basis is commercial weight multiplied by .92. 2/ Harmonized Tariff Code 1702.30.0040. Dry basis is commercial weight multiplied by .803. 3/ Harmonized Tariff Code 1702.40.0000. Dry basis is commercial weight multiplied by .71. 4/ Harmonized Tariff Code 1702.50.0000. No conversion necessary for dry basis. 5/ Harmonized Tariff Code 1702.60.0050. Dry basis is commercial weight multiplied by .77.

6/ Harmonized Tariff Code 1702.60.0060. Dry basis is commercial weight multiplied by .77. Bureau of Customs classification.

Source: U.S. Census Bureau.

Table 39--U.S. corn sweetener imports from Mexico and Canada, fiscal years 1994-2000

Fiscal year	Dextrose 1/	Glucose syrup 2/	HFCS-42 syrup 3/	Crystalline fructose 4/	HFCS-55 syrup 5/	HFCS-55 solid 6/	Total, HFCS and crystalline fructose	Total, listed corn sweeteners
U.S. Imports from Mexico								
Volume								
1994	0	0	0	0	0	0	0	0
1995	0	0	0	0	0	0	0	0
1996	0	127	0	0	0	2	2	129
1997	0	0	0	0	0	1,871	1,871	1,871
1998	0	0	0	0	0	688	688	688
1999	0	121	0	0	0	1,110	1,110	1,231
Oct.99-Feb. 2000	0	75	0	0	0	460	460	535
Value								
1994	0	0	0	0	0	0	0	0
1995	0	0	0	0	0	0	0	0
1996	0	44	0	0	0	4	4	48
1997	0	0	0	0	0	794	794	794
1998	0	0	0	0	0	1,077	1,077	1,077
1999	0	131	0	0	0	1,827	1,827	1,958
Oct.99-Feb. 2000	0	68	0	0	0	813	813	881
Unit value								
1994	NA	NA	NA	NA	NA	NA	NA	NA
1995	NA	NA	NA	NA	NA	NA	NA	NA
1996	NA	15.7	NA	NA	NA	90.7	90.7	16.9
1997	NA	NA	NA	NA	NA	19.2	19.2	19.2
1998	NA	NA	NA	NA	NA	71.0	71.0	71.0
1999	NA	49.1	NA	NA	NA	74.7	74.7	72.1
Oct.99-Feb. 2000	NA	41.1	NA	NA	NA	80.2	80.2	74.7
U.S. Imports from Canada								
Volume								
1994	0	11,332	26,587	0	116,352	0	142,939	154,271
1995	0	11,620	34,867	1	10,608	28,924	74,400	86,019
1996	0	13,967	48,089	0	0	48,852	96,941	110,907
1997	0	20,335	51,479	0	0	55,666	107,145	127,480
1998	0	16,683	52,795	0	0	57,015	109,810	126,493
1999	0	15,768	56,610	0	0	45,250	101,860	117,628
Oct.99-Feb. 2000	0	5,486	28,103	0	0	20,212	48,315	53,801
Value								
1994	0	5,085	8,796	0	37,344	0	46,139	51,224
1995	0	4,706	11,363	2	4,047	10,535	25,947	30,653
1996	0	5,245	15,399	0	0	14,695	30,094	35,338
1997	0	6,440	14,644	0	0	18,704	33,348	39,788
1998	0	4,782	14,605	0	0	16,478	31,083	35,865
1999	0	4,526	15,523	0	0	14,867	30,390	34,916
Oct.99-Feb. 2000	0	1,924	7,530	0	0	6,163	13,693	15,617
Unit value								
1994	NA	20.4	15.0	NA	14.6	NA	14.6	15.1
1995	NA	18.4	14.8	99.3	17.3	16.5	15.8	16.2
1996	NA	17.0	14.5	NA	NA	13.6	14.1	14.5
1997	NA	14.4	12.9	NA	NA	15.2	14.1	14.2
1998	NA	13.0	12.5	NA	NA	13.1	12.8	12.9
1999	NA	13.0	12.4	NA	NA	14.9	13.5	13.5
Oct.99-Feb. 2000	NA	13.0	12.2	NA	NA	13.8	12.9	13.2

NA = Not available.

1/ Harmonized Tariff Code 1702.30-0000 and -0020. Dry basis is commercial weight multiplied by .92.

2/ Harmonized Tariff Code 1702.30 - 2000, -2020, -2040, -4000, -4040. Dry basis is commercial weight multiplied by .803.

3/ Harmonized Tariff Code 1702.40 - 0010, -0020, -0030, -0040, -0060, -2200, -4000. Dry basis is commercial weight multiplied by .71.

4/ Harmonized Tariff Code 1702.50.0000. No conversion necessary for dry basis.

5/ Harmonized Tariff Code 1702.60-0010, -0020, -0030, -0040, -0050, -0055. Dry basis is commercial weight multiplied by .77.

6/ Harmonized Tariff Code 1702.60-0060, -2200, -2800, -4020, -4090. Dry basis is commercial weight multiplied by .77. Bureau of Customs classification.

Source: U.S. Census Bureau.

Table 40--U.S. HFCS trade with Mexico and Canada, monthly 1989-2000 1/

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Total 2/
Metric tons, commercial basis													
U.S. Exports to Mexico													
1989	29	40	0	34	6	126	76	26	139	44	63	81	663
1990	168	652	934	435	162	984	1,126	727	477	834	832	867	8,199
1991	927	414	389	517	771	605	880	2,383	1,896	1,871	1,019	1,440	13,112
1992	1,894	1,691	1,467	2,498	2,151	2,965	1,880	1,932	3,176	4,853	2,802	3,186	30,495
1993	1,199	3,231	5,637	2,475	2,133	2,851	2,633	3,064	6,694	6,231	5,988	7,664	49,799
1994	5,694	10,291	7,625	2,090	7,475	5,066	14,525	7,292	9,670	10,809	5,584	6,732	92,854
1995	4,392	1,973	3,494	4,273	4,634	6,199	4,328	6,896	6,183	9,040	4,263	5,047	60,722
1996	6,186	6,846	6,293	8,008	5,923	8,592	13,596	13,199	15,022	51,722	25,035	23,613	184,035
1997	11,412	9,058	14,312	14,299	10,183	12,163	17,149	18,865	38,655	14,658	18,338	15,164	194,255
1998	6,588	9,339	12,888	24,340	25,616	15,373	30,688	17,778	15,090	9,262	26,733	24,737	218,432
1999	24,328	11,097	16,436	19,412	25,064	11,711	26,135	15,039	21,821	18,196	10,569	25,319	225,127
2000	16,911	7,915	NA	24,826									
U.S. Exports to Canada													
1989	1,003	1,397	1,586	2,137	1,623	2,570	1,067	4,225	2,651	2,388	662	2,028	23,338
1990	3,011	3,274	5,597	5,023	7,044	5,191	6,933	6,327	4,877	5,370	4,366	4,001	61,014
1991	3,508	4,060	5,017	5,544	9,676	10,677	14,704	10,887	7,873	8,378	5,360	7,708	93,393
1992	6,824	4,555	6,261	7,008	4,617	5,701	8,111	4,948	3,491	5,430	3,225	2,131	62,301
1993	2,743	4,812	4,180	5,204	5,755	6,236	4,975	4,736	1,882	5,436	4,149	3,368	53,477
1994	2,335	2,200	2,909	2,896	3,712	1,880	1,114	917	1,073	894	1,231	689	21,848
1995	2,697	847	1,748	1,206	1,864	4,008	5,723	4,752	1,677	835	911	1,319	27,585
1996	1,054	1,300	1,662	2,143	4,191	5,230	4,596	1,554	1,962	1,309	1,181	1,596	27,778
1997	2,308	4,371	4,428	8,588	4,082	6,898	10,253	6,025	6,091	3,442	6,330	7,948	70,764
1998	6,324	6,742	16,970	15,784	17,784	31,224	17,138	17,334	14,106	5,733	9,170	12,699	171,008
1999	6,162	5,378	11,383	11,280	7,791	13,202	14,300	11,030	5,142	4,344	5,503	4,874	100,389
2000	4,885	7,772	NA	12,657									
U.S. Imports from Canada													
1989	17,299	13,621	14,954	17,404	15,377	20,634	14,018	19,807	12,333	18,720	19,073	13,945	197,184
1990	16,935	15,767	19,020	14,921	19,961	19,356	17,610	16,347	13,931	16,957	22,183	14,701	207,689
1991	17,593	15,657	17,640	16,972	16,265	15,133	17,477	16,510	15,042	18,679	12,523	14,064	193,556
1992	18,408	20,040	22,872	18,991	18,669	20,419	17,061	18,629	20,607	18,855	16,852	19,424	230,827
1993	18,703	13,905	20,997	24,476	16,965	17,536	17,960	19,691	20,384	17,071	16,459	19,712	223,859
1994	18,927	14,801	18,890	16,566	12,725	13,193	13,048	12,084	15,077	9,779	10,291	9,426	164,807
1995	11,518	6,113	7,812	7,625	8,343	6,514	6,294	8,236	8,498	7,782	8,013	8,816	95,565
1996	12,538	12,194	12,404	11,667	9,996	9,541	9,125	13,076	16,018	15,921	15,519	11,154	149,153
1997	9,577	11,103	11,681	12,942	10,851	11,549	10,115	12,392	11,995	13,243	11,728	12,384	139,560
1998	12,874	10,289	12,009	13,215	13,005	10,664	12,225	13,168	13,603	11,713	8,144	10,891	141,800
1999	10,463	9,737	12,141	13,450	11,829	13,303	13,399	11,153	12,276	14,114	12,229	12,798	146,892
2000	13,087	13,600	NA	26,687									

NA= Not available. 1/ All the tariff codes included in tables 38 and 39 except for those under the dextrose and glucose syrup categories.

2/ For 2000, total is for January through February.

Source: Bureau of the Census, U.S. Department of Commerce.

Table 41--U.S. corn refinery exports

Calendar year	Primary products						Byproducts				Total corn refinery exports
	Glucose		HFCS 1/ Fructose	Crystalline Fructose	Dextrose	Total	Corn oil	Corn gluten meal 2/	Corn gluten feed 3/	Total	
	Corn starch	Corn Syrup									
Metric tons											
1980	26,467	18,594	4/	NA	25,063	70,124	67,270	603	2,540,538	2,608,411	2,678,535
1981	35,973	15,744	4/	NA	23,650	75,367	82,976	1,319	2,787,614	2,871,909	2,947,276
1982	27,607	2,911	1,295	NA	14,267	46,080	93,911	11,415	2,854,231	2,959,557	3,005,637
1983	28,156	5,312	1,189	NA	12,528	47,185	110,910	3,301	3,594,226	3,708,437	3,755,622
1984	35,733	2,448	1,041	NA	14,469	53,691	144,289	41,943	3,622,834	3,809,066	3,862,757
1985	30,928	2,506	334	NA	7,925	41,693	118,537	155,496	3,342,606	3,616,639	3,658,332
1986	42,418	2,610	830	NA	9,137	54,995	152,201	204,491	4,049,074	4,405,766	4,460,761
1987	56,820	3,790	1,182	NA	14,754	76,546	138,858	181,581	4,241,337	4,561,776	4,638,322
1988	54,805	20,908	16,367	NA	31,901	123,981	168,647	307,038	4,713,089	5,188,774	5,312,755
1989	61,561	20,380	55,877	2,365	28,754	168,938	174,115	329,691	4,825,066	5,328,872	5,497,810
1990	51,714	34,851	145,337	7,652	25,721	265,275	203,682	435,171	5,350,278	5,989,131	6,254,406
1991	50,317	52,519	119,000	9,040	31,452	262,328	235,440	514,412	5,543,492	6,293,344	6,555,672
1992	59,172	33,785	97,812	16,760	32,311	239,841	260,297	550,939	5,638,960	6,450,196	6,690,036
1993	58,130	37,385	105,098	23,335	23,676	247,624	362,587	617,522	5,799,484	6,779,593	7,027,218
1994	67,247	44,375	118,931	22,040	33,345	285,938	341,942	678,519	5,666,146	6,686,607	6,972,545
1995	110,530	49,114	101,677	17,975	49,923	329,218	377,182	660,675	6,363,048	7,400,905	7,730,123
1996	104,486	93,113	219,713	36,246	65,908	519,467	407,283	759,278	5,055,437	6,221,998	6,741,465
1997	126,371	92,994	269,446	44,462	73,127	606,400	489,353	824,132	5,225,815	6,539,300	7,145,701
1998	91,355	101,890	390,123	54,748	63,382	701,498	522,404	724,703	4,999,217	6,246,324	6,947,822
1999	90,972	96,676	329,988	66,364	57,796	641,796	419,509	612,003	5,047,446	6,078,958	6,720,754

1/ High fructose corn syrup.

2/ 1980-84 corn oil meal; corn gluten meal separately reported beginning calendar 1985.

3/ Definitively includes corn gluten meal, 1980-84; negligible corn oil meal added to corn gluten feed beginning 1985.

Throughout 1980-91, corn gluten feed dominates this category.

4/ HFCS included with glucose corn syrup, 1980-81.

Source: U.S. Customs Service.

Table 42--U.S. total imports of sugar syrup, harmonized tariff code 1702.90.4000, monthly 1994-2000 1/

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Total
Thousand dollars													
1994	143	178	144	1,523	93	56	1,090	73	100	89	0	15	3,504
1995	23	15	14	10	23	69	7	19	12	19	31	13	255
1996	10	6	102	930	1	6	0	18	0	19	28	15	1,135
1997	1,610	2	98	318	561	1,576	2,105	2,028	2,690	3,692	2,048	2,178	18,904
1998	2,904	2,435	3,257	3,609	2,803	2,801	2,092	2,645	3,079	2,260	3,720	2,516	34,121
1999	2,559	2,544	2,472	3,224	3,275	3,671	4,907	4,004	3,264	2,204	4,706	3,126	39,956
2000	3,646	2,023	---	---	---	---	---	---	---	---	---	---	5,669
Thousand liters, commercial weight													
1994	429	335	454	6,134	363	242	5,447	349	475	428	0	129	14,785
1995	91	97	75	84	192	338	44	155	104	118	191	102	1,591
1996	74	58	1,549	14,271	1	60	0	16	0	85	120	75	16,310
1997	1,742	16	298	972	1,639	3,595	6,110	5,913	7,852	10,844	6,034	6,359	51,372
1998	8,400	7,441	11,497	14,114	10,835	10,705	7,444	9,413	11,161	8,554	15,568	9,925	125,057
1999	10,114	10,094	9,921	11,913	10,999	12,028	19,467	18,801	18,268	13,220	23,730	15,549	174,104
2000	12,840	9,462	---	---	---	---	---	---	---	---	---	---	22,302
Cents per liter													
1994	33	53	32	25	26	23	20	21	21	21	NA	12	24
1995	25	15	19	12	12	20	16	12	11	16	16	13	16
1996	13	10	7	7	85	10	NA	114	NA	22	23	20	7
1997	92	10	33	33	34	44	34	34	34	34	34	34	37
1998	35	33	28	26	26	26	28	28	28	26	24	25	27
1999	25	25	25	27	30	31	25	21	18	17	20	20	23
2000	28	21	---	---	---	---	---	---	---	---	---	---	25
Thousand dollars													
1994	143	178	144	1,523	93	56	1,090	73	100	89	0	15	3,504
1995	23	15	14	10	23	69	7	19	12	19	31	13	255
1996	10	6	102	930	1	6	0	18	0	19	28	15	1,135
1997	1,610	2	98	318	561	1,576	2,105	2,028	2,690	3,692	2,048	2,178	18,906
1998	2,904	2,435	3,257	3,609	2,803	2,801	2,092	2,645	3,079	2,260	3,720	2,516	34,121
1999	2,559	2,544	2,472	3,224	3,275	3,671	4,907	4,004	3,264	2,204	4,706	3,126	39,956
2000	3,646	2,023	---	---	---	---	---	---	---	---	---	---	5,669
Metric tons, commercial weight													
1994	466	424	485	8,631	364	243	7,244	359	497	438	0	161	19,312
1995	101	108	82	91	213	338	40	175	117	128	209	100	1,702
1996	83	65	2,255	11,754	1	34	0	19	0	86	118	102	14,517
1997	2,744	16	360	1,270	2,123	4,927	8,161	7,912	10,506	14,395	7,953	8,471	68,838
1998	11,197	9,869	14,998	18,315	14,280	14,200	10,033	12,690	14,982	11,446	21,065	13,165	166,240
1999	13,499	13,471	13,217	15,907	14,671	16,016	26,286	25,260	24,533	17,621	32,154	21,113	233,748
2000	16,389	12,641	---	---	---	---	---	---	---	---	---	---	29,030
Dollars per metric ton													
1994	307	420	297	176	255	230	150	203	201	203	NA	93	181
1995	228	139	171	110	108	204	175	109	103	148	148	130	150
1996	120	92	45	79	1,000	176	NA	947	NA	221	237	147	78
1997	587	125	272	250	264	320	258	256	256	256	258	257	275
1998	259	247	217	197	196	197	209	208	206	197	177	191	205
1999	190	189	187	203	223	229	187	159	133	125	146	148	171
2000	222	160	---	---	---	---	---	---	---	---	---	---	195

NA=Not applicable. --- = Not available. Note: To convert from metric tons to short tons, multiply by 1.10231225. It is estimated that a metric ton of sugar syrup (wet weight) yields .55 short tons raw value of sugar. 1/ For 2000, data are available through February.

Source: U.S. Customs.

Table 43-Sugarbeet production cash costs and returns, 1997-98 1/

Item	United States		Great Lakes		Red River Valley		Great Plains		Northwest		Southwest	
	1997	1998	1997	1998	1997	1998	1997	1998	1997	1998	1997	1998
Dollars per planted acre												
Gross value of production:												
Beets	800.72	848.53	710.71	595.60	697.50	800.50	679.67	744.23	1,111.07	1,127.70	1,311.79	1,267.94
Beet tops	0.80	0.54	0.00	0.00	0.00	0.00	2.97	2.65	0.04	0.04	3.00	1.27
Total, gross value of production	801.52	849.07	710.71	595.60	697.50	800.50	682.64	746.88	1,111.11	1,127.74	1,314.79	1,269.21
Cash expenses:												
Seed	43.63	45.01	25.14	26.04	44.81	46.39	47.69	49.88	46.31	47.98	48.62	50.36
Fertilizer	69.51	62.84	67.91	65.31	39.86	35.68	88.02	80.66	121.94	109.52	106.36	103.90
Chemicals	74.15	73.83	60.47	60.53	71.13	71.43	77.22	75.77	82.79	83.05	89.50	89.13
Custom operations	36.18	37.10	28.16	27.69	23.30	25.42	22.78	20.36	36.54	37.64	172.23	174.38
Fuel and lubrication	42.72	37.19	26.33	21.13	20.73	18.43	55.13	45.41	96.85	90.63	65.76	60.40
Repairs	42.98	43.20	33.49	30.45	31.53	33.53	55.89	57.88	66.93	66.24	47.43	47.55
Hired labor	111.77	116.07	63.97	70.46	83.06	86.06	111.98	119.13	198.59	204.63	195.33	205.73
Purchased irrigation water	9.75	9.28	0.00	0.00	0.05	0.05	13.68	14.34	31.25	30.22	33.47	32.35
Freight and dirt hauling charges	17.27	14.72	8.89	6.25	11.81	11.25	17.81	17.20	16.79	12.92	66.87	51.71
Miscellaneous	13.34	12.58	4.47	4.12	16.94	15.71	6.44	6.24	5.89	5.63	39.00	36.03
Hauling allowance (-)	8.93	7.93	3.26	2.30	11.36	10.75	2.01	1.38	1.76	1.34	36.56	28.27
Total, variable cash expenses	452.37	443.89	315.57	309.68	331.86	333.20	494.63	485.49	702.12	687.12	828.01	823.27
General farm overhead	39.38	36.91	41.68	39.28	30.90	29.09	46.06	44.07	48.10	45.36	54.99	51.87
Taxes and insurance	43.15	44.63	61.22	64.23	39.24	40.40	41.34	42.63	38.77	39.60	54.38	55.74
Interest	45.78	48.11	49.72	52.33	41.99	44.13	52.98	57.00	47.05	49.55	41.76	43.99
Total, fixed cash expenses	128.31	129.65	152.62	155.84	112.13	113.62	140.38	143.70	133.92	134.51	151.13	151.60
Total, cash expenses	580.68	573.54	468.19	465.52	443.99	446.82	635.01	629.19	836.04	821.63	979.14	974.87
Gross value of production less cash expenses	220.84	275.53	242.52	130.08	253.51	353.68	47.63	117.69	275.07	306.11	335.65	294.34
Season-average price (dollars/ton)	38.87	38.87	38.50	38.50	38.43	38.43	37.10	37.10	40.55	40.55	40.60	40.60
Yield (net tons/planted acre) 2/	20.60	21.83	18.46	15.47	18.15	20.83	18.32	20.06	27.40	27.81	32.31	31.23

1/ 1997 estimates are revised. 1998 estimates are preliminary. Sugarbeet prices are held at the 1997 level because State-level prices for the 1998 season will not be available before January 2000. 2/ Yields are those reported in USDA's 1992 Farm Costs and Returns Survey of sugarbeet growers adjusted for year-over-year changes as reported by NASS/USDA in *Crop Production*, 1998 Summary, January 1999.

Note: Sugarbeet regions defined as: Great Lakes (Michigan, Ohio), Red River Valley (Minnesota, eastern North Dakota), Great Plains (western North Dakota, Montana, Wyoming, Nebraska, Colorado, Texas), Northwest (Idaho, Oregon except Klamath County), and Southwest (California, Klamath County of Oregon).

Table 44--Sugarbeet production economic costs and returns, 1997-98 1/

Item	United States		Great Lakes		Red River Valley		Great Plains		Northwest		Southwest	
	1997	1998	1997	1998	1997	1998	1997	1998	1997	1998	1997	1998
Dollars per planted acre												
Gross value of production:												
Beets	800.72	848.53	710.71	595.60	697.50	800.50	679.67	744.23	1,111.07	1,127.70	1,311.79	1,267.94
Beet tops	0.80	0.54	0.00	0.00	0.00	0.00	2.97	2.65	0.04	0.04	3.00	1.27
Total, gross value of production	801.52	849.07	710.71	595.60	697.50	800.50	682.64	746.88	1,111.11	1,127.74	1,314.79	1,269.21
Economic (full ownership) costs:												
Variable cash expenses	452.37	443.89	315.57	309.68	331.86	333.20	494.63	485.49	702.12	687.12	828.01	823.27
General farm overhead	39.38	36.91	41.68	39.28	30.90	29.09	46.06	44.07	48.10	45.36	54.99	51.87
Taxes and insurance	43.15	44.63	61.22	64.23	39.24	40.40	41.34	42.63	38.77	39.60	54.38	55.74
Capital replacement	57.10	57.54	43.75	39.78	41.42	44.04	73.28	76.66	96.07	95.14	54.86	55.01
Operating capital	11.72	10.76	8.17	7.51	8.60	8.08	12.81	11.77	18.19	16.66	21.44	19.96
Nonland capital	31.87	28.80	32.25	26.36	22.30	21.32	43.25	40.88	46.67	41.51	31.61	28.50
Land	138.77	144.67	115.18	113.60	134.52	139.32	109.31	122.00	184.24	186.86	191.13	199.55
Coop share	25.75	25.06	0.00	0.00	54.90	51.37	0.00	0.00	0.00	0.00	0.00	0.00
Unpaid labor	51.59	53.49	63.70	70.14	39.84	41.27	82.16	88.42	48.92	50.50	30.21	31.82
Total, economic costs	851.70	845.75	681.52	670.58	703.58	708.09	902.84	911.92	1,183.08	1,162.75	1,266.63	1,265.72
Residual returns to management and risk	-50.18	3.32	29.19	-74.98	-6.08	92.41	-220.20	-165.04	-71.97	-35.01	48.16	3.49
Season-average price (dollars/ton)	38.87	38.87	38.50	38.50	38.43	38.43	37.10	37.10	40.55	40.55	40.60	40.60
Yield (net tons/planted acre) 2/	20.60	21.83	18.46	15.47	18.15	20.83	18.32	20.06	27.40	27.81	32.31	31.23

1/ 1997 estimates are revised. 1998 estimates are preliminary. Sugarbeet prices are held at the 1997 level because State-level prices for the 1998 season will not be available before January 2000. 2/ Yields are those reported in USDA's 1992 Farm Costs and Returns Survey of sugarbeet growers adjusted for year-over-year changes as reported by NASS/USDA in *Crop Production*, 1998 Summary, January 1999.

Note: Sugarbeet regions defined as: Great Lakes (Michigan, Ohio), Red River Valley (Minnesota, eastern North Dakota), Great Plains (western North Dakota, Montana, Wyoming, Nebraska, Colorado, Texas), Northwest (Idaho, Oregon except Klamath County), and Southwest (California, Klamath County of Oregon).

Table 45-U. S. and regional sugarbeet processing costs per net ton of sugar beet sliced, 1997-98

Item	United States		East 1/		West 2/	
	1997	1998	1997	1998	1997	1998
Dollars per net ton sliced						
Variable cash expenses:						
Beet acquisition	3.69	3.53	3.20	3.10	4.24	4.10
Processing:						
Labor	3.51	3.53	3.40	3.42	3.63	3.68
Fuel	3.92	3.43	4.04	3.54	3.77	3.30
Chemicals	0.76	0.77	0.84	0.84	0.67	0.67
Electricity	0.65	0.68	1.01	1.00	0.25	0.25
Materials and supplies	1.03	1.05	1.42	1.41	0.58	0.58
Repairs and maintenance	3.23	3.24	3.94	3.88	2.42	2.40
Labor benefits	2.27	2.29	2.31	2.32	2.22	2.25
Marketing	9.60	9.50	9.35	9.27	9.88	9.81
Total variable cash expenses	28.66	28.02	29.51	28.78	27.66	27.04
Fixed expenses:						
Depreciation	1.70	1.58	2.31	2.08	1.01	0.91
Taxes and insurance	0.37	0.36	0.41	0.40	0.31	0.31
Interest	1.27	1.17	0.96	0.90	1.62	1.52
Total fixed cash expenses	3.34	3.11	3.68	3.38	2.94	2.74
General and administrative:						
Labor	0.65	0.66	0.67	0.68	0.62	0.63
Nonlabor	0.86	0.83	0.48	0.48	1.29	1.29
Total general and administrative	1.51	1.49	1.15	1.16	1.91	1.92
Pulp drying and marketing	3.64	3.44	3.53	3.33	3.76	3.59
Total processing costs	37.15	36.06	37.87	36.65	36.27	35.29
Credits:						
Dried pulp	5.94	5.93	6.43	6.38	5.37	5.33
Molasses	1.50	1.21	1.63	1.30	1.36	1.08
Other	0.47	0.48	0.51	0.51	0.43	0.43
Total	7.91	7.62	8.57	8.19	7.16	6.84

Survey base year is 1992.

1/ East includes Michigan, Ohio, Minnesota and Eastern North Dakota.

2/ West includes all other sugarbeet growing areas West of the Mississippi.

Table 46-U. S. and regional sugarbeet processing costs per pound of refined sugar, 1997-1998

Item	United States		East 1/		West 2/	
	1997	1998	1997	1998	1997	1998
Cents per pound of refined sugar						
Variable cash expenses:						
Beet acquisition	1.198	1.177	1.036	1.014	1.380	1.396
Processing:						
Labor	1.140	1.177	1.101	1.118	1.182	1.253
Fuel	1.273	1.144	1.308	1.158	1.227	1.123
Chemicals	0.247	0.257	0.272	0.275	0.218	0.228
Electricity	0.211	0.227	0.327	0.327	0.081	0.085
Materials and supplies	0.334	0.350	0.460	0.461	0.189	0.197
Repairs and maintenance	1.049	1.081	1.276	1.269	0.788	0.817
Labor benefits	0.737	0.764	0.748	0.759	0.723	0.766
Marketing	3.117	3.169	3.028	3.031	3.216	3.339
Total variable cash expenses	9.305	9.346	9.556	9.411	9.004	9.204
Fixed expenses:						
Depreciation	0.552	0.527	0.748	0.680	0.329	0.310
Taxes and insurance	0.120	0.120	0.133	0.131	0.101	0.106
Interest	0.412	0.390	0.311	0.294	0.527	0.517
Total fixed cash expenses	1.084	1.037	1.192	1.105	0.957	0.933
General and administrative:						
Labor	0.211	0.220	0.217	0.222	0.202	0.214
Nonlabor	0.279	0.277	0.155	0.157	0.420	0.439
Total general and administrative	0.490	0.497	0.372	0.379	0.622	0.654
Pulp drying and marketing	1.182	1.147	1.143	1.089	1.224	1.222
Total processing costs	12.062	12.028	12.264	11.985	11.807	12.012
Credits:						
Dried pulp	1.929	1.978	2.082	2.086	1.748	1.814
Molasses	0.487	0.404	0.528	0.425	0.443	0.368
Other	0.153	0.160	0.165	0.167	0.140	0.146
Total	2.568	2.542	2.775	2.678	2.331	2.328
Recovery per net ton of beets (lb.) 3/	308.0	299.8	308.8	305.8	307.2	293.8

Survey base year is 1992.

1/ East includes Michigan, Ohio, Minnesota, and eastern North Dakota.

2/ West includes all other sugarbeet growing areas west of the Mississippi.

3/ From factory data supplied to Farm Service Agency/USDA.

Table 47--U.S. blackstrap molasses prices

	New Orleans	Houston	South Florida	Savannah	Baltimore	Upper Mississippi River	Los Angeles	Stockton
Dollars per short ton								
1991	67.02	69.52	74.58	82.52	89.15	94.78	80.00	80.00
1992	61.27	63.75	68.36	76.70	80.41	92.92	78.43	78.43
1993	55.48	57.12	62.36	70.00	76.03	89.26	74.24	74.44
1994	65.53	69.86	72.23	79.23	85.94	91.97	83.31	83.31
1995	72.00	76.37	79.92	87.48	86.30	99.11	90.30	90.30
1996	74.88	79.41	83.07	92.55	91.27	104.71	97.11	97.34
1997	58.14	62.13	68.00	77.51	76.84	90.69	83.38	83.77
1998	46.35	48.85	59.92	68.75	63.37	78.00	69.30	69.64
1999 1/	33.77	36.30	49.15	56.63	51.06	65.50	58.32	58.32

1/ First quarter (Jan.-Mar.) average.

To convert dollars per short ton to cents per gallon divide by 171.

To compute price per metric ton multiply dollars per short ton by 1.1023.

Source: Molasses Market News, Agricultural Marketing Service, USDA.

Table 48--U.S. maple syrup production, imports, exports, and prices, calendar year

Calendar year	Production	Imports 1,000 U.S. gallons	Exports	U.S. price
				Dollars/gallon
1989	1,198	1,606	270	NA
1990	1,073	1,872	209	NA
1991	1,299	1,960	305	NA
1992	1,641	2,303	457	23.80
1993	1,007	2,704	603	23.30
1994	1,324	3,307	569	24.40
1995	1,096	3,168	608	26.20
1996	1,567	3,260	821	26.90
1997	1,298	3,650	655	27.10
1998	1,159	3,726	460	27.80
1999	1,188	3,960	844	27.60

Sources: National Agricultural Statistics Service, USDA; Bureau of the Census, U.S. Dept. of Commerce.

Table 49--U.S. maple syrup production and value, by State, calendar years

State and region	1992	1993	1994	1995	1996	1997	1998	1999 1/
Production - 1,000 gallons								
New England:								
Connecticut	12	10	11	7	10	9	9	13
Maine	153	113	150	162	167	185	170	187
Massachusetts	50	33	40	29	49	44	47	44
New Hampshire	94	66	73	64	89	76	67	61
Vermont	570	310	435	365	550	395	360	370
Total	879	532	709	627	865	709	653	675
Northeast:								
New York	400	180	251	208	343	269	231	195
Midwest:								
Pennsylvania	95	40	59	43	71	63	72	67
Ohio	55	75	90	65	90	95	78	95
Michigan	85	75	85	55	88	75	55	73
Minnesota	12	0	0	0	0	0	0	0
Wisconsin	115	105	130	98	110	87	70	75
Total	362	295	364	261	359	320	275	310
U.S. total	1,641	1,007	1,324	1,096	1,567	1,298	1,159	1,180
Value of production - 1,000 dollars								
New England:								
Connecticut	504	432	471	281	427	375	370	554
Maine	2,433	1,616	2,145	2,965	3,657	3,663	3,502	3,783
Massachusetts	1,740	1,112	1,456	1,105	1,906	1,637	1,701	1,707
New Hampshire	3,093	2,343	2,540	2,413	3,311	3,055	2,425	2,281
Vermont	12,711	7,440	10,397	10,147	14,575	10,902	10,440	10,730
Total	20,481	12,943	17,009	16,911	23,876	19,632	18,438	19,055
Northeast:								
New York	9,360	3,366	6,150	4,888	8,747	6,752	6,202	5,324
Midwest:								
Pennsylvania	2,337	964	1,528	1,079	1,747	1,638	1,872	1,742
Ohio	1,590	2,228	2,340	1,872	2,565	2,926	2,324	2,850
Michigan	2,533	1,913	2,491	1,480	2,737	2,363	1,760	2,058
Minnesota	328							
Wisconsin	2,496	2,079	2,730	2,489	2,497	1,905	1,617	1,778
Total	9,284	7,184	9,089	6,920	9,546	8,832	7,573	8,428
U.S. total	39,125	23,493	32,248	28,719	42,169	35,216	32,213	32,807
Price per gallon - Dollars								
New England:								
Connecticut	42.00	43.20	42.82	40.14	42.70	41.67	41.11	42.62
Maine	15.90	14.30	14.30	18.30	21.90	19.80	20.60	20.23
Massachusetts	34.80	33.70	36.40	38.10	38.90	37.20	36.19	38.80
New Hampshire	32.90	35.50	34.79	37.70	37.20	40.20	36.19	37.39
Vermont	22.30	24.00	23.90	27.80	26.50	27.60	29.00	29.00
Total	23.30	24.33	23.99	26.97	27.60	27.69	28.24	28.23
Northeast:								
New York	23.40	18.70	24.50	23.50	25.50	25.10	26.85	27.30
Midwest:								
Pennsylvania	24.60	24.10	25.90	25.09	24.61	26.00	26.00	26.00
Ohio	28.91	29.71	26.00	28.80	28.50	30.80	29.79	30.00
Michigan	29.80	25.51	29.31	26.91	31.10	31.51	32.00	28.19
Minnesota	27.33							
Wisconsin	21.70	19.80	21.00	25.40	22.70	21.90	23.10	23.71
Total	25.65	24.35	24.97	26.51	26.59	27.60	27.54	27.19
U.S. total	23.80	23.30	24.40	26.20	26.90	27.10	27.80	27.40

1/ Preliminary.

Source: National Agricultural Statistics Service, USDA.

Table 50--U.S. maple syrup exports, by country, 1989-99

Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
1,000 gallons											
Japan	22.8	28.9	77.1	9.2	4.9	6.1	9.4	7.8	12.2	21.8	258.9
Mexico	17.5	15.8	14.2	138.5	197.3	296.5	268.3	454.0	266.8	128.9	108.2
Canada	78.7	45.5	25.4	56.2	153.6	84.1	74.9	68.9	88.6	98.1	80.9
Taiwan	11.7	1.1	2.4	10.7	0.0	0.0	4.8	17.0	16.4	11.0	53.0
United Kingdom	19.2	0.0	12.1	5.4	3.9	7.4	8.9	26.4	31.4	39.6	36.8
Saudi Arabia	12.9	17.6	60.4	47.7	29.0	46.1	47.2	35.8	28.2	40.9	23.2
Hong Kong	6.1	3.7	3.6	21.5	3.9	7.8	12.5	12.1	13.5	8.4	11.4
EI Salvador	0.0	0.0	0.0	0.0	0.0	2.3	2.6	0.0	0.2	5.6	9.2
United Arab Emirates	0.6	0.0	2.7	0.0	0.2	0.0	0.5	0.6	1.1	9.3	9.1
Colombia	1.0	0.0	0.0	0.0	0.4	0.0	0.8	0.0	8.7	4.5	6.8
Venezuela	0.0	0.0	12.0	12.2	3.2	0.0	0.1	0.3	0.7	4.6	6.7
Australia	1.6	4.0	2.4	62.3	62.2	35.3	93.1	135.0	24.4	10.7	6.4
Dominican Republic	19.9	9.8	1.7	2.9	3.1	2.1	5.3	0.7	0.2	10.9	4.2
Israel	0.6	1.3	0.0	0.0	0.4	0.2	1.6	0.4	0.2	6.8	4.1
Bahamas	1.2	0.2	0.3	0.3	0.0	0.9	0.0	0.4	0.4	4.6	2.8
Costa Rica	0.4	0.4	0.9	0.0	0.4	2.6	1.0	5.7	7.6	6.6	1.4
Denmark	1.9	2.8	2.1	0.0	2.6	1.3	0.7	3.0	3.9	5.8	1.2
Germany	0.1	4.9	5.1	0.3	0.0	0.6	0.0	0.3	2.6	5.8	0.1
Russia	0.0	0.0	0.0	0.0	0.0	2.6	1.0	0.0	0.0	7.0	0.0
Rest-of-world	74.1	73.3	82.9	90.4	138.3	73.0	75.2	52.8	148.4	29.2	219.5
Total	270.3	209.4	305.3	457.5	603.4	569.1	607.8	821.0	655.3	460.0	843.9

Source: U.S. Customs Service.

Table 51--U.S. honey production, imports, exports, stocks, and average price, calendar year

Crop year	Colonies 1/	Yield	Production	Imports	Exports	Stocks 2/	Average Price	Stocks-to-use
	Thousands	Pounds per colony		Million pounds			Cents per pound	Percent
1986	3,205	62.5	200.4	120.0	9.2	27.7	51.1	8.6
1987	3,190	71.1	226.8	58.3	12.4	34.1	50.3	12.2
1988	3,219	66.3	214.1	55.9	14.0	32.7	50.0	12.0
1989	3,443	51.4	177.0	77.3	9.9	33.2	49.8	13.1
1990	3,210	61.6	197.8	77.0	12.4	31.1	53.7	11.2
1991	3,181	68.9	219.2	92.3	9.6	36.4	55.6	11.9
1992	3,030	72.8	220.6	114.6	10.4	39.1	55.0	11.7
1993	2,875	80.2	230.6	133.6	8.5	49.0	53.9	13.8
1994	2,783	78.4	218.2	123.2	8.3	59.9	52.8	18.1
1995	2,655	79.5	211.1	88.6	9.3	42.3	68.5	13.3
1996	2,581	77.3	199.5	150.6	9.9	47.2	88.8	13.7
1997	2,631	74.7	196.5	167.4	8.9	70.7	75.2	20.8
1998	2,633	83.7	220.3	132.4	10.4	80.8	65.5	23.6

1/ Data include only beekeepers with five or more colonies.

2/ Stocks held by producers.

Sources: National Agricultural Statistics Service, USDA, and Bureau of the Census, U.S. Dept. of Commerce.

Table 52--Honey: Number of colonies, yield, production, stocks, price, and value by top producing States and United States, 1987-99 1/

Year	Honey produced	Yield per colony	Production	Stocks Dec. 15 2/	Average price per pound	Value of production
	1,000	Pounds	1,000 pounds		Cents	1,000 dollars
United States						
1987	3,316	71	235,436	34,090	50	118,424
1988	3,370	66	222,757	32,685	50	111,379
1989	3,528	51	180,634	33,192	50	89,956
1990	3,220	62	198,674	31,093	54	106,688
1991	3,211	69	220,917	36,420	56	122,830
1992	3,045	73	221,676	39,061	55	121,922
1993	2,875	80	230,575	49,046	54	124,280
1994	2,783	78	218,187	59,877	53	115,203
1995	2,655	80	211,073	42,313	69	144,585
1996	2,581	77	199,511	47,206	89	177,166
1997	2,631	75	196,536	70,696	75	147,795
1998	2,633	84	220,311	80,808	66	144,304
1999	2,688	76	205,228	79,361	60	125,422
California						
1987	540	33	17,820	1,782	49	8,732
1988	600	40	24,000	2,160	49	11,760
1989	620	34	21,080	3,162	49	10,329
1990	480	42	20,160	2,218	54	10,886
1991	550	63	34,650	3,465	54	18,711
1992	490	67	32,830	4,268	52	17,072
1993	500	90	45,000	7,200	50	22,500
1994	400	60	24,000	6,480	51	12,240
1995	420	93	39,060	4,687	63	24,608
1996	390	70	27,300	4,641	84	22,932
1997	420	75	31,500	9,450	70	22,050
1998	450	83	37,350	12,326	62	23,157
1999	505	60	30,300	10,302	53	16,059
North Dakota						
1987	300	110	33,000	3,630	45	14,850
1988	250	66	16,500	1,650	43	7,095
1989	310	56	17,360	1,215	47	8,159
1990	220	82	18,040	722	52	9,381
1991	215	103	22,145	3,100	54	11,958
1992	240	91	21,840	2,184	53	11,575
1993	220	90	19,800	2,772	52	10,296
1994	235	138	32,430	7,459	48	15,566
1995	220	108	23,760	3,802	67	15,919
1996	230	86	19,780	4,945	90	17,802
1997	245	100	24,500	7,350	74	18,130
1998	230	128	29,440	8,832	63	18,547
1999	255	105	26,775	8,836	59	15,797
South Dakota						
1987	260	134	34,840	5,574	46	16,026
1988	245	74	18,130	2,901	46	8,340
1989	235	49	11,515	2,072	46	5,297
1990	245	81	19,845	3,771	50	9,923
1991	225	101	22,725	4,091	54	12,272
1992	240	85	20,400	3,264	53	10,812
1993	245	98	24,010	4,322	52	12,485
1994	260	100	26,000	8,580	52	13,520
1995	240	85	20,400	4,896	71	14,484
1996	240	97	23,280	6,751	90	20,952
1997	240	65	15,600	8,736	74	11,544
1998	225	95	21,375	10,901	64	13,680
1999	224	104	23,296	13,046	60	13,978

continued-

Table 52--Honey: Number of colonies, yield, production, stocks, price, and value by top producing States and and United States, 1987-99--continued

Year	Honey produced	Yield per colony	Production	Stocks Dec. 15 2/	Average price per pound	Value of production
	1,000	Pounds	1,000 pounds		Cents	1,000 dollars
Florida						
1987	240	79	18,960	1,327	49	9,290
1988	240	105	25,200	2,385	51	12,852
1989	250	60	15,000	1,050	48	7,200
1990	220	95	20,900	1,881	48	10,032
1991	225	83	18,675	1,307	53	9,898
1992	220	104	22,880	2,517	53	12,126
1993	200	113	22,600	2,712	50	11,300
1994	230	84	19,320	2,898	47	9,080
1995	230	86	19,780	1,780	64	12,659
1996	240	105	25,200	2,268	86	21,672
1997	240	67	16,080	2,734	73	11,738
1998	230	98	22,540	4,508	64	14,426
1999	228	102	23,256	4,186	53	12,326
Minnesota						
1987	160	108	17,280	1,382	46	7,949
1988	160	129	20,640	2,064	43	8,875
1989	165	92	15,180	3,492	45	6,831
1990	170	74	12,580	1,384	49	6,164
1991	180	91	16,380	2,457	54	8,845
1992	190	90	17,100	3,591	54	9,234
1993	180	80	14,400	2,160	53	7,632
1994	170	79	13,430	2,149	52	6,984
1995	165	82	13,530	1,218	70	9,471
1996	150	77	11,550	1,617	90	10,395
1997	145	73	10,585	2,011	74	7,833
1998	140	79	11,060	2,765	65	7,189
1999	145	82	11,890	3,210	61	7,253
Montana						
1987	95	102	9,690	1,066	44	4,264
1988	105	48	5,040	151	47	2,369
1989	100	63	6,300	819	47	2,961
1990	98	81	7,938	1,191	54	4,287
1991	86	92	7,912	1,187	57	4,510
1992	87	110	9,570	1,818	55	5,264
1993	95	98	9,310	1,583	54	5,027
1994	119	105	12,495	3,624	52	6,497
1995	106	80	8,480	1,781	72	6,106
1996	117	60	7,020	1,825	88	6,178
1997	107	120	12,840	4,237	74	9,502
1998	115	122	14,030	5,472	64	8,979
1999	122	70	8,540	2,135	60	5,124
Texas						
1987	120	74	8,880	1,598	50	4,440
1988	124	76	9,424	848	46	4,335
1989	140	56	7,840	1,647	49	3,842
1990	140	67	9,380	1,501	59	5,534
1991	140	78	10,920	1,201	54	5,897
1992	125	85	10,625	1,488	52	5,525
1993	105	82	8,610	2,755	51	4,391
1994	103	74	7,622	2,058	50	3,811
1995	84	106	8,904	1,959	67	5,966
1996	82	83	6,806	1,361	85	5,785
1997	94	106	9,964	3,188	75	7,473
1998	91	77	7,007	1,612	62	4,344
1999	108	81	8,748	2,799	64	5,599

continued--

Table 52--Honey: Number of colonies, yield, production, stocks, price, and value by top producing States and and United States, 1987-99--continued

Year	Honey produced	Yield per colony	Production	Stocks Dec. 15 2/	Average price per pound	Value of production
	1,000	Pounds	1,000 pounds		Cents	1,000 dollars
Michigan						
1987	93	68	6,324	1,202	53	3,352
1988	95	73	6,935	1,456	53	3,676
1989	102	70	7,140	1,642	56	3,998
1990	100	80	8,000	2,560	56	4,480
1991	105	73	7,665	2,683	57	4,369
1992	95	68	6,460	2,067	59	3,811
1993	90	77	6,930	2,980	57	3,950
1994	90	86	7,740	3,870	55	4,257
1995	97	92	8,924	3,570	78	6,961
1996	90	96	8,640	4,320	101	8,726
1997	85	70	5,950	3,273	77	4,582
1998	80	85	6,800	3,672	66	4,488
1999	73	85	6,205	3,475	66	4,095
Wisconsin						
1987	92	97	8,924	1,160	48	4,284
1988	102	99	10,098	2,323	54	5,453
1989	108	74	7,992	1,598	57	4,555
1990	112	75	8,400	1,512	57	4,788
1991	110	67	7,370	1,843	56	4,127
1992	105	66	6,930	1,525	58	4,019
1993	100	82	8,200	4,100	59	4,838
1994	75	71	5,325	1,864	60	3,195
1995	73	79	5,767	2,134	70	4,037
1996	69	78	5,382	2,422	90	4,844
1997	79	60	4,740	2,797	90	4,266
1998	89	91	8,099	5,264	72	5,831
1999	80	75	6,000	4,560	68	4,080
Idaho						
1987	120	60	7,200	1,080	54	3,888
1988	127	53	6,731	1,144	43	2,894
1989	140	54	7,560	1,361	46	3,478
1990	140	40	5,600	784	48	2,688
1991	140	46	6,440	1,739	54	3,478
1992	135	51	6,885	1,308	52	3,580
1993	133	71	9,443	1,700	52	4,910
1994	127	59	7,493	1,274	52	3,896
1995	125	48	6,000	1,020	69	4,140
1996	110	45	4,950	1,535	88	4,356
1997	120	64	7,680	2,304	72	5,530
1998	120	50	6,000	2,220	65	3,900
1999	120	48	5,760	3,110	59	3,398
Nebraska						
1987	110	90	9,900	1,980	44	4,356
1988	113	96	10,848	1,410	45	4,882
1989	119	62	7,378	1,476	46	3,394
1990	118	56	6,608	1,189	49	3,238
1991	108	67	7,236	1,302	53	3,835
1992	96	75	7,200	792	53	3,816
1993	83	70	5,810	930	53	3,079
1994	72	55	3,960	1,465	56	2,218
1995	60	73	4,380	1,402	73	3,197
1996	65	75	4,875	1,755	92	4,485
1997	61	67	4,087	2,738	77	3,147
1998	64	70	4,480	2,240	86	3,853
1999	58	77	4,466	1,965	61	2,724

1/ Data include only beekeepers with five or more colonies. 2/ Stocks held by producers.

Source: National Agricultural Statistics Service, USDA.

Table 53--U.S. honey imports, by importing country, calendar year

Year	Argentina	China	Canada	Mexico	Australia	Rest-of-world	Total world
Million pounds							
1989	10.5	24.9	27.4	6.5	0.2	7.8	77.3
1990	19.4	25.5	7.6	16.2	2.5	5.9	77.0
1991	20.4	44.8	14.2	7.8	0.1	4.9	92.3
1992	31.1	60.1	16.8	4.7	0.0	1.8	114.6
1993	36.0	76.8	12.0	4.8	2.5	1.6	133.6
1994	40.3	64.7	10.2	5.3	1.3	1.4	123.2
1995	27.6	27.5	26.5	5.6	0.1	1.2	88.6
1996	68.3	42.8	17.6	12.1	2.9	6.8	150.6
1997	107.1	25.3	8.7	14.6	2.4	9.3	167.4
1998	69.5	30.5	15.5	7.6	0.3	8.9	132.4
1999	91.6	51.0	26.6	7.5	0.8	5.0	182.5

Source: U.S. Customs Service.

Table 54--U.S. (including Puerto Rico) total consumption of caloric sweeteners, calendar year 1/

Calendar year	Sugar 2/		Corn sweeteners			Total	Honey	Maple syrup	Other edible syrups	Total caloric sweeteners 3/
	Raw value	Refined basis	HFCS	Glucose syrup	Dextrose					
1,000 short tons, dry basis										
1992	9,072	8,479	6,665	2,321	495	9,481	127	12	35	18,133
1993	9,122	8,526	7,105	2,381	499	9,985	139	11	35	18,696
1994	9,309	8,700	7,414	2,439	510	10,362	130	14	35	19,242
1995	9,433	8,816	7,658	2,497	527	10,682	113	13	35	19,659
1996	9,587	8,960	7,984	2,510	535	11,029	133	14	35	20,171
1997	9,740	9,103	8,449	2,742	514	11,704	138	15	35	20,996
1998	9,832	9,189	8,823	2,636	508	11,967	133	16	35	21,340
1999 4/	10,141	9,478	9,114	2,573	494	12,182	147	15	35	21,856

1/ Totals may not add due to rounding. 2/ Based on total sugar deliveries, including for use in products for export. 3/ Total includes sugar, refined basis.

4/ Preliminary

Source: Economic Research Service, USDA.

Table 55--U.S. (including Puerto Rico) per capita consumption of caloric sweeteners, calendar year 1/

Calendar year	Refined sugar 2/	HFCS	Corn sweeteners			Pure honey	Edible syrups	Total caloric sweeteners	U.S. population (July 1)
			Glucose syrup	Dextrose	Total				
Pounds, dry basis									
									Millions
1992	65.4	51.4	17.9	3.8	73.2	1.0	0.4	139.9	259.2
1993	65.1	54.3	18.2	3.8	76.2	1.1	0.4	142.8	261.9
1994	65.8	56.1	18.4	3.9	78.4	1.0	0.4	145.5	264.5
1995	66.1	57.4	18.7	3.9	80.0	0.8	0.4	147.3	266.9
1996	66.5	59.3	18.6	4.0	81.9	1.0	0.4	149.8	269.3
1997	67.0	62.2	20.2	3.8	86.1	1.0	0.4	154.5	271.7
1998	67.1	64.4	19.2	3.7	87.3	1.0	0.4	155.7	274.1
1999 2/	68.5	65.9	18.6	3.6	88.0	1.1	0.4	158.0	276.7

1/ Totals may not add due to rounding.

2/ Preliminary

Source: Economic Research Service, USDA.

