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Sugar and Sweeteners Outlook

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Increased Sugar Imports Compensate for Sugar Production Downturn

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On January 12, 2006, the U.S. Department of Agriculture (USDA) published its latest sugar supply and utilization projections for the 2006 fiscal year (FY) in the *World Agricultural Supply and Demand Estimates* (*WASDE*) report. Beet sugar production was projected at 4.435 million short tons, raw value (STRV), an increase of 79,000 STRV over the projection in the November *WASDE*. This increase was due to better expected recovery in the Upper Midwest and the Pacific Far West. Cane sugar production was projected at 3.158 million STRV. Both Florida and Louisiana have had difficult harvest seasons after major hurricanes. Florida's production was projected at 1.455 million, the lowest level since FY 1990. Louisiana's production was projected at 1.263 million STRV, actually a slight improvement after last year's disappointing season. Overall, FY 2006 production is projected to be 283,000 less than in FY 2005.

Sugar imports were projected at 2.77 million STRV, an increase of 674,000 STRV over FY 2005 imports and 590,000 STRV over FY 2006 imports projected in November. This latter increase was constituted by three components. First, on December 2, 2005, the USDA announced an increase of 450,000 STRV in the sugar tariff-rate quota (TRQ) for FY 2006. This amount was divided between a 300,000-STRV increase in the raw sugar TRQ and a 150,000-STRV increase in the refined sugar TRQ. (The FY 2006 raw sugar TRQ is now at 1,651,497 STRV, and the refined sugar TRQ is at 232,815 STRV.) The shortfall from this increase was expected to be 15,000 STRV, indicating a net import gain of 435,000 STRV. The second component was an increase in the amount of high-tier tariff sugar from Mexico. Based on reliable industry information, the USDA expects 230,000 STRV to enter this fiscal year, an increase of 130,000 STRV over November's projection. The third component was an increase in sugar expected to be extracted from imported sugar syrups (thick juice and molasses) from 50,000 to 75,000 STRV. The USDA now relies on industry-supplied data for making its projections of this category of imports.

The USDA projects FY 2006 sugar deliveries for domestic food and beverage use at 10.050 million STRV. With FY 2005 deliveries estimated at 10.046 million STRV, it would seem that the USDA expects no increase for FY 2006; however, deliveries in September 2005, the last month of FY 2005, surged above expectations by about 75,000 STRV. One hypothesis is that direct consumption imports resulting from early

entry FY 2006 refined TRQ imports in September were not fully absorbed into end user marketing channels in September. These imports were estimated at 83,750 STRV, or about 78,500 STRV above the September import average of the preceding 13 years. In any event, deliveries in October and November returned to levels at or below those consistent with the current USDA forecast. Until a differing delivery pattern is discerned, the USDA will remain with the projection at 10.050 million STRV.

Exports are projected at 175,000 STRV. Other deliveries for the sugar-containing product re-export and polyhydric alcohol programs and livestock feeding are projected at 165,000 STRV. Projected ending fiscal year stocks are the difference between total supply and total use: 1.320 million STRV. This implies an ending year stocks-to-use ratio of 12.7 percent.

From September 2 through December 9, the average lower range of the refined beet sugar spot price in the Midwest has been estimated by the Milling and Baking News at about 40 cents a pound. The increase from August through the whole of December is calculated at 40.6 percent. It is unclear how much sugar is actually selling in the spot market. Producer price indexes (PPI), compiled by the Bureau of Labor Statistics, for both refined beet and cane sugar have increased by much less than the refined beet spot price. The beet sugar PPI through December has increased by 20.6 percent since August, and the refined cane sugar PPI has increased by only 7.2 percent over the same period. The PPIs are meant to reflect actual prices for deliveries made during the month (but are expressed as a ratio of a base-period price). Because many of these prices were probably contracted before the end of August, they were slower to reflect the full impact of the supply-disrupting effects of the August/September hurricanes (Katrina, Rita, and Wilma).

With an increasing supply of refined sugar (from the beet sugar processors, increased refined sugar imports, and the re-opening of the Chalmette Refinery), the lower range of the refined beet sugar spot price has been declining since mid-December. As of January 13, it was at 34 cents a pound.

The U.S. raw sugar price, the nearby No. 14 futures contract, has increased since August but not as markedly as the refined beet price. The raw price in August averaged 20.49 cents a pound. The average increased by about 1.2 cents into September and did not vary much through most of December (October average: 21.71 cents; November average: 21.82 cents; December: 21.74 cents). The raw price has been increasing since before Christmas, averaging 23.0 cents a pound through the first half of January. There have been concerns regarding sugar availability from Mexico and from certain Central American countries with whom Free Trade Agreement implementation legislation has not been finalized. Also of concern has been the high world price of raw sugar that has made raw sugar imports from certain TRQ exporters less certain.

U.S. Sugar

On January 12, 2006, the U.S. Department of Agriculture (USDA) released its latest supply and use projections for fiscal year (FY) 2006 in the *World Agricultural Supply and Demand Estimates (WASDE)* report.

Production

The USDA adopts the production estimates and projections provided by beet sugar processors and cane sugar millers to the USDA's Farm Service Agency (FSA). Processors and millers project FY 2006 sugar production at 7.593 million short tons, raw value (STRV), a decrease of 283,000 STRV from FY 2005. Beet sugar is forecast at 4.435 million STRV (176,000 STRV or 3.8 percent lower) and cane sugar is forecast at 3.158 million STRV (107,000 STRV or 3.3 percent lower).

Beet Sugar Production

The National Agricultural Statistics Service (NASS) forecasts sugarbeet area planted for FY 2006 at 1.295 million acres, down 50,800 acres from the previous year. Most of the reduction was in the Pacific Northwest producing area, including Idaho (26,000 acres or 13.3 percent), Oregon (3,100 acres or 24 percent), and Washington (2,100 acres or 55 percent). This area also saw the closure of the beet processing factory in Nyssa, Oregon. Additionally, acreage in California was lower by 4,700 acres–9.6 percent, and also in Michigan by 16,000 acres–9.7 percent.

NASS forecasts sugarbeet area harvested at 1.239 million acres. Acreage losses were highest in Minnesota (31,000 acres) and North Dakota (12,000 acres). The national yield is forecast at 22.3 tons, with sugarbeet production estimated at 27,654 tons, down by 7.9 percent from last year. NASS notes, that in spite of some early-season problems, growing conditions were favorable in most areas. There were abundant irrigation water supplies in the Pacific Northwest that resulted in especially good yields.

The beet processors' forecast of FY 2006 beet sugar production at 4.435 million STRV indicates sugar recovery per harvested acre of 3.580 STRV, which would be a record if realized. Sucrose recovery would also be a record at 16.04 percent.

Table 1 shows an efficiency measure of the U.S. beet sugar industry from the 1992/93 crop year through 2004/05 (the 2005/06 figures are projections). The measure is the ratio of the September/August crop year sugar recovery to the NASS estimate of sucrose content. The higher the rate, the higher the extraction of sucrose contained in the beet crop. The average rate for the period has been 0.872. An Economic Research Service regression model suggests that the efficiency measure is a negative function of the size of the sugarbeet crop (elasticity coefficient = -0.11) and a positive function of the recovery rate (elasticity coefficient = 0.54). The model explains 89 percent of the observed variation in the efficiency measure from 1992/93 to 2004/05. Assuming the parameter values in the table for 2005/06, the model would predict a record-high efficiency level of 0.914. This is about 1.57 standard deviations above the 0.872 period average. This would imply a high sucrose level for the 2005/06 crop of 17.54 percent.

Table 1--U.S. sugarbeet crop, beet sugar production, sucrose content, and recovery

Sept./Aug. crop year	Sugarbeet production	Crop year (Sep./Aug.) beet sugar production	Crop year beet recovery rate	Sucrose content of beets	Recovery efficiency
	-- tons --		--- percent ---		--- ratio ---
1992/93	29,143	4,478	15.36	17.28	0.889
1993/94	26,249	3,965	15.10	17.13	0.882
1994/95	31,853	4,577	14.37	16.65	0.863
1995/96	28,065	3,944	14.05	16.29	0.863
1996/97	26,680	4,042	15.15	17.14	0.884
1997/98	29,886	4,272	14.29	16.94	0.844
1998/99	32,499	4,410	13.57	16.70	0.813
1999/00	33,420	4,931	14.75	17.15	0.860
2000/01	32,541	4,766	14.65	17.27	0.848
2001/02	25,764	4,019	15.60	17.15	0.909
2002/03	27,707	4,220	15.23	16.92	0.900
2003/04	30,710	4,912	15.99	17.74	0.902
2004/05	30,021	4,576	15.24	17.34	0.879
2005/06 (projected) 1/	27,654	4,435	16.04	17.54	0.914

1/ Projected based on beet processors' forecast of sugar production in Jan. 2006 *WASDE* and NASS sugarbeet forecast (Jan. 2006 *Crop Production*).
Source: USDA.

Table 2--Comparison of regression-based forecasts of beet sugar per acre for FY 2006 with processors' Jan. 2006 forecast

Item name	----------Explanatory variables----------				-----Performance measures-------			----Forecasts for FY 2006----	
	Constant	Trend 1/	Sugarbeet yield	Sucrose level 2/	Adj. R2	Standard error	Durbin-Watson	Sugar per acre	Sugar production 3/
								STRV/acre	1,000 STRV
Case I									
Coefficient	-	0.023	0.116	-	0.840	0.113	1.965	3.439	4,260
Std. Dev.	-	0.003	0.004	-	-	-	-		
T-Statistic	-	7.325	32.228	-	-	-	-		
Case II									
Coefficient	-1.9111	0.010	0.092	0.164	0.932	0.077	2.028	3.388	4,197
Std. Dev.	0.6772	0.004	0.013	0.042	-	-	-		
T-Statistic	-2.8219	2.348	6.980	3.928	-	-	-		
Case III - Processors' forecast									
	-	-	-	-	-	-	-	3.580	4,435

1/ Trend (FY 2006) = 36.
2/ Forecast sucrose from table eff = 17.54 percent.
3/ Acreage harvested = 1,238,900 acres (Source: NASS).
Source: ERS for Case I and II; USDA for Case III.

Two other ERS models project sugar per harvested acre as a function of combined sugarbeet yield, trend, and sucrose levels (table 2). The first makes sugar yield a function of trend and sugarbeet yield. This equation is useful prior to the time that a sucrose level is known. It explains about 84 percent of the observed variation in sugar yields. The second model includes the sucrose level as an explanatory variable. The amount of sugar yield variation that is accounted for increases to 93.2 percent. Both models are used to project a forecast sugar yield. The second model takes the table 1 2005/06 sucrose estimate of 17.54 percent.

In simulation exercises involving these equations and the NASS area harvested forecast of 1.239 million acres, the first model produces an expected value of 4.260 million STRV with a standard deviation of 142.52, and the second model produces an expected value of 4.197 million STRV with a standard deviation of 97.38. The first model predicts a production level 175,000-STRV below the processors' forecast of 4.435 million STRV. The first model's 95-percent confidence interval for its production estimate is between 3.987 and 4.546 million STRV. This interval is sufficiently wide to encompass the processors' forecast. The second model predicts a production level 238,000-STRV below the processors' forecast. Its 95-percent confidence interval is between 4.001 and 4.382 million STRV, which does not encompass the processors' forecast. Only by assuming a higher sucrose level does the second model suggest agreement with the processors. The meaning of these exercises is that processors' forecast seem unusually high, given the underlying data. There may be other omitted factors not currently known.

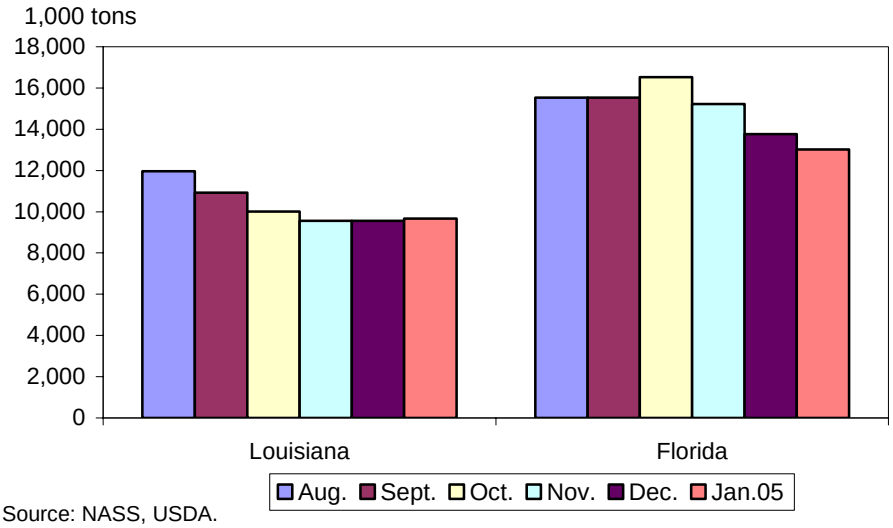
Cane Sugar Production

Sugarcane crops in both Louisiana and Florida have been severely affected by late summer/early fall hurricanes: Louisiana by Hurricanes Katrina and Rita, and Florida by Wilma. In August NASS had forecast the Louisiana sugarcane crop at 11.960 million tons on 460,000 acres, for a yield of 26.00 tons/acre. By December, the production forecast decreased by 20.1 percent (fig.1) with yield at 21.00 tons (20.2 percent decrease) and area harvested forecast at 455,000 (1.9 percent decrease). NASS' assessment in January showed a final rebound in yield to 23.00 tons, and sugarcane production was estimated at 10.465 million tons. Florida fared much the same. Production had been forecast as high as 16.530 million tons at the beginning of October, with a yield forecast at 37.00 tons/acre. By January yield was estimated at 34.31 tons/acre (7.3 percent lower), area harvested at 401,000 acres (4.5 percent lower), and production was estimated at 13.760 million tons (11.5 percent decrease).

In the latest Farm Service Agency survey, Florida cane sugar millers project FY 2006 sugar production at 1.455 million STRV. This forecast implies sugar yield at only 3.80 tons/acre, the lowest level since FY 1990. Based on sugarcane yield and trend, ERS analysis would have suggested a sugar yield closer to 4.32 STRV/acre; therefore, one must conclude the hurricane was particularly damaging of sucrose content and recovery. Recovery itself is forecast at 11.17 percent, again the lowest level since FY 1990.

Figure 1

Monthly forecasts of sugarcane production in Louisiana and Florida by the National Agricultural Statistics Service, for 2005/06



Source: NASS, USDA.

The Louisiana sugarcane harvest ended in December, and sugar production was estimated at 1.203 million STRV. A crop year (that is, September-December total) comparison with last year indicates production at about the same level as last year (1.196 million STRV). The USDA expects about 60,000 STRV of production next September, the last month of the fiscal year. Production is, therefore, projected at 1.263 million STRV.

The cane sugar miller in Texas projects FY 2006 sugar production at 180,000 STRV, up about 20,000 STRV from FY 2005. NASS estimates area harvested for sugar at 41,000 acres, a reduction of 1,700 acres from last year, and it estimates sugarcane for sugar at 1.546 million tons, which is fairly close to that produced in FY 2005. Implied sugar yield is relatively high, 4.39 STRV/acre, indicating good sucrose development and excellent expected recovery of 11.64 percent.

Hawaiian cane sugar millers project FY 2006 sugar production at 260,000 STRV. Because Hawaiian production follows the calendar year, the bulk of the projected harvest season takes place in 2006, and no NASS sugarcane forecasts are available.

Trade

Tariff-Rate Quota Imports

On August 12, 2005, the raw sugar tariff-rate quota (TRQ) was established at 1,231,497 STRV (1,117,195 metric tons, raw value (MTRV)). On August 19, it was increased by 120,000 STRV after the reassignment of the unavailable cane sugar portion of the FY 2006 Overall Allotment Quantity (OAQ). Included in the raw sugar TRQ was an initial allocation to Mexico of 8,000 STRV (7,258 MTRV).

The refined sugar TRQ was initially established at 54,013 STRV (49,000 MTRV). It included the minimum World Trade Organization (WTO) Uruguay Round Agreement commitment level of 24,251 STRV, portions of which were reserved for Canada (11,354 STRV), Mexico (3,256 STRV), and "first-come, first-served" specialty sugar (1,825 STRV). The refined sugar TRQ included an additional amount of 29,762 STRV above the minimum commitment level, reserved for specialty (organic) sugar. On September 9, the refined sugar TRQ was increased by 75,000 STRV (68,039 MTRV) to compensate for reduced supplies of refined sugar because of the effects of Hurricane Katrina. At the same time, the USDA allowed for early entry of refined sugar associated with the non-specialty sugar portions of the TRQ.

Under the terms of the North American Free Trade Agreement (NAFTA), officials from the United States and Mexico meet prior to July 1 to determine the sugar net surplus production status for each country for the upcoming fiscal year. In the case of Mexico, the net surplus production formula subtracts the sum of projected sugar and high fructose corn syrup consumption from expected production, and also takes into account the amount by which projections from the previous year differ from what was actually realized for that year. If Mexico is determined to be a net surplus producer, then the USDA is to establish a TRQ for sugar from Mexico that is equal to the lesser of Mexico's net surplus production of sugar or 250,000 MTRV. On September 29, 2005, the USDA announced that Mexico was a net surplus producer for the 2006 marketing year and set the TRQ at 276,000 STRV (250,384 MTRV). Under the terms of NAFTA, this sugar can enter either as raw or refined sugar.[1]

On December 2, 2005, USDA announced an increase of 450,000 STRV (408,237 MTRV) in the FY 2006 sugar TRQ. The amount was divided between a 300,000-STRV increase in the raw sugar TRQ and a 150,000-STRV increase in the refined sugar TRQ.[2] The FY 2006 raw sugar TRQ is now at 1,651,497 STRV. (See table 3 for country allocations assigned by the U.S. Trade Representative.) The refined sugar TRQ is effectively at 547,013 STRV if one includes the NAFTA portion therein. The global share of the refined TRQ (after subtracting specific-country allocations and the specialty sugar portions) is at 232,815 STRV.

The *WASDE* projection of TRQ imports for FY 2006 is 2.140 million STRV. Combined raw and refined TRQ imports are 2.199 million STRV. Early entries (recorded in FY 2005 when they entered the United States) are estimated at about 88,000 STRV and the expected TRQ shortfall is projected at 65,000 STRV. USDA's current projection of imports from members of the Central American-Dominion Republic Free Trade Agreement (CAFTA) is 95,000 STRV. (CAFTA sugar access has not yet been assigned because there is still no CAFTA implementing legislation in any of the Central American members or in the Dominican Republic.)

Other Imports

Other program sugar imports outside the sugar TRQ for FY 2006 are projected to total 325,000 STRV. Other USDA import programs include the Refined Sugar Re-export Program, the Sugar-Containing Products Program, and the Polyhydric Alcohol Program. Sugar from imported syrups is projected at 75,000 STRV. Before December 2005, the USDA projected this sugar based on molasses imported for the

[1] At the same time, the USDA announced that it was increasing the FY 2006 overall OAQ by 225,000 STRV to 8.825 million STRV. The USDA determined that the U.S. cane sugar sector could not supply its statutory share of the OAQ (4.029 million STRV) and reassigned 276,000 STRV from the cane sector OAQ to imports. This reassignment essentially covered the expected increase in sugar imports from Mexico such that the increase will not count against the 1.532 million STRV sugar import limit for the suspension of the OAQ.

[2] The USDA reassigned 450,000 STRV of the current cane sugar marketing allotment to imports.

Table 3--FY 2006 raw sugar tariff-rate quota allocation

Countries	Announced 8/30/05	Announced 12/9/05	Total
	metric tons raw value (MTRV)		
Argentina	50,000	11,797	61,797
Australia	96,511	22,771	119,282
Barbados	8,139	1,920	10,059
Belize	12,791	3,018	15,809
Bolivia	9,302	2,195	11,497
Brazil	168,603	39,781	208,384
Colombia	27,907	6,584	34,491
Congo	7,258		7,258
Cote D'Ivoire	7,258		7,258
Costa Rica	17,442	4,115	21,557
Dominican Republic	204,649	48,286	252,935
Ecuador	12,791	3,018	15,809
El Salvador	30,232	7,133	37,365
Fiji	10,465	2,469	12,934
Gabon	7,258		7,258
Guatemala	55,813	13,169	68,982
Guyana	13,953	3,292	17,245
Haiti	7,258		7,258
Honduras	11,628	2,744	14,372
India	9,302	2,195	11,497
Jamaica	12,791	3,018	15,809
Madagascar	7,258		7,258
Malawi	11,628	2,744	14,372
Mauritius	13,953	3,292	17,245
Mexico 1/	7,258		7,258
Mozambique	15,116	3,567	18,683
Nicaragua	24,418	5,761	30,179
Panama	33,721	7,956	41,677
Papua New Guinea	7,258		7,258
Paraguay	7,258		7,258
Peru	47,674	11,248	58,922
Philippines	156,975	37,037	194,012
South Africa	26,744	6,310	33,054
St. Kitts & Nevis	7,258		7,258
Swaziland	18,604	4,390	22,994
Taiwan	13,953	3,292	17,245
Thailand	16,279	3,841	20,120
Trinidad-Tobago	8,139	1,920	10,059
Uruguay	7,258		7,258
Zimbabwe	13,953	3,292	17,245
Total	1,226,056	272,155	1,498,211

1/ On Sept. 29, 2005, Mexico's allocation was increased by 268,000 short tons, raw value (STRV) for a total of 250,386 MTRV. Under the terms of the North American Free Trade Agreement (NAFTA), this sugar can enter either as raw or refined sugar.
Source: USTR.

commercial extraction of refined sugar (HTS 1703.10.30) and on thick syrup imports (HTS 1702.90.40). However, the USDA now receives this information directly from the industries importing the syrups.

The USDA expects high-tier tariff sugar imports of about 230,000 STRV. Most, if not all, of this sugar is sourced from Mexico. Under NAFTA for 2006, the high-tier tariff on raw sugar is 3.02 cents a pound (6.66 cents a kilogram) and on refined sugar it is 3.20 cents a pound (7.05 cents a kilogram). In the *WASDE*, the USDA makes its projection based on reliable information from industry.

Deliveries and Sugar-Containing Products

Table 4 shows quarterly estimates of domestic sugar deliveries for food and beverage use (top panel), sugar in imported products (second panel), sugar in exported products (third panel), sugar in USDA's Sugar-Containing Products Re-export Program (fourth panel), and domestic deliveries of sugar for food and beverage use adjusted for trade (bottom panel). FY 2006 sugar deliveries for food and beverage use have summed to 10.046 million STRV, an increase of 3.8 percent compared with corresponding deliveries in FY 2004.

Sugar in imported products has continued its growth, but the rate has slowed compared with the last several years. Sugar in imported products in FY 2005 has totaled 1.153 million STRV, an increase of 7.0 percent relative to FY 2004. Corresponding growth rates since FY 2002 have been: FY 2002, 14.3 percent; FY 2003, 14.1 percent; and FY 2004, 11.9 percent. Figure 2 shows sector growth rates. Except for sugar in cocoa products (whose growth rates in FY 2004 and FY 2005 were below 5 percent), growth rates in all sectors have declined markedly in FY 2005. Also, all FY 2005 sector growth rates except for carbonated soft drinks have been near or below 10 percent. Even though there was good growth of sugar in imported soft drinks, figure 3 shows that this is a relatively small sector compared with sugar in confectionery products and the cocoa category.

Total adjusted sugar deliveries for domestic food and beverage consumption (bottom panel in table 4 adjustment made for traded sugar-containing products) show a 4.0-percent increase in total sugar availability for FY 2005, compared with the same period in FY 2004.

The USDA projects FY 2006 sugar deliveries for domestic food and beverage use at 10.050 million STRV. With FY 2005 deliveries estimated at 10.046 million STRV, it would seem that the USDA expects no increase for FY 2006; however, deliveries in September 2005, the last month of FY 2005, surged above expectations by about 75,000 STRV. One hypothesis is that direct consumption imports resulting from early entry FY 2006 refined TRQ imports in September were not fully absorbed into end user marketing channels in September. These imports were estimated at 83,750 STRV, or about 78,500 STRV above the September import average of the preceding 13 years. In any event, deliveries in October and November returned to levels at or below those consistent with the current USDA forecast. Until a differing delivery pattern is discerned, the USDA will remain with the projection at 10.050 million STRV.

Table 4--Estimated U.S. sugar deliveries and sugar in traded sugar-containing products 1/

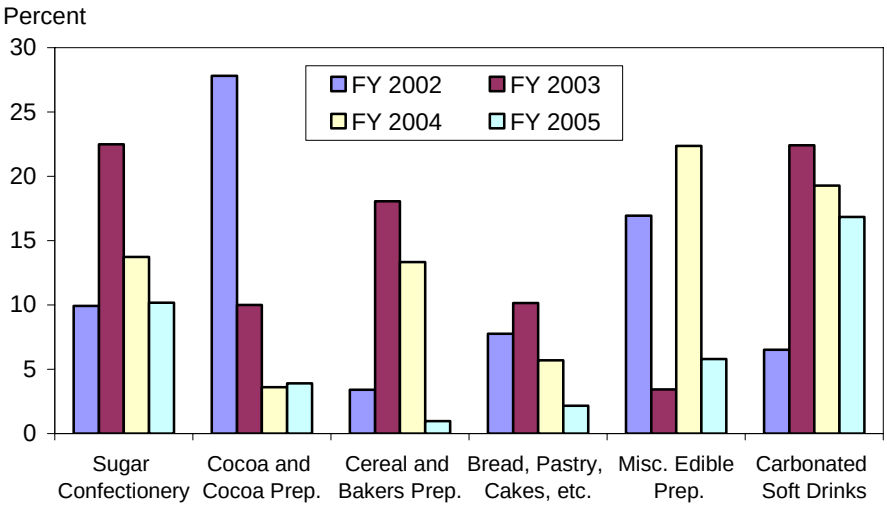
Fiscal year	Population	Oct.-Dec.	Jan.-Mar.	Apr.-June	July-Sept.	FY total	Per capita
		1,000 short tons, raw value (STRV)					pounds (refined value)
Domestic sugar deliveries for food and beverage use							
1994	267.2	2,277	2,121	2,265	2,533	9,196	64.3
1995	270.4	2,260	2,105	2,311	2,542	9,218	63.7
1996	273.5	2,379	2,191	2,355	2,519	9,445	64.6
1997	276.7	2,430	2,143	2,401	2,591	9,565	64.6
1998	279.9	2,443	2,233	2,428	2,568	9,672	64.6
1999	283.1	2,458	2,208	2,553	2,655	9,873	65.2
2000	286.0	2,580	2,318	2,484	2,611	9,993	65.3
2001	288.9	2,564	2,370	2,486	2,580	10,000	64.7
2002	291.8	2,474	2,227	2,439	2,645	9,785	62.7
2003	294.7	2,497	2,183	2,360	2,464	9,504	60.3
2004	297.6	2,504	2,286	2,368	2,520	9,678	60.8
2005 2/	299.6	2,547	2,335	2,471	2,693	10,046	62.7
Estimated sugar in imported sugar-containing products							
1994	--	73	59	64	78	274	--
1995	--	75	80	86	95	336	--
1996	--	95	80	89	104	368	--
1997	--	107	95	112	122	437	--
1998	--	121	111	132	145	509	--
1999	--	136	135	154	168	594	--
2000	--	168	155	167	181	672	--
2001	--	179	167	184	207	738	--
2002	--	208	185	211	240	844	--
2003	--	228	218	244	273	963	--
2004	--	259	242	274	303	1,078	--
2005		283	265	282	323	1,153	--
Estimated sugar in exported sugar-containing products							
1994	--	74	63	63	66	267	--
1995	--	68	74	78	91	311	--
1996	--	97	85	90	103	376	--
1997	--	103	98	102	108	411	--
1998	--	109	91	98	103	401	--
1999	--	106	96	99	109	409	--
2000	--	116	104	107	128	456	--
2001	--	134	115	129	130	508	--
2002	--	130	112	118	125	485	--
2003	--	138	123	130	140	531	--
2004	--	150	137	140	148	575	--
2005		152	139	153	136	580	--
Estimated sugar in USDA sugar-containing product re-export program							
1994	--	24	20	39	43	126	--
1995	--	28	18	18	39	103	--
1996	--	21	20	30	32	104	--
1997	--	22	68	22	45	157	--
1998	--	21	24	32	46	123	--
1999	--	44	58	35	32	169	--
2000	--	21	21	22	22	86	--
2001	--	18	21	29	30	98	--
2002	--	40	39	35	42	156	--
2003	--	43	44	49	47	183	--
2004	--	35	28	40	39	142	--
2005		28	24	37	31	120	--
Estimated sugar deliveries for domestic consumption (adjusted for trade in sugar-containing products)							
1994	--	2,300	2,137	2,304	2,588	9,329	65.3
1995	--	2,295	2,128	2,337	2,584	9,345	64.6
1996	--	2,398	2,206	2,384	2,552	9,541	65.2
1997	--	2,457	2,209	2,432	2,650	9,747	65.8
1998	--	2,476	2,277	2,494	2,656	9,903	66.1
1999	--	2,532	2,305	2,643	2,746	10,227	67.5
2000	--	2,653	2,390	2,567	2,687	10,296	67.3
2001	--	2,627	2,444	2,569	2,688	10,328	66.8
2002	--	2,592	2,339	2,568	2,801	10,300	66.0
2003	--	2,630	2,321	2,522	2,645	10,119	64.2
2004	--	2,647	2,420	2,542	2,714	10,323	64.8
2005	--	2,706	2,484	2,637	2,911	10,739	67.0

1/ includes Puerto Rico. 2/ Preliminary.

Source: USDA (deliveries data), ERS (sugar in traded products).

Figure 2

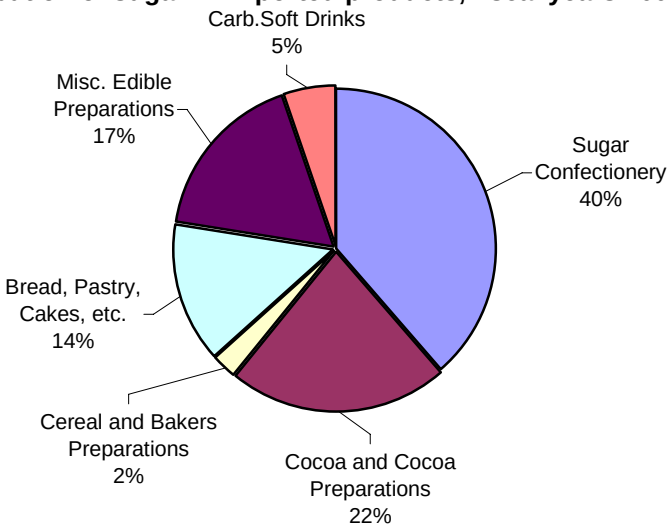
Sugar in imported products, by category, yearly percentage growth



Source: ERS.

Figure 3

Distribution of sugar in imported products, fiscal years 2002-2005



Sugar Prices

It is uncertain what effect higher sugar prices will have on sugar deliveries and consumption. Consumption of sugar is usually characterized by inelastic demand, meaning that quantities demanded by consumers are not much affected by the price of sugar. Deliveries for the first 2 months of FY 2006 have not shown much reaction to higher prices. Those most directly affected by higher prices seem to have been small food manufacturers who have had difficulty securing supply.
A complicating factor has been an uneven rise in a variety of sugar prices since the summer. From September 2 through December 9, the average lower range of the refined beet sugar spot price in the Midwest has been estimated by the Milling and Baking News at about 40 cents a pound. The increase from August through the whole of December is calculated at 40.6 percent. With an increasing supply of refined sugar (from the beet sugar processors, increased refined sugar imports, and the re-opening of the Chalmette Refinery), the lower range of the refined beet sugar spot price has been declining since mid-December. As of January 13, it was at 34 cents a pound.

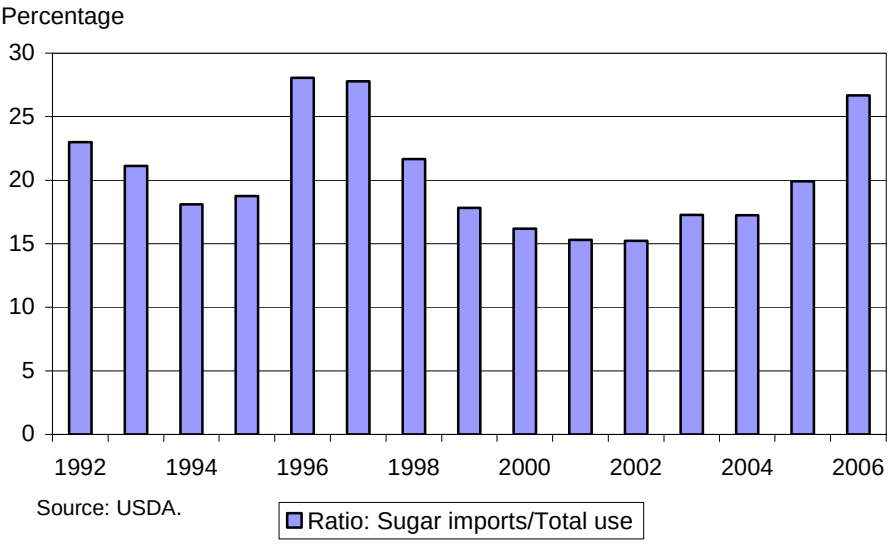
It is unclear how much sugar is actually selling in the spot market. Producer price indexes (PPI), compiled by the Bureau of Labor Statistics (BLS), for both refined beet and cane sugar have increased by much less than the refined beet spot price. The beet sugar PPI through December has increased by 20.6 percent since August and the refined cane sugar PPI has increased by only 7.2 percent over the same time period. The PPIs are meant to reflect actual prices for deliveries made during the month (but are expressed as a ratio of a base-period price). Because many of these prices were probably contracted before the end of August, they were slower to reflect the full impact of the supply-disrupting effects of the August/September hurricanes. Also slow to react has been the retail refined sugar price. The price in December was reported by BLS at 44.9 cents a pound. This price is higher than the August price by 1.7 cents a pound or 3.9 percent.

The U.S. raw sugar price, the nearby No.14 futures contract, has increased since August but not as markedly as the refined beet price. The raw price in August averaged 20.49 cents a pound. The average increased by about 1.2 cents into September and did not vary much through most of December (October average: 21.71 cents, November average: 21.82 cents; December: 21.74 cents). It is likely that limited U.S. refining capacity during these months constrained demand, and therefore, the raw sugar price.

The raw price has been increasing since before Christmas, averaging 23.0 cents a pound through the first half of January. There have been concerns regarding sugar availability from Mexico and from certain Central American countries with whom Free Trade Agreement implementation legislation has not been finalized. Also of concern has been the high world price of raw sugar that has made raw sugar imports from certain TRQ exporters less certain. These concerns are more this year because sugar imports are projected to constitute a much greater share of total use than since FY 1997 (fig. 4).

Figure 4

Sugar imports as a percentage of total sugar use, FY 1992-2006



Other Use and Ending Stocks

The USDA projects FY 2006 exports at 175,000 STRV. These exports mainly occur under the Refined Sugar Re-export Program. USDA also projects deliveries made to domestic food and beverage manufacturers under the Sugar-Containing Products Re-export Program will total 125,000 STRV in FY 2006. Both of these projections are likely to be sensitive to higher world sugar prices.

Deliveries for the Polyhydric Alcohol Program are projected at 20,000 STRV, and deliveries for livestock feed uses are also projected at 20,000 STRV.

Ending stocks projections are calculated as the difference between total supply and total use. In the January *WASDE*, they are projected at 1.320 million STRV, implying an ending stocks-to-use ratio of 12.7 percent.

Mexican Sugar & HFCS

High Fructose Corn Syrup

On October 7, 2005, the Secretary of Economy (SE) in Mexico announced that Mexico would appeal the decision by the World Trade Organization (WTO) that had determined Mexico to be in violation of WTO trade rules for imposition of the 20 percent tax on soft drinks that use high fructose corn syrup (HFCS) as a sweetener is in violation of WTO trade rules. The WTO's Appellate Body has 60 days to publish a definitive resolution after Mexico presents its legal arguments before the Appellate Body. With various legal maneuvers, this timeframe could be extended up to three months. There is some concern that if Mexico loses the case, the United States might retaliate by applying compensatory duties to horticultural products exported by Mexico to the United States. In any event, Mexican officials have indicated their willingness to impose a 210 percent duty on HCFS imported from the United States.

On September 30, 2005 the SE granted access to the United States for a maximum of 250,000 mt of HFCS. This decision followed the U.S. announcement that it had determined Mexico to be a "net surplus sugar producer" under the terms of the North American Free Trade Agreement (NAFTA) for the 2006 October/September marketing year. This condition allowed the United States to establish a tariff-rate quota (TRQ) allocation to Mexico of 250,384 mt (raw value) of sugar, either raw or refined, for the fiscal year (FY) 2006.

On November 9 and 11, 2005, the SE announced that HFCS imported from the United States is subject to an import permit requirement. A permit, once issued by the SE, would be valid through September 30, 2006. In the November announcement, the SE indicated it would issue licenses in terms of commercial value instead of dry weight. To convert HFCS-42 to commercial weight, one divides the dry weight value by 0.71; and to convert HFCS-55 and above to commercial weight, one divides the dry weight value by 0.77. The effect of specifying commercial weight in U.S. HFCS exports will not be even roughly equivalent to the sugar that the United States allows Mexico to export under the TRQ. In dry weight, the U.S. HFCS access is calculated to be somewhere between 177,500 and 192,500 mt.

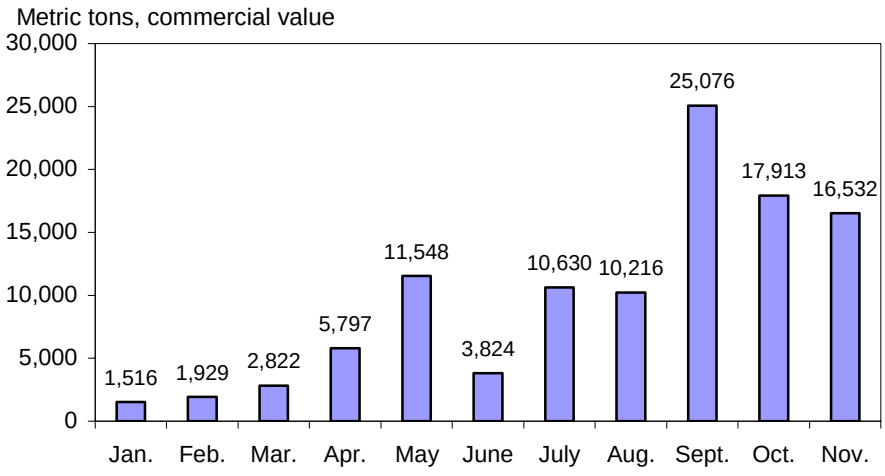
Figure 5 shows U.S. HFCS exports to Mexico on a monthly basis through November for 2005. Monthly exports through August averaged 6,035 mt. September exports jumped to over 25,000, and exports in October and November were in the 16,500 to 18,000 mt range. If the United States were to ship 250,000 mt (commercial value) for the 2005/06 marketing year, the monthly average for the rest of the marketing year would be about 21,500 mt.

Sugar Production, Supply, and Disappearance

The USDA announced its projection for the 2005/06 Mexican sugar production, supply, and utilization on November 23, 2005 (first column, table 5). This projection was a modification of one made at the end of September by USDA's Foreign Agricultural Service (FAS) in Mexico City. Since November, additional information has become known and incorporated into a newer projection made by

Figure 5

U.S. high fructose corn syrup exports to Mexico, monthly, 2005



Source: U.S. Census Bureau.

the Economic Research Service (ERS). The ERS projection is presented alongside the official USDA projection.

In November sugar production was forecast at 6.000 million metric tons, raw value (MTRV), or 5.657 million tons, tel quel. (MTTQ).[1] Area harvested for sugarcane was assumed to be at about the same area as the previous year, about 655,000 hectares.

[1] The tel quel measure is the actual weight of the sugar, unadjusted for differences in sugar polarity.

The harvest began the first week of November 2005 but progress has lagged when compared with harvests over the last few years (fig. 6). Sugar production through the 11th week (i.e., January 15, 2006) of the harvest is estimated at 1,065,074 MTTQ. This amount is about 397,000 MTTQ less than production last year at the same period, and is more comparable with 2002/03 when total year production ended up equaling 4.928 million MTTQ. Sugar recovery has been lower than previous years (fig. 7) but has started to accelerate beginning with the eleventh week. The cumulative estimate through the tenth week is 9.99 percent.

ERS' forecast of 2005/06 Mexican sugar production is based on the same area assumptions made in the earlier USDA forecast but with sugarcane and sugar yields more in line with trend values. The results of the ERS analysis by Mexican producing regions are revealed in table 6, along with historical values from 2000 through 2005. In most regions, the forecast for 2005/06 is lower than the record 2004/05 harvest but higher than the years before 2004/05. Yields are not expected to be as high as last year, but area harvested is expected to be about the same as last year and 6.5 percent higher than the average for 1999/2000-2003/04. The forecasts summed across the region imply national production at 5.368 million MTTQ, or about 5.693 million MTRV.

Table 5--Projected sugar supply and sugar and HFCS utilization in Mexico, 2005/06

	USDA forecast, Nov. 2005 1/	ERS forecast, Jan. 2006
	1,000 metric tons, raw value	
Beginning Stocks	2,044	2,044
Production	6,000	5,693
Imports	101	101
Supply	8,145	7,838
Disappearance		
Human consumption	5,252	5,108
Other Cons.	230	230
Total	5,482	5,338
Exports	344	462
Total Use	5,826	5,800
Ending Stocks	2,319	2,039
Stocks-to-Use (ratio)	39.8	35.2
HFCS Cons. (dry weight)	365	500

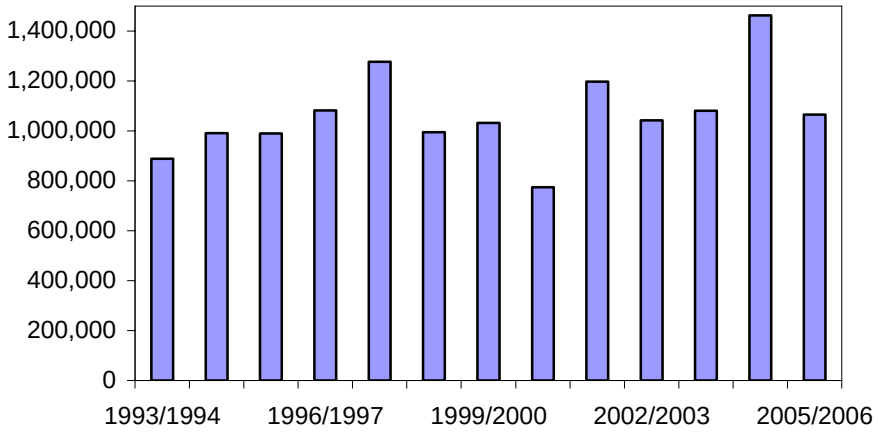
1/ Also in Mexico baseline projection.

Source: USDA and ERS.

Figure 6

Sugar produced in Mexico through 11th week of the harvest

Metric tons

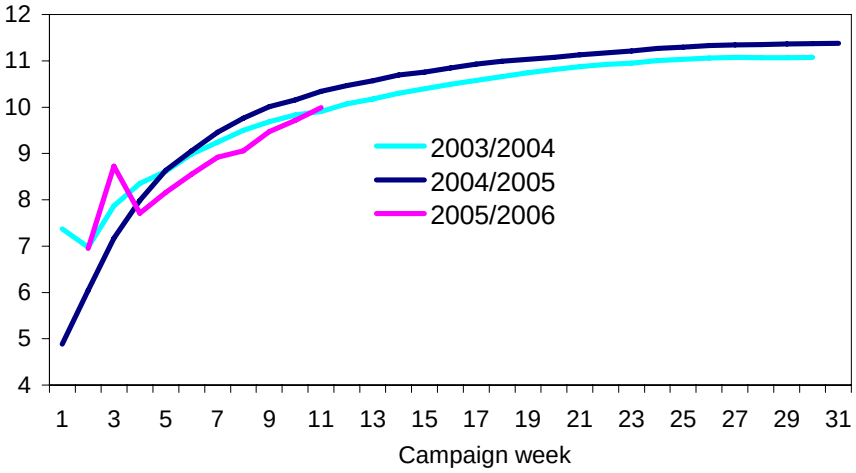


Source: Coazucar.

Figure 7

Intra-seasonal, cumulative sugar recovery rates in Mexico

Percentage (sugar tel quel/sugarcane)



Source: Coazucar.

Table 6--Mexico sugarcane, area harvested, sugar, by region, 2000-2005 and projected 2006

		2000	2001	2002	2003	2004	2005	2006 proj.
Central								
Cane harvested	Tons	2,870,257	2,731,800	2,887,668	2,705,484	3,026,327	3,229,706	3,085,076
Area harvested	Has.	26,091	24,299	26,723	25,280	26,589	27,665	27,684
Cane yield	Tn/Ha.	110.01	112.42	108.06	107.02	113.82	116.74	111.44
Factory recovery	%	11.80	11.56	11.57	11.89	11.91	12.19	11.86
Sugar production	Tons	338,786	315,847	334,042	321,786	360,356	393,861	366,008
Sugar yield	Tn/ha	12.98	13.00	12.50	12.73	13.55	14.24	13.22
Gulf								
Cane harvested	Tons	18,471,494	19,917,358	18,544,866	18,497,910	19,741,735	22,292,107	21,078,459
Area harvested	Has.	281,259	273,682	278,842	275,238	289,470	304,295	304,481
Cane yield	Tn/Ha.	65.67	72.78	66.51	67.21	68.20	73.26	69.23
Sugar production	Tons	2,045,583	2,191,153	2,127,733	2,053,115	2,177,328	2,498,047	2,359,485
Sugar yield	Tn/ha	7.27	8.01	7.63	7.46	7.52	8.21	7.75
Northeast								
Cane harvested	Tons	6,665,243	6,879,874	7,188,924	7,400,104	7,253,412	9,542,032	8,146,566
Area harvested	Has.	118,549	116,883	123,128	120,427	104,662	127,991	128,086
Cane yield	Tn/Ha.	56.22	58.86	58.39	61.45	69.30	74.55	63.60
Sugar production	Tons	767,272	747,466	828,146	826,038	772,141	1,070,114	907,351
Sugar yield	Tn/ha	6.47	6.39	6.73	6.86	7.38	8.36	7.08
Northwest								
Cane harvested	Tons	1,951,370	2,133,959	1,662,767	1,913,564	1,769,732	1,257,460	1,819,951
Area harvested	Has.	23,048	22,256	19,894	22,101	23,246	22,688	22,824
Cane yield	Tn/Ha.	84.67	95.88	83.58	86.58	76.13	55.42	79.74
Sugar production	Tons	173,662	194,280	151,674	183,647	163,684	112,623	166,217
Sugar yield	Tn/ha	7.53	8.73	7.62	8.31	7.04	4.96	7.28
Pacific								
Cane harvested	Tons	8,519,992	8,964,461	8,530,275	9,240,574	9,491,642	10,232,129	9,436,357
Area harvested	Has.	116,842	110,559	106,392	106,422	110,209	113,635	113,872
Cane yield	Tn/Ha.	72.92	81.08	80.18	86.83	86.12	90.04	82.87
Sugar production	Tons	971,435	1,071,287	1,006,570	1,103,376	1,114,910	1,237,508	1,116,670
Sugar yield	Tn/ha	8.31	9.69	9.46	10.37	10.12	10.89	9.81
South								
Cane harvested	Tons	3,622,679	3,851,204	4,089,140	4,190,601	4,178,994	4,339,209	4,283,937
Area harvested	Has.	53,551	54,840	55,139	57,639	58,178	60,141	60,162
Cane yield	Tn/Ha.	67.65	70.23	74.16	72.70	71.83	72.15	71.21
Sugar production	Tons	399,296	403,596	424,228	439,613	435,657	473,021	452,469
Sugar yield	Tn/ha	7.46	7.36	7.69	7.63	7.49	7.87	7.52
Mexico								
Cane harvested	Tons	42,101,035	44,478,656	42,903,640	43,948,237	45,461,842	50,892,643	47,850,346
Area harvested	Has.	619,340	602,519	610,118	607,107	612,354	656,415	657,109
Cane yield	Tn/Ha.	67.98	73.82	70.32	72.39	74.24	77.53	72.82
Sugar production	Tons	4,696,034	4,923,629	4,872,393	4,927,575	5,024,076	5,785,174	5,368,200
Sugar yield	Tn/ha	7.58	8.17	7.99	8.12	8.20	8.81	8.17

Source: Coazucar and Economic Research Service (USDA) (2006 projection).

The USDA projects per capita sweetener consumption for the 2005/06 marketing year at 49.08 kilogram (kg), about the same level as in 2004/05 (fig. 8).[2] Like last year, the consumption of high fructose corn syrup (HFCS) is expected to be higher than in the years immediately prior to 2004/05; it is projected at 365,000 mt, dry basis, up from 135,000 mt in 2003/04. This year's expected HFCS consumption growth is due to an expected additional 230,000 mt being used in the beverage industry, the result of judicial waivers (or amparos) granted to Coca Cola FEMSA and other bottlers, exempting them from the consumption tax on beverages manufactured with HFCS.

ERS projects that HFCS consumption may be closer to 500,000 mt. As explained above, Mexico is to allow HFCS imports from the United States to be equal to the amount of sugar allowed to be shipped duty-free from Mexico to the United States, i.e., 250,000 mt. On a dry weight basis, this access is considerably less, closer to 185,000 mt. With an expected resurgence of Mexican HFCS production, considerably more HFCS could be used in the beverage industry than originally forecast by the USDA.

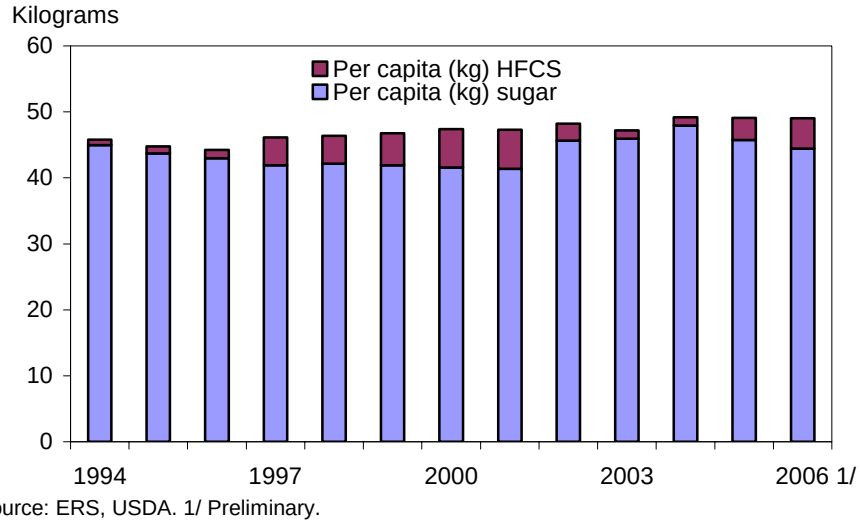
Assuming the same per capita sweetener consumption of 49.08 kg, the refined value of sugar consumption decreases on a one-to-one basis with the increase in HFCS consumption. Converting into raw value with a factor of 1.07, ERS' projection of sugar consumption is 5.108 million MTRV.

Remaining sugar disappearance is projected at 230,000 MTRV. This component is primarily sugar contained in products that are exported to other countries. It includes sugar deliveries that comprise the Mexican PITEX program. This program allows imported and domestically-produced sugar to be sold to domestic food

[2] Population in 2006 is estimated at 107.5 million.

Figure 8

Per capita sweetener consumption in Mexico, actual and projected, 1994-2006



Source: ERS, USDA. 1/ Preliminary.

manufacturers at levels close to the world price. The domestically-produced component of PITEX sugar is intended to replace sugar that normally would have to be imported by the food manufacturers. The manufacturers are required to export products that contain an equivalent amount of sugar within a 3-month period.

The November USDA forecast of Mexican sugar exports was 344,000 MTRV. This forecast was consistent with the November WASDE, at which time the USDA forecasted imports of 250,384 MTRV of duty-free NAFTA access, 90,719 MTRV of high-tier tariff sugar, and 2,954 MTRV under Mexico's specific allocation of the refined sugar TRQ. Since November, the USDA has increased its forecast of high-tier tariff imports to 208,655 MTRV. The sum of all three components is 462,000 MTRV.

The USDA estimates sugar imports at 101,000 MTRV. This sugar is meant for the PITEX and is mostly supplied by the United States under the Refined Sugar Re-export Program.

Ending stocks are forecast as the difference between total supply and total use. In November, ending stocks were projected at 2.319 million MTRV, implying an ending stocks-to-use ratio of 39.8 percent. ERS forecasts offsetting total use changes, i.e. reduced consumption is offset by increased exports. The ERS forecast of production, however, is about 300,000 MTRV less than the USDA November forecast. Therefore, the ERS forecast of ending stocks is 2.039 million MTRV, implying an ending stocks-to-use ratio of 35.2 percent.

Mexican Sugar and HFCS Baseline Through 2015

The USDA prepared sugar baseline projections for both the United States and Mexico in November 2005. The Mexican supply and utilization projections for the 2005/06 marketing year are the same as published by USDA's Foreign Agricultural Service (FAS) on November 23, 2005, (i.e., they have not been changed to reflect the ERS analysis above).

The Mexico sugar and sweetener baseline projections (table 7) assume the continuation of current policies. Mexican sugar policies are bound by the NAFTA. Although the 20-percent tax that Mexico levies on the consumption of beverages that use high fructose corn syrup was ruled inconsistent with international trade rules by a WTO panel, the tax is assumed to be in force for the entire projections period.

The sugar baseline assumes that sugar consumption grows at the same rate as does population, implying that per capita sugar consumption is constant after 2006.

FY 2006 Mexican sugar production is projected at 6.0 million metric tons, raw value (MTRV), down only 149,000 MTRV from FY 2005, due to higher than normal yields. Exports to the United States are projected at 341,000 MTRV (376,000 STRV). Exports are the sum of the low-tier tariff rate quota due to Mexico's "net surplus producer" status – 250,000 MTRV, plus the high-tier NAFTA tariff amount of 91,000 MTRV. Mexican ending sugar stocks in FY 2006 grow to 2.319 million MTRV, implying a high ratio of stocks-to-use of 44.2 percent.

Table 7--Mexico, baseline projections, through 2015

Items	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
						1,000 metric tons, raw equivalent						
Beginning stocks	1,195	1,238	2,044	2,319	1,838	1,344	1,360	1,375	1,390	1,406	1,421	1,436
Area: 1,000 hectares	611	656	659	659	648	650	657	663	668	670	671	673
Sugar yield: ton/hectare	8.728	9.368	9.102	8.630	8.678	8.726	8.773	8.820	8.866	8.911	8.958	9.004
Sugar production	5,330	6,149	6,000	5,689	5,620	5,674	5,761	5,845	5,922	5,970	6,013	6,057
Imports	327	226	101	0	0	0	0	0	0	0	0	0
Supply	6,852	7,613	8,145	8,009	7,458	7,018	7,121	7,220	7,313	7,376	7,434	7,493
Disappearance	5,600	5,424	5,482	5,316	5,378	5,439	5,501	5,562	5,623	5,684	5,745	5,805
Consumption	5,380	5,199	5,252	5,316	5,378	5,439	5,501	5,562	5,623	5,684	5,745	5,805
Other disappearance	220	225	230	0	0	0	0	0	0	0	0	0
Exports	14	145	344	854	736	219	245	267	284	271	253	237
Ending stocks	1,238	2,044	2,319	1,838	1,344	1,360	1,375	1,390	1,406	1,421	1,436	1,451
Stocks-to-Use: proportion	0.230	0.393	0.442	0.346	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250
						dry weight						
High fructose corn syrup	135	355	365	367	371	375	379	384	388	392	396	400

Source: USDA.

On January 1, 2007, the U.S. high-tier NAFTA tariff falls to 1.51 cents a pound for raw sugar and 1.60 cents a pound for refined sugar. (The tariff falls to zero in 2008 for both raw and refined.) It is assumed that returns from exporting sugar to the United States are higher than delivering sugar to domestic food manufacturers for use in sugar-containing product exports to the United States under the Mexican Government's PITEX program. As a consequence, sugar deliveries occurring under PITEX fall to zero in 2007. Because U.S. sugar prices are substantially higher than world levels, the destination of all Mexican sugar exports is the United States.

In 2007, Mexican sugarcane yields return to normal levels and production declines to 5.692 million MTRV. Production exceeds consumption by 376,000 MTRV. Mexican ending sugar stocks are assumed to adjust over a two-year time period starting in 2007 to a desired level of 25 percent of projected domestic consumption. Stock adjustments contribute 481,000 MTRV to 2007 exports and 494,000 MTRV to 2008 exports. For the rest of the projections period, exports are equal to the excess of production over consumption and small stock changes equal to 25 percent of yearly consumption growth. These exports average about 229,000 MTRV a year after 2008.

For the rest of the projection period, yields follow established trends in Mexican sugar producing areas. Area planted and harvested are a function of real prices. Production is forecast at slightly above 6.0 million MTRV by the end of the projections period.

European Union-25 Sugar Policy

EU-25 Sugar and Sweeteners Policy Reform

The European Union's (EU-25) sugar program has been scheduled for reform every five years for the last 40 years. However, its success in making sugar one of the most profitable crops in many EU countries has succeeded in delaying reform proposals until recently. The principal causes for reforming the sugar program at this time are threefold: (1) the Common Agricultural Policy (CAP) reforms of 2003/04 (that left sugar as the only major commodity unreformed) provided a mechanism to compensate farmers for income losses due to reform measures; (2) the "Everything But Arms" (EBA) agreement, in which the EU-25 agreed to phase out tariffs by 2009 on imported raw sugar from 48 of the least developed countries; and (3) a World Trade Organization (WTO) Panel ruling that found the EU sugar regime in violation of WTO export commitments. Additionally, the EU-25 offer to eliminate export subsidies in the Doha Round of WTO negotiations played a role in shaping the reform proposal.

These events led to the EU-25 Commission's proposal to drastically reform sugar in June 2005.[1] Intra-EU discussions led to a revised set of proposals in November 2005. The legislative proposals were designed to continue with its recent reforms of the CAP and to meet its international obligations. The basic features of the proposal are:

- Sugar price is reduced by 36 percent from €631.9 to €404.4 per metric ton (mt) over a 4-year phase-in period beginning in 2006/07.
- Minimum sugarbeet price is reduced by 39.5 percent to €26.3/mt over the phase-in period.
- Sugar production quotas are not reduced except through a voluntary 4-year restructuring program where quota can be sold and retired. Payments for quota are € 730/mt for 2006/07 and 2007/08; € 625/mt for 2008/09 and € 520/mt for 2009/10.
- Restructuring is financed by quota levies on producers and processors who do not sell quota. Total value of the restructuring fund is projected at €5.704 billion.
- Compensation is available to farmers at an average of 64.2 percent of the price cut. The aid is included in the Single Farm Payment and is linked to payments for compliance with environmental and land management standards.
- Establishment of a prohibitive super levy to be applied to over-quota production (similar to dairy).

Other features essential to the proposed reform include phasing out of sugar intervention; merging A and B quotas and eliminating over-quota sugar exports; elimination of re-exports of sugar imported under preferential terms; institution of storage and carryover schemes; a method of transferring some quota from high-cost regions to low-cost regions; provision of funds to assist high-cost developing countries with preferential agreements for loss of sugar export revenue; and an increase in the EU-25 isoglucose quota.[2] Table 8 provides a more complete listing of the EU-25 sugar reform proposals.

[1] The European Commission proposed a set of reforms in 2004, but the measures contained therein were not sufficient to reduce EU-25 exports to comply with the WTO Panel ruling.

[2] Isoglucose is the EU-25 term for High Frutose Syrup.

Table 8 – Elements of European Union sugar reform proposal made on November 24, 2005

- A 36 percent support price cut over four years beginning in 2006/07 to ensure sustainable market balance, -20 percent in year one, -25 percent in year two, -30 percent in year three and -36 percent in year four.
- Compensation to farmers at an average of 64.2 percent of the price cut. Inclusion of this aid in the Single Farm Payment and linking of payments to respect environmental and land management standards.
- In those countries giving up at least 50 percent of their quota, the possibility of an additional coupled payment of 30 percent of the income loss for a maximum of five years, plus possible limited national aid.
- Validity of the new regime, including extension of the sugar quota system, until 2014/15. No review clause.
- Merging of A and B quota into a single production quota. There are no quota cuts. Any quota reduction results from sales of quota into a voluntary restructuring buy-up scheme.
- Abolition of the intervention system after a four-year phase-out period and the replacement of the intervention price by a reference price. During the transition, the intervention price will be 80 percent of the reference price of the following year. Only 600,000 metric tons (mt) can be sold into intervention each year.
- Introduction of a private storage system as a safety net in case the market price falls below the reference price.
- Voluntary restructuring scheme lasting 4 years for EU sugar factories, and isoglucose and inulin syrup producers, consisting of a payment to encourage factory closure and the renunciation of quota as well to cope with the social and environmental impact of the restructuring process. This payment will be €730/mt in years one and two, falling to €625 in year three, and €520 in the final year. There is the possibility to use some of this fund to compensate beet producers affected by the closure of factories.
- An additional diversification fund for Member States where quota retirement is larger than expected.
- Both these payments will be financed by a levy on holders of quota, lasting three years. The first year levy is equal to €126.4/mt; second year levy, €173.8/mt; and third year levy, €113.0/mt. The isoglucose levy is fixed at 50 percent of these rates.
- Sugarbeets qualify for set-aside payments when grown as a non-food crop and also be eligible for the energy crop aid of €45/hectare.
- To maintain a certain production in the current C-sugar producing countries, an additional amount of 1.1 million mt will be made available against a one-off payment corresponding to the amount of restructuring aid per metric ton in the first year.
- Sugar for the chemical and pharmaceutical industries and for the production of bio-ethanol will be excluded from production quotas.
- Increase of Isoglucose quota of 300,000 mt for the existing producer companies phased in over three years with an increase of 100,000 mt each year.
- Possibility to purchase extra isoglucose quota in Italy (60,000 mt), Sweden (35,000 mt) and Lithuania (8,000 mt) at the restructuring aid price.

Source: European Commission.

WTO Panel Ruling

As mentioned, the substance and timing of the reform were strongly influenced by the WTO Panel ruling. The Panel held that the EU-25 re-exporting of sugar imported from the African, Caribbean, and Pacific (ACP) countries of 1.6 million mt must be counted against the EU-25's export subsidy commitments made as part of the Uruguay Round Agreement on Agriculture (URAA). The WTO Panel also ruled that the EU-25's export of C-sugar is cross-subsidized by the high guaranteed prices for A- and B-quota sugar and therefore fall under the URAA commitments. These commitments limit annual EU-25 subsidized sugar export sales to the lesser of a volume binding of 1.254 million mt or a value binding of €499 million.[3]

[3] One of the issues for the EU-25 is that a surplus of sugar (over 800,000 mt) has built up from previously little used sales into intervention and is now available from public stores for export.

The Effect of the EBA Agreement

The EBA agreement will allow the duty free entry of raw sugar imports into the EU-25 by 2009. The prospect of facing the competition from the EBA countries (along with the WTO ruling against EU-25 exports) was the major factor in the instituting of earlier EU-25 sugar reform proposals in 2004. In spite of reform proposals, there is much uncertainty about the capacity of EBA countries to export significant amounts of sugar to the EU-25. Because of the "SWAPS" provision in the EBA treaty, EBA members would be able to import sugar at world prices and then export locally produced sugar to the EU-25. With the 2005 reform proposals calling for lower institutional sugar prices, some EU member states doubt that the EBA countries will be able to profitably export raw sugar to the EU-25 at the lower proposed institutional prices. Other member states are concerned about control of the program that is supposed to guard against third country imports being brought into the EU-25 under the guise of the EBA treaty.

According to the EU-25 Commission's report on the impact of its proposed reform, the reduction in EU-25 sugar production would be even greater without the proposed reform. Without reform, high guaranteed sugar prices in the EU-25 are likely to attract very quantities of duty-free EBA imports that would cause the high-price EU-25 sugar regime to be undermined. By reducing EU-25 support prices by 36 percent, there will be fewer EBA imports in the EU-25 internal market and this should allow EU-25 producers to be more competitive.

Likely Results of the Sugar Reform

According to the EU-25 Commission estimates, restricting EU-25 sugar exports to comply with the Panel ruling will require EU-25 production to be reduced by around 2 million mt.[4] Reduction of sugar production in the EU-25 would occur in the relatively high cost regions of the EU-25 while low-cost regions would be able to increase production by virtue of the restructuring components of the proposal. According to EU-25 Commission estimates, the high cost regions of growing and processing sugar beets where drastic reduction in sugar beet production is expected are in Greece, Ireland, Italy, and Portugal; member states where production is expected to be reduced significantly are Czech Republic, Denmark, Finland, Hungary, Spain, Latvia, Lithuania, Slovakia, and Slovenia; and member states where production is expected to fall marginally are Austria, Belgium, France, Germany, Netherlands, Poland, Sweden, and the United

[4] Commission of the European Communities. Reforming the European Union's Sugar Policy: Update of Impact Assessment {SEC (2003) 1022}. {COM (2005) 263 final}. SEC (2005) 808. Brussels, June 22, 2005.

Kingdom. In each member state, there would be sub-regions that would be affected more severely than others with the final result being that the most profitable regions would maintain, or even increase, production.

According to the EU-25 Commission's report, the member states with the greatest likelihood of increasing production would be those that have been the largest producers of over-quota sugar (i.e., C-sugar). The largest producers of C-sugar have been France, Germany, the Netherlands, Belgium, and the United Kingdom. Nonetheless, there are likely to be regions within these countries where sugar production could decline because of high cost production and/or inefficient processors.

ERS Analysis of the 2005 Reform Proposals: Model Description

The Economic Research Service (ERS) has developed an analytical modeling framework for analyzing changes in world sugar policy parameters and the effect on world sugar supply, utilization, and prices. This framework is described below, with particular attention paid to the EU-25 components. The results of performing a simulation exercise that captures the policy changes of EU-25 sugar and sweetener policy reform are presented.

The ERS sugar model is a dynamic, policy-oriented, partial equilibrium model of production, supply, and demand for sugar and other sweeteners. The model is initialized to a 2003 base and projects out to 2015. The model's primary purpose is to generate a USDA world sugar baseline against which differing policy alternatives of major sugar producers and traders can be analyzed. Model construction is a long term, ongoing project. The intention is to cover 43 distinct sugar producing and consuming regions. The model currently consists of five regions (United States, Mexico, the EU-15, the EU-10 (the 10 new members of the EU-25), and a rest-of-world aggregate (ROW). Each of the specific regions has an extensively developed set of modeled policy instruments.

Besides sugar, the model covers high fructose corn syrup/isoglucose (HFCS) and the primary sugar crops (sugarcane and sugarbeets). Ethanol from sugarcane and non-centrifugal sugars are to be added as regional coverage expands. Unlike other models, the ERS model incorporates cost of production and processing, and allows for asymmetric production responses to sugar price changes. The model captures lagged sugar production responses based on sugarcane ratoon cycles.

The EU-25 components model the intervention/reference price mechanism; sugar and isoglucose production quotas; preferential imports from ACP, EBA, and Balkan regions; URAA commitments on subsidized sugar exports and minimum import access; over-quota sugar imports subject to high-tier tariffs; and alternative uses for C-sugar. Table 9 details model formulation by supply and utilization category.

The U.S. component models adjustments to the following set of policy instruments: tariff-rate quota, including minimum import access commitments and the high-tier sugar tariff; NAFTA provisions relating to trade in sugar and HFCS; the U.S. marketing allotment program; and the nonrecourse sugar loan program.

Table 9--European Union component of ERS world sugar model

Supply, Utilization, and Pricing components	Variable	Function of:	Notes
Production	Area planted	Lagged area harvested, relative producer return.	Portion of cane area planted depends on ratoon cycle; specification allows for lagged cane response to price changes.
	Area harvested	Area planted, processing capacity.	Capacity acts as a supply curve shift variable.
	Processing capacity	Minimum of: previous period's capacity or logistic function of producer return relative to variable cost of production.	Processing capacity reductions are irreversible - closed factories do not re-open; if producer return=variable cost, capacity is 50 percent of base-period capacity.
	Crop yield	Trend, producer return	
	Sugar yield	Crop yield, trend	
	Production	Product of sugar yield and area harvested.	
Producer return	Producer price	Blend of within-quota sales (domestic consumption and quota exports), and export sales of C-sugar at world price; less producer levies to cover cost of export subsidies.	
	Production quotas	Export subsidies, imports from EBA countries.	Base quotas are fixed, but can be adjusted downward to comply with Uruguay Round export subsidy commitments, and to compensate for above-threshold imports from EBA countries.
Consumption	Sweetener demand	Population, per capita income, price of sugar.	Sweetener demand includes sugar and isoglucose. Isoglucose price is assumed to be a fixed fraction of the sugar price. All produced isoglucose is consumed as long as it is priced below sugar price.
	Isoglucose production	Isoglucose quota, isoglucose cost of production.	Base period isoglucose capacity is equal to quota; capacity is logistic function of isoglucose price relative to the cost of producing isoglucose.
	Sugar demand	Sweetener consumption less isoglucose.	
Exports	Quota exports (receive subsidies)	The lesser of production or quota minus domestic consumption.	Quotas can be decreased to assure compliance with Uruguay Round value and volume limits - involves the use of "Declassification coefficients" as specified by the EU Commission.
	C-sugar exports	Fixed fraction of over-quota production.	C-exports can be used to reduce excessive sugar stocks in order to bring domestic sugar price up to the intervention price level. WTO panel determined these exports to be imcompatible with Uruguay Round commitments.
	Re-export of imported ACP sugar.	ACP quota, EU cane sugar refining capacity.	Maximum Supply Needs (MSN) of refining industry equals ACP imports and balance of Special Preferential sugar (SPS) and imports from EBA countries. This sugar is exported with EU subsidy - WTO panel determined these exports to be imcompatible with Uruguay Round commitments.
Imports	ACP quota sugar	Fixed quota, with additional amounts (SPS) allowed to fulfill Maximum Supply Needs (MSN).	SPS is displaced by imports from EBA countries.
	EBA sugar	Quotas until 2009; declining over-quota tariff in 2007 and 2008; no restrictions after 2008.	EBA imports initially displace SPS from ACP countries; after SPS is totally displaced, then EBA imports reduce EU quotas on one-to-one basis.
	Other quota sugar	Balkans quota, MFN quota.	
	High-tier tariff sugar	High-tier tariff, special safeguard duties.	
Stocks	Carryover stocks	Domestic sugar use, sugar price.	Because EU sugar prices are bounded (maximum = world price+duties+margins, and minimum=intervention price), stocks, as well as consumption levels, are bounded from below and above. Limits on stockholding and consumption can potentially determine high-tier tariff imports or C-sugar exports.
Pricing equilibrium	Consumption price	Internal supply and demand balance, subject to limits implied by intervention price (lower limit) and high-tier tariff and safeguard (upper limit).	

Source: Economic Research Service, USDA.

The Mexican component models sugar import controls; NAFTA provisions for trade in sugar and HFCS; consumption tax on beverages that use HFCS; domestic marketing quotas; and government-set payments to sugarcane growers.

The ROW component includes price-dependent production, consumption, and stockholding. ROW sugar trade adjusts passively to developments in the other model regions where the direction and magnitude of trade are determined by modeled policy specifications and policy parameter levels. The ROW price is based on a world average selling price of sugar calculated by LMC International and adjusted for regions whose sugar prices are already explicitly modeled. The difference between the ROW sugar price and the world raw sugar price is interpreted as a measure of aggregate market price support afforded to ROW producers. World price equilibrium is achieved through the world sugar price balancing ROW supply (beginning stocks, production, and imports) with ROW demand (exports, disappearance, and ending stocks).

Table 10 shows model elasticities for the EU-25 and ROW regions. The EU-25 is characterized by inelastic responses to sugar price changes for both area planted and sweetener consumption. With production quotas and high prices, EU-25 area planted to sugarbeets has been relatively stable. With the large price changes expected with the reform, the most important factor affecting production is expected to be covering the variable cost of producing sugar in the EU-25 member states. When these costs cannot be covered by the lower sugar prices, processing capacity exits and area devoted to that capacity exits as well.

In the ROW region, sweetener consumption is assumed more elastic than in the EU.[5] The EU-25 represents a mature economy that is less subject to food consumption variability resulting from price changes. On the other hand, the ROW encompasses the diversity of emerging economies where food choices are expanding and the choices made (by final consumers and by food manufacturers for product ingredients) are more based on a comparison of prices.

[5] Although not shown, the ROW sweetener consumption is sensitive to income changes (not an endogenous model variable), whereas EU-25 sweetener consumption is not.

The ROW supply response is less predictable. The ROW encompasses both low and high-cost producing areas, and national policies limit the effect of world price changes on domestic production. The choice made for this modeling exercise is to specify two alternative supply responses. The first assumes a muted production response to world price changes. This response is called case A and specifies an area planted elasticity equal to 0.10. The second response assumes greater price responsiveness and is termed case B. The corresponding elasticity equals 0.50.

Table 10--Model elasticities for the European Union and Rest-of-World regions

Region	Area planted	Consumption	Ending stocks
European Union (EU) - 15	0.15	-0.10	-1.00
EU - New Member States	0.15	-0.10	-1.00
Rest-of-World - case A	0.10	-0.25	-1.00
Rest-of-World - case B	0.50	-0.25	-1.00

Source: Economic Research Service.

ERS Analysis of the 2005 Reform Proposal: Preliminary Results for the EU-25

As discussed above, there are many aspects of the EU sugar reform proposal. While the effect of all reform measures cannot be directly analyzed through this modeling exercise, the effects of the most far reaching proposals can be (table 11). The most important reform measures for this study are domestic price support reformulation (elimination of the intervention buying mechanism and large reductions in the support price) and termination of the program that allows subsidized sugar exports equal to the imports from the ACP countries. Support price reduction implies less production available for export, and therefore serves the goal of complying with the WTO Panel's ruling on C-sugar exports being subject to URAA export restrictions. A secondary reform measure is the increase in the isoglucose quota. Although restrictions on production are relaxed, the sector faces more competition from lower-priced sugar.[6] Another important aspect is the effect that reform has on EBA sugar imports. For this exercise, it is assumed that these imports grow to 1.5 million mt at the end of the projections period. Although it is expected that lower EU prices would make the EU a less attractive destination for imports from these countries and also have a negative effect on investment in those countries' sugar sectors, this aspect of the analysis is deferred until a later time.

Table 12 shows EU results for production, consumption, exports, imports, and producer prices. The upper and lower panels show very similar results from varying the assumption about ROW production responsiveness. (This result is not surprising given that the EU retains its tariff-rate quota system on third-country imports and is not assumed to lower its high-tier tariff in this analysis.)

The largest direct effect is the lowering of EU domestic production. Producer prices reach their lowest point in 2009, and the effect on production is fully realized in 2010 (model assumes a 1-period lag for beet sugar adjustments to producer price changes). At that time, production is only 67 percent of its baseline value. Production continues decreasing and is below 60 percent of the baseline level in 2015. As suggested earlier, the cause of the precipitous production decline is the loss of processing capacity (fig. 9). Lowered producer prices fall below variable production costs and signal the exit of capacity whose costs can no longer be covered. Retired capacity remains retired.

EU sugar consumption increases; however, with relatively inelastic demand, the increase is only about 600,000 mt a year, or about 3.5 percent. Increased sugar consumption is helped somewhat by a substitution away from isoglucose. Although the isoglucose quota increases by 300,000 mt, the growth in consumption is only between 107,000 – 126,000 mt in 2015. With lower sugar prices implying lower isoglucose prices, not all of the quota increase can be translated into higher, profitable isoglucose production.

EU-25 sugar exports fall to insignificant levels by 2010 and remain at or below URAA commitment levels through the end of the projections period. In the modeling scenario, there was no provision made for the EU-25 to comply with its URAA commitments until production declines warrant it. Adopting the URAA

[6] Also noteworthy is that, whereas EU-25 sugar processors will see a reduction in the costs of acquiring sugarbeets, isoglucose producers receive no equivalent benefit of lower product input prices. Also, isoglucose quota increases are probably not large enough to permit the capture of significant economies of scale.

Table 11--European Union sugar reform modeling assumptions

Year	Reference/Intervention price		Restructuring tax		Ref/Intv price for producers		Proportion of ACP imports re-exported		Isoglucose quota		EBA imports	
	Euros/mt,wh.val.						proportion		1,000 mt, dry wt.		1,000 mt,wh.val.	
	No reform	Reform	No reform	Reform	No reform	Reform	No reform	Reform	No reform	Reform	No reform	Reform
2007	631.1	631.1	0.0	126.4	631.1	504.7	1.0	0.0	506	641	500	500
2008	631.1	631.1	0.0	173.8	631.1	457.3	1.0	0.0	506	707	750	750
2009	631.1	524.0	0.0	113.3	631.1	410.7	1.0	0.0	506	806	1,000	1,000
2010	631.1	404.4	0.0	0.0	631.1	404.4	1.0	0.0	506	806	1,100	1,100
2011	631.1	404.4	0.0	0.0	631.1	404.4	1.0	0.0	506	806	1,200	1,200
2012	631.1	404.4	0.0	0.0	631.1	404.4	1.0	0.0	506	806	1,300	1,300
2013	631.1	404.4	0.0	0.0	631.1	404.4	1.0	0.0	506	806	1,400	1,400
2014	631.1	404.4	0.0	0.0	631.1	404.4	1.0	0.0	506	806	1,500	1,500
2015	631.1	404.4	0.0	0.0	631.1	404.4	1.0	0.0	506	806	1,500	1,500

Source: Economic Research Service.

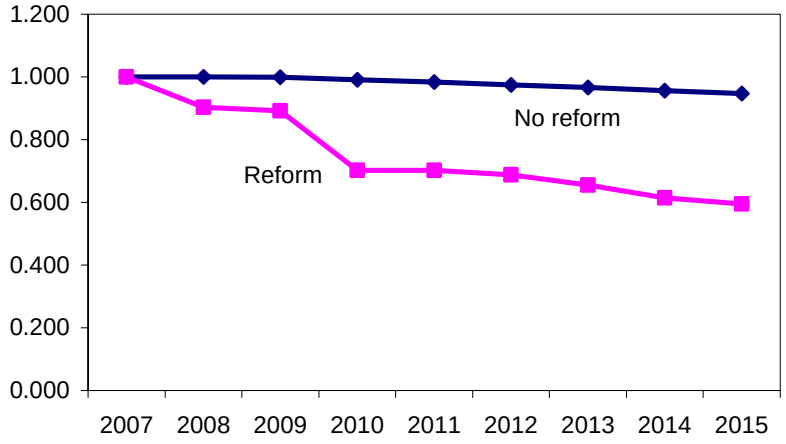
Table 12--Projections of European Union sugar supply, utilization, and prices, with and without November 2005 EU reforms

Year	Production		Consumption		Exports		Imports		Producer prices		Isoglucose consumption	
	1,000 metric tons, white value								Euro/mt (wh.val.)		1,000 mt - dry weight	
	No reform	Reform	No reform	Reform	No reform	Reform	No reform	Reform	No reform	Reform	No reform	Reform
Case A = low (0.1) world supply elasticity												
2007	21,210	21,210	16,151	16,051	7,199	7,321	2,284	2,284	522.8	436.0	506	606
2008	21,432	18,653	16,170	16,015	7,617	5,006	2,534	2,534	519.8	437.8	505	660
2009	21,618	18,546	16,187	16,254	8,040	4,006	2,784	2,698	514.5	395.4	504	745
2010	21,614	14,507	16,203	16,661	8,121	207	2,884	4,080	515.9	438.1	501	652
2011	21,673	14,705	16,216	16,734	8,268	697	2,984	3,400	515.6	409.8	499	726
2012	21,644	14,598	16,228	16,827	8,329	1,153	3,084	3,463	518.2	409.8	496	643
2013	21,651	14,036	16,237	16,854	8,428	669	3,184	3,538	520.4	409.8	494	623
2014	21,608	13,256	16,244	16,833	8,479	420	3,284	3,816	523.8	413.9	491	603
2015	21,564	12,862	16,250	16,755	8,429	601	3,284	4,110	528.0	436.3	489	596
Case B = high (0.5) world supply elasticity												
2007	21,227	21,227	16,151	16,051	7,218	7,341	2,284	2,120	526.0	440.6	507	607
2008	21,457	18,897	16,169	16,010	7,645	5,258	2,534	2,387	522.3	436.1	506	665
2009	21,638	18,438	16,186	16,256	8,060	3,893	2,784	3,015	515.1	396.4	504	743
2010	21,627	14,613	16,203	16,673	8,133	185	2,884	4,027	514.8	434.3	501	654
2011	21,646	14,809	16,216	16,741	8,240	767	2,984	3,311	514.6	409.8	499	719
2012	21,617	14,630	16,228	16,827	8,300	1,055	3,084	3,330	515.8	409.8	496	643
2013	21,573	14,028	16,238	16,854	8,346	503	3,184	3,379	516.8	408.6	493	623
2014	21,476	13,118	16,246	16,813	8,342	203	3,284	3,599	518.8	419.9	490	600
2015	21,366	13,003	16,252	16,746	8,224	231	3,284	3,740	523.0	434.2	487	613

Source: Economic Research Service.

Figure 9

Modeling scenario: Effect of reform on EU processing capacity



Source: ERS, USDA.

commitments immediately in 2007 would imply larger stocks and reduced EU-25 prices. In order to comply with the URAA commitment, EU-25 restructuring, i.e., selling quota to the EU-25 as provided in the EU-25 reform proposal (not directly here modeled) could be instrumental in retiring production before the time horizon implied by this current analysis.

EU-25 imports originally were to be held constant in this analysis. However, model experiments showed that the supply reductions in the New Member States were sufficiently large to imply sharply higher consumption prices to ration demand. Also, EU-25 subsidized exports within the URAA limits contributed to reduced supplies for consumption. Therefore, an increase in imports was accommodated in order to equalize prices across the EU-15 and the New Member States. Imports over baseline levels averaged between 300,000 and 400,000 mt a year.

ERS Analysis of the 2005 Reform Proposals: Implications for World Sugar

Rest-of-world (ROW) excess demand for sugar increases as a consequence of EU-25 sugar policy reform. Inflows to the ROW from the EU-25 fall from the 7.0-8.0 million mt range to generally less than 1.0 million mt. a year. Implications for the world price of sugar depend on underlying adjustments that occur in the ROW. As mentioned above, the degree to which ROW production can adjust to world price movements influence the course of world prices. In table 13, modeling results for ROW supply, utilization, and prices are shown under differing assumptions regarding world supply response. Case A results correspond to the low ROW supply elasticity, and Case B results correspond to the higher ROW supply elasticity. Not only do post-reform results differ between the cases but so do the

Table 13--Projections of rest-of-world supply, utilization, and prices, with and without EU Nov. 2005 reforms

Year	Production		Consumption		Ending stocks		Stocks-to-use		ROW prices		World price	
	----------1,000 metric tons, raw value----------						Ratio		Dollar/mt		Dollar/mt	
	No reform	Reform	No reform	Reform	No reform	Reform	No reform	Reform	No reform	Reform	No reform	Reform
Case A = low (0.1) world supply elasticity												
2007	118,146	118,146	121,729	121,777	37,602	37,677	30.9	30.9	340.8	340.2	155.4	154.9
2008	119,554	119,545	123,366	122,209	37,473	35,750	30.4	29.3	346.5	359.8	161.2	174.5
2009	121,049	121,271	124,936	122,636	37,225	33,922	29.8	27.7	353.3	380.6	167.9	195.2
2010	122,607	123,288	126,536	121,107	37,003	29,717	29.2	24.5	360	429	174.6	243.6
2011	124,182	125,728	128,405	122,117	37,148	28,900	28.9	23.7	363.9	444.8	178.5	259.4
2012	125,710	128,051	129,901	123,821	36,730	28,902	28.3	23.3	372.3	451	186.9	265.6
2013	127,273	129,739	131,435	125,300	36,357	28,628	27.7	22.8	380.5	460.7	195.2	275.4
2014	128,908	131,361	132,939	126,504	35,938	28,042	27	22.2	389.4	474.9	204	289.5
2015	130,551	133,078	134,727	127,824	35,894	27,594	26.6	21.6	395.1	487.6	209.8	302.3
Case B = high (0.5) world supply elasticity												
2007	116,267	116,267	120,549	120,527	35,814	35,781	29.7	29.7	354.3	354.6	169	169.2
2008	119,189	119,203	122,453	121,561	36,107	34,811	29.5	28.6	357	367.6	171.6	182.2
2009	121,573	122,161	124,666	122,674	36,824	33,975	29.5	27.7	356.4	380.1	171	194.7
2010	123,450	125,920	126,791	122,295	37,377	31,203	29.5	25.5	357.1	412.6	171.7	227.2
2011	125,016	130,653	128,782	124,808	37,696	32,228	29.3	25.8	359.6	407.7	174.3	222.3
2012	126,840	135,744	130,658	128,444	37,813	34,716	28.9	27	363.7	389.5	178.4	204.1
2013	128,969	135,942	132,660	130,697	38,083	35,348	28.7	27	366.7	389.2	181.3	203.8
2014	131,240	135,586	134,638	131,404	38,294	33,910	28.4	25.8	370.1	407.9	184.7	222.5
2015	133,412	138,224	136,636	132,767	38,510	33,357	28.2	25.1	373.5	419	188.1	233.6

Source: Economic Research Service.

baseline levels of the variables. In this type of situation it is useful to analyze in terms of percentage changes from baseline values.

World sugar production changes take a period of at least 2 to 3 years before showing strong responses to EU-25 liberalization. The primary cause is that because sugarcane is harvested over a multi-year ratoon cycle, increases in area planted generally will only add on a fraction of total area harvested for any given year.[7] Differences in production responses between the two cases are not much in evidence until 2010 when case A production is 0.6 percent higher than the baseline and case B production is 2.0 percent higher. Figure 10 shows that in 2010 the percentage changes in world prices begin to diverge from each other as well.

In case A, world prices stay between 40 and 50 percent higher than in the baseline through 2015. On a year-to-year comparison basis, case A production is never more than 1.9 percent higher than the baseline level. In case B, on the other hand, growth in production is equal to 4.5 percent in 2011, implying a world price increase of 32.3 percent as compared with the corresponding case A price change of 39.5 percent.

The 2010 case B world price represents a maximum percentage gain over the baseline value. With greater area for planted responsiveness, increases in sugar production limit the upward movement in world sugar prices, an effect not as readily seen in case A. By 2015, the case B world price is 24.2 percent higher than the baseline value. This contrasts with the corresponding case A level of 44.1 percent.

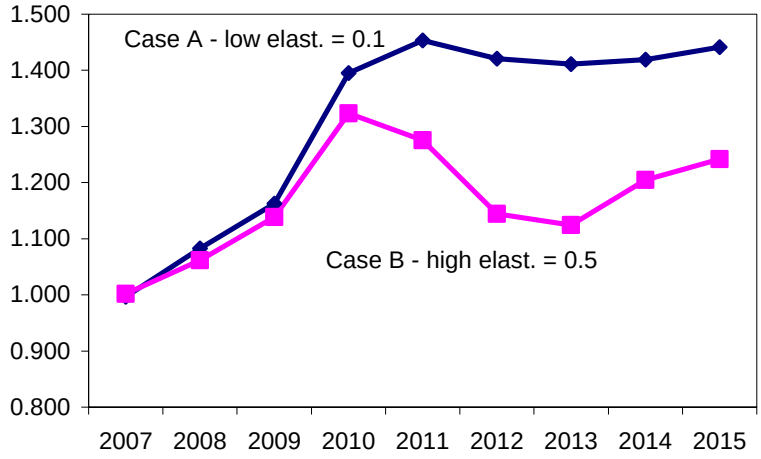
Figure 11 shows ending year stocks-to-use ratios for cases A and B implied by EU-25 sugar policy reforms. These ratios are a direct measure of how much sugar is available at the end of the crop year relative to overall demand. As such, these ratios are the inverse of the world price. For case A, the ratio is lower than 24 percent for all years after 2010; and for case B, the ratio is never lower than 25 percent for the entire projections period. By the end of the projection period, the ratios are about 3.5 percentage points different from each other. In terms of price, this is about $70 per metric ton.

[7] Suppose a producer harvests 100 hectares of sugarcane a year on a 5-year ratoon cycle. Assuming that the producer plants 20 hectares a year to new plant cane, a doubling of area planted in any one year increases the area for harvest by only 20 percent. Even then, it may take longer than a 1-year cycle between the time of planting and time of harvesting, thereby stretching out producer response even longer.

Figure 10

Modeling scenario: Effect of EU sugar policy reform on world price, low versus high world sugar supply elasticity

Proportion

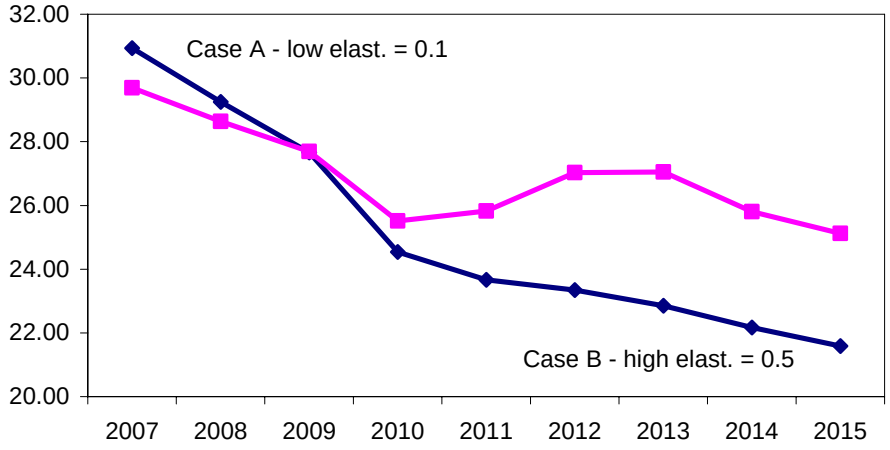


Source: ERS, USDA.

Figure 11

Modeling scenario: Effect of EU sugar policy reform on rest-of-world ending year stocks-to-use ratio

Ratio percentage



Source: ERS, USDA.

Side-by-side comparison of elements of sugar policy in the United States and European Union

United States	European Union - current	European Union - proposed Nov. 24, 2005
Program authorization		
Farm Security and Rural Investment Act of 2002, through fiscal year (FY) 2008. Sugar and product TRQs authorized under U.S. note 5(a)(I) to Ch.17 of U.S. Harmonized Tariff Schedule.	Basic Sugar Regulation No. 1260/2001, covering July/June quota years 2001/02 to 2005/06.	Validity of the new regime , including extension of the quota system, will extend out to 2014/15. There is no review clause.
Product coverage		
Sugar, sugarcane, sugarbeets.	Sugar, sugarbeets, sugarcane, isoglucose (high fructose syrup), inulin syrup, molasses, others.	Not affected.
Domestic marketing restrictions		
Flexible, based on projections of sugar deliveries for domestic food and beverage use plus reasonable ending stocks. Overall Allotment Quantity (OAQ) split between refined beet sugar (0.5435) and raw cane sugar (0.4565). Reassignments made by USDA when processors cannot fulfill OAQ allocations.	Not flexible (except to meet certain Uruguay Round Agreement export commitments). Current A and B quota levels are a continuation of those set in 1981/82, plus quotas for inulin syrup and sugar of New Member States(NMS). Quotas assigned to EU member States and cannot be transferred between States, but can be transferred within States, subject to restrictions.	A' and 'B' quotas are merged into a single production quota. There will be a voluntary restructuring scheme lasting 4 years (2006/07-09/10) for EU sugar factories, and isoglucose and inulin syrup producers, consisting of a payment to encourage factory closure and the renunciation of quota as well to cope with social and enviromental impacts of the restructuring process. An additional 1.1 million tons of quota will be made available to a set of over-quota (C-sugar) producing countries.
Public stockholding/price support		
Sugar pledged in exchange for loan at the established loan rate from the Commodity Credit Corporation (CCC) can be forfeited to the CCC in payment in full of loan. Loan Rate = 18 cents for raw cane sugar; = 22.9 cents for refined beet sugar.	Intervention buying by public authorities as buyer of last resort at the established Intervention Price. Rarely used, although there has been buying activity in 2005. Intervention price for white sugar = € 631.9, slightly higher in some countries.	Abolition of the intervention system after a 4-year phase-out period from 2006/07-2009/10 and the replacement of the intervention price by a reference price. There will be the introduction of a private storage system as a safety net in case the market price falls below the reference price,. Reference price, white value = € 404.4 per ton by 2009/10 and beyond.
Open endedness		
Marketing allotment program restricts marketings, but program can be suspended under certain conditions.	Price support restricted to production within quotas. Sugar produced in excess of quota is exported to world market without receiving export refunds. Time-limit is applied for sugar to be exported.	Support restricted within quota. There are a variety of forms of compensation to aid processors and producers making the transition to new regime to be paid out of a Restructuring Fund. The Fund is to be financed by a levy on quota holders for three years.
Surplus disposal		
There is Payment-In-Kind (PIK) authority for the CCC to offer sugar it owns to processors in exchange for the reduction of planting area.	Export restitutions are used to dispose of quota sugar in excess of domestic consumption onto the world market, and also an amount equal to 1.6 million tons of sugar imported at preferential terms from certain African, Caribbean, and Pacific (ACP) countries under Cotonou Agreement and 10,000 mt from India.	Over quota production can no longer be exported as C sugar, but must be carried over to the next marketing year, to be used as the first part of the following year's quota. A sugar "super levy" will be introduced in which over-quota production leads to prohibitive penalties to producers.
Blocked sugar		
Processor-owned sugar in excess of OAQ allocation cannot be marketed within the marketing year.	Non-exported over-quota C-sugar can be carried-over to next marketing year and applied to next year's A-quota; Carry-over cannot be more than 20 percent of processor's A quota allocation..	All sugar in excess of quota must be carried over to the next marketing year.
Budget neutrality		
Sugar Program is to be run, to the maximum extent possible, at "no-net cost" to the Federal Budget. Processors cover cost of holding blocked sugar stocks, and USDA sets OAQ so that prices are high enough to avoid forfeiture of sugar pledged as collateral for CCC loans.	Application of "co-responsibility principle" - production levies cover the cost of export refunds on EU quota sugar to the world market. (Production levies do not cover subsidized ACP re-exports - those subsidies are paid by the EU.)	

Export-subsidy commitments

---Not applicable---	WTO commitments from the Uruguay Round Agreement on Agriculture (URAA) bind EU15 subsidized export volume to1.274 million mt and value of subsidized exports to € 499 million.	All EU sugar exports, including C-sugar exports and the 1.6 million tons imported from ACP countries and then re-exported, will be counted against the EU's WTO export subsidy commitments.

Support for sugar crops

U.S. Department of Agriculture (USDA) can set minimum producer prices that processors must pay growers as requirement for participation in non-recourse loan program.	Basic beet price - based on sugar intervention price: A-beet minimum = €46.72/mt, and B-beet minimum = €32.42/mt. Minimum beet price - takes account of unit revenue from export sales of over-quota C-sugar not eligible for price support.	The minimum sugarbeet price will fall to € 26.3 per ton over the 4-year phase-in period. Additionally, sugarbeets will qualify for set-aside payments when grown as a non-food crop and will be eligible for the energy crop aid of € 45 per hectare.

Protection against imports

There is a high-tier tariff for a range of sugar products. For raw cane sugar, the high-tier tariff is equal to equal to $338.70/ton. There are also additional price-based and quantity-based safeguard duties.	There is a high-tier tariff for a range of sugar products. For raw cane sugar imported for refining, the high-tier tariff is equal to €339/ton. There are also additional safeguard duties, calculated with reference to EU sugar Trigger prices.	Not affected.

Minimum import access

URAA specifies 1,139,195 metric tons - split between raw sugar (1,119,195 mt) and refined sugar (22,000 mt).	URAA specifies 1,304,700 metric tons, satisfied by imports from ACP countries. When EU was enlarged, it took over the New Member States' existing URAA commitment levels.	Not affected.

In-quota preferential imports

U.S. raw sugar tariff-rate quota (TRQ) allocated to 40 quota countries based on past import trade shares. Provisions of the North American Free Trade Agreement (NAFTA) and the Central American and Dominican Republic FTA provide additional in-quota access under certain conditions.	In-quota preference given to ACP countries under the Cotonou Agreement, plus 10,000 mt to India; also in-quota preferences to "least developed" 49 nations under "Everything-But-Arms" (EBA) Agreement. TRQs totaling 193,000 mt established for sugar from various Balkan countries. There are also agreements covering some imports from Brazil and Cuba.	The minimum price paid for ACP and EBA exports to the EU will be cut over a 4-year period from 2006/07-2009/10. The raw sugar minimum will fall from € 523.7 per ton to € 335 per ton for ACP countries, and will fall from € 495 per ton for EBA countries.

Over-quota preferential imports

NAFTA high-tier tariff has been slowly declining since 1994 and will reach zero in 2008.	High-tier tariff on EBA sugar imports set to decline in 2006/07. By 2009/10 tariff will reach zero and EBA sugar access will be unlimited.	Same, but EU raw sugar price is reduced, as noted above.

Refining aid

No direct aid - refiner through-put assisted through Refined Sugar and Sugar-Containing Product Re-export Programs.	€29.2/mt of white sugar, payable to refiners of preferential raw cane sugar imports. ACP and EBA imports of raw sugar restricted to EU sugar refineries.	Refining aid eliminated. Starting in 2010, EU beet sugar processors can compete with refineries for raw sugar imports.

Sugar-containing products

The Sugar-Containing Products Re-export Program allows the sale of amounts of refined sugar to food manufacturers by refiners who have imported raw sugar at world prices. Food manufacturers are required to export the amount of product for which the sugar was purchased within a certain time frame.	Certain processed products containing sugar covered by the sugar regime are eligible for export refunds covering the difference between the EU intervention price and the world price of sugar contained in the product. The sugar in exported products is counted as part of the EU sugar balance.	

Subsidized non-food uses of sugar

Import at world prices of sugar for use in production of Polyhydric Alcohol.	Specified use of sugar (and starch) by chemical and pharmaceutical industries that are eligible for production refunds to cover differences between EU and world sugar prices.	Sugar for chemical and pharmaceutical industries are excluded from production quotas and production refunds are eliminated.

Isoglucose/High Fructose Corn Syrup

No explicit regulation.	Production restricted by quotas totaling 507,680 tons.	There will be three annual increases of 100,000 tons in existing sugar quota, starting in 2006/07. This additional quota can be purchased by Italy, Lithuania, and Sweden during the transition. Also, non-members Romania and Bulgaria can purchase additional quota upon their accession for three years. The isoglucose quota could grow to maximum of 923,691 tons from current level of 507,680 tons.

Source: ERS, FAS, Agra-Net.

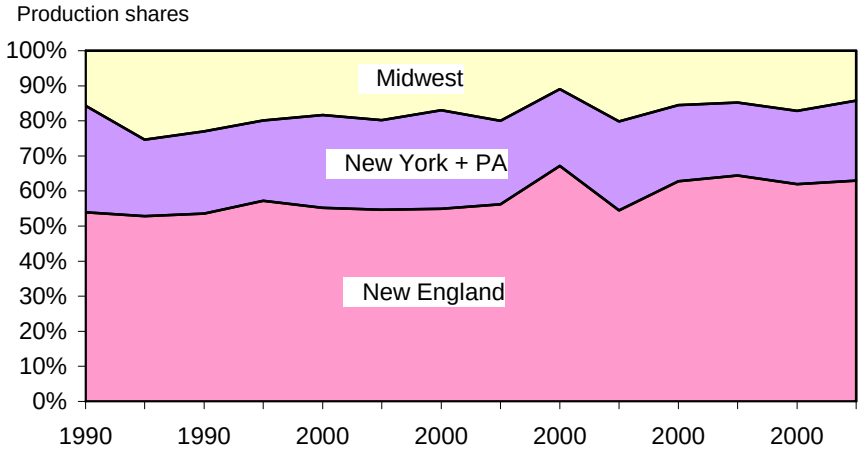
Maple Syrup

U.S. production of maple syrup in 2005 declined by 265,000 gallons, or 18 percent, to 1.242 million gallons from 1.507 in 2004. All States except Pennsylvania reported lower sap flow at or close to 2-digit rates. Syrup production in New England amounted to 782,000 gallons, down 16 percent. In New York, syrup volume fell 13 percent to 222,000 gallons. In the Midwest, production declined by 31 percent to only 177,000 gallons.

More than a third, or 90,000 gallons, of the U.S. syrup reduction was in Vermont, the largest producing State. Although the total number of tree taps increased 2 percent to 7.1 million in 2005, average yield per tap fell by close to 20 percent, led by Midwest producers with 30.5 percent lower yield. Output per tap in New England was down almost 18 percent, as it was in New York. Cold daytime weather in most of these States limited sap flow in 2005. The harvest season started late because days were too cold then warmed up too fast. The sugar content of the sap was averaged at 40 gallons of sap per gallon of syrup produced, the majority of which was medium amber in color.

Figure 12

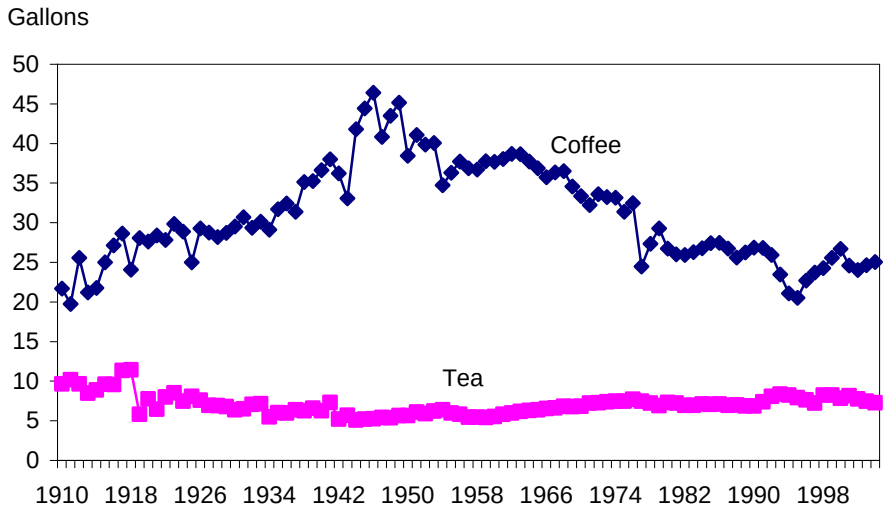
Regional shares of U.S. maple syrup production



Source: NASS, USDA.

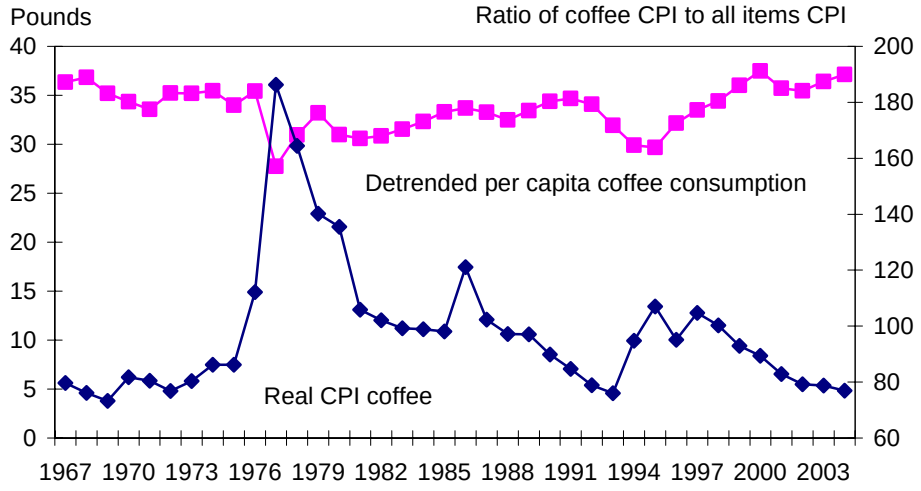
U.S. Coffee and Tea Consumption At-A-Glance

U.S. per capita coffee and tea consumption, 1910-2004



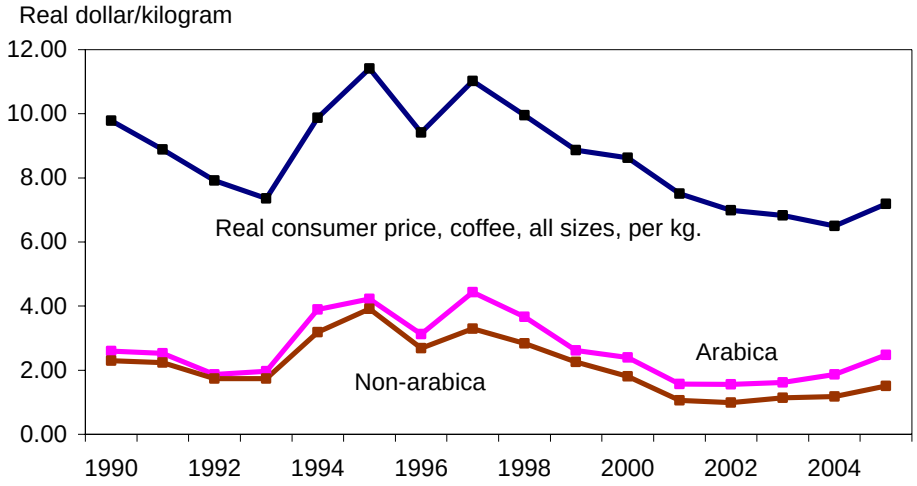
Source: USDA.

Detrended per capita coffee consumption and real coffee CPI, 1967-2004



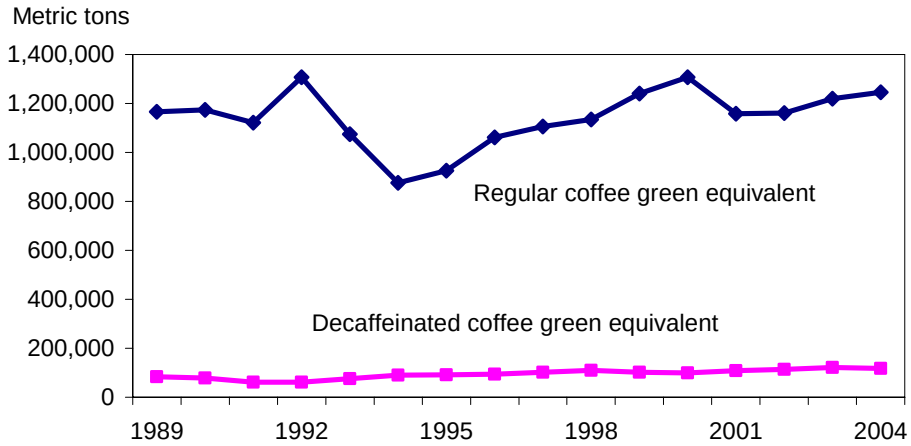
Source: ERS (detrended coffee consumption) and BLS (CPI data).

Real U.S. retail coffee price, and real unit import values of U.S. green coffee imports, arabica and non-arabica, 1990-2005



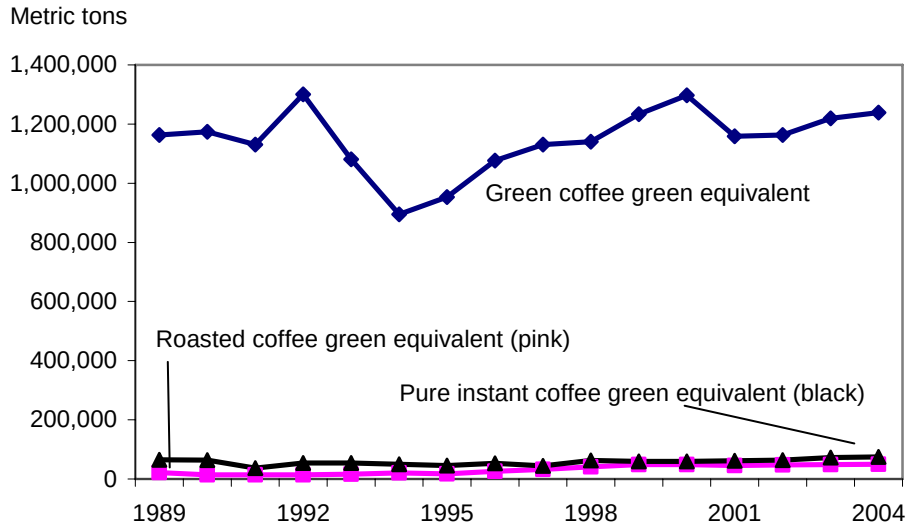
Source: U.S. Customs Bureau.

U.S. coffee imports, regular and decaffeinated, 1989-2004



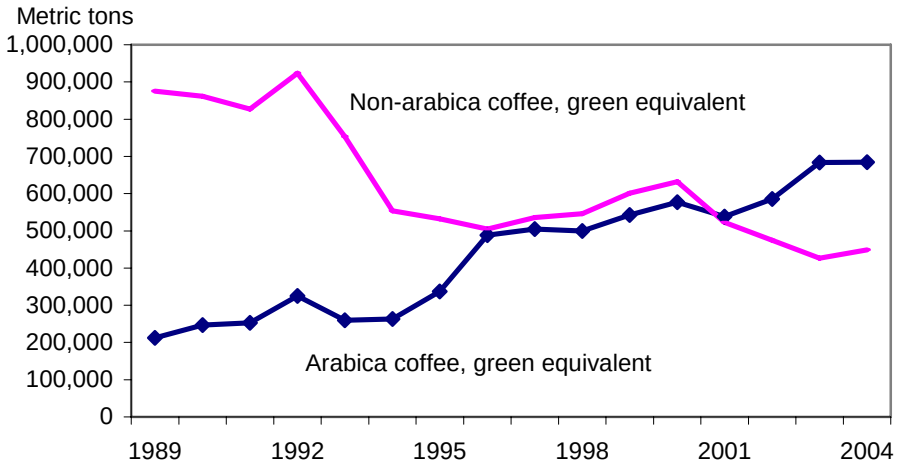
Source: U.S. Census Bureau.

U.S. coffee imports, by stage of processing, 1989-2004



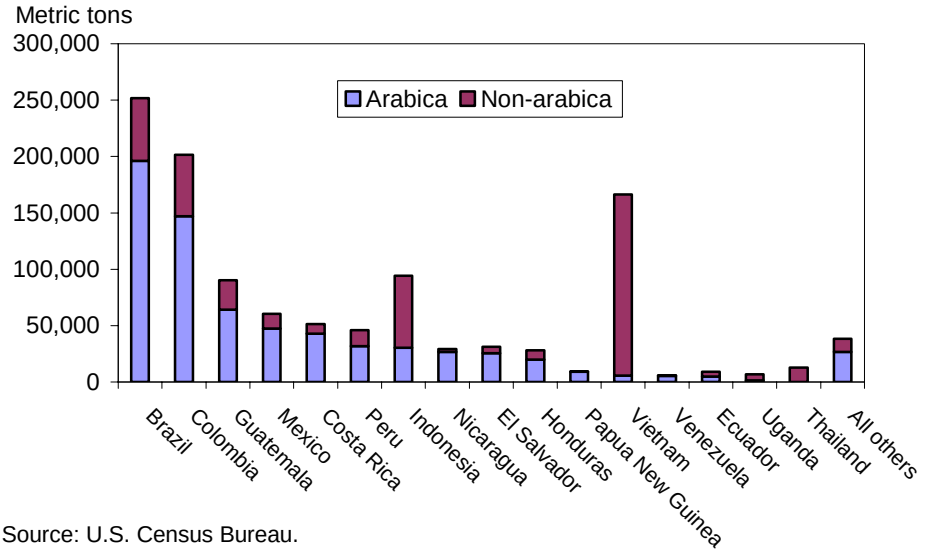
Source: U.S. Census Bureau.

U.S. green coffee imports, regular coffee, arabica and non-arabica, 1989-2004



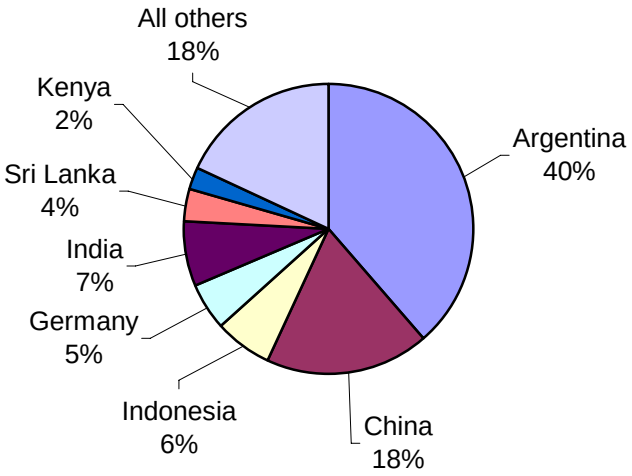
Source: U.S. Census Bureau.

U.S. green coffee bean imports, not decaffeinated, by source country, 2004



Source: U.S. Census Bureau.

Tea import sourcing in 2004 (leaf equivalent)



Source: U.S. Census Bureau.

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Table 14--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									
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	7.83	8.66	9.06	10.63	11.38	11.29	11.74	11.76	11.02	10.95	7.73	9.45	11.47	11.24	9.97	9.10
2001	11.27	10.65	10.26	10.61	11.71	12.68	12.60	12.08	10.66	10.19	11.27	11.52	10.73	11.67	11.78	10.99	11.29	11.35
2002	11.88	10.80	10.81	10.09	10.28	10.02	10.23	10.33	9.68	9.72	10.16	10.25	11.16	10.13	10.08	10.04	10.35	10.59
2003	10.64	11.10	10.51	10.14	9.95	9.66	9.84	9.74	8.95	8.39	8.67	9.23	10.75	9.92	9.51	8.76	9.74	10.06
2004	9.16	9.54	10.59	11.19	10.78	10.73	11.81	11.80	11.12	11.21	11.27	11.23	9.76	10.90	11.58	11.24	10.87	10.25
2005	11.63	12.09	12.02	11.76	11.75	12.61	14.70	14.81	14.60	14.18	13.10	15.00	11.91	12.04	14.70	14.09	13.19	12.47

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

Source: LIFFE, London.

Table 15--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									
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	12.30	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	8.72	10.18	11.14	10.35	10.96	10.02	10.23	5.56	7.51	10.56	10.40	8.51	7.53
2001	10.63	10.26	9.64	9.27	9.96	9.80	9.48	8.77	8.60	7.15	7.80	8.02	10.18	9.68	8.95	7.66	9.12	9.80
2002	7.96	6.81	7.27	7.12	7.33	7.07	8.02	7.86	8.54	8.84	8.87	8.81	7.35	7.17	8.14	8.84	7.88	7.58
2003	8.56	9.14	8.50	7.92	7.41	6.85	7.18	7.30	6.70	6.74	6.83	6.95	8.73	7.39	7.06	6.84	7.51	8.01
2004	6.42	7.01	8.23	8.21	8.08	8.41	9.19	8.99	9.10	9.84	9.65	10.19	7.22	8.23	9.09	9.89	8.61	7.85
2005	10.33	10.51	10.57	10.19	10.23	10.45	10.89	11.09	11.59	12.40	12.86	15.09	10.47	10.29	11.19	13.45	11.35	10.46

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

Source: Coffee, Sugar & Cocoa Exchange, Inc.

Table 16--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									
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	19.31	17.64	18.12	18.97	21.15	21.39	20.56	17.80	19.29	18.24	21.03	19.09	18.40
2001	20.81	21.18	21.40	21.51	21.19	21.04	20.64	21.10	20.87	20.90	21.19	21.43	21.13	21.25	20.87	21.17	21.11	21.07
2002	21.03	20.69	19.92	19.73	19.52	19.93	20.86	20.91	21.65	21.94	22.22	22.03	20.55	19.73	21.14	22.06	20.87	20.65
2003	21.62	21.91	22.14	21.87	21.80	21.62	21.32	21.26	21.34	20.92	20.91	20.37	21.89	21.76	21.31	20.73	21.42	21.76
2004	20.54	20.57	20.86	20.88	20.69	20.03	20.14	20.10	20.47	20.31	20.40	20.55	20.66	20.53	20.24	20.42	20.46	20.54
2005	20.57	20.36	20.54	21.21	21.96	21.89	21.94	20.49	21.10	21.71	21.83	21.74	20.49	21.69	21.18	21.76	21.28	20.94

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 2001's price average of 21.51 cents is the average of closes for the July 2001 futures during the month of April since there was not a full month of May 2001 futures in April (the may 2001 futures expired April 10th. July 2001 became the nearest futures, so July 2001 was used for the entire month of April).

Source: New York Board of Trade (www.nybot.com)

Table 17--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									
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	19.00	19.00	19.00	20.70	21.25	21.00	21.80	22.38	19.92	19.57	21.35	20.80	21.90
2001	23.13	22.75	22.00	20.50	21.38	21.90	22.50	22.50	24.63	25.75	26.20	26.50	22.63	21.26	23.21	26.15	23.31	22.11
2002	26.75	26.00	25.95	24.63	24.50	24.00	24.00	25.40	26.25	26.75	27.40	27.88	26.23	24.38	25.22	27.34	25.79	25.49
2003	27.80	26.50	27.13	27.63	28.00	28.00	27.63	25.50	24.00	24.70	23.94	23.63	27.14	27.88	25.71	24.09	26.21	27.02
2004	23.70	23.50	23.50	23.50	23.50	23.50	23.50	23.50	23.50	23.50	23.38	23.20	23.57	23.50	23.50	23.36	23.48	23.66
2005	23.50	23.50	23.25	23.80	24.75	25.88	26.00	26.75	40.10	40.00	40.00	36.90	23.42	24.81	30.95	38.97	29.54	25.63

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

Table 18--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									
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	42.40	42.80	42.50	42.40	42.40	42.50	41.30	41.40	43.27	42.20	42.43	41.73	42.41	42.73
2001	42.80	43.50	43.70	42.90	43.80	43.50	44.30	43.30	44.20	44.00	42.50	42.50	43.33	43.40	43.93	43.00	43.42	43.10
2002	44.10	43.70	42.60	44.40	42.70	43.00	43.30	43.30	43.70	42.40	41.90	42.10	43.47	43.37	43.43	42.13	43.10	43.32
2003	43.00	42.70	42.70	42.70	43.10	42.90	43.10	43.50	42.60	42.50	41.10	42.20	42.80	42.90	43.07	41.93	42.68	42.73
2004	42.90	42.60	42.60	42.70	42.50	42.50	42.90	42.60	42.60	42.60	42.20	43.00	42.70	42.57	42.70	42.60	42.64	42.48
2005	43.70	43.50	43.30	43.60	42.70	42.80	42.40	43.20	43.70	44.20	44.50	44.90	43.50	43.03	43.10	44.53	43.54	43.06

Source: Bureau of Labor Statistics.

Table 19--Bulk sugar prices in Mexico, estandar sugar 1/

Nominal pesos per 50 kg

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Calendar	Fiscal
1994	90.85	90.85	90.85	90.85	90.85	90.85	90.85	90.85	90.85	90.85	90.94	91.70	90.93	88.62
1995	91.70	99.33	105.95	106.34	110.92	117.25	117.25	119.80	133.76	140.30	144.91	149.57	119.76	106.32
1996	148.43	152.71	159.88	160.92	162.21	166.86	168.24	171.81	176.29	172.51	160.87	155.08	162.98	158.51
1997	173.20	196.96	187.29	179.11	172.99	179.36	175.96	173.60	176.78	169.63	162.55	162.99	175.87	175.31
1998	178.10	176.01	155.70	163.12	180.02	189.52	186.70	210.43	214.81	215.07	223.54	227.44	193.37	179.13
1999	222.59	214.45	195.14	184.23	184.54	223.55	220.27	207.16	211.56	224.71	242.96	228.98	213.35	210.80
2000	220.61	207.89	207.75	201.33	219.23	216.75	232.14	232.22	230.60	224.57	243.21	263.77	225.01	222.10
2001	248.89	234.25	208.67	189.46	185.45	218.39	222.00	219.07	249.51	249.34	240.23	233.55	224.90	225.60
2002	245.76	244.46	243.44	242.14	240.83	239.15	244.95	248.15	253.40	262.31	266.23	268.39	249.93	243.78
2003	268.50	266.46	265.01	270.04	273.14	278.50	285.05	287.64	294.90	302.40	303.75	319.10	284.54	273.85
2004	309.70	296.25	291.25	298.25	297.25	302.95	317.85	326.20	331.00	329.60	326.05	329.85	313.02	308.00
2005	322.70	312.00	306.00	306.00	305.25	304.10	297.25	300.00	289.00	284.10	283.50	282.50	299.37	310.65

Real 2000 pesos per 50 kg

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Calendar	Fiscal
1994	291.09	290.35	289.24	287.68	286.14	284.35	282.58	280.92	279.11	277.91	276.82	276.20	283.53	280.77
1995	260.81	270.52	273.49	251.99	252.37	259.17	254.39	255.71	280.13	287.73	288.90	287.20	268.53	265.79
1996	275.99	277.40	283.88	277.74	275.96	280.77	279.65	282.07	286.42	276.86	253.98	238.66	274.11	281.98
1997	260.65	292.10	275.10	261.28	250.64	257.85	251.08	245.75	247.90	236.06	222.49	220.70	251.80	259.32
1998	235.08	228.17	199.79	208.01	228.51	237.82	232.07	258.32	256.06	251.28	257.56	257.90	237.55	230.26
1999	246.64	235.89	213.78	201.54	201.29	242.12	237.54	222.51	225.78	237.91	255.51	238.94	229.96	232.82
2000	227.62	212.96	211.64	203.45	220.66	216.19	231.47	230.72	228.57	220.84	237.72	256.34	224.85	226.30
2001	239.04	224.96	198.79	180.34	176.92	208.53	212.44	208.82	236.28	235.45	226.80	221.21	214.13	216.75
2002	232.16	230.78	226.27	222.92	219.68	216.46	220.50	222.04	224.84	232.90	234.77	233.63	226.41	224.92
2003	230.61	225.60	223.77	230.67	234.29	236.88	241.79	242.88	247.86	251.43	250.47	260.23	239.71	234.64
2004	251.54	236.92	229.38	231.45	229.22	233.43	243.92	248.38	250.64	247.88	244.67	249.04	241.37	243.09
2005	242.80	233.10	227.17	226.06	226.75	226.65	220.25	221.88	212.55	208.61	208.20			231.57

U.S. cents per pound

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Calendar	Fiscal
1994	26.52	26.40	24.96	24.61	24.85	24.48	24.22	24.37	24.23	24.09	23.96	20.93	24.47	24.66
1995	14.75	15.87	14.18	15.49	16.84	17.07	17.37	17.44	19.21	18.87	17.09	17.65	16.82	18.10
1996	18.00	18.43	19.16	19.54	19.79	20.01	20.04	20.74	21.20	20.23	18.45	17.86	19.45	19.21
1997	20.07	22.90	21.36	20.56	19.86	20.47	20.29	20.24	20.61	19.55	17.83	18.19	20.16	20.24
1998	19.64	18.78	16.49	17.41	19.02	19.27	19.03	20.37	19.07	19.20	20.34	20.83	19.12	18.72
1999	19.94	19.44	18.19	17.72	17.82	21.31	21.33	20.00	20.55	21.29	23.41	22.04	20.25	19.72
2000	21.08	20.01	20.29	19.44	20.92	20.00	22.36	22.72	22.35	21.36	23.21	25.28	21.58	21.32
2001	23.11	21.88	19.72	18.43	18.39	21.80	21.97	21.76	24.02	24.22	23.62	23.14	21.84	21.74
2002	24.33	24.36	24.37	23.97	22.97	22.21	22.72	22.88	22.83	23.58	23.69	23.81	23.48	23.47
2003	22.93	22.09	22.05	23.14	24.17	24.06	24.73	24.20	24.49	24.54	24.72	25.73	23.90	23.58
2004	25.73	24.36	23.98	24.01	23.41	24.12	25.14	25.97	26.14	26.22	26.01	26.72	25.15	24.82
2005	25.99	25.41	24.89	24.98	25.23	25.50	25.27	25.47	24.31	23.79	24.10	24.12	24.92	25.50

Source: Servicio Nacional de Informacion de Mercados SNIIM-ECONOMICA.
1/ D.F.- Central de Abasto de Iztapolapa, D.F.

Table 20--Bulk sugar prices in Mexico, refinado sugar 1/

Nominal pesos per 50 kg

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Calendar	Fiscal
1994	101.83	101.83	101.83	101.83	101.83	101.83	101.83	101.83	101.83	101.83	101.85	102.00	101.85	99.31
1995	102.00	110.46	117.80	118.19	122.85	129.30	129.30	132.15	154.33	154.75	159.84	164.98	132.99	118.50
1996	161.26	167.01	177.07	179.04	178.82	181.29	183.36	186.30	188.39	187.66	186.40	186.42	180.25	173.51
1997	194.96	216.67	216.01	215.62	211.40	211.37	213.08	211.71	210.68	206.09	206.63	204.38	209.88	205.17
1998	209.08	207.25	202.34	198.37	205.43	209.93	212.25	229.75	229.88	244.41	250.01	246.63	220.44	210.12
1999	250.22	251.28	241.93	239.00	233.35	242.83	251.83	243.62	239.71	271.33	267.38	263.02	249.63	244.57
2000	259.02	252.50	250.11	248.45	245.58	237.48	244.47	246.61	245.91	245.09	259.57	271.48	250.52	252.66
2001	276.98	274.56	266.54	256.03	250.26	256.90	260.85	261.87	276.33	279.72	277.48	274.21	267.64	263.04
2002	288.40	283.56	284.03	280.56	278.54	279.34	285.98	292.64	298.51	303.09	306.90	309.50	290.92	283.58
2003	310.81	310.73	308.13	313.20	315.26	320.36	334.24	339.84	363.00	360.00	365.00	360.00	333.38	319.59
2004	352.50	340.00	337.20	340.00	337.50	340.60	345.00	337.40	339.50	339.25	338.20	341.00	340.68	346.23
2005	340.00	339.50	335.60	339.00	338.80	335.75	335.75	333.00	330.00	335.00	335.00	335.50	336.08	337.15

Real 2000 pesos per 50 kg

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Calendar	Fiscal
1994	326.27	325.44	324.20	322.45	320.72	318.72	316.73	314.87	312.84	311.50	310.04	307.23	317.58	314.64
1995	290.10	300.83	304.08	280.07	279.52	285.81	280.54	282.07	323.19	317.36	318.65	316.78	298.25	296.25
1996	299.85	303.38	314.40	309.01	304.22	305.05	304.79	305.86	306.08	301.17	294.28	286.89	302.91	308.79
1997	293.39	321.33	317.29	314.54	306.29	303.87	304.05	299.70	295.44	286.79	282.82	276.75	300.19	303.19
1998	275.98	268.67	259.64	252.96	260.76	263.43	263.83	282.04	274.03	285.56	288.06	279.66	271.22	270.64
1999	277.25	276.41	265.04	261.46	254.53	263.00	271.57	261.68	255.83	287.27	281.19	274.47	269.14	270.00
2000	267.25	258.66	254.80	251.06	247.19	236.86	243.76	245.02	243.74	241.02	253.71	263.83	250.57	257.61
2001	266.02	263.67	253.92	243.70	238.75	245.30	249.62	249.61	261.68	264.14	261.97	259.72	254.84	252.57
2002	272.44	267.69	263.99	258.29	254.07	252.84	257.43	261.85	264.87	269.10	270.63	269.41	263.55	261.61
2003	266.95	263.09	260.18	267.53	270.42	272.48	283.52	286.95	305.09	299.33	300.98	293.59	280.84	273.78
2004	286.31	271.91	265.57	263.85	260.26	262.44	264.75	256.91	257.08	255.13	253.79	257.46	262.96	273.58
2005	255.81	253.64	249.15	250.44	251.67	250.24	248.78	246.28	242.70	245.98	246.02			251.26

U.S. cents per pound

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Calendar	Fiscal
1994	29.73	29.59	27.97	27.58	27.85	27.44	27.15	27.32	27.15	27.00	26.84	23.28	27.41	27.64
1995	16.41	17.65	15.77	17.21	18.66	18.82	19.16	19.23	22.16	20.81	18.85	19.47	18.68	20.18
1996	19.56	20.15	21.23	21.75	21.81	21.74	21.84	22.49	22.65	22.01	21.37	21.47	21.51	21.03
1997	22.59	25.19	24.63	24.76	24.26	24.12	24.57	24.68	24.56	23.75	22.66	22.81	24.05	23.69
1998	23.05	22.11	21.42	21.17	21.71	21.35	21.64	22.24	20.41	21.82	22.75	22.58	21.86	22.03
1999	22.41	22.78	22.55	22.99	22.53	23.15	24.38	23.52	23.28	25.71	25.76	25.31	23.70	22.90
2000	24.75	24.30	24.43	23.99	23.44	21.91	23.55	24.13	23.83	23.31	24.77	26.02	24.03	24.26
2001	25.72	25.65	25.19	24.90	24.82	25.64	25.81	26.01	26.60	27.17	27.29	27.17	26.00	25.37
2002	28.55	28.25	28.43	27.77	26.57	25.95	26.53	26.98	26.89	27.24	27.31	27.46	27.33	27.30
2003	26.55	25.76	25.63	26.83	27.89	27.67	28.99	28.59	30.15	29.21	29.70	29.03	28.00	27.51
2004	29.28	27.96	27.76	27.37	26.58	27.12	27.29	26.86	26.81	26.99	26.98	27.62	27.39	27.91
2005	27.39	27.65	27.29	27.68	28.00	28.15	28.54	28.27	27.76	28.05	28.48	28.64	27.99	27.69

Source: Servicio Nacional de Informacion de Mercados SNIIM-ECONOMICA.

1/ D.F.- Central de Abasto de Iztapolapa, D.F.

Table 21--U.S. cane and beet sugar deliveries, monthly, quarterly, and by fiscal and calendar year

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	1st Q.	2nd Q.	3rd Q.	4th Q.	Fiscal	Calendar
									1,000 short tons, raw value									
U.S. beet sugar for domestic consumption:																		
1992	301	284	315	312	283	341	344	356	375	343	357	355	901	935	1,075	1,055	3,902	3,966
1993	303	287	397	299	328	367	358	372	367	346	325	338	988	994	1,097	1,008	4,134	4,087
1994	312	313	370	303	338	406	360	406	437	338	304	282	995	1,047	1,204	924	4,254	4,170
1995	301	311	378	311	356	399	384	450	465	404	395	331	989	1,066	1,300	1,131	4,279	4,486
1996	316	342	361	343	338	325	350	335	300	333	315	267	1,018	1,006	984	915	4,139	3,923
1997	280	272	315	312	326	332	351	373	428	375	316	317	867	970	1,152	1,009	3,903	3,997
1998	324	316	362	344	342	401	393	388	409	392	334	308	1,002	1,087	1,190	1,034	4,288	4,313
1999	319	325	374	346	361	417	400	427	416	438	392	321	1,018	1,124	1,244	1,151	4,419	4,536
2000	320	340	385	341	393	384	348	411	392	412	378	329	1,045	1,118	1,152	1,119	4,465	4,433
2001	366	346	401	375	405	403	414	450	408	429	373	311	1,113	1,183	1,272	1,112	4,686	4,680
2002	349	315	347	340	375	332	369	365	380	423	396	300	1,012	1,047	1,114	1,119	4,285	4,291
2003	315	307	341	338	338	365	380	366	388	395	335	353	962	1,041	1,134	1,082	4,255	4,219
2004	359	367	407	387	333	438	408	433	392	423	378	342	1,133	1,159	1,233	1,143	4,607	4,668
2005	358	368	395	387	370	416	384	415	449	457	375		1,120	1,173	1,248		4,684	
Cane sugar for domestic consumption:																		
1992	324	339	406	406	375	455	417	419	468	479	371	349	1,069	1,236	1,303	1,200	4,820	4,808
1993	311	339	391	387	351	423	422	441	469	427	424	395	1,042	1,161	1,332	1,246	4,734	4,781
1994	332	358	422	361	400	448	411	427	473	443	434	420	1,112	1,209	1,310	1,298	4,877	4,929
1995	340	332	432	380	424	438	369	444	423	431	413	381	1,104	1,243	1,236	1,226	4,880	4,808
1996	353	376	443	425	452	471	463	488	565	547	500	456	1,172	1,349	1,515	1,504	5,262	5,539
1997	397	396	481	444	474	509	462	476	500	525	459	431	1,274	1,427	1,437	1,416	5,641	5,553
1998	369	391	470	430	429	481	432	438	506	486	467	451	1,230	1,339	1,377	1,404	5,361	5,349
1999	355	379	453	452	500	476	433	490	485	483	481	433	1,186	1,429	1,407	1,396	5,427	5,419
2000	383	404	484	425	452	488	455	530	471	534	481	398	1,272	1,365	1,456	1,414	5,490	5,508
2001	410	371	470	413	431	458	419	446	417	487	467	384	1,251	1,302	1,282	1,338	5,248	5,172
2002	392	378	437	424	458	490	472	486	549	468	444	407	1,208	1,373	1,507	1,320	5,424	5,407
2003	372	377	467	434	408	475	421	488	415	476	486	413	1,216	1,317	1,324	1,375	5,177	5,232
2004	346	393	406	377	415	408	404	448	415	528	466	383	1,144	1,200	1,268	1,377	4,987	4,989
2005	377	363	459	400	437	441	418	477	458	469	418		1,199	1,277	1,353		5,207	
Importers direct consumption:																		
1992	6	6	3	3	2	2	2	7	3	6	7	6	15	7	12	19	49	52
1993	4	2	3	2	5	9	1	2	1	9	6	8	10	17	3	23	48	52
1994	5	3	6	1	4	4	5	5	7	10	15	12	14	9	18	38	63	78
1995	9	1	1	2	0	0	1	1	4	17	5	0	12	3	6	22	59	44
1996	0	0	0	0	0	0	0	1	19	10	1	1	1	1	20	12	44	33
1997	1	0	1	2	1	1	1	0	1	15	2	2	2	4	2	19	20	27
1998	0	1	0	0	1	1	1	0	0	13	5	1	1	2	1	19	23	24
1999	3	1	0	0	0	0	0	0	4	27	3	4	4	0	4	33	28	41
2000	0	0	1	0	0	0	0	0	3	26	4	1	1	0	3	31	38	36
2001	5	1	0	0	0	0	3	21	3	6	10	8	6	1	27	24	65	58
2002	3	1	4	7	1	12	3	6	14	36	19	2	8	20	24	58	76	109
2003	3	1	1	1	0	1	1	1	4	25	16	5	5	2	6	47	71	60
2004	1	2	6	4	3	3	4	11	4	16	11	1	9	9	19	27	84	64
2005	1	1	13	6	4	11	2	6	84	35	38		16	21	92		155	
Total sugar for domestic consumption:																		
1992	631	629	725	720	660	798	763	782	846	828	736	710	1,985	2,178	2,390	2,273	8,772	8,826
1993	619	629	791	688	685	799	782	815	836	783	755	740	2,039	2,172	2,432	2,277	8,916	8,920
1994	649	674	798	665	742	857	776	838	918	792	754	714	2,121	2,265	2,532	2,260	9,195	9,177
1995	651	644	811	694	780	837	755	894	892	853	813	713	2,105	2,311	2,542	2,379	9,218	9,337
1996	670	718	804	769	790	796	813	823	883	891	816	724	2,191	2,355	2,519	2,430	9,445	9,496
1997	678	668	797	758	801	841	813	849	928	915	778	750	2,143	2,401	2,591	2,443	9,565	9,578
1998	694	707	832	774	772	883	826	826	915	892	806	760	2,233	2,428	2,568	2,458	9,672	9,686
1999	676	704	827	798	861	894	833	916	905	947	876	757	2,208	2,553	2,655	2,580	9,873	9,996
2000	703	745	870	766	845	872	804	941	867	973	863	728	2,318	2,484	2,611	2,564	9,993	9,977
2001	781	718	871	788	837	861	835	917	828	922	849	703	2,370	2,486	2,580	2,474	10,000	9,911
2002	744	695	788	771	834	834	844	858	943	927	860	709	2,227	2,439	2,645	2,497	9,785	9,808
2003	689	685	809	772	746	841	802	856	807	896	837	771	2,183	2,360	2,464	2,504	9,504	9,511
2004	706	762	819	767	751	850	817	893	810	967	855	726	2,286	2,368	2,520	2,547	9,678	9,722
2005	737	732	866	793	811	867	804	897	991	961	831		2,335	2,471	2,693		10,046	

continued- -

Table 21--U.S. cane and beet sugar deliveries, monthly, quarterly, and by fiscal and calendar year

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	:	1st Q.	2nd Q.	3rd Q.	4th Q.	:	Fiscal	Calendar
									1,000 short tons, raw value											
Reexported in products:																				
1992	8	6	5	6	10	9	6	8	8	10	8	7	:	19	26	23	26	:	86	93
1993	10	4	9	7	7	12	14	22	20	8	8	7	:	23	26	57	24	:	132	129
1994	7	7	7	9	15	15	10	17	17	12	11	5	:	20	39	44	28	:	127	131
1995	3	7	7	8	4	7	15	18	5	6	8	7	:	18	18	39	21	:	103	96
1996	5	5	10	14	8	8	8	13	11	9	7	6	:	20	30	32	22	:	104	104
1997	32	30	6	6	7	10	12	16	17	7	6	8	:	68	22	45	21	:	157	156
1998	6	9	9	12	10	10	14	15	16	18	15	11	:	24	32	46	44	:	123	146
1999	26	19	12	14	11	10	15	10	7	9	5	7	:	58	35	32	21	:	169	145
2000	7	7	7	7	8	7	6	11	5	6	6	7	:	21	22	22	18	:	86	84
2001	8	5	8	9	10	10	11	11	8	10	16	13	:	21	29	30	40	:	98	120
2002	15	13	11	12	12	11	12	14	15	17	12	14	:	39	35	42	43	:	156	158
2003	16	13	14	14	15	20	19	15	13	16	10	9	:	44	49	47	35	:	183	175
2004	9	10	9	10	18	11	12	15	13	10	9	9	:	28	40	39	28	:	142	135
2005	7	8	9	11	9	17	11	11	11	6	7		:	24	37	33		:	121	
Polyhydric alcohol and livestock feed use:																				
1992	1	1	1	2	1	1	2	2	2	2	1	1	:	4	4	5	4	:	17	17
1993	2	2	1	1	1	1	1	1	1	1	1	1	:	5	4	3	2	:	15	14
1994	1	1	1	1	1	1	1	1	1	1	1	1	:	4	3	4	4	:	13	14
1995	1	1	2	1	2	2	1	2	2	2	1	1	:	4	5	4	4	:	17	17
1996	1	1	2	1	2	2	2	2	2	2	1	1	:	4	5	5	5	:	18	18
1997	1	1	1	2	2	2	2	2	3	2	1	2	:	4	6	6	5	:	21	21
1998	1	1	2	2	2	1	2	2	2	2	2	2	:	4	5	5	6	:	20	21
1999	1	2	2	2	2	2	2	2	2	2	2	3	:	5	6	6	8	:	24	26
2000	3	3	3	3	2	2	3	2	3	2	3	2	:	9	8	7	7	:	32	30
2001	3	3	3	3	4	3	3	4	10	4	3	2	:	8	10	17	9	:	42	44
2002	3	2	2	2	3	4	4	2	2	2	2	1	:	7	8	8	5	:	33	28
2003	2	2	2	2	2	2	2	2	3	2	3	3	:	6	7	7	7	:	24	27
2004	3	3	4	4	4	3	4	4	4	4	3	4	:	9	11	13	10	:	41	44
2005	4	4	4	4	4	5	4	4	5	4	4		:	12	13	13		:	48	
Total U.S. sugar deliveries 1/:																				
1992	640	637	731	728	671	809	771	792	856	840	745	718	:	2,007	2,208	2,418	2,303	:	8,875	8,937
1993	630	635	801	697	693	812	797	838	857	792	763	748	:	2,067	2,201	2,492	2,303	:	9,063	9,063
1994	657	682	806	675	758	873	787	856	936	804	767	720	:	2,145	2,307	2,579	2,291	:	9,334	9,322
1995	655	653	820	703	786	846	772	914	899	861	823	721	:	2,127	2,334	2,585	2,405	:	9,337	9,451
1996	676	724	815	785	800	806	822	838	896	901	824	731	:	2,215	2,390	2,557	2,457	:	9,567	9,619
1997	712	699	804	766	810	854	827	867	948	924	785	760	:	2,215	2,429	2,641	2,469	:	9,742	9,755
1998	701	718	843	787	784	894	843	843	933	912	823	773	:	2,261	2,465	2,619	2,508	:	9,815	9,854
1999	704	725	842	814	875	906	850	928	915	958	883	767	:	2,271	2,594	2,693	2,609	:	10,066	10,167
2000	713	755	880	776	855	881	813	954	875	981	871	737	:	2,348	2,513	2,641	2,589	:	10,111	10,091
2001	792	726	882	800	851	874	849	932	847	936	869	718	:	2,399	2,524	2,628	2,524	:	10,140	10,075
2002	761	710	801	786	848	849	860	874	960	946	874	724	:	2,272	2,483	2,694	2,544	:	9,973	9,994
2003	707	701	825	788	764	863	823	873	823	914	849	783	:	2,233	2,415	2,519	2,546	:	9,711	9,713
2004	718	775	832	782	773	864	833	912	827	980	866	739	:	2,324	2,419	2,572	2,586	:	9,861	9,901
2005	748	744	879	808	824	889	820	912	1,006	972	843		:	2,370	2,521	2,738		:	10,215	

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 22--U.S. sugar: supply and use, by fiscal year 1/

Items	1996/97	1997/98	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05 Estimate Jan-06	2005/06 Projected Jan-06
					1,000 short tons, raw value					
Beginning stocks 2	1,492	1,488	1,679	1,639	2,216	2,180	1,528	1,670	1,897	1,347
Total production 3,4	7,204	8,021	8,366	9,050	8,769	7,900	8,426	8,649	7,876	7,593
Beet sugar	4,013	4,389	4,421	4,974	4,680	3,915	4,462	4,692	4,611	4,435
Cane sugar	3,191	3,632	3,945	4,076	4,089	3,985	3,964	3,957	3,265	3,158
Florida	1,679	1,924	2,127	1,966	2,057	1,980	2,129	2,154	1,693	1,455
Louisiana	1,054	1,262	1,325	1,683	1,585	1,580	1,367	1,377	1,157	1,263
Texas	91	80	107	105	206	174	191	175	158	180
Hawaii	340	350	384	318	241	251	276	251	258	260
Puerto Rico	27	16	3	4	0	0	0	0	0	0
Total imports	2,774	2,163	1,823	1,636	1,590	1,535	1,730	1,750	2,096	2,770
Tariff-rate quota imports 5	2,277	1,729	1,256	1,124	1,277	1,158	1,210	1,226	1,404	2,140
Other Program Imports	493	349	386	388	238	296	488	464	500	325
Non-program imports	4	85	181	124	76	81	32	60	192	305
Statistical adjustments 3	0	0	0	0	0	0	0	0	0	0
Total Supply	11,471	11,672	11,868	12,325	12,575	11,615	11,684	12,070	11,869	11,710
Total exports 3	211	179	230	124	141	137	142	288	259	175
Quota-exempt for reexport	211	179	230	124	141	137	142	288	259	175
Other exports	0	0	0	0	0	0	0	0	0	0
CCC disposal, for export	0	0	0	0	0	0	0	0	0	0
Statistical difference 6	0	0	0	0	0	0	0	0	0	0
Miscellaneous	30	-1	-67	-126	123	-24	161	23	48	0
CCC disposal, for domestic non-food use	0	0	0	0	10	0	0	0	0	0
Refining loss adjustment	0	0	0	0	0	0	0	0	0	0
Statistical adjustment 7	30	-1	-67	-126	113	-24	161	23	48	0
Deliveries for domestic use	9,742	9,815	10,066	10,111	10,132	9,974	9,711	9,862	10,215	10,215
Transfer to sugar-cont. products for exports under reexport program	157	123	169	86	98	156	183	142	121	125
Transfer to polyhydric alcohol, feed	21	20	24	32	33	33	24	41	48	40
Deliveries for domestic food and beverage use	9,564	9,672	9,873	9,993	10,000	9,785	9,504	9,678	10,046	10,050
Total Use	9,983	9,992	10,238	10,090	10,396	10,087	10,014	10,172	10,523	10,390
Ending stocks 3	1,488	1,679	1,639	2,216	2,180	1,528	1,670	1,897	1,347	1,320
Privately owned	1,488	1,679	1,639	1,919	1,395	1,316				
CCC	0	0	0	297	784	212				
					Percent					
Stocks-to-use ratio	14.91	16.81	16.01	21.96	20.97	15.15	16.68	18.65	12.80	12.70

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/ Production reflects processors' projections compiled by the Farm Service Agency.

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 2004/05 available TRQ assumes shortfall of 50,000 tons. 6/ Receipts compiled by NASS and FSA Customs data. 7/ Calculated as a residual. Largely consists of invisible stocks change.

Table 23--Sugarbeet production costs and returns per planted acre, excluding Government payments, 2003-2004 1/

Item	United States		Great Lakes		Red River Valley		Great Plains		Northwest	
	2003	2004	2003	2004	2003	2004	2003	2004	2003	2004
	dollars per planted acre									
Gross value of production:										
Beets	919.08	809.60	697.49	765.44	911.27	728.64	922.02	794.88	1,051.87	1,048.80
Beet tops/grazing	0.09	0.10	0.00	0.00	0.00	0.00	0.66	0.68	0.00	0.00
Total, gross value of production	919.17	809.70	697.49	765.44	911.27	728.64	922.68	795.56	1,051.87	1,048.80
Cash expenses:										
Seed	46.46	50.13	42.77	46.02	48.02	51.67	49.74	53.87	41.83	44.87
Fertilizer 2/	57.45	59.23	80.31	85.65	36.96	39.10	76.31	78.10	90.39	88.15
Chemicals	96.39	94.73	74.37	74.13	109.60	108.30	78.19	77.77	86.88	81.45
Custom operations	34.54	34.89	30.15	30.86	24.81	24.73	37.84	40.62	49.84	49.40
Fuel, lube, and electricity	50.53	55.94	48.14	59.24	24.40	28.03	50.32	59.59	131.19	133.17
Repairs	47.38	48.25	56.90	59.99	38.59	38.93	54.64	56.07	66.16	67.19
Purchased irrigation water	5.06	5.39	0.00	0.00	0.06	0.07	9.94	10.20	17.05	18.34
Freight and dirt hauling	16.07	16.53	21.05	21.38	15.08	15.54	14.81	15.11	15.43	16.51
Miscellaneous	17.48	18.34	3.34	3.55	14.39	15.14	19.79	20.51	30.74	32.18
Hauling allowance (-)	7.29	7.46	0.00	0.00	10.45	10.45	7.41	7.90	1.31	1.29
Interest on operating capital	1.93	2.97	1.89	3.01	1.60	2.46	2.04	3.19	2.80	4.19
Total, operating costs	366.00	378.94	358.92	383.83	303.06	313.52	386.21	407.13	531.00	534.16
Allocated overhead:										
Hired labor	63.53	66.63	32.32	31.19	58.44	61.89	56.50	58.77	102.65	109.22
Opportunity cost of unpaid labor	84.51	88.74	108.31	104.53	56.11	59.47	160.43	167.05	93.42	100.82
Capital recovery of machinery and equipment	154.50	155.79	173.35	177.75	128.54	129.67	173.12	175.40	220.36	220.63
Opportunity cost of land (rental rate)	123.68	124.94	129.81	131.62	86.26	87.47	132.97	136.20	215.02	217.01
Taxes and insurance	15.60	15.91	14.74	15.07	13.13	13.43	16.90	17.10	21.96	22.49
General farm overhead	35.92	36.68	29.23	29.88	29.58	30.24	39.95	40.03	47.16	48.51
Coop share	29.39	30.07	12.36	12.66	42.02	43.04	11.75	12.03	19.04	19.33
Total, allocated overhead	507.13	518.76	500.12	502.70	414.08	425.21	591.62	606.58	719.61	738.01
Total costs listed	873.13	897.70	859.04	886.53	717.14	738.73	977.83	1,013.71	1,250.61	1,272.17
Value of production less total costs listed	46.04	-88.00	-161.55	-121.09	194.13	-10.09	-55.15	-218.15	-198.74	-223.37
Value of production less operating costs	553.17	430.76	338.57	381.61	608.21	415.12	536.47	388.43	520.87	514.64
Supporting information:										
Yield (tons/planted acre)	22.20	22.00	19.00	20.80	20.30	19.80	22.00	21.60	29.30	28.50
Season-average price (dollars/ton) 3/	41.40	36.80	36.71	36.80	44.89	36.80	41.91	36.80	35.90	36.80
Enterprise size (planted acres) 1/	276	276	195	195	328	328	246	246	279	279
Production practices: 1/										
Irrigated (percent)	39	39	0	0	1	1	99	99	100	100
Dryland (percent)	61	61	100	100	99	99	1	1	0	0

1/ Developed from survey base year, 2000. 2004 estimates are preliminary. 2/ Commercial fertilizer, soil conditioners, and manure.

3/ Sugarbeet prices for 2004 are held at the U.S. level because State prices for 2004 will not be available until January 2006.

Note: Sugarbeet regions defined as: Great Lakes (Michigan), Red River Valley (eastern North Dakota, Minnesota), Great Plains (western North Dakota, Montana, Wyoming, Nebraska, Colorado), Northwest (Idaho, Oregon, Washington), and Southwest (California). The Southwest region is not reported because of limited data, but is included in the U.S. averages.

Table 24--U.S. high fructose corn syrup (HFCS) deliveries, quarterly, by fiscal and calendar year 1/

Quarter and Year	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005 2/
	1,000 short tons, dry weight										
Quarter											
I	1,762	1,833	1,920	1,975	2,072	2,129	2,165	2,114	2,122	2,185	2,128
II	2,126	2,241	2,311	2,439	2,482	2,482	2,370	2,527	2,469	2,438	2,408
III	2,097	2,141	2,286	2,399	2,440	2,400	2,433	2,491	2,408	2,361	2,392
IV	1,748	1,841	2,000	2,066	2,188	2,103	2,181	2,161	2,136	2,076	2,156
Year											
Fiscal	7,671	7,964	8,358	8,812	9,061	9,200	9,072	9,313	9,160	9,120	9,004
Calendar	7,733	8,057	8,517	8,879	9,183	9,114	9,149	9,293	9,135	9,060	9,084

1/ Includes Puerto Rico. 2/ Forecast.

Source: Economic Research Service.

Table 25--U.S. high fructose corn syrup (HFCS) production, quarterly, by fiscal and calendar year 1/

Quarter and Year	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005 2/
	1,000 short tons, dry weight										
Quarter											
I	1,760	1,830	1,946	2,012	2,122	2,169	2,193	2,105	2,119	2,183	2,143
II	2,136	2,267	2,352	2,540	2,547	2,553	2,400	2,541	2,484	2,446	2,446
III	2,111	2,163	2,348	2,476	2,503	2,438	2,442	2,498	2,412	2,359	2,454
IV	1,752	1,897	2,031	2,123	2,240	2,155	2,201	2,158	2,135	2,076	2,154
Year											
Fiscal	7,701	8,012	8,543	9,059	9,295	9,399	9,190	9,345	9,173	9,123	9,119
Calendar	7,759	8,157	8,677	9,150	9,412	9,315	9,236	9,302	9,150	9,064	9,197

1/ Includes Puerto Rico. 2/ Forecast.

Source: Economic Research Service.

Table 26--U.S. high fructose corn syrup (HFCS) supply and use, calendar year 1/

	Supply					Utilization			
Calendar	Domestic production				Total		Domestic disappearance		
year	HFCS-42	HFCS-55	Total	Imports	supply	Exports	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	9,533	350	3,546	5,637	9,183
2000	3,519	5,796	9,315	121	9,436	321	3,550	5,565	9,114
2001	3,496	5,740	9,236	148	9,384	235	3,556	5,593	9,149
2002	3,640	5,662	9,302	136	9,438	145	3,695	5,599	9,294
2003	3,632	5,518	9,150	144	9,294	159	3,692	5,443	9,135
2004	3,611	5,452	9,063	156	9,219	160	3,685	5,374	9,059
2005 2/	3,684	5,512	9,196	155	9,351	267	3,748	5,336	9,084

1/ Includes Puerto Rico. 2/ Forecast.

Source: Economic Research Service, USDA.

Table 27--Net cost of corn starch to U.S. wet-millers, Midwest markets

Period	Yellow dent corn 1/	Corn byproducts: Corn oil	Corn byproducts: Corn gluten feed	Corn byproducts: Corn gluten meal	Byproduct credits: Corn oil	Byproduct credits: Corn gluten feed	Byproduct credits: Corn gluten meal	Byproduct credits: Total byproduct	Net cost: Corn	Net cost: Corn starch	Net cost: Corn sweetener
	Dollars per bu.	Cents per lb.	Dollars per short ton		----Cents per bushel----			Dollars per bu.	Dollars per bu.	--Cents per lb.--	
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
2000	1.88	14.66	51.71	237.63	22.72	34.90	31.49	0.89	0.98	3.13	2.95
2001	1.90	15.75	62.46	253.98	24.41	42.16	33.65	1.00	0.90	2.86	2.70
2002	2.17	20.78	60.33	243.72	32.21	40.72	32.29	1.05	1.12	3.55	3.36
2003	2.29	28.65	72.15	251.36	44.40	48.70	33.31	1.26	1.02	3.25	3.07
2004	2.39	27.59	72.01	308.44	42.76	48.61	40.87	1.32	1.07	3.39	3.20
2004											
Jan.	1.86	27.41	53.63	245.63	42.49	36.20	32.55	1.11	0.75	2.37	2.24
Feb.	1.86	27.58	51.38	232.50	42.75	34.68	30.81	1.08	0.78	2.47	2.33
Mar.	1.97	28.08	51.90	240.50	43.52	35.03	31.87	1.10	0.87	2.75	2.60
I	1.90	27.69	52.30	239.54	42.92	35.30	31.74	1.10	0.80	2.53	2.39
Apr.	1.94	29.29	51.75	246.25	45.40	34.93	32.63	1.13	0.81	2.57	2.43
May	1.93	30.65	52.80	274.60	47.51	35.64	36.38	1.20	0.73	2.33	2.20
June	2.02	30.73	50.63	322.13	47.63	34.18	42.68	1.24	0.78	2.46	2.33
II	1.96	30.22	51.73	280.99	46.85	34.92	37.23	1.19	0.77	2.46	2.32
July	2.20	30.01	50.38	334.25	46.52	34.01	44.29	1.25	0.95	3.02	2.86
Aug.	1.98	28.83	51.90	327.70	44.69	35.03	43.42	1.23	0.75	2.38	2.25
Sept.	1.75	27.75	47.13	294.75	43.01	31.81	39.05	1.14	0.61	1.94	1.83
III	1.98	28.86	49.80	318.90	44.74	33.62	42.25	1.21	0.77	2.45	2.31
Oct.	1.67	27.50	51.75	300.00	42.63	34.93	39.75	1.17	0.50	1.58	1.49
Nov.	1.75	27.08	50.10	319.00	41.97	33.82	42.27	1.18	0.57	1.81	1.71
Dec.		26.08									

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. NQ = no quote.

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

Table 28--U.S. use of field corn, by crop year 1/

Description	1995/96	1996/97	1997/98	1998/99	1999/2000	2000/01	2001/02	2002/03	2003/04	2004/05 2/	2005/06 2/
HFCS	473	492	513	530	540	530	541	532	530	520	535
Glucose syrup and dextrose	227	233	229	219	222	218	217	219	228	222	220
Total corn sweetener	700	725	742	749	761	748	758	751	758	742	755
Corn starch	226	238	246	240	251	247	246	256	272	280	285
Wet milling excluding alcohol	926	963	988	989	1,013	995	1,003	1,007	1,030	1,022	1,040
Alcohol											
Fuel	396	429	481	526	566	628	714	996	1,168	1,325	1,575
Beverage	125	130	133	127	130	130	131	131	132	133	135
Total	521	559	614	653	696	758	845	1,127	1,300	1,458	1,710
Total	1,447	1,522	1,602	1,642	1,709	1,753	1,848	2,133	2,329	2,480	2,750
U.S. corn crop	7,374	9,233	9,207	9,759	9,431	9,915	9,503	8,967	10,089	11,807	11,112
Corn sweetener share	9.49	7.85	8.06	7.67	8.07	7.54	7.97	8.38	7.52	6.29	6.79
Wet milling excluding alcohol share	12.56	10.43	10.73	10.13	10.74	10.04	10.56	11.23	10.21	8.66	9.36
Alcohol share	7.07	6.05	6.67	6.69	7.38	7.64	8.89	12.56	12.88	12.35	15.39
Total	19.62	16.48	17.40	16.83	18.12	17.68	19.45	23.79	23.09	21.01	24.75

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

Source: Economic Research Service, USDA.

Table 29--U.S. maple syrup production and value, by state, calendar years

State and Region	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
					Production -- 1,000 Gallons						
New England:											
Connecticut	7	10	9	9	13	7	9	10	10	11	10
Maine	162	167	185	170	195	250	200	275	285	290	265
Massachusetts	29	49	44	47	44	39	34	48	37	50	40
New Hampshire	64	89	76	67	61	75	45	83	60	83	57
Vermont	365	550	395	360	370	460	275	510	420	500	410
Total	627	865	709	653	683	831	563	926	812	934	782
Northeast:											
New York	208	343	269	231	195	210	193	260	210	255	222
Midwest:											
Pennsylvania	43	71	63	72	67	47	69	60	52	60	61
Ohio	65	90	95	78	95	34	96	75	51	78	69
Michigan	55	88	75	55	73	44	60	75	59	80	58
Minnesota	0	0	0	0	0	0	0	0	0	0	0
Wisconsin	98	110	87	70	75	65	68	79	76	100	50
Total	261	359	320	275	310	190	293	289	238	318	238
U.S. Total	1,096	1,567	1,298	1,159	1,188	1,231	1,049	1,475	1,260	1,507	1,242
					Value of Production -- 1,000 dollars						
New England:											
Connecticut	281	427	375	370	556	307	411	472	486	569	--
Maine	2,965	3,657	3,663	3,502	3,783	3,550	3,740	5,335	6,413	5,626	--
Massachusetts	1,105	1,906	1,637	1,701	1,707	1,474	1,380	1,896	1,550	2,315	--
New Hampshire	2,413	3,311	3,055	2,425	2,281	2,858	1,800	3,411	2,580	2,938	--
Vermont	10,147	14,575	10,902	10,440	10,730	13,800	8,470	13,770	11,676	13,650	--
Total	16,911	23,876	19,632	18,438	19,057	21,989	15,801	24,884	22,705	25,098	--
Northeast:											
New York	4,888	8,747	6,752	6,202	5,324	6,090	5,694	6,838	5,628	7,191	--
Midwest:											
Pennsylvania	1,079	1,747	1,638	1,872	1,742	1,335	1,746	1,602	1,425	1,740	--
Ohio	1,872	2,565	2,926	2,324	2,850	1,166	3,005	2,423	1,790	2,496	--
Michigan	1,480	2,737	2,363	1,760	2,058	1,544	1,782	2,438	1,841	3,040	--
Minnesota	--	--	--	--	--	--	--	--	--	--	--
Wisconsin	2,489	2,497	1,905	1,617	1,778	1,800	1,986	2,315	2,212	3,230	--
Total	6,920	9,546	8,832	7,573	8,428	5,845	8,519	8,778	7,268	10,506	--
U.S. Total	28,719	42,169	35,216	32,213	32,809	33,924	30,014	40,500	35,601	42,795	--
					Price per gallon -- dollars						
New England:											
Connecticut	40.14	42.70	41.67	41.11	42.77	43.86	45.67	47.20	48.60	51.73	--
Maine	18.30	21.90	19.80	20.60	19.40	14.20	18.70	19.40	22.50	19.40	--
Massachusetts	38.10	38.90	37.20	36.19	38.80	37.79	40.59	39.50	41.89	46.30	--
New Hampshire	37.70	37.20	40.20	36.19	37.39	38.11	40.00	41.10	43.00	35.40	--
Vermont	27.80	26.50	27.60	29.00	29.00	30.00	30.80	27.00	27.80	27.30	--
Total	26.97	27.60	27.69	28.24	27.90	26.46	28.07	26.87	27.96	26.87	--
Northeast:											
New York	23.50	25.50	25.10	26.85	27.30	29.00	29.50	26.30	26.80	28.20	--
Midwest:											
Pennsylvania	25.09	24.61	26.00	26.00	26.00	28.40	25.30	26.70	27.40	29.00	--
Ohio	28.80	28.50	30.80	29.79	30.00	34.29	31.30	32.31	35.10	32.00	--
Michigan	26.91	31.10	31.51	32.00	28.19	35.09	29.70	32.51	31.20	38.00	--
Minnesota											
Wisconsin	25.40	22.70	21.90	23.10	23.71	27.69	29.21	29.30	29.11	32.30	--
Total	26.51	26.59	27.60	27.54	27.19	30.76	29.08	30.37	30.54	33.04	--
U.S. Total	26.20	26.90	27.10	27.80	27.60	27.56	28.61	27.46	28.25	28.40	--

-- = not available.

Source: National Agricultural Statistics Service, USDA.