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Sugar and Sweeteners Outlook

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USDA Sets Sugar Program Parameters for Fiscal Year 2010

The Agricultural Adjustment Act of 1938, as amended by the Food, Conservation, and Energy Act of 2008, requires that sugar marketing allotments be in effect in fiscal year (FY) 2010. The act requires that the Overall Allotment Quantity (OAQ) be set at no less than 85 percent of the estimated quantity of sugar for domestic consumption. On September 25, the Secretary of Agriculture announced that the FY 2010 OAQ is set at 9,235,250 short tons, raw value (STRV). This amount is above the minimum 85 percent level of the estimated sugar for domestic consumption.

On September 25, the USDA established the FY 2010 raw and refined sugar tariff-rate quotas (TRQs). The raw sugar TRQ was set at 1,231,497 STRV (1,117,195 metric tons, raw value (MTRV)), the minimum access commitment under World Trade Organization (WTO) rules. The FY 2010 refined and specialty sugar TRQ was established at 99,251 STRV. This amount includes the WTO minimum amount of 24,251 STRV, 1,825 STRV of which is reserved for specialty sugar, as well as an additional 75,000 STRV for specialty sugar to accommodate a rapidly expanding organic food sector.

In the September 2009 *World Agricultural Supply and Demand Estimates* (WASDE), the U.S. Department of Agriculture (USDA) projected U.S. and Mexico sugar supply and use for FYs 2009 and 2010. (See **special article in this report “Tight Supplies Expected to Sustain High U.S. Sugar Prices into 2009/10”**). U.S. beet sugar production for FY 2010 is projected at 4.700 million STRV, an increase of 450,000 STRV from FY 2009. According to the National Agricultural Statistics Service (NASS), the national sugar beet yield is forecast at a record 27.04 tons per acre, and area harvested is forecast at 1.159 million acres, about 154,000 acres more than last year. The USDA expects the September/August 2009/10 sugar yield per acre at 4.174 STRV, about the same as in the 2008/09 crop year (4.131 STRV). Beet sugar production in September 2009 year is expected to be about 100,000 STRV more than production in September 2008. This increase is counted as part of the FY 2009 production total (4.250 million STRV), implying FY 2010 beet sugar production at 4.700 million STRV.

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Cane sugar for FY 2010 is projected at 3.325 million STRV, about the same as in FY 2009 (3.321 million STRV). Florida cane sugar production is projected to increase 131,000 STRV over FY 2009 to 1.700 million STRV. Although NASS reports sugarcane area harvested for sugar and seed to decline by 10,000 acres to 390,000 acres, it also reports yield to increase to 36.7 tons per acre, up from 33.1 tons from FY 2009. FY 2010 Louisiana cane sugar production is projected at 1.3 million STRV, down by 100,000 STRV compared with FY 2009. NASS forecasts Louisiana area harvested for sugar and seed at 400,000, 5,000 acres less than last year, and sugarcane yield at 27.0 tons per acre, a reduction of 4.6 percent from last year.

Sugar imports under the sugar TRQ for FY 2010 are projected at 1.182 million STRV in the September 2009 WASDE. This projection was made before the USDA announcement of the raw and refined sugar TRQs on September 25. The projection assumes that all TRQs would be set at minimum levels to be consistent with U.S. obligations to the WTO and to Free Trade Agreements (FTAs) passed by the U.S. Congress. Also, the projection assumes a TRQ shortfall equal to 200,000 STRV, a high level attributable to high world sugar prices making the United States a less desirable export destination.

Imports from Mexico for FY 2009 are now projected at 1,375,000 STRV, based on pace to date, and with only the month of September to go. About 64 percent of the total is imported for direct consumption, and remainder is for further refining. Sugar imports from Mexico for FY 2010 are projected at 450,000 STRV. Strong U.S. demand for raw sugar will be a draw for Mexican *estandar* sugar, especially if the raw sugar TRQ does not increase in the second half of FY 2010.

Deliveries of sugar for human consumption in FY 2009 are estimated at 10.735 million STRV, the highest level since the early 1970s. The high level of consumption deliveries is due to earlier-year contracted Mexican sugar substituting for high fructose corn syrup (HFCS) and some domestically processed sugar. Deliveries of domestically processed sugar in FY 2009 are estimated at 9.783 million STRV, about 345,000 STRV less than in FY 2008.

Deliveries of sugar for human consumption in FY 2010 are projected at 10.140 million STRV, indicating a large decrease of almost 600,000 STRV from deliveries in FY 2009. The USDA expects substantial reductions in imports from Mexico of refined sugar for direct consumption. Mexico has already announced sugar import quotas totaling 600,000 metric tons (mt) for entry before the end of the 2009 calendar year. Most of these imports are expected to be refined sugar to replace Mexican refined sugar exported to the United States in FY 2009. Deliveries of domestically processed (i.e., U.S.) sugar are expected to increase by 290,000 STRV in FY 2010. An implication of the USDA sugar deliveries' projection is that deliveries of HFCS should rebound about 5 percent from FY 2009 levels.

Ending FY 2009 stocks are estimated at 1.307 million STRV, implying an ending-year stocks-to-use ratio of 11.84 percent, the lowest level since 1975. Ending FY 2010 stocks are projected at 844,000 STRV, implying an ending-year stocks-to-use ratio of 7.98 percent, which would be the lowest stocks-to-use ratio since 1958. Reflecting low stock levels, the low end of the refined beet sugar Midwest price range from *Milling and Baking News* is quoted at 42 cents per pound (lb) in the first 2 weeks of September, up 6.6 cents/lb from July.

The Inter-Continental Exchange (ICE) raw sugar November No. 16 contract futures has averaged 28.50 cents/lb through the first half of September. Up until the first week of August, increases in the No.16 raw sugar price were strongly correlated with the runup in Mexican estandar sugar prices. Since then, most upward pressure has been exerted by high world raw sugar prices (No.11 ICE contract). The margin between U.S. and world raw sugar prices rises to reflect tightness in domestic supplies and to keep the U.S. competitive in bidding sugar away from other importing countries.

Mexico sugar production for FY 2010 is forecast at 5.500 million metric tons, raw value (MTRV), up 240,000 MTRV from this year's disappointing production total (5.260 million MTRV). For FY 2010 the USDA expects sugarcane area to be about the same as in FY 2009 but expects some recovery in sugarcane yield—up from 64.2 mt per hectare to 69.3 mt. Even so, the FY 2010 yield forecast is still below the 10-year average and may be optimistic. Certain sugarcane-producing regions in Mexico have continued experiencing dry growing conditions. It is also unclear to what extent use of chemical/fertilizer inputs has recovered from the 2008/09 crop year. Although dollar prices of imported chemical and fertilizer inputs have been less this year than last, an offset has resulted from the depreciation of the Mexican peso by about 30 percent since August 2008.

Mexico sugar imports in FY 2010 are projected at 710,000 MTRV. This projection assumes that 100,000 MTRV of announced quota enters in September 2009 (counted as imports in FY 2009) and that Mexico imports about 180,000 MTRV of sugar from the United States for its sugar-containing product re-export program (IMMEX).

Mexican exports are projected at 450,000 MTRV, mostly of estandar sugar destined for the United States. Deliveries for human consumption are projected at 5.140 million MTRV, and deliveries of domestic sugar for the IMMEX program are projected at 400,000 MTRV. Ending-year stocks, the difference between total supply and use, are projected at 885,000 MTRV. The resulting stocks-to-consumption ratio is 17.2 percent.

This is the last issue of the *Sugar and Sweetener Outlook (SSO)* in its present format. Starting in January 2010, the *SSO* will be published monthly 2 to 3 days after publication of the *World Agricultural Supply and Demand Estimates (WASDE)*. Each issue of the *SSO* will focus on changes made to the U.S. and Mexico sugar supply and demand estimates appearing in that month's *WASDE*. This change is being made to better serve the needs of the *SSO* readership and the U.S. Department of Agriculture.

U.S. Sugar

On September 25, 2009, the U.S. Department of Agriculture (USDA) established sugar program parameters for fiscal year (FY) 2010. These parameters included the overall allotment quantity (OAQ) and the raw and refined sugar tariff-rate quotas (TRQs). On September 11, 2009, the USDA released its latest supply and use estimates for FY 2009 and projections for FY 2010 for both the United States and Mexico in the *World Agricultural Supply and Demand Estimates (WASDE)* report.

Sugar Program for FY 2010

The Agricultural Adjustment Act of 1938, as amended by the Food, Conservation, and Energy Act of 2008, requires that sugar marketing allotments be in effect in FY 2010. The act requires that the OAQ be set at no less than 85 percent of the estimated quantity of sugar for domestic consumption. On September 25, the Secretary of Agriculture announced that the FY 2010 OAQ is set at 9,235,250 short tons, raw value (STRV). This amount is above the minimum 85 percent level of the estimated sugar for domestic consumption. Pursuant to law, the allocation to the beet sugar sector is set at 5,019,358 STRV, or 54.35 percent of the OAQ. The allocation to the cane sugar sector is the remainder, 4,215,892 STRV. Cane sugar production is expected to fall significantly short of its allotment, requiring reassignment to imports later in FY 2010.

On September 25, the USDA established the FY 2010 raw and refined sugar TRQs. The authority for establishing the sugar TRQs is the Harmonized Tariff Schedule (HTS) of the United States, Chapter 17, and Additional U.S. Note 5 of Chapter 17. The raw sugar TRQ was set at 1,231,497 STRV (1,117,195 metric tons, raw value (MTRV)), the minimum access commitment under World Trade Organization (WTO) rules. The FY 2010 refined and specialty sugar TRQ was established at 99,251 STRV. This amount includes the WTO minimum amount of 24,251 STRV, 1,825 STRV of which is reserved for specialty sugar, as well as an additional 75,000 STRV for specialty sugar to accommodate a rapidly expanding organic food sector.

The USDA will administer the FY 2010 specialty sugar portion of the refined and specialty sugar TRQ in five tranches. Because this portion of the TRQ will be administered on a first-come, first-served basis, tranches are needed to allow for orderly marketing throughout the year. The first tranche, totaling 1,825 STRV, will open on Oct. 20, 2009. All specialty sugars are eligible for entry under this tranche. The second tranche will open on Nov. 10, 2009, and be equal to 27,558 STRV. The remaining three tranches each will be equal to 15,814 STRV, with the third tranche opening on Jan. 12, 2010; the fourth, on May 17, 2010; and the fifth, on Aug. 24, 2010. The second, third, fourth, and fifth tranches will be reserved for organic sugar and other specialty sugars not currently produced commercially in the United States or reasonably available from domestic sources.

U.S. Production

FY 2010 Beet Sugar Production

The National Agricultural Statistics Service (NASS), in its September 2009 edition of *Crop Production*, forecasts area harvested at 1.159 million acres, a 15.3-percent increase over that of last year. All beet areas, except California, report acreage increases over those of last year: Pacific North West, 25.3 percent; Great Plains, 12.2 percent; Upper Midwest, 4.6 percent; and the Great Lakes, 0.7 percent. National sugar beet yield is forecast at a record 27.0 tons/acre. NASS forecasts record yields in Colorado, Minnesota, Montana, Oregon, and Wyoming. NASS forecasts the total sugar beet crop at 31.327 million tons, an increase of 16.7 percent over the preceding harvest of 26.837 million tons.

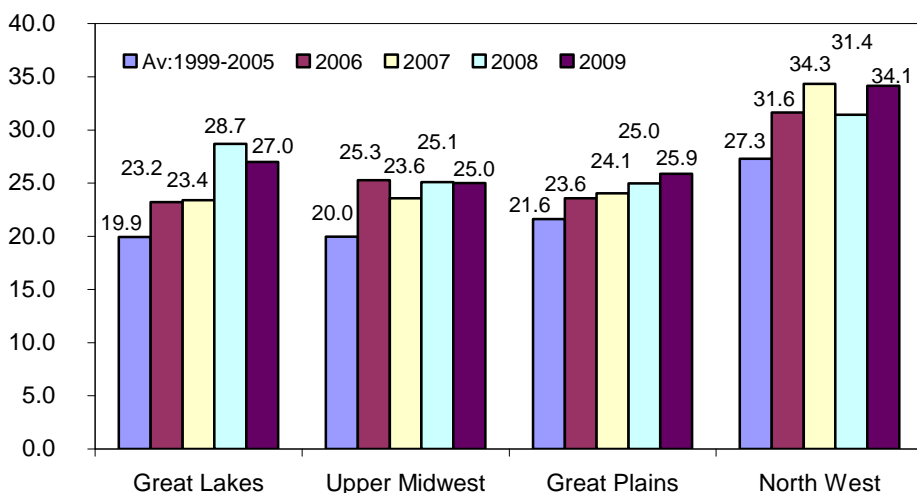
Since the 2006/07 crop year, sugar beet yields in all producing areas have been noticeably higher than in prior years. Figure 1 shows regional yields since the 2006/07 crop year relative to the average for 1999/2000-2005/06. In each region, the ratio of lowest yield since 2006/07 to the earlier-period average is substantial: Upper Midwest, 18.0 percent; Great Lakes, 16.4 percent; Pacific North West, 15.1 percent; and the Great Plains, 8.9 percent. The rise in yields was due mainly to the use of rhizomania-resistant seed varieties and the use of Pancho Beta to control for Curly Top. Fuller adaption of genetically-modified-organism (GMO) seed varieties (about 95 percent in 2009/10, up from about 60 percent in 2008/09) strengthens the trend of higher yields.^{1/}

Higher yields have been accompanied by lower sugar beet area planted. Figure 2 shows yield and area since 1999/2000. Relative to 1999/2000, yield has grown about 24 percent and area planted has declined by about the same amount. Figure 3 shows that the negative relationship has been strongest in these last 4 crop years. This observation suggests that, in the future, sugar beet area is likely to be less volatile.^{2/}

Figure 1

U.S. sugar beet yields, by region

1,000 acres



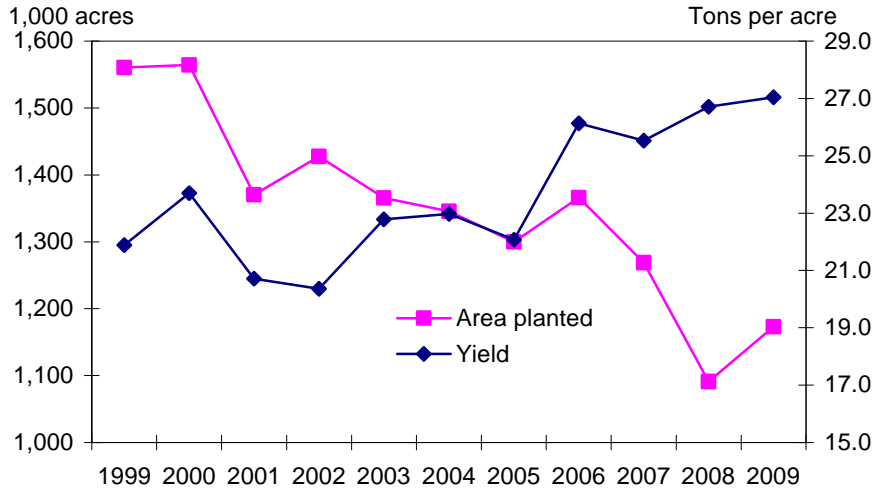
Source: USDA, NASS, *Crop Production*.

^{1/} On September 21, 2009, a Federal judge in the Northern District of California ruled that the USDA had failed to adequately assess the environmental impacts of GMO sugar beets before approving the crop for cultivation in the United States. The specific concern was the spread of GMO traits to other sugar beets or to related crops of Swiss chard and red table beets. A meeting to begin the remedy phase of the case is scheduled for October 30, 2009. The plaintiffs to the lawsuit are asking that the planting of GMO beets be banned.

^{2/} Using data since 1982, the ERS Sugar and Sweetener Group has found that a 10-percent change in the previous year's ratio of per acre returns of sugar beets to alternative crops is on average followed by an expansion in area planted of 2.65 percent. Based on preliminary NASS data, the return ratio increased about 56 percent in 2008/09. (The return ratio in 2007/08 was the lowest since 1982, some 2.9 standard deviations below the mean.) The increase in 2009/10 area planted, however, is only 7.5 percent, about half of the predicted amount. This is partial evidence that higher permanent expected yields have possibly altered the elasticity relationship between net returns and area adjustment.

Figure 2

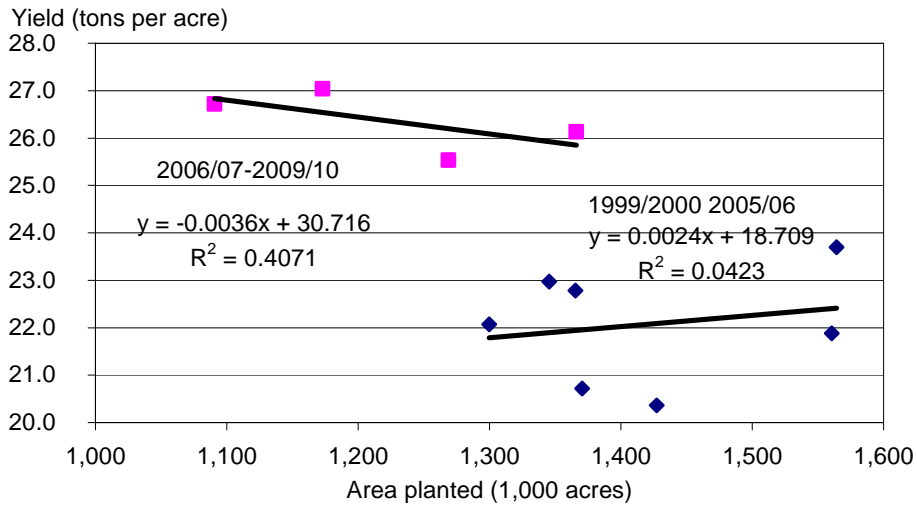
U.S. sugar beet area planted and yield, crop years 1999-2009



Source: USDA, NASS, *Crop Production*.

Figure 3

Relationship between sugar beet area planted and yield, 1999/2000-2009/10



Source: USDA, NASS, *Crop Production*.

U.S. beet sugar production for FY 2010 is projected at 4.700 million STRV, an increase of 450,000 STRV from FY 2009. On a September/August crop year basis, the Sugar and Sweetener Team at the Economic Research Service (ERS) expects national sugar per harvested acre at 4.174 STRV, about the same as in the 2008/09 crop year, which would imply a corresponding beet sugar forecast of 4.800 million STRV. However, because early season beet sugar production in September 2009 is expected to be about 100,000 STRV more than production in September 2008, this increase is counted as part of the FY 2009 production total (4.250 million STRV), implying FY 2010 beet sugar production at 4.700 million STRV.

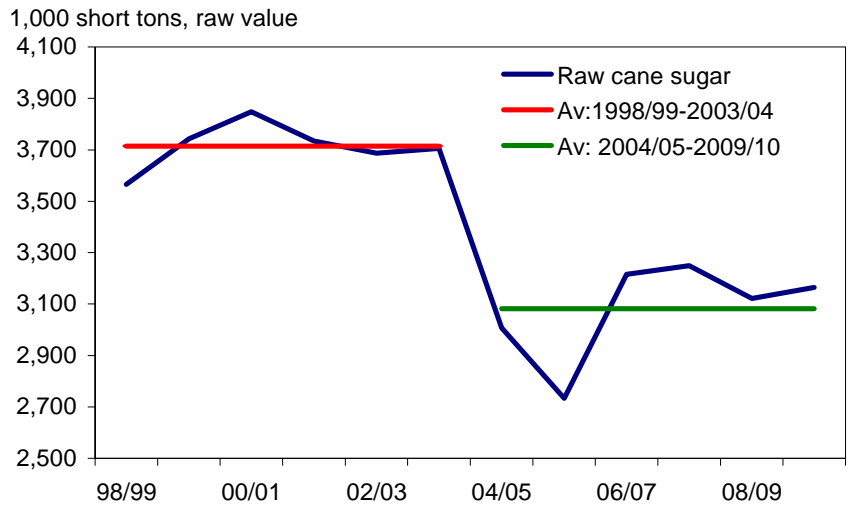
FY 2010 Cane Sugar Production

Cane sugar for FY 2010 is projected at 3.325 million STRV, about the same as FY 2009 (3.321 million STRV). Florida cane sugar production is projected to increase 131,000 STRV over FY 2009 to 1.700 million STRV. Although NASS reports sugarcane area harvested for sugar and seed down by 10,000 acres to 390,000 acres, it also reports a yield increase to 36.7 tons per acre, up from 33.1 tons in FY 2009. FY 2010 Louisiana cane sugar production is projected at 1.3 million STRV, down by 100,000 STRV compared with FY 2009. NASS forecasts Louisiana area harvested for sugar and seed at 400,000 acres--5,000 acres less than last year, and sugarcane yield at 27.0 tons per acre, a reduction of 4.6 percent from last year. Cane sugar production is forecast at 165,000 STRV in Texas and 160,000 STRV in Hawaii.

Unlike beet sugar production, cane sugar production in recent years has shown little growth. Figure 4 shows mainland sugar production since 1998/99. In the first half of the period (1998/99-2003/04), production averaged 3.714 million STRV. The

Figure 4

Mainland cane sugar production, 1998/99-2009/10



Source: USDA, FSA, *Sweetener Market Data*.

average since then has been 3.082 million STRV, some 17 percent lower. Figure 5 shows added details. Area harvested increased through the 1990s, plateaued in the early 2000s, and then declined. Yields displayed a similar pattern: rising till 1997/98 and then stagnating, with weather-related downturns in the middle of the latter period.

Trade

Imports for FY 2009 are estimated at 3.116 million STRV (table 1). Through August 2009 (fig. 6), raw sugar TRQ entries equaled 986,104 STRV (894,579 MTRV), or about 80 percent of the expected total. Sugar from Mexico for the year is estimated at 1.375 million STRV, of which 1.356 million STRV has entered, or 99 percent of the estimated total. About 34 percent of Mexican imports arrived in bulk by ocean vessel. All of this sugar was destined for refining. The remainder was imported in containers, railcars, or trucks. Although some of this sugar was destined to beet processors and cane refiners for further processing, most was for direct consumption or for sale by jobbers.

Refined sugar TRQ entries equaled 252,972 STRV through August 2009. About 67 percent of these entries occurred in the last quarter of 2008 that were part of an addition to the FY 2008 refined TRQ, which was announced on August 6, 2008, and which allowed entries until December 31, 2008. Refined sugar entries for the FY 2009 TRQ have amounted to 84,520 STRV, or about 81 percent of the allocated amount.

Imports for FY 2010 are projected in the September WASDE at 2.087 million STRV. Expected raw sugar TRQ entries are the allocated amount (1.231 million STRV) less shortfall (196,744 STRV), or 1.035 million STRV. Expected refined sugar TRQ entries are projected at 20,994 STRV. Because the additional specialty sugar was not announced prior to the September WASDE, it was not included in the total. However, the full amount would be expected to enter under most circumstances. Other TRQ entries under Free Trade Agreements are projected at 126,400 STRV, of which 98.2 percent come from parties to the Central American Free Trade Agreement (CAFTA). Other program sugar imports outside the sugar TRQ for FY 2010 are projected to total 400,000 STRV. Other USDA import programs include the Refined Sugar Re-export Program, the Sugar-Containing Products Program, and the Polyhydric Alcohol Program. High-tier tariff sugar imports and sugar in imported syrups are projected at 10,000 STRV. Imports from Mexico are projected at 495,000 STRV.

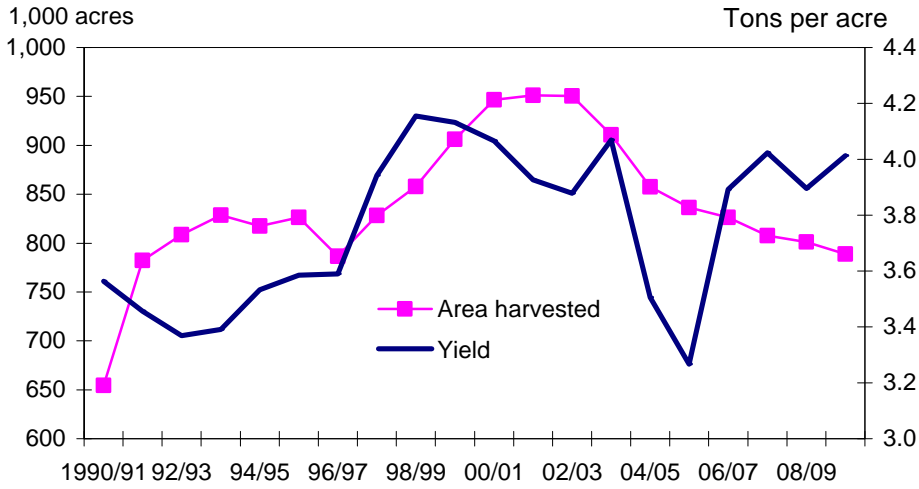
Unlike in FY 2009, Mexico may ship more of its sugar to the United States for further processing. Over the last 4 years, sugar refineries have demanded an average of 5.529 million STRV of (mostly raw) sugar.^{3/} Estimates of available raw sugar include 3.325 million STRV from domestic production, 1.035 million STRV from the raw sugar TRQ, as much as 124,229 STRV from Free Trade Agreements (FTAs), and 400,000 STRV from re-export program imports. These amounts sum to 4.884 million STRV, or 645,000 STRV below the average raw sugar requirements of the last 4 years.

Sugar exports for FY 2010 are forecast at 200,000 STRV, an increase of 70,000 STRV above the total estimated for FY 2009. Most of these exports are expected to go to Mexico, where they are used in Mexico's product re-export (IMMEX)

^{3/} Through the first 10 months of FY 2009, refiners have demanded 4.551 million STRV, about 97.9 percent of the amount demanded in FY 2008 through the same corresponding time period. Based on an analysis of Sweetener Market Data from the Farm Service Agency (FSA), ERS estimates that refiners have demanded these amounts since FY 2006: FY 2006, 5.677 million STRV; FY 2007, 5.350 million STRV; FY 2008, 5.605 million STRV; and FY 2009, 5.484 million STRV (97.9 percent of 5.605 million)

Figure 5

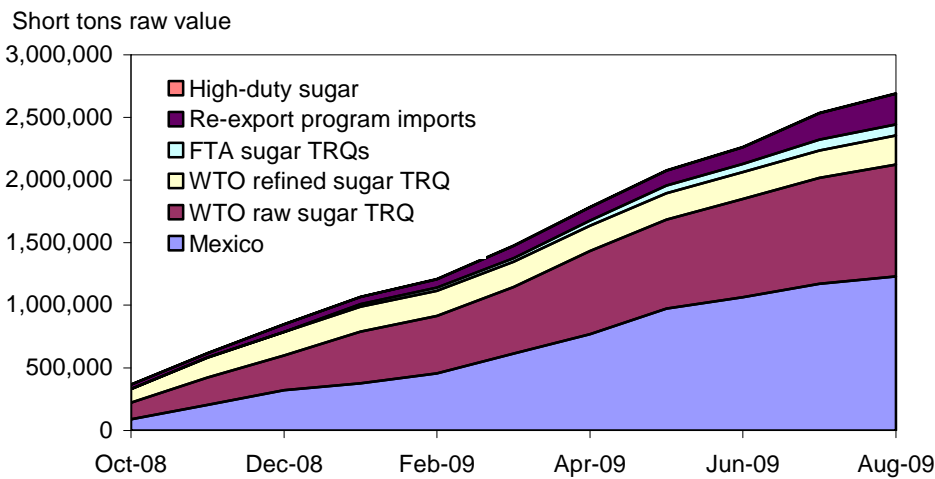
U.S. mainland sugarcane area harvested and yield



Source: USDA, NASS, *Crop Production*.

Figure 6

Cumulative sugar imports, by source, FY 2009, through August 2009



FTA = Free Trade Agreement; TRQ = Tariff-rate quotas; WTO = World Trade Organization.
 Source: U.S. Customs and Border Protection.

Table 1--USDA estimate of sugar imports, FY 2009

Item	Metric tons, raw value	Short tons, raw value
Raw sugar TRQ	1,117,195	1,231,497
Less shortfall attributable to Mexico 1/	-7,258	-8,001
Less other shortfall	-169,643	-186,999
Total raw sugar TRQ	940,294	1,036,497
Refined sugar TRQ		
Allocation to Canada	10,300	11,354
Late FY 2008 entry	15,594	17,189
Allocation to Mexico	2,954	3,256
Less Mexican shortfall 1/	-2,954	-3,256
Global	7,090	7,815
Late FY 2008 entry	68,945	75,998
Re-assigned Mexico refined TRQ	68,278	75,264
Specialty		
Base	1,656	1,825
Additional	72,575	80,000
Total refined sugar TRQ	244,438	269,446
CAFTA/DR TRQ - calendar 2009	110,460	121,760
CAFTA/DR TRQ - calendar 2008	865	953
Singapore, Bahrain, Jordan	42	46
Peru	2,000	2,205
Total estimate TRQ entries	1,298,099	1,430,906
Mexico	1,247,392	1,375,000
Re-export program imports	272,158	300,000
Sugar syrups, high-tier	9,072	10,000
Total projected imports	2,826,721	3,115,906

TRQ = Tariff-rate quotas, CAFTA/DR = Central American Free Trade Agreement/Dominican Republic.

1/ Total entries from Mexico, quota and nonquota, reflected below.

Source: USDA, FAS.

Table 2--USDA estimate of sugar imports in FY 2010

Item	Metric tons, raw value	Short tons, raw value
Raw sugar TRQ	1,117,195	1,231,497
Less shortfall attributable to Mexico 1/	-7,258	-8,001
Less other shortfall	-171,225	-188,743
Total raw sugar TRQ	938,712	1,034,753
Refined sugar TRQ		
Allocation to Canada	10,300	11,354
Allocation to Mexico	2,954	3,256
Less Mexican shortfall 1/	-2,954	-3,256
Global	7,090	7,815
Specialty		
Base	1,656	1,825
Additional	NA	NA
Total refined sugar TRQ	19,046	20,994
CAFTA/DR TRQ - calendar 2010	112,700	124,229
Singapore, Bahrain, Jordan	42	46
Peru	2,000	2,205
Total estimate TRQ entries	1,072,500	1,182,227
Mexico	449,061	495,000
Re-export program imports	362,878	400,000
Sugar syrups, high-tier	9,072	10,000
Total projected imports	1,893,510	2,087,227

TRQ = Tariff-rate quotas; CAFTA/DR = Central American Free Trade Agreement/Dominican Republic.

1/ Total entries from Mexico, quota and nonquota, reflected below.

Source: USDA, FAS.

program. Almost all such sugar-containing products are expected to be exported to the United States, mostly in the form of sugar confectionery.

U.S. Imports and Exports of Sugar-Containing Products

Using Foreign Trade Data from the U.S. Census, ERS projects sugar in product imports and exports for FY 2009. ERS calculates the ratio of October 2008-July 2009 sugar in product trade relative to the same corresponding period in FY 2008. This ratio is multiplied by the FY 2008 total to produce the projection for the whole of FY 2009. Table 3 shows the results.

Overall, sugar in FY 2009 product imports is projected at 1.097 million tons, a decrease of 7.8 percent from the year before. Sugar in sugar confectionery is projected lower by 43,959 tons (10.5 percent), sugar in miscellaneous edible preparations by 21,234 tons (11.0 percent), and sugar in cocoa and preparations by 10,550 tons (3.9 percent). Moreover, sugar in product imports has not varied much since before FY 2004. The 6-year average (including the projection for FY 2009) has been 1.157 million tons.

Sugar in U.S. product exports is projected at 708,385 tons in FY 2009, representing growth of 6.2 percent and the highest level in the reporting period. Net imports (i.e., imports less exports) of sugar in products are calculated at 388,733 tons, the lowest level since FY 2002.

Sugar and Sweetener Deliveries for Human Consumption

FY 2009 Sugar Deliveries

Deliveries for domestic food and beverage use in FY 2009 are estimated at 10.735 million STRV, an increase of 164,000 STRV, or 1.6 percent, over FY 2008. However, USDA's Sweetener Market Data (SMD) through 10 months of FY 2009 show deliveries of domestically processed sugar to industrial end users decreasing by 276,000 STRV, or 5.6 percent, relative to the same corresponding period last year. Also, SMD shows corresponding deliveries to nonindustrial end users decreasing by 143,600 STRV, or 4.2 percent. The overall increase is attributable to increased direct consumption imports totaling 975,400 STRV through July. This amount is 630,000 STRV more than the same corresponding period in FY 2008.

Although direct consumption imports have raised the estimate of sugar consumption for both FY 2008 and FY 2009, aggregate sweetener consumption will probably decrease for FY 2009. Sugar, refined value, is projected at 10.033 million tons in FY 2009 (10.735 million STRV divided by 1.07) and 9.879 million tons in FY 2008. Projected FY 2009 consumption of high fructose corn syrup (HFCS) is 8.238 million tons, dry weight, compared with 8.504 million tons, dry weight, in FY 2008 (table 4). Table 3 indicates that sugar in product imports is 1.097 million tons in FY 2009 and 1.190 million in FY 2008. Aggregate sweetener consumption in FY 2009 is therefore projected at 19.368 million tons, which is 206,000 tons (1.1 percent) less than the FY 2008 total of 19.574 million. Decreases in HFCS of 3.1 percent and of sugar in imported products of 7.8 percent have offset the increase in sugar.^{4/}

^{4/} Aggregate sweetener consumption has not varied much since FY 2000. Figure 7 shows sweetener deliveries (i.e., the sum of refined sugar, HFCS, and sugar in product imports) from FY 1996 through projected FY 2009. Equation on chart shows sweetener deliveries as a function of trend. The result, however, shows insignificant trend coefficient—not statistically different from zero.

Table 3--Estimated sugar in U.S. product imports and exports, fiscal years 1995-2009

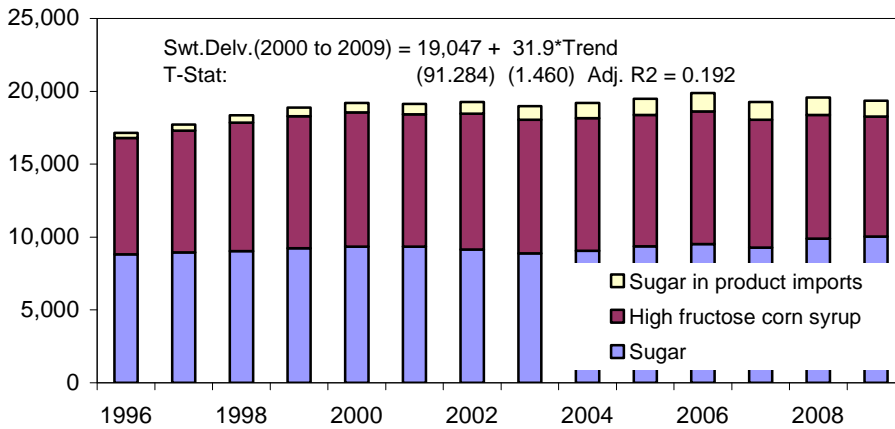
Fiscal year	Sugar confectionery	Cocoa and cocoa preparations	Cereal and bakers preparations	Bread, pastry, cakes, etc.	Misc. edible preparations	Carbonated soft drinks	Total sugar in imported products	Total sugar in exported products	Net sugar
					1,000 short tons				
1995	134,241	68,571	5,501	43,248	54,029	25,413	331,002	290,570	40,432
1996	141,627	69,334	7,807	47,101	66,464	31,007	363,339	351,219	12,120
1997	158,612	90,479	11,984	61,443	68,376	38,482	429,376	384,105	45,271
1998	181,737	99,282	18,627	70,896	84,716	39,532	494,790	374,931	119,859
1999	213,601	103,952	19,993	83,893	111,400	46,275	579,114	382,139	196,975
2000	233,569	128,841	20,006	96,742	122,082	56,554	657,794	425,769	232,025
2001	258,057	147,808	18,578	110,087	120,892	63,585	719,008	474,884	244,124
2002	283,689	188,916	19,210	118,626	141,362	69,539	821,341	452,898	368,443
2003	347,505	207,826	22,678	130,672	146,215	81,566	936,463	496,069	440,394
2004	395,265	215,342	25,706	138,282	178,896	92,542	1,046,032	537,711	508,321
2005	435,454	227,877	25,953	142,631	189,485	105,133	1,126,533	575,237	551,296
2006	504,686	264,992	25,085	145,661	192,231	124,242	1,256,896	577,597	679,298
2007	444,115	282,468	25,258	155,567	189,848	128,299	1,225,555	568,231	657,324
2008	420,612	273,642	25,356	154,979	192,495	123,365	1,190,449	667,220	523,229
2009 (projected)	376,653	263,093	15,986	151,771	171,261	118,355	1,097,118	708,385	388,733

Source: USDA, ERS, Sugar and Sweetener Team.

Figure 7

Sweetener deliveries: sugar, high fructose corn syrup, sugar in imported products, FY 1996-2009

Short tons, refined and dry



Source: Sugar: USDA, FSA, *Sweetener Market Data*; High fructose corn syrup, sugar in products: USDA, ERS, Sugar and Sweetener Team.

Direct Consumption Imports and HFCS: ERS Analysis

Figure 8 shows trends in direct consumption imports since FY 1999. Prior to September 2005, these imports averaged about 5,200 STRV, a low contributor to total consumption. After weather-related events in August and September 2005 (prolonged refinery closure in Louisiana, reduced cane sugar production in Louisiana and Florida), these imports increased in response to increases in the refined sugar TRQ made by the USDA. With a return to more normal conditions, direct consumption imports decreased to a monthly average of about 17,600 STRV, lower than the post-Katrina period but higher than pre-Katrina. With the full implementation of the North American Free Trade Agreement (NAFTA) on January 1, 2008, average monthly direct consumption imports have increased to 78,400 STRV, through August 2009.

Although HFCS55 consumption has been declining about 60,700 tons per year since 1999, HFCS42 consumption was increasing about 22,300 tons per year through 2007. Figure 9 shows monthly HFCS42 deliveries dropping substantially below trend after January 2008, the same time that direct consumption imports from Mexico started to increase. Figure 10 does the same for HFCS55, although any decrease after January 2008 is harder to discern.

To explore this phenomenon further and also the effect of increased monthly imports on end user sugar deliveries, monthly deliveries of these sweeteners were regressed on yearly trend, seasonal factors (months of the year), and direct consumption imports since January 2008.^{5/} No statistically significant relationship was found for deliveries of domestically processed sugar to industrial end users.^{6/} The equations for the other deliveries are shown in table 5.

For HFCS42, results indicated that on average monthly deliveries of HFCS42 have decreased by 48.1 percent (coefficient = -0.481, t-stat = 8.834) of the amount of direct consumption imports through July 2009. For HFCS55, deliveries have decreased by 17.4 percent (coefficient = -0.174, t-stat = 2.328) of the amount of

^{5/} Industrial end users: baking, cereal, and allied products; confectionery and related products; ice cream and dairy products; beverages; canned, bottled, and frozen foods; all other food uses; and nonfood use. Nonindustrial end users: hotel, restaurants, and institutions; wholesale grocers, jobbers, sugar dealers; retail grocers, chain stores; all other uses.

^{6/} Also, no relationship could be found between direct consumption imports and sugar in imported products.

Table 4--High fructose corn syrup, supply and utilization, actual and projected, FY 1993-2010

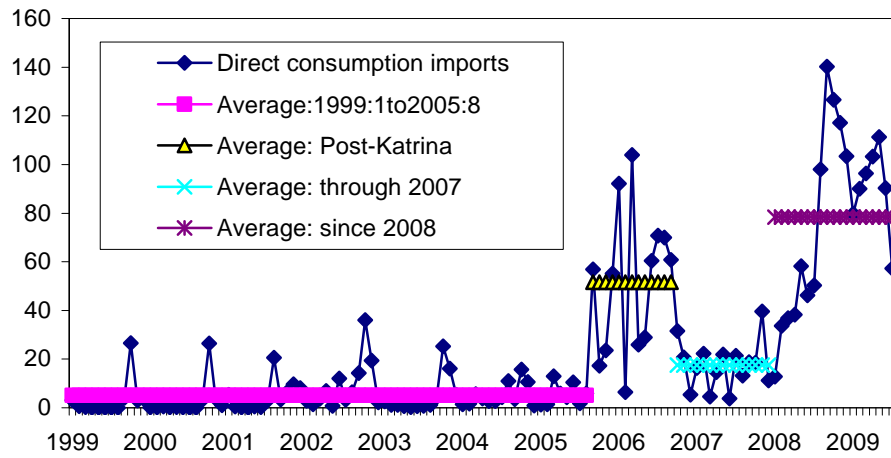
Fiscal year	Production	Imports	Supply	Exports	Domestic disappearance
		1,000 short tons, dry weight			
1993	6,942	191	7,133	96	7,037
1994	7,434	158	7,593	133	7,460
1995	7,701	83	7,784	113	7,671
1996	8,012	108	8,119	156	7,964
1997	8,543	121	8,664	306	8,358
1998	9,059	122	9,181	369	8,812
1999	9,295	114	9,409	348	9,061
2000	9,399	124	9,523	323	9,200
2001	9,189	139	9,329	257	9,072
2002	9,345	143	9,487	174	9,313
2003	9,174	144	9,318	158	9,160
2004	9,122	150	9,272	153	9,119
2005	9,118	155	9,273	269	9,004
2006	9,412	170	9,582	480	9,102
2007	9,204	153	9,357	568	8,789
2008	9,074	167	9,241	737	8,504
2009 (proj.)	8,600	159	8,758	520	8,238
2010 (proj.)	9,342	160	9,502	851	8,651

Source: USDA, ERS, Sugar and Sweetener Team.

Figure 8

Direct imports of sugar for consumption, monthly 1999-2009

1,000 Short tons, raw value

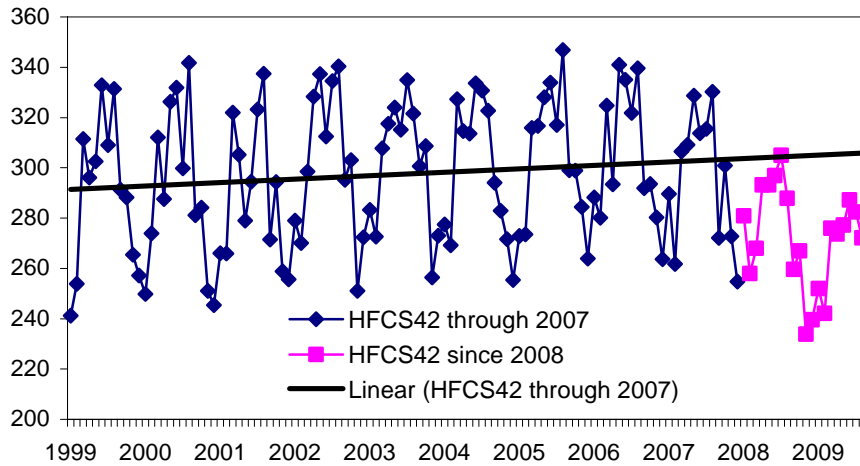


Source: USDA, FSA, *Sweetener Market Data*.

Figure 9

Domestic shipments of high fructose corn syrup 42 (HFCS42), monthly, 1999-2009

1,000 tons, dry weight



Source: USDA, ERS, Sugar and Sweetener Team.

Table 5--Regression results: High fructose corn syrup and nonindustrial sugar end user on annual and monthly trend and direct consumption imports

Dependent Variable: HFCS42				Dependent Variable: HFCS55				Dependent Variable: sugar deliveries to non-industrial end users			
Method: Least Squares				Method: Least Squares				Method: Least Squares			
Sample: 1999:01 2009:10				Sample: 1999:01 2009:10				Sample: 1999:01 2009:10			
Included observations: 130				Included observations: 130				Included observations: 130			
Variable 1/ 2/	Coefficient	Std. Error	t-Statistic	Coefficient	Std. Error	t-Statistic	Coefficient	Std. Error	t-Statistic		
Constant	267,542	6,811	39.279	488,347	8,577	56.937	401,378	34,196	11.738		
Annual trend	2,208	555	3.981	-5,746	655	-8.778	1,705	647	2.637		
NOV	-31,233	4,757	-6.565	-12,658	6,617	-1.913	-13,917	6,685	-2.082		
DEC	-32,767	4,729	-6.929	--	--	--	-55,105	8,071	-6.828		
JAN	-20,035	4,737	-4.230	-35,049	6,597	-5.313	-132,151	8,468	-15.605		
FEB	-24,174	4,727	-5.114	-48,435	6,588	-7.352	-107,742	7,278	-14.804		
MAR	17,032	4,725	3.605	32,329	6,587	4.908	-65,440	7,498	-8.728		
APR	14,255	4,723	3.018	20,760	6,586	3.152	-78,208	6,558	-11.925		
MAY	25,844	4,720	5.476	62,646	6,586	9.512	-70,525	6,724	-10.489		
JUN	28,721	4,724	6.079	74,528	6,586	11.316	-42,923	6,525	-6.578		
JUL	23,089	4,725	4.886	42,286	6,587	6.419	-48,468	6,441	-7.525		
AUG	41,424	4,872	8.502	72,357	6,828	10.597	-31,795	7,129	-4.460		
Sugar: deliveries to ind. end users	--	--	--	--	--	--	0.190	0.061	3.105		
Sugar: 1-period lag of deliveries to ind. end users	--	--	--	--	--	--	-0.274	0.061	-4.528		
Direct consumption imports 2008-09	-0.481	0.054	-8.834	-0.174	0.075	-2.328	-0.271	0.070	-3.859		
R-squared	0.820			0.858			0.878				
Adjusted R-squared	0.800			0.845			0.858				
S.E. of regression	12,676			18,840			16,397				
Log likelihood	-1,405			-1,458			-1,436				
Durbin-Watson stat	2.118			2.439			2.018				

1/ HFCS-42 equation, indicator variable for 9/2006-9/2008: coefficient value: -8,055; t-stat: 2.264.

2/ Nonindustrial sugar equation, indicator variables for 12/2003: coeff.v.=145,395, t-stat=8.559; for 12/2004:coeff.v.=104,035, t-stat=6.084; for 12/2006-3/2007: coeff.v.=-45,462, t-stat=-4.982; and 12/2007-3/2008: coeff.v.=-24,638, t-stat=-2.665.

Source: USDA, ERS, Sugar and Sweetener Team.

direct consumption imports. Refined sugar deliveries to nonindustrial end users have decreased by 27.1 percent (coefficient = 0.271, t-stat = 3.859) of the amount of direct consumption imports. The sum of the direct consumption import coefficients across the three equations is statistically indistinguishable from -1.0. These results would support the contention that direct consumption imports have been substituting primarily for HFCS and to a lesser extent, for refined sugar to nonindustrial end users. Note that this relationship could change in the future, especially as sugar imports from Mexico decline as forecast in the WASDE for FY 2010.

Figure 11 shows monthly 2004-09 U.S. beet sugar spot prices from Milling and Baking News and unit import values from the U.S. Census Bureau for Mexican refined sugar and Canadian HFCS42.^{7/} This latter variable serves as a proxy for unobservable U.S. HFCS42 prices. As can be seen, prior to 2008, there has been no detectable relationship among these prices. Starting in March 2008, the unit values of refined sugar from Mexico and HFCS42 from Canada begin to track. The correlation between the unit values is 0.89 from March 2008 through June 2009. In July, the gap between the unit values start to widen as the refined sugar unit value starts to increase (probably reflecting the rise in refined prices in Mexico). Through July, the correlation drops to 0.84. If the gap continues to widen due to rising sugar prices, sugar substituting for HFCS can only continue at higher cost to the purchaser.

^{7/} Unit import value is the total value of imports of a product divided by the quantity imported of the product.

FY 2010 Sugar Deliveries and Stocks

Deliveries for domestic food and beverage use for FY 2010 are projected at 10.140 million STRV, a very large decrease of nearly 600,000 STRV, or 5.5 percent, relative to FY 2009.

Ending fiscal year stocks are projected as the difference between total supply and total demand. Beginning stocks are estimated at 1.307 million STRV, the lowest carry-in since FY 1996. Although sugar production is 454,000 STRV higher than in FY 2009 (almost all from beet sugar), imports are projected 1.029 million STRV lower. With deliveries for human consumption projected at 10.140 million STRV, ending stocks are calculated at 844,000 STRV. The resulting ending-year stocks-to-use ratio is 8.0 percent, the lowest level since FY 1958.

The projection for FY 2010 may represent a lower bound. It was derived by using estimated relationships between sugar end user deliveries and HFCS (table 6).^{8/} It was further assumed that about one-third of imports from Mexico would be for direct consumption (contrasts with about two-thirds for FY 2009), that the specialty sugar portion of the refined sugar TRQ would be the same as FY 2009, and that the raw and refined sugar TRQs would not be set higher than minimum access levels consistent with international trade commitments.

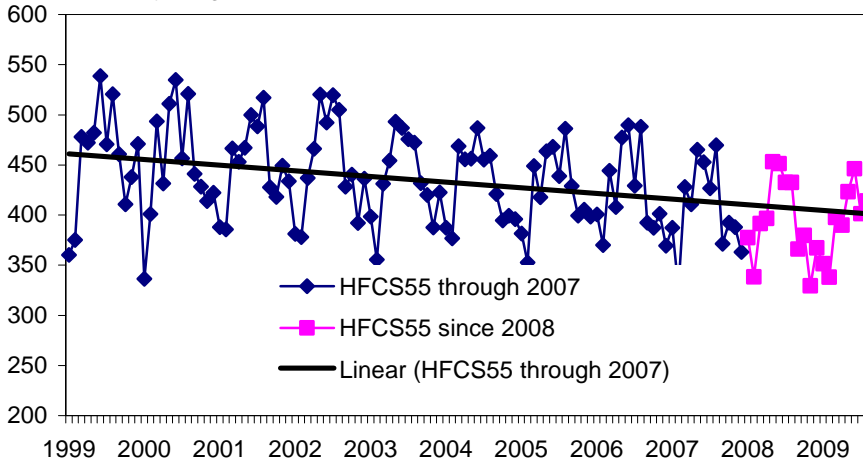
^{8/} Sugar deliveries to nonindustrial end users is the same as in table 5.

An implication of the approach is that HFCS deliveries increase to recapture a goodly proportion of the market share in FY 2010 lost to sugar from Mexico in FYs 2008 and 2009. Table 4 shows HFCS domestic disappearance at 8.651 million tons, dry weight, an increase of 413,000 tons, or 5 percent, relative to FY 2009. It remains to be seen if consumer preferences can change sufficiently to accept HFCS in products that had made the switch to sugar and/or if firms producing HFCS will aggressively market their product to recapture markets lost to sugar.

Figure 10

Domestic shipments of high fructose corn syrup 55 (HFCS55), monthly, 1999-2009

1,000 tons, dry weight

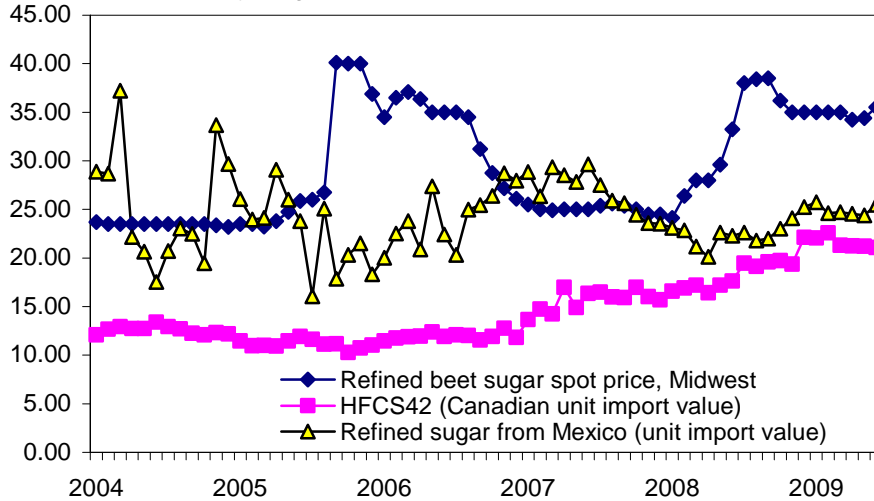


Source: USDA, ERS, Sugar and Sweetener Team.

Figure 11

Monthly refined sugar and HFCS42 pricing, 2004-2009

Cents /lb (HFCS42 dry weight basis)



Source: U.S. Census Bureau; *Milling and Baking News*.

Table 6--Regression results: High fructose corn syrup and sugar end user deliveries regressed on annual and monthly trend and direct consumption imports

Variable 1/ 2/	Dependent Variable: sugar deliveries to industrial end users Method: Least Squares Sample: 1992:01 2009:10 Included observations: 214			Dependent Variable: sugar deliveries to non-industrial end users Method: Least Squares Sample: 1999:01 2009:10 Included observations: 130			Dependent Variable: HFCS Method: Least Squares Sample: 1999:01 2009:10 Included observations: 130		
	Coefficient	Std. Error	t-Statistic	Coefficient	Std. Error	t-Statistic	Coefficient	Std. Error	t-Statistic
Constant	451,036	4,227	106.693	401,378	34,196	11.738	762,983	13,860	55.049
Annual trend	1,742	326	5.348	1,705	647	2.637	-4,306	1,029	-4.184
OCT	-9,453	5,346	-1.768	--	--	--	--	--	--
NOV	-67,827	5,250	-12.921	-13,917	6,685	-2.082	-42,669	11,083	-3.850
DEC	-107,582	5,250	-20.494	-55,105	8,071	-6.828	-30,783	11,031	-2.791
JAN	-66,146	5,250	-12.600	-132,151	8,468	-15.605	-54,029	11,045	-4.892
FEB	-73,337	5,234	-14.012	-107,742	7,278	-14.804	-71,680	11,027	-6.501
MAR	-19,740	5,234	-3.772	-65,440	7,498	-8.728	50,253	11,023	4.559
APR	-45,881	5,234	-8.766	-78,208	6,558	-11.925	35,872	11,020	3.255
MAY	-28,071	5,234	-5.363	-70,525	6,724	-10.489	89,234	11,015	8.101
JUN	--	--	--	-42,923	6,525	-6.578	103,379	11,020	9.381
JUL	-32,605	5,224	-6.241	-48,468	6,441	-7.525	66,284	11,024	6.013
AUG	--	--	--	-31,795	7,129	-4.460	114,185	11,373	10.040
Sugar: deliveries to ind. end users	--	--	--	0.190	0.061	3.105	--	--	--
Sugar: 1-period lag of deliveries to ind. end users	--	--	--	-0.274	0.061	-4.528	--	--	--
Direct consumption imports since 2007	--	--	--	-0.271	0.070	-3.859	-0.608	0.118	-5.164
R-squared	0.831			0.878			0.848		
Adjusted R-squared	0.818			0.858			0.832		
S. E. of regression	19,084			16,397			29,591		
Log likelihood	-2,405			-1,436			-1,516		
Durbin-Watson stat	2.026			2.018			2.315		

1/ Industrial sugar equation, indicator variables for 1/1992-8/1993:coeff.v=-31,253,t-stat=5.759;for 12/1997-11/2001:coeff.v.=32,103,t-stat=9.786;for 1/2004:coeff.v.=142,394,t-stat=7.232; for 5/2006-1/2007:coeff.v.=25,936,t-stat=3.793; for 2/2008-10/2008:coeff.v.=29,214, t-stat=4.185.

2/ Nonindustrial sugar equation, indicator variables for 12/2003: coeff.v.=145,395,t-stat=8.559; for 12/2004:coeff.v.=104,035, t-stat=6.084; for 12/2006-3/2007: coeff.v.=45,462,t-stat=4.982; and 12/2007-3/2008: coeff.v.=24,638, t-stat=2.665.

Source: USDA, ERS, Sugar and Sweetener Team.

Mexican Sugar and HFCS

Mexico sugar production for fiscal year (FY) 2010 is forecast at 5.500 million metric tons, raw value (MTRV), up 240,000 MTRV from this year's disappointing production total of 5.260 million MTRV (table 7). For FY 2010, the U.S. Department of Agriculture (USDA) expects sugarcane area to be about the same as in FY 2009 but expects some recovery in sugarcane yield—up from 64.2 metric tons per hectare to 69.3 mt (figs. 12 and 13). Even so, the FY 2010 yield forecast is still below the 10-year average and may be optimistic. Certain sugarcane-producing regions in Mexico have continued experiencing dry growing conditions. It is also unclear to what extent use of chemical/fertilizer inputs has recovered from the 2008/09 crop year. Although dollar prices of imported chemical and fertilizer inputs have been less this year than last, an offset has resulted from the depreciation of the Mexican peso by about 30 percent since August 2008.

Sugar prices in Mexico have risen substantially from the low levels experienced in late winter 2009 (figs. 14 and 15). The Mexico City refined sugar price has risen 136 percent since February 2009, averaging over 45 cents per pound (lb) in September 2009. The Mexico City *estandar* sugar price has also averaged over 45 cents per lb in September, rising 175 percent since its low in February. These high prices are a recognition that sugar exported to the United States and lower-than-expected production have left Mexico with inadequate supplies to meet domestic demand through the remainder of the calendar year.

Since August, the Government of Mexico has announced three tariff-rate quotas totaling 900,000 mt, or 954,000 MTRV (table 8). Nicaragua receives a 10-percent duty-free allocation of the quota amounts, with the remainder available to all other countries at a reduced tariff. To date, two allocations have been made for a total of 550,000 mt. All sugar must enter by December 31, 2009.

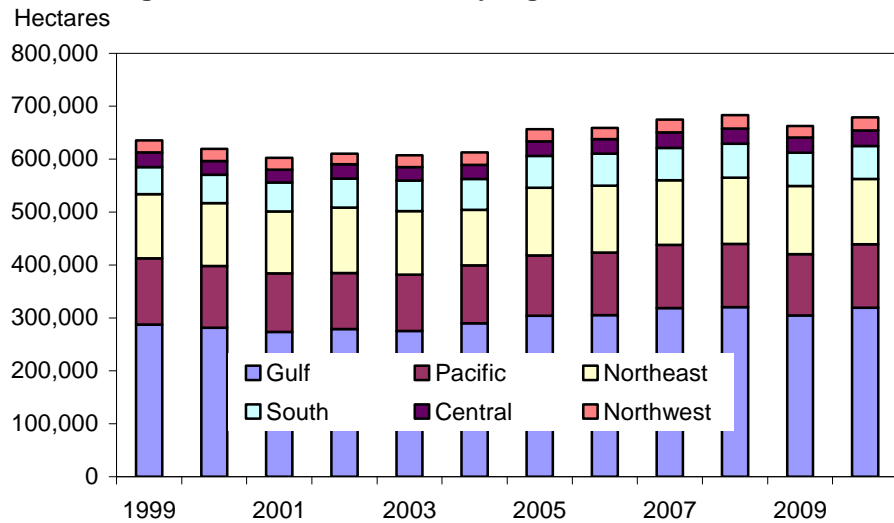
In the September 2009 *World Agricultural Supply and Demand Estimates* (WASDE), the USDA estimated FY 2009 imports to Mexico at 215,000 MTRV, of which 115,000 MTRV is made up of imports of U.S. refined sugar under USDA's Refined Sugar Re-export Program. This amount is assumed to be destined for Mexico's sugar-containing products export program, IMMEX. The remainder is sourced from the announced tariff-rate quotas (TRQs) that are estimated to enter before September 30, 2009.

The USDA forecasts FY 2010 imports at 710,000 MTRV. Imports from the United States for the IMMEX program are forecast at 175,000 MTRV. The remainder (535,000 MTRV) is sourced from the first two announced TRQs and are projected to enter after September 30, 2009 but before December 31, 2009.^{9/} The third quota of 300,000 mt was announced after the September 2009 WASDE and is therefore not included in the import projection.

Exports from Mexico are projected at 450,000 MTRV, a greater proportion of which may be *estandar* sugar than in FY 2009. Given projected limitations on the supply of raw sugar in the United States, cane sugar refineries may turn increasingly to Mexico to meet their needs. Exports of refined sugar to the United States, however, could prove significant, given supplier relationships that have been developed since the completion of the phase-in period of the North American Free Trade Agreement.

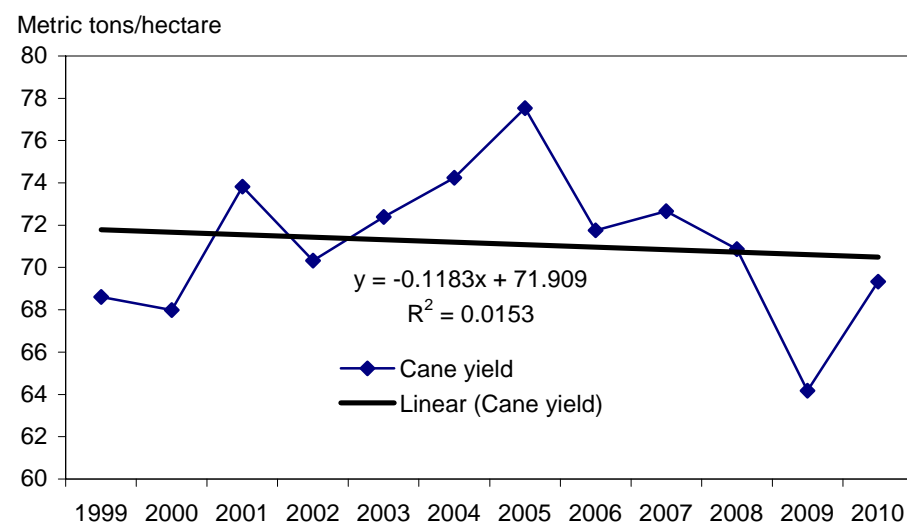
^{9/} TRQs announced on August 6 and September 7 sum to 600,000 mt, or 636,000 MTRV, of which 100,000 MTRV enters before the end of September, leaving 536,000 (rounded to 535,000) MTRV to enter. That amount plus 175,000 MTRV from the United States yields the 710,000 MTRV.

Figure 12
Mexico sugarcane area for harvest, by region, 1999-2010



Source: CNIAA; USDA, ERS, Sugar and Sweetener Team (projection).

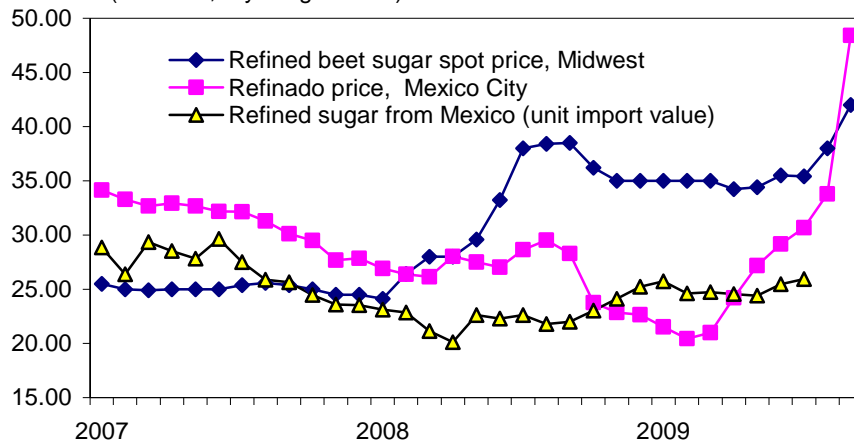
Figure 13
Mexico sugarcane yield, 1999-2009, 2010 (projected)



Source: CNIAA; USDA, ERS, Sugar and Sweetener Team (projection).

Figure 14
Monthly refined sugar prices, Mexico and United States, 2007 through September 2009

Cents/lb (HFCS42, dry weight basis)

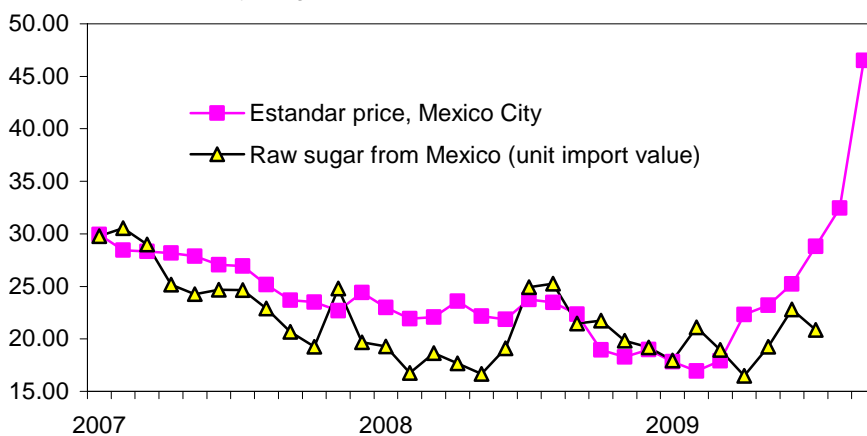


HFCS = High fructose corn syrup.

Source: U.S. Census Bureau; *Milling and Baking News*; Economia, SNIIC.

Figure 15
Monthly raw and estandar sugar prices, Mexico, 2007 through September 2009

Cents/lb (HFCS42, dry weight basis)



HFCS = High fructose corn syrup.

Source: U.S. Census Bureau; Economia, SNIIC.

Table 7--Mexico: Sugar production and supply and sugar and high fructose corn syrup utilization

Fiscal year (Oct/Sept)	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009 1/	2010 1/
	1,000 Metric Tons										
Beginning stocks	941	1,063	1,548	1,172	1,194	1,237	1,965	1,294	1,718	1,975	665
Production	4,979	5,220	5,169	5,229	5,330	6,149	5,604	5,633	5,852	5,260	5,500
Imports	37	43	52	63	327	268	240	474	226	215	710
Supply	5,957	6,326	6,769	6,464	6,851	7,654	7,809	7,401	7,796	7,450	6,875
Disappearance											
Human consumption	4,445	4,481	5,004	5,097	5,380	5,279	5,326	5,133	5,090	5,065	5,140
Other consumption	131	142	180	135	220	282	323	390	414	475	400
Miscellaneous									-360		
Total	4,576	4,623	5,184	5,232	5,600	5,561	5,649	5,523	5,144	5,540	5,540
Exports	318	155	413	38	14	128	866	160	677	1,245	450
Total use	4,894	4,778	5,597	5,270	5,614	5,689	6,515	5,683	5,821	6,785	5,990
Ending stocks	1,063	1,548	1,172	1,194	1,237	1,965	1,294	1,718	1,975	665	885
Stocks-to-human consumption	23.9	34.5	23.4	23.4	23.0	37.2	24.3	33.5	38.8	13.1	17.2
Stocks-to-use	21.7	32.4	20.9	22.7	22.0	34.6	19.9	30.2	33.9	9.8	14.8
HFCs consumption, (dry weight)	580	600	263	130	135	355	667	698	782	610	900

1/ Forecast.

HFCs = High fructose corn syrup.

Source: USDA, FAS, Production, Supply, and Distribution online (historical data); USDA, WASDE (forecast data).

Table 8--Mexico 2009 sugar import quota program, through Sept. 30

Date announced	Quota amount	Country of origin		Date of auction	Tender amount
		Nicaragua (duty-free)	All others		
Aug. 6	393,000	39,300	353,700	Sept. 2	100,000
Sept. 7	207,000	20,700	186,300	Sept. 18	450,000
Sept. 18	300,000	30,000	270,000	Sept. 30 (canceled)	343,000 (canceled)
Total (9/29/2009)	900,000	90,000	810,000		550,000

Source: Government of Mexico, Secretariat of Economy.

Sugar deliveries for human consumption are projected at 5.140 million MTRV, and deliveries of domestic sugar for the IMMEX program are projected at 400,000 MTRV. Ending-year stocks, the difference between total supply and use, are projected at 885,000 MTRV. The resulting stocks-to-consumption ratio is 17.2 percent.

Maple Syrup

Following 2008's 26-percent production increase, U.S. maple syrup output in 2009 jumped another 22 percent to 2.33 million gallons, the highest since 1944. Temperatures were largely favorable for sap flow in the major States where the number of taps and yield per tap also increased. These States include Vermont, Maine, New York, and Wisconsin. Yield per tap in New England expanded 26 percent in 2009 and, combined with 3 percent more taps, boosted syrup produced in the region by 30 percent.

Given that U.S. imports of maple sugar (Harmonized System (HS) 170220) from Canada in the first half of 2009 are close to 13,000 metric tons, total supply—domestic production plus imports—for the year is likely to be below 2008's level when year-to-date import volume was 15,175 metric tons. U.S. maple syrup imports were 260 percent larger than domestic production in 2008. Prices may remain around 2008's \$40.50-per-gallon average unless demand weakens significantly due to the current economic downturn. Although 43 gallons of maple tree sap were needed on average to distill a gallon of syrup in 2009, up from 39 gallons in 2008, lower fuel oil prices this year are likely to keep prices relatively stable in the short term. In addition, if more than half of domestic syrup sales are in the bulk market as they were in 2008, prices tend to be lower (than if more sales are in the retail and wholesale markets).

Despite 26-percent higher syrup production in 2008 and a sizable import volume from Canada, prices hit an average \$40.50 per gallon last year, the highest on record. Following the trend of other food commodity prices in 2008, high maple syrup prices raised the value of U.S. production by 56 percent to \$77.5 million, bringing up the average value per tap to a record \$9.31 in 2008 from \$6.09 in 2007.

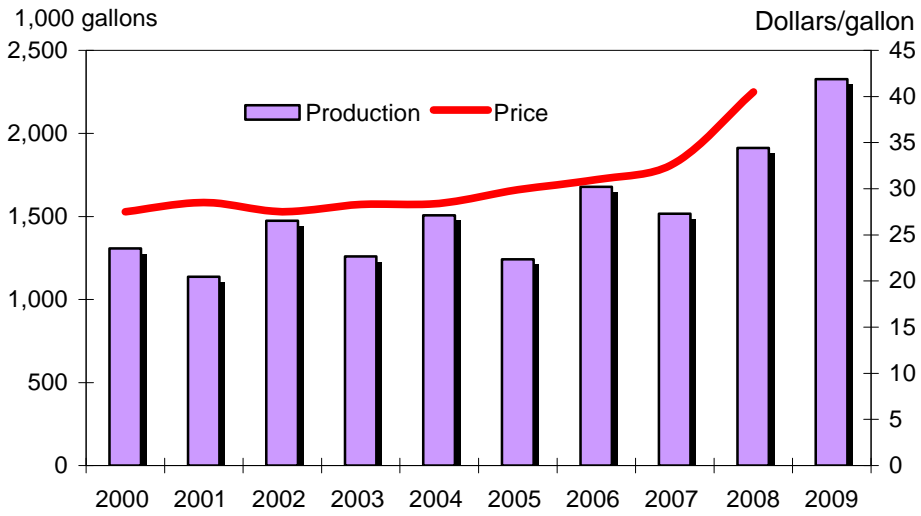
Although syrup production was up sharply in 2008, import volume was smaller and exports larger, thus domestic supply dropped 10 percent to 6.93 million gallons from 7.7 million gallons in 2007. As a result, U.S. consumption of maple syrup fell 14 percent. Syrup consumption per household dropped from 8.1 ounces in 2007 to 6.9 ounces in 2008, a 15-percent decline. About 82 percent of maple syrup consumed in the United States last year was imported from Canada.

As the number of tree taps in the U.S. grew from below 7 million in 2001 to 8.7 million taps in 2009, average yield and thus total syrup production climbed as well. Average yield per tap was higher in the New England States as a group than in the other U.S. regions in the past decade. Nevertheless, because of the generally higher price per gallon of syrup from Midwest States, their value per tap typically exceeded other States.

The length of the tapping season was 10 percent shorter in New England in 2009 than in 2008. The shorter season limited the potential volume of syrup production this year in the region but boosted the average amount of syrup produced per tap per day in the 2009 tapping season. As a result, average syrup production per tap per day exceeded 1 ounce on average for the New England States in 2009 for the first time since 2004.

Figure 16

Maple syrup: Production and price



Source: USDA, NASS, *Maple Syrup*.

Tight Supplies Expected To Sustain High U.S. Sugar Prices into 2009/10 ^{1/}

^{1/} The authors are Erik Dohlman and Stephen Haley, Senior Economists with Market and Trade Economics Division, Economic Research Service, U.S. Department of Agriculture.

While global food commodity prices as a whole have declined by more than a third since their recent peak in mid-2008, U.S. and global sugar prices have moved in the opposite direction. Since the beginning of 2008, U.S. (wholesale) refined sugar prices have climbed roughly 40 percent, with monthly prices exceeding 30 cents per pound since June 2008 (fig. A1). Dating back to 1960, U.S. annual average refined sugar prices have exceeded 30 cents per pound (lb) only five previous times, most recently in 2005/06, when Hurricanes Katrina and Wilma disrupted U.S. sugar production and refining capacity.

Domestically, the price increases are most notable for wholesale refined sugar, with lesser gains for raw (unrefined) and retail sugar. Starting from much lower levels, global refined sugar prices have climbed nearly 60 percent since the beginning of 2009, moving from under 16 cents/lb in January to nearly 25 cents/lb in August.

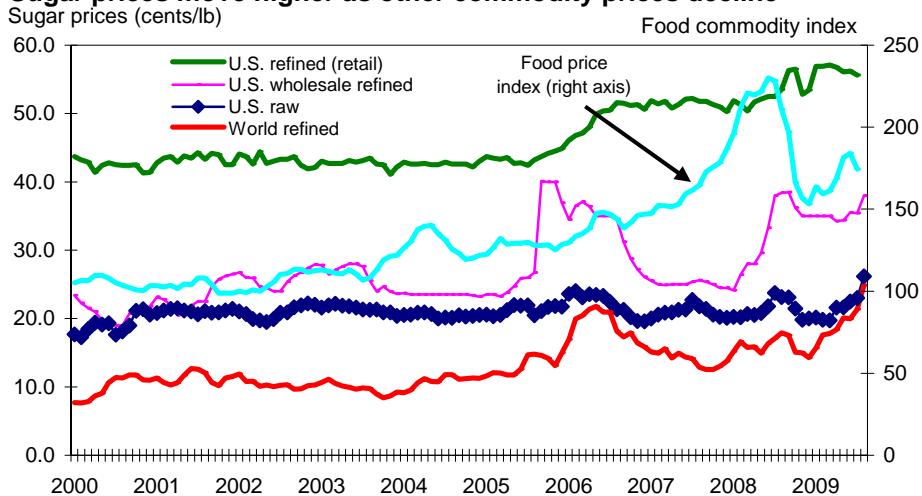
Due to import restrictions, the United States is not highly integrated into global sugar markets (outside of Mexico), so domestic price movements are mostly related to developments within the North American sugar and sweeteners market. However, the more recent rise in global prices—which occurred for independent reasons—will indirectly support U.S. prices in the coming year. The already low domestic stocks-to-use ratio—estimated at a 33-year low of 11.8 percent in 2008/09—is projected to decline even further to 8.0 percent in 2009/10, partly due to an anticipated decline in imports.

As with the high food commodity prices during 2007-2008, a variety of causes contributed to the recent upswing in U.S. and global sugar prices. Developments in the past year (2008/09) and prospects for 2009/10 are largely guided by the following factors:

- Increased use of sugar in recent years by the domestic food and beverage industry in place of high-fructose corn syrup.
- Reduced sugar production in 2008/09 as U.S. beet sugar producers turned to other crops offering higher returns.
- A disruption to U.S. sugar-refining capacity caused by a refinery explosion in February 2008.
- A projected decline in 2009/10 U.S. sugar imports from Mexico, where prices are also climbing.
- Limited flexibility to increase imports from other countries beyond minimum access levels established by the U.S. tariff-rate quota (TRQ) system.

Figure A1

Sugar prices move higher as other commodity prices decline



Sources: Food commodity price index - International Monetary Fund: *International Financial Statistics*; Sugar prices - USDA, ERS, Sugar and Sweetener Yearbook Tables. (<http://www.ers.usda.gov/Briefing/Sugar/data.htm#yearbook>).

Sugar Accounts for a Rising Share of Domestic Sweetener Use

Although rising domestic sugar prices are largely tied to supply factors, underlying demand-side trends related to the distribution of sweetener use in the United States have also played a role. Overall sweetener use (sugar, high-fructose corn syrup, sugar in product imports) has been fairly stable during this decade, but the share accounted for by sugar has recently grown at the expense of high fructose corn syrup (HFCS).

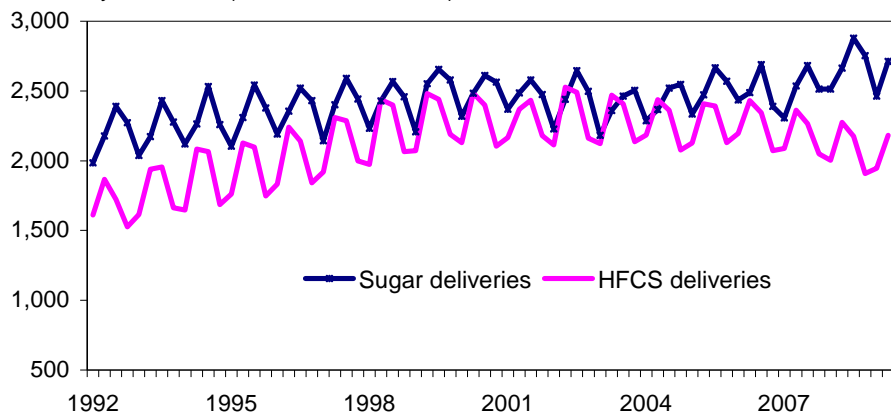
For the first time, HFCS deliveries exceeded sugar deliveries on several occasions between 2002 and 2004, but sugar deliveries have moved back ahead of HFCS deliveries by a growing margin since 2007 (fig. A2). HFCS typically sells at 20-40 percent below wholesale refined sugar in the United States, but HFCS brought a premium in early 2008—a time when corn prices were very high—and HFCS prices have remained close to sugar prices since that time (fig. A3).

The narrowing price differential and perhaps other nonprice factors have contributed to substitution of sugar for HFCS in the U.S. sweeteners market. According to the U.S. Department of Agriculture’s (USDA’s) September 2009 *World Agricultural Supply and Demand Estimates* (WASDE), U.S. sugar deliveries for food reached 10.74 million short tons in 2008/09, up 8 percent from a 10-year average of 9.95 million short tons and the highest level since the early 1970s.

Figure A2

U.S. sugar deliveries climb further above HFCS deliveries

Quarterly deliveries (thousand short tons)



Source: USDA, ERS, Sugar and Sweeteners Yearbook Tables.

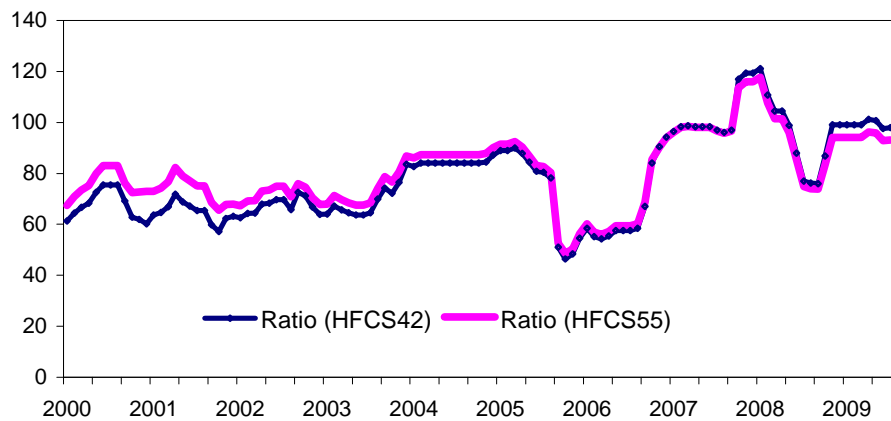
(<http://www.ers.usda.gov/Briefing/Sugar/data.htm#yearbook>). HFCS = High fructose corn syrup.

Note: sugar is in raw value, HFCS is dry weight.

Figure A3

Price differential between sugar and HFCS narrows

Ratio of HFCS to refined wholesale beet sugar prices



Source: USDA, ERS, Sugar and Sweeteners Yearbook Tables.

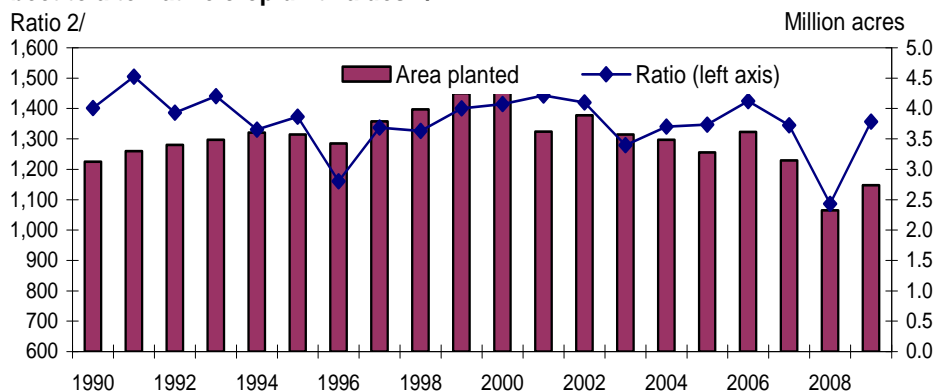
(<http://www.ers.usda.gov/Briefing/Sugar/data.htm#yearbook>). HFCS = High fructose corn syrup.

Attractive Prices for Alternative Crops Diminish Beet Sugar Production in 2008/09

Over the past decade, U.S. sugar production has averaged 8.23 million short tons per year, with sugar beets accounting for roughly 55-60 percent of production. Although both sugarcane and sugar beet area vary year-to-year, sugar beet area tends to fluctuate more than sugarcane area does, reflecting sugar beets' shorter production cycle (1 year vs. 3-4 years) and greater responsiveness to alternative crop prices. In 2008/09, prices for sugar beet alternatives, such as corn, soybeans, wheat, and other crops, were far more attractive to farmers than at any time since 1990, which induced area away from sugar beet plantings (fig. A4). As a result, sugar beet plantings fell 14 percent to 1.09 million acres in 2008/09—the lowest plantings since 1983.

Sugar beet yields were a record 26.7 tons per acre in 2008/09, but the production of sugar from sugar beets fell 10 percent (461,000 tons) from the previous year. Reduced sugar beet production more than offset a very small increase in production of sugar from sugar cane and brought overall production down 7 percent to 7.57 million tons. Combined with high deliveries (use) of domestic sugar in 2008/09, the shortfall in U.S. sugar production pushed the U.S. sugar stocks-to-use ratio to a 33-year low of 11.8 percent, down from 15.2 percent the year before and a 10-year average of 17 percent (fig. A5).

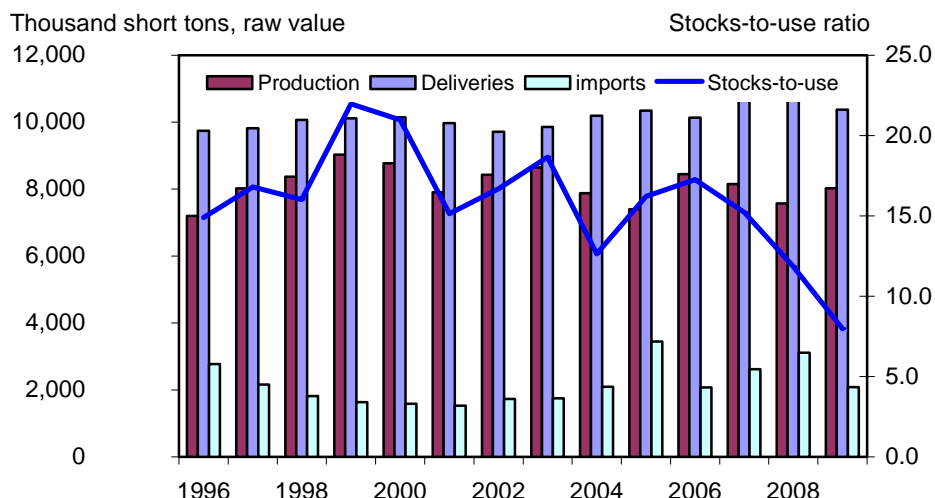
Figure A4
U.S. sugar beet area planted and previous year's ratio of sugar beet to alternative crop unit values 1/



1/ Excludes California, except for Imperial Valley. 2/ Ratio of national sugarbeet return per acre to area-planted weighted-average of alternative crop returns, aggregated up from State district-level NASS crop production and value data for all beet producing districts. Alternative crops: barley, cotton, dry beans, corn, potatoes, soybeans, wheat. 2009 Preliminary. Source: USDA, NASS, *Crop Production and Crop Values*; Ratio calculated by Sugar and Sweeteners Team.

Figure A5

Deliveries exceed production by a widening margin the past 2 years



Source: USDA, ERS, Sugar and Sweetener Yearbook tables. (<http://www.ers.usda.gov/Briefing/Sugar/data.htm#yearbook>). 2009/10 Projected.

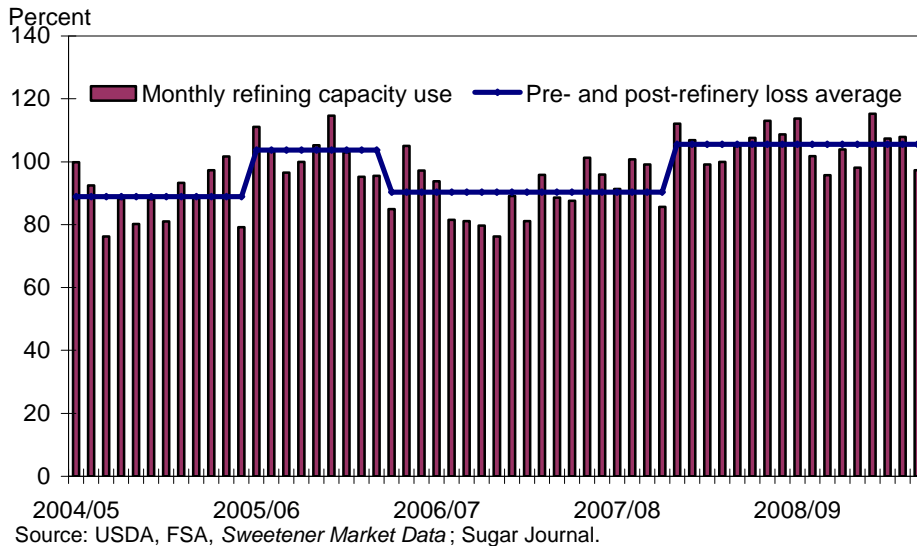
Loss of Sugar-Refining Capacity Widens Gap Between Raw and Refined Sugar Prices

In addition to reduced sugar beet area in 2008/09, which lowered domestic raw sugar production for the second consecutive year, the availability of refined sugar has been disrupted since February 2008 by an explosion at the Imperial Sugar refinery in Georgia. The explosion immediately took approximately 15 percent of U.S. sugar-refining capacity offline and contributed to much larger increases in wholesale prices for refined beet sugar than in prices for raw sugar.

Between February and July 2008, refined beet sugar prices increased 44 percent whereas raw sugar prices rose by 18 percent. With the plant remaining largely offline until July 2009, U.S. refining capacity use—which averaged about 90 percent in the 2 years preceding the explosion—has been running near or above full capacity since the explosion (fig. A6). The Imperial Sugar Company reported that it operated at about 25 percent of normal capacity in August 2009 and would complete restoration of packing facilities at the factory by the end of 2009. This completion may contribute to a narrowing of the unusually large gap between refined wholesale and raw sugar prices in the United States.

Figure A6

Monthly sugar refiners' capacity use, 2004/05-2008/09



High Global Prices Expected To Push U.S. Imports Down Sharply From Near-Record Levels in 2008/09

With reduced domestic supplies and the disruption to refining capacity, U.S. sugar imports increased to a near-record of 3.1 million tons in 2008/09. Record imports from Mexico—which received duty-free status starting in January 2008—and a temporary expansion of access to low-tariff imports from other countries helped to somewhat offset reduced domestic supplies. About two-thirds of Mexican sugar exports to the United States were refined sugar. The additional imports of low-tariff refined sugar were authorized by an August 2008 USDA decision to increase the fiscal year (FY) 2008 refined sugar TRQ by 300,000 short tons, raw value (STRV), with entry allowed through the end of the calendar year (into FY 2009).

The additional refined sugar imports under the TRQ—and high imports of both raw and refined sugar from Mexico in 2008/09—eased, but did not eliminate, upward pressure on refined sugar prices during the marketing year. However, total domestic supplies are expected to drop 7.5 percent (928,000 STRV) in 2009/10, as lower beginning stocks and a projected 33-percent decline in total imports more than offset an increase in domestic production (projected at 8.03 million tons). Higher global sugar prices and reduced imports from both Mexico and the countries governed by the U.S. TRQ system are likely to sustain domestic sugar prices at high levels over the coming year.

U.S. Imports From Mexico Projected To Drop by Two-Thirds as Mexican Prices Rise

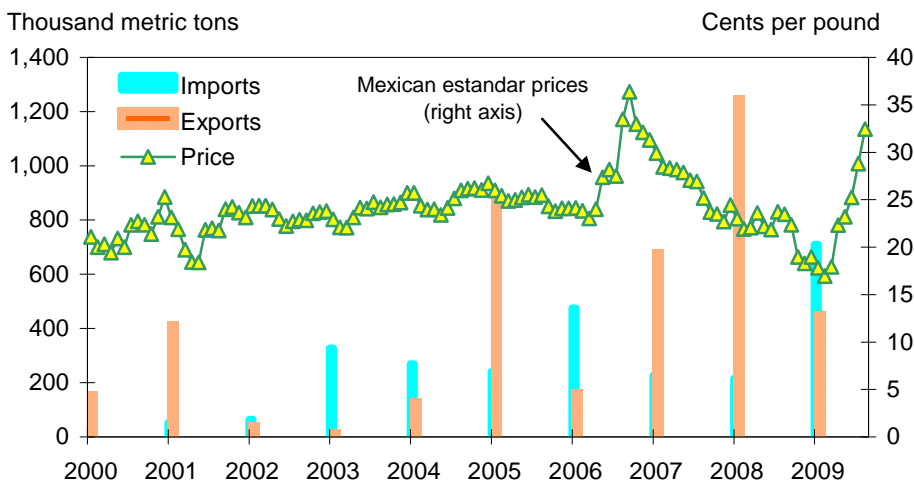
Sugar imports from Mexico have been duty free under terms of the North American Free Trade Agreement (NAFTA) since January 2008, which paved the way for a large increase in shipments to the United States in 2008/09. Mexican exports to the United States nearly doubled in 2008/09 to a record 1.375 million tons, but tighter supplies and rising prices for semi-refined (estandar) sugar in Mexico are projected to pare exports to the United States by 64 percent in 2009/10.

Exports to the United States were attractive for Mexico in 2008/09 as U.S. wholesale refined sugar prices climbed past 30 cents/lb, and Mexican estandar prices hovered mostly below 22 cents/lb through the first half of the marketing year. However, the strong pace of exports and below-average Mexican production in 2008/09 resulted in a large drawdown of stocks, leaving Mexican ending stocks at a third the previous year's level—the lowest in well over a decade. Estandar sugar in Mexico surged past 30 cents/lb in July 2009 and stood less than 5 cents/lb lower than U.S. wholesale refined sugar prices in August compared with a gap of 17-18 cents in early 2009.

As a result, Mexico will have far less sugar available to export to the United States, and prices are likely to be comparatively high. The USDA's September 2009 WASDE places projected Mexican sugar exports to the United States at 495,000 tons (STRV). To meet domestic needs, Mexico is now projected to import a record 782,000 tons (STRV) in 2009/10, even as international prices have risen to the highest level of the decade (fig. A7).

Figure A7

Mexico reverts to a net importer as domestic prices rise



Source: USDA, ERS, Sugar and Sweeteners Yearbook Tables.

<http://www.ers.usda.gov/Briefing/Sugar/data#yearbook>.

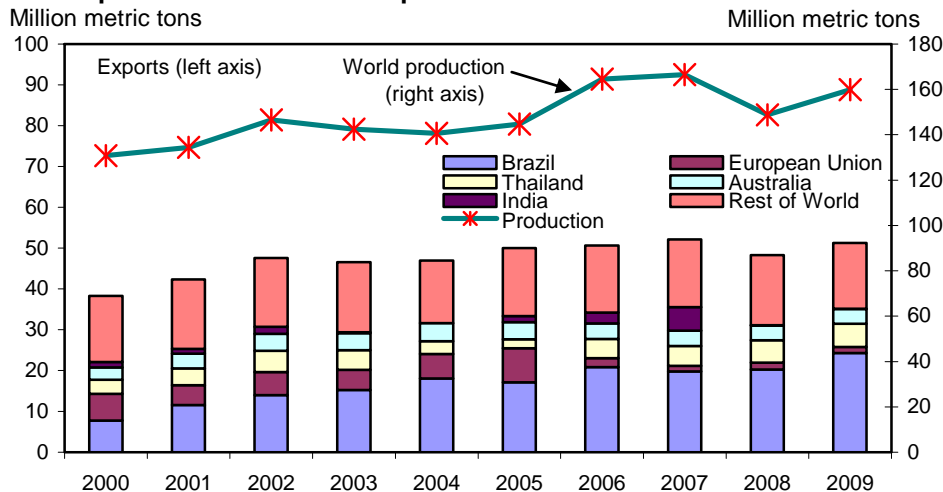
U.S. Imports From Other Countries Expected To Dip Further Below Minimum TRQ Access Levels

The traditionally large gap between U.S. and global sugar prices provides a strong incentive to export sugar to the United States, but U.S. imports from countries other than Mexico are governed by a tariff-rate quota (TRQ) system, which limits imports beyond a certain level. A TRQ is a two-tiered tariff for which the average tariff rate charged depends on the volume of imports. Low tariffs are charged on a pre-established quantity of imports, while higher tariffs (over 15 cents/lb) are charged on imports beyond that level. Since FY 2000, yearly imports under the sugar TRQ have averaged 1.48 million STRV. The quantity allocated to refined sugar is normally a small proportion of the total, amounting to about 2 percent.

While the total quantity of low-tariff sugar imports permitted under the TRQ system is roughly 1.38 million tons in 2009/10, USDA projections anticipate TRQ imports of 1.18 million tons, nearly 250,000 tons less than estimated TRQ imports in 2008/09. TRQ imports are projected to decline in 2009/10 for several reasons.

First, the projected shortfall in TRQ imports, at 200,000 tons, is a larger than normal due to diminished global production and trade in 2008/09, which contributed to high world sugar prices that are likely to linger into 2009/10 (fig. A8). The narrowing gap between U.S. and international prices has made the United States a less attractive export destination. The sugar TRQ is allocated to 40 countries, and it is not unusual for some countries to underfill their TRQ exports to

Figure A8
Global production and trade slips in 2008/09



Note: Data is for centrifugal sugar. EU data is for EU-15 (2000-03), EU-25 (2004-05), and EU-27 (2006-09). Source: USDA, FAS, Production, Supply, and Distribution Online. (<http://www.fas.usda.gov/psdonline/psdQuery.aspx>).

the United States, but the overall TRQ shortfall is typically well below half the anticipated 2009/10 level. Global sugar prices have been climbing since the beginning of 2009 primarily in response to market developments in Brazil and India, the world's two leading sugar producers. In Brazil, wet weather (lowering sucrose content in cane) and a rising share of production devoted to ethanol have constrained growth in sugar exports. Consecutive poor harvests in India in 2008/09 and 2009/10 have turned the country from a net exporter of 5.8 million tons of sugar in 2007/08 to a net importer in 2008/09 and 2009/10 (projected).

Second, although the USDA authorized 300,000 tons of additional TRQ entries of refined sugar in FY 2008 (much of which entered in FY 2009—the 2008/09 crop year), the USDA has not authorized any above-TRQ entries for FY 2009 or FY 2010. Provisions of the 2008 Farm Act state that additional entries before April 1 of the next year can be authorized by the USDA only in the event of a sugar shortage caused by an emergency situation, such as a natural disaster or war. Sugar imports can be increased after that date for any reason if a shortfall persists, as long as the increase does not threaten to result in forfeitures to the Commodity Credit Corporation (CCC).

Prices Expected To Remain Elevated Into 2010

The USDA does not project U.S. or global sugar prices in its monthly WASDE report. However, tight domestic supplies and a delayed supply response internationally to higher prices suggest that prices will remain elevated well into the coming 2009/10 marketing year. Current month (September 2009) futures contract quotes for world (contract #11, NYBOT, May 2010 contract) and U.S. (contract #16, ICE, March 2010 contract) raw sugar prices indicate that prices are expected to remain near or above recent monthly prices. Continued high prices through next year may induce increased production both domestically and abroad, particularly if prices for sugar remain attractive compared with those for alternative crops or uses (e.g., sugar beets vs. alternative crops in the United States or sugar vs. ethanol in Brazil).

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Tables from the *Sugar and Sweeteners Yearbook* are available in the Sugar and Sweeteners Briefing Room at <http://www.ers.usda.gov/briefing/sugar/>. They contain the latest data and historical information on the production, use, prices, imports, and exports of sugar and sweeteners.

Related Websites

WASDE <http://usda.mannlib.cornell.edu/MannUsda/viewDocumentInfo.do?documented=1194>

Sugar Briefing Room, <http://www.ers.usda.gov/briefing/Sugar/>

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Table 9--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
<i>Cents per pound</i>																		
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
2006	16.92	19.99	20.45	21.35	21.81	20.93	20.95	18.16	17.32	17.92	16.41	15.86	: 19.12	21.36	18.81	16.73	: 19.01	18.35
2007	15.13	14.92	15.59	14.21	14.94	14.36	14.13	12.87	12.54	12.56	13.00	13.78	: 15.21	14.50	13.18	13.11	: 14.00	14.91
2008	15.17	16.61	15.79	15.87	14.92	16.35	17.06	17.92	17.52	15.07	15.00	14.27	: 15.86	15.71	17.50	14.78	: 15.96	15.55
2009	15.67	17.60	17.83	18.38	20.10	19.98	21.36	24.89	26.27				: 17.03	19.49	24.17		: 18.87	

1/ Contract No. 5, London Daily Price, for refined sugar, f.o.b. Europe, spot, through June 2006. Starting in July 2006, spot price replaced by average of nearest futures month for which an entire month of prices is available.

Source: London International Financial Futures and Options Exchange (LIFFE).

Table 10–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
<i>Cents per pound</i>																				
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
2006	17.27	18.93	18.01	18.21	17.83	16.19	16.61	13.58	12.42	12.09	12.38	12.47	:	18.07	17.41	14.20	12.31	:	15.50	15.78
2007	11.85	11.63	11.44	10.85	10.78	11.05	12.18	11.66	11.61	11.86	11.83	12.47	:	11.64	10.89	11.82	12.05	:	11.60	11.67
2008	13.75	15.16	14.60	13.68	12.23	13.29	14.90	15.58	14.74	12.99	12.87	12.31	:	14.50	13.07	15.07	12.72	:	13.84	13.67
2009	13.09	13.90	13.83	14.43	16.89	16.94	18.57	22.37	23.11				:	13.61	16.09	21.35		:		15.94

1/ Contract No. 11 f.o.b. stowed Caribbean port, including Brazil, bulk spot price, plus freight to Far East.

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

Table 11—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
<i>Cents per pound</i>																				
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
2006	23.61	24.05	23.10	23.56	23.48	23.32	22.44	21.38	21.27	20.22	19.66	19.59	:	23.59	23.45	21.70	19.82	:	22.14	22.62
2007	20.03	20.59	20.85	20.91	21.27	21.33	22.72	21.80	21.42	20.56	20.25	20.12	:	20.49	21.17	21.98	20.31	:	20.99	20.87
2008	20.24	20.21	20.65	20.54	20.83	21.80	23.76	23.15	23.10	21.46	19.83	20.00	:	20.37	21.06	23.34	20.43	:	21.30	21.27
2009	20.15	19.83	19.75	21.58	21.64	22.47	23.02	26.18	28.91				:	19.91	21.90	26.04		:		22.07

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 10, July 2001 became the nearest futures, so July 2001 was used for the entire month of April).

Source: New York Board of Trade (<https://www.theice.com/marketdata/reportcenter/reports.htm?reportId=10>)

Table 12--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
<i>Cents per pound</i>																				
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
2006	34.50	36.50	37.10	36.38	35.00	35.00	35.00	34.50	31.20	28.75	27.19	26.10	:	36.03	35.46	33.57	27.35	:	33.10	36.01
2007	25.50	25.00	24.90	25.00	25.00	25.00	25.38	25.60	25.38	25.00	24.50	24.50	:	25.13	25.00	25.45	24.67	:	25.06	25.73
2008	24.13	26.40	28.00	28.00	29.60	33.25	38.00	38.40	38.50	36.20	35.00	35.00	:	26.18	30.28	38.30	35.40	:	32.54	29.86
2009	35.00	35.00	35.00	34.25	34.40	35.50	35.40	38.00	42.00				:	35.00	34.72	38.47		:		35.90

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

Table 13--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
<i>Cents per pound</i>																		
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
2006	46.10	46.80	47.10	48.00	49.90	50.40	50.50	51.60	51.50	51.20	51.30	50.60	: 46.67	49.43	51.20	51.03	: 49.58	47.96
2007	51.90	51.40	51.80	50.80	51.30	52.10	52.20	51.80	51.80	51.30	51.00	50.30	: 51.70	51.40	51.93	50.87	: 51.48	51.52
2008	51.90	51.30	50.40	51.70	52.10	52.50	52.50	53.50	56.30	56.50	52.80	53.40	51.20	52.10	54.10	54.23	52.91	52.07
2009	56.90	56.90	57.10	56.80	56.10	56.20	55.60	55.60					56.97	56.37				

Source: Bureau of Labor Statistics.

Table 14--U.S. producer price index for com sweeteners and sugar, monthly

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Annual
<i>Corn sweeteners (liquids and solids), incl. glucose, dextrose, and HFCS, June 1985=100 1/</i>													
2000	98.9	98.0	97.8	98.0	97.9	97.9	97.8	98.0	98.0	97.6	99.2	100.3	98.3
2001	111.3	111.6	111.6	111.5	111.9	111.3	111.3	111.3	112.2	112.3	113.9	114.0	112.0
2002	116.5	120.1	119.7	119.8	117.4	119.6	121.2	121.0	127.4	127.9	125.9	126.5	121.9
2003	130.0	131.4	131.3	131.3	131.5	131.9	--	132.2	131.9	130.6	130.9	130.7	131.3
2004	131.9	132.0	131.9	131.7	131.6	131.7	131.8	131.5	131.6	131.5	131.6	131.6	131.7
2005	133.1	133.3	133.5	133.1	133.1	133.1	133.2	132.9	133.2	137.2	133.1	133.2	133.5
2006	144.5	144.8	145.1	153.4	151.1	151.2	151.2	150.9	150.9	150.9	151.1	151.0	149.7
2007	175.5	176.8	176.8	176.8	176.9	177.1	176.8	176.8	176.5	176.9	177.0	176.6	176.7
2008	207.1	207.8	207.9	207.9	207.9	209.2	209.2	209.4	209.2	209.3	210.6	210.1	208.8
2009 2/	221.1	220.5	220.6	218.8	218.8	218.7	216.8	216.7					
<i>Raw cane sugar and other can mill products and byproducts, June 1982=100 1/</i>													
2000	92.7	89.4	95.1	97.4	97.0	99.5	92.7	90.7	95.9	106.1	106.9	103.4	97.2
2001	106.3	107.6	107.6	108.6	107.8	106.1	107.7	107.4	107.1	107.4	108.2	109.8	107.6
2002	109.2	107.0	103.8	103.4	101.4	102.7	106.7	106.9	111.2	111.6	113.9	112.7	107.5
2003	108.8	111.3	113.5	111.6	112.1	111.1	109.8	109.8	108.0	106.8	107.4	105.2	109.6
2004	104.7	104.5	106.4	105.6	105.8	102.7	104.6	103.3	107.1	104.2	104.2	106.5	105.0
2005	106.5	105.6	120.0	121.4	122.9	124.5	125.0	127.2	123.3	125.0	126.4	126.3	121.2
2006	129.5	133.2	129.9	132.9	134.6	135.4	134.2	132.0	132.1	127.5	124.4	123.0	130.7
2007	123.9	125.4	125.9	125.9	127.0	127.2	129.0	127.4	127.6	126.2	124.7	123.0	126.1
2008	124.0	122.3	124.2	124.0	124.5	125.0	129.1	131.0	130.8	128.4	126.8	127.8	126.5
2009 2/	130.3	126.8	125.1	128.5	127.4	130.0	130.3	137.7					
<i>Refined beet sugar and byproducts, June 1982=100 1/</i>													
2000	105.4	101.5	100.3	99.1	98.3	98.3	97.7	96.2	95.5	94.7	95.0	94.0	98.0
2001	97.5	97.6	97.8	98.0	99.4	99.5	99.5	100.9	102.0	103.3	105.0	106.8	100.6
2002	108.5	109.8	110.5	111.2	111.1	110.9	111.3	111.3	114.2	114.3	116.1	117.9	112.3
2003	118.7	118.8	119.1	119.5	119.2	119.4	119.3	119.4	113.7	116.6	116.4	116.2	118.0
2004	116.1	116.3	116.4	116.8	116.3	116.6	116.6	116.7	116.9	115.5	115.8	116.1	116.4
2005	116.3	117.8	115.9	116.5	117.3	118.6	118.5	118.4	118.2	122.6	136.0	141.5	121.5
2006	141.9	147.4	148.8	149.0	148.6	149.2	152.0	151.2	146.2	145.0	143.5	138.1	146.7
2007	136.2	136.5	133.8	132.9	129.4	126.6	126.2	126.1	125.9	126.3	124.3	123.9	129.0
2008	121.3	121.5	123.0	124.2	127.6	130.1	131.2	142.4	141.8	140.8	139.2	139.3	131.9
2009 2/	139.8	140.6	145.2	146.6	144.9	145.3	147.5	148.0					
<i>Refined cane sugar and byproducts, June 1982=100 1/</i>													
2000	124.7	121.8	121.7	119.8	120.4	119.8	120.5	119.2	117.5	113.9	113.2	114.4	118.9
2001	112.8	117.5	116.2	114.6	115.1	115.3	115.6	116.6	115.5	115.2	115.2	116.3	115.5
2002	117.4	117.9	121.0	122.3	119.7	121.2	121.3	120.8	120.8	121.0	119.5	120.1	120.2
2003	119.1	122.3	122.8	122.9	122.9	123.5	123.8	124.5	125.5	124.3	122.3	123.4	123.1
2004	120.5	120.4	121.6	121.6	123.0	124.3	123.3	123.5	123.1	123.6	122.5	121.6	122.4
2005	122.8	121.9	121.5	121.4	122.6	123.7	122.4	124.4	125.3	130.4	133.6	140.8	125.9
2006	142.8	146.2	155.5	156.9	155.5	150.7	156.4	153.1	152.3	148.2	143.9	142.3	150.3
2007	144.9	140.4	137.9	136.1	134.9	132.0	132.4	128.5	130.0	124.7	130.1	129.9	133.5
2008	127.4	129.0	127.5	128.0	128.1	132.1	134.7	139.4	144.2	160.4	161.0	162.0	139.5
2009 2/	163.4	163.4	163.2	161.3	161.1	161.5	161.4	162.0					

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

Source: Bureau of Labor Statistics.

Table 15—U.S. Consumer Price Index for sugar and selected sweetener-containing products 1/

Year and month	Sugar and sweets	Sugar and artificial sweeteners	Flour and prepared flour mixes	Cereals and bakery products	Breakfast cereal	White bread	Cakes, cupcakes, and cookies	Other bakery products
	2/	3/	4/	5/	6/	7/	8/	9/
1982-84=100								
2000	154.0	137.1	160.2	188.3	198.0	199.1	187.9	191.5
2001	155.7	140.3	164.3	193.8	199.7	208.3	192.0	199.1
2002	159.0	143.2	171.0	198.0	203.0	213.4	196.7	203.0
2003	162.0	145.7	178.4	202.8	204.3	218.6	202.8	207.3
2004	163.2	146.9	177.8	206.0	203.5	223.8	206.4	211.8
2005	165.2	149.1	179.6	209.0	203.6	232.1	209.8	211.4
2006	171.5	163.9	182.2	212.8	199.9	238.0	214.2	215.5
2007	176.8	167.1	191.6	222.1	205.0	258.0	221.7	220.5
2008	186.6	170.5	225.8	244.9	212.1	294.2	239.9	236.5
2008								
Jan.	180.2	167.0	202.3	228.7	203.1	273.1	227.9	221.7
Feb.	180.6	167.7	208.8	233.4	205.9	278.9	229.2	227.2
Mar.	182.2	165.4	215.5	236.3	211.4	287.9	232.7	225.0
Apr.	184.9	168.5	224.3	240.0	208.6	291.4	234.5	233.8
May	185.1	169.1	231.1	244.2	211.4	294.6	237.9	237.7
June	185.6	170.0	233.4	245.8	210.6	296.7	240.4	239.1
July	187.1	170.4	236.9	250.3	214.4	302.4	243.4	241.9
Aug.	187.8	172.7	236.1	250.1	213.4	299.5	243.1	243.6
Sep.	189.9	175.7	232.2	250.9	214.9	298.3	244.4	243.8
Oct.	190.5	174.6	231.0	252.8	216.1	301.2	246.9	245.2
Nov.	191.8	171.8	228.4	252.7	218.1	302.1	249.7	238.5
Dec.	193.3	173.0	229.9	253.1	217.9	304.7	248.7	240.9
2009								
Jan.	197.4	178.2	237.4	254.4	217.0	301.1	249.8	247.2
Feb.	196.7	178.5	237.9	254.2	214.8	302.4	249.3	248.6
Mar.	197.1	178.9	233.9	253.7	215.0	304.4	249.6	245.9
Apr.	197.3	175.3	231.2	252.7	217.6	301.8	250.5	244.4
May	196.4	177.4	234.8	252.7	217.3	299.4	248.6	247.8
June	197.0	177.3	235.1	253.0	216.8	299.6	251.6	247.8
July	195.1	176.8	238.1	253.4	221.9	301.3	249.2	245.5
Aug.	195.4	176.7	234.0	252.4	219.6	295.7	249.8	249.3

Continued—

Table 15--U.S. Consumer Price Index for sugar and selected sweetener-containing products 1/

Year and month	Non-alcoholic beverages	Carbonated drinks	Non-carbonated juices and drinks	Canned fruits	Candy and chewing gum	Ice cream and related products	Food
	10/	11/	12/	13/	14/	15/	16/
1982-84=100							
2000	137.8	123.4	104.2	106.9	103.8	164.4	167.8
2001	139.2	125.4	106.0	109.0	104.3	173.4	173.1
2002	139.2	125.6	106.4	111.6	106.2	179.1	176.2
2003	139.8	125.6	106.5	113.7	107.8	175.5	180.0
2004	140.4	127.9	105.7	114.0	108.4	178.3	186.2
2005	144.4	131.9	106.5	118.4	109.5	177.6	190.7
2006	147.4	134.2	109.5	121.5	112.2	179.3	195.2
2007	153.4	140.1	112.9	125.2	116.1	183.4	202.9
2008	160.0	147.0	117.5	135.6	123.2	192.8	214.1
2008							
Jan.	157.9	143.7	116.8	128.3	118.8	189.5	208.6
Feb.	157.8	146.5	116.1	132.3	119.1	190.2	209.2
Mar.	158.1	144.5	116.1	130.2	120.6	188.8	209.4
Apr.	159.7	147.0	117.2	130.7	122.5	190.7	211.1
May	158.3	143.2	117.1	135.2	122.2	190.2	212.1
June	158.3	144.5	115.7	136.2	122.6	190.1	213.2
July	159.3	145.1	117.2	136.3	123.8	187.8	215.3
Aug.	160.1	144.5	117.7	137.3	123.6	192.3	216.4
Sep.	161.5	149.6	118.0	140.6	124.6	194.3	217.7
Oct.	163.7	152.3	119.0	141.0	124.6	199.7	218.7
Nov.	163.0	151.8	119.2	139.8	126.9	200.6	218.7
Dec.	162.8	151.1	120.2	139.1	128.7	199.1	218.8
2009							
Jan.	164.9	154.9	119.9	141.5	130.3	201.7	219.7
Feb.	164.2	155.5	118.5	142.2	130.2	201.0	219.2
Mar.	165.7	157.9	119.4	144.2	129.8	198.2	218.6
Apr.	162.9	153.8	118.7	140.5	130.7	197.4	218.2
May	162.8	154.3	118.4	146.7	129.5	198.5	217.8
June	162.6	155.3	117.2	146.4	130.3	192.6	217.7
July	162.1	153.9	117.5	145.1	128.3	191.2	217.3
Aug.	163.0	153.6	117.3	144.7	128.7	192.0	217.4

1/ All-urban, unadjusted, U.S. city average. 2/ Series:SEFR, Base: 1982-84=100. 3/ Series:SEFR01, Base: 1982-84=100.
4/ Series: SEFA01, Base: 1982-84=100; 5/ Series: SAF111, Base: 1982-84=100. 6/ Series: SEFA02, Base: 1982-84=100.
7/ Series: SS02011, Base: 1982-84=100. 8/ Series: SEFB03, Base: 1982-84=100. 9/ Series: SEFB04, Base: 1982-84=100.
10/ Series: SAF114, Base: 1982-84=100. 11/ Series: SEFN01, Base: 1982-84=100. 12/ Series: SEFN03, Base: Dec. 1997=100.
13/ Series: SS13031, Base: Dec. 1997=100. 14/ Series: SEFR02, Base: Dec. 1997=100. 15/ Series: SEFJ03, Base: 1982-84=100.
16/ Series: SAF1, Base: 1982-84=100.

Source: Bureau of Labor Statistics.

Table 16--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
<i>1,000 short tons, raw value</i>																		
U.S. beet sugar for domestic consumption:																		
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	337	1,120	1,173	1,248	1,169	4,684	4,710
2006	342	306	357	323	362	381	348	406	366	369	329	306	1,005	1,067	1,120	1,004	4,360	4,195
2007	339	330	378	396	414	404	422	456	420	436	402	311	1,047	1,214	1,297	1,149	4,562	4,707
2008	365	401	402	405	422	453	438	424	436	437	352	333	1,167	1,280	1,298	1,122	4,894	4,867
2009	316	282	344	322	332	379	364	404					942	1,033				
Cane sugar for domestic consumption:																		
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	476	429	401	1,199	1,277	1,353	1,306	5,207	5,136
2006	405	383	440	405	434	466	435	494	441	487	456	384	1,228	1,305	1,369	1,327	5,209	5,230
2007	399	363	455	426	426	429	400	497	435	448	470	376	1,217	1,281	1,332	1,295	5,157	5,124
2008	408	411	443	393	443	408	435	432	426	450	434	401	1,262	1,243	1,293	1,285	5,093	5,083
2009	395	392	468	447	459	467	499	492					1,255	1,373				
Imports to nonreporters																		
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	57	17	24	55	16	21	65	96	128	197
2006	92	6	104	26	29	60	71	70	61	32	22	5	202	115	202	58	615	577
2007	16	22	4	15	22	4	21	13	19	18	40	11	43	40	53	69	194	206
2008	13	34	37	38	58	46	50	98	140	134	120	105	83	143	288	359	584	873
2009	82	90	96	103	111	90	66	70					268	305				
Total sugar for domestic consumption:																		
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	964	951	828	793	2,335	2,471	2,666	2,571	10,019	10,043
2006	839	695	901	755	825	907	853	969	868	888	806	694	2,436	2,487	2,690	2,389	10,184	10,002
2007	754	715	838	837	862	837	843	966	873	903	912	698	2,307	2,535	2,682	2,513	9,913	10,037
2008	786	846	881	836	923	907	923	953	1,002	1,021	906	839	2,513	2,665	2,879	2,766	10,571	10,823
2009	792	765	909	873	901	937	929	966					2,466	2,711				Continued--

Table 16—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
<i>1,000 short tons, raw value</i>																		
Reexported in products:																		
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	14	6	24	37	33	25	121	118
2006	6	10	9	10	6	7	7	10	15	11	8	12	25	23	32	31	106	111
2007	18	11	14	17	22	16	16	13	11	8	12	16	43	55	40	35	169	173
2008	11	7	9	14	12	11	17	9	15	8	4	5	27	37	41	17	141	123
2009	9	9	12	12	11	9	10	13					30	33				
Polyhydric alcohol and livestock feed use:																		
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	5	12	13	13	13	48	51
2006	5	4	5	4	4	4	4	4	4	5	4	4	13	12	12	12	50	49
2007	4	5	5	4	5	4	4	5	5	5	5	4	14	14	13	14	53	54
2008	6	4	6	5	5	5	5	5	5	6	4	4	16	15	16	14	61	61
2009	4	3	3	4	4	3	3	3					11	11				
Total U.S. sugar deliveries 1/:																		
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	979	960	846	803	2,370	2,521	2,711	2,609	10,188	10,212
2006	850	709	914	768	835	919	865	984	886	903	818	710	2,474	2,522	2,734	2,432	10,339	10,162
2007	776	731	857	858	889	857	862	984	888	916	928	718	2,364	2,604	2,735	2,563	10,134	10,265
2008	803	858	895	855	940	923	945	968	1,023	1,035	915	847	2,556	2,718	2,937	2,797	10,773	11,007
2009	806	777	924	888	917	949	942	983					2,507	2,755				

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: USDA, FSA, *Sweetener Market Data*.

Table 17--U.S. sugar: supply and use, by fiscal year 1/

Items	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10 Projection Sep-09
<i>1,000 short tons, raw value</i>											
Beginning stocks 2/	1,639	2,216	2,180	1,528	1,670	1,897	1,332	1,698	1,799	1,660	1,307
Total production 3/, 4/	9,050	8,769	7,900	8,426	8,649	7,876	7,399	8,445	8,152	7,571	8,025
Beet sugar	4,974	4,680	3,915	4,462	4,692	4,611	4,444	5,008	4,721	4,250	4,700
Cane sugar	4,076	4,089	3,985	3,964	3,957	3,265	2,955	3,438	3,431	3,321	3,325
Florida	1,966	2,057	1,980	2,129	2,154	1,693	1,367	1,719	1,645	1,569	1,700
Louisiana	1,683	1,585	1,580	1,367	1,377	1,157	1,190	1,320	1,446	1,400	1,300
Texas	105	206	174	191	175	158	175	177	158	152	165
Hawaii	318	241	251	276	251	258	223	222	182	200	160
Puerto Rico	4	0	0	0	0	0	0	0	0	0	0
Total imports	1,636	1,590	1,535	1,730	1,750	2,100	3,443	2,080	2,620	3,116	2,087
Tariff-rate quota imports 5/	1,124	1,277	1,158	1,210	1,226	1,408	2,588	1,624	1,354	1,431	1,182
Other Program Imports	388	238	296	488	464	500	349	390	565	300	400
Non-program imports	124	76	81	32	60	192	506	66	701	1,385	505
Mexico 6/								60	694	1,375	495
Total Supply	12,325	12,575	11,615	11,684	12,070	11,873	12,174	12,223	12,571	12,347	11,419
Total exports 3/	124	141	137	142	288	259	203	422	203	130	200
Quota-exempt for reexport	124	141	137	142	288	259	203	422	203	130	200
Other exports	0	0	0	0	0	0	0	0	0	0	0
CCC disposal, for export	0	0	0	0	0	0	0	0	0	0	0
Statistical difference 7/	0	0	0	0	0	0	0	0	0	0	0
Miscellaneous	-126	123	-24	161	23	94	-67	-132	-66	0	0
CCC disposal, for domestic non-food use	0	10	0	0	0	0	0	0	0	0	0
Refining loss adjustment	0	0	0	0	0	0	0	0	0	0	0
Statistical adjustment 8/	-126	113	-24	161	23	94	-67	-132	-66	0	0
Deliveries for domestic use	10,111	10,132	9,974	9,711	9,862	10,188	10,340	10,135	10,773	10,910	10,375
Transfer to sugar-cont. products for exports under reexport program	86	98	156	183	142	121	106	169	141	115	175
Transfer to polyhydric alcohol, feed	32	33	33	24	41	48	51	53	61	60	60
Deliveries for domestic food and beverage use	9,993	10,000	9,785	9,504	9,678	10,019	10,184	9,913	10,571	10,735	10,140
Total Use	10,090	10,396	10,087	10,014	10,172	10,542	10,476	10,424	10,911	11,040	10,575
Ending stocks 3/	2,216	2,180	1,528	1,670	1,897	1,332	1,698	1,799	1,660	1,307	844
Privately owned	1,919	1,395	1,316								
CCC	297	784	212								
Percent											
Stocks-to-use ratio	22	21	15	17	19	13	16	17	15	12	8

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 2009/10 available TRQ assumes shortfall of 150,000 tons. 6/ Does not include Mexico TRQ imports. 7/ Receipts compiled by NASS and FSA Customs data. 8/ Calculated as a residual. Largely consists of invisible stocks change.

Table 18--Net cost of corn starch to U.S. wet-millers, Midwest markets

Period	Com byproducts				Byproduct credits				Net cost		
	Yellow dent corn 1/	Corn oil	Com gluten feed	Com gluten meal	Com oil	Corn gluten feed	Com gluten meal	Total byproduct	Com	Com starch	Com sweetener
	Dollars per bu	Cents per lb	Dollars per short ton	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
2005	1.90	28.42	51.33	288.09	44.04	34.65	38.17	1.17	0.73	2.33	2.20
2006	2.41	25.06	59.87	264.89	38.84	40.41	35.10	1.14	1.27	4.02	3.80
2007	3.51	39.23	87.70	402.30	60.81	59.19	53.31	1.73	1.78	5.64	5.33
2008	4.95	63.05	110.97	505.40	97.72	74.90	66.97	2.40	2.55	8.10	7.66
2008											
Jan.	4.55	63.35	135.60	545.00	98.19	91.53	72.21	2.62	1.93	6.13	5.79
Feb.	4.91	74.89	128.75	543.13	116.08	86.91	71.96	2.75	2.16	6.86	6.48
Mar.	5.16	83.55	117.19	561.88	129.50	79.10	74.45	2.83	2.33	7.40	6.99
I	4.87	73.93	127.18	550.00	114.59	85.85	72.88	2.73	2.14	6.79	6.42
Apr.	5.59	87.09	129.10	547.00	134.99	87.14	72.48	2.95	2.64	8.39	7.93
May	5.58	87.29	114.38	529.00	135.30	77.21	70.09	2.83	2.75	8.74	8.26
June	6.55	82.33	112.00	524.38	127.61	75.60	69.48	2.73	3.82	12.14	11.47
II	5.91	85.57	118.49	533.46	132.63	79.98	70.68	2.83	3.07	9.76	9.22
July	5.97	76.64	125.70	554.50	118.79	84.85	73.47	2.77	3.20	10.16	9.60
Aug.	5.04	60.00	108.13	505.00	93.00	72.99	66.91	2.33	2.71	8.61	8.13
Sept.	5.00	48.71	99.30	495.50	75.50	67.03	65.65	2.08	2.92	9.26	8.75
III	5.34	61.78	111.04	518.33	95.76	74.95	68.68	2.39	2.94	9.34	8.83
Oct.	3.90	34.76	91.25	464.13	53.88	61.59	61.50	1.77	2.13	6.76	6.39
Nov.	3.61	31.06	90.63	406.25	48.14	61.18	53.83	1.63	1.98	6.28	5.94
Dec.	3.52	26.88	79.60	389.00	41.66	53.73	51.54	1.47	2.05	6.51	6.15
IV	3.68	30.90	87.16	419.79	47.90	58.83	55.62	1.62	2.05	6.52	6.16
2009											
Jan.	3.81	25.19	96.13	469.38	39.04	64.89	62.19	1.66	2.15	6.82	6.45
Feb.	3.46	29.05	98.88	539.38	45.03	66.74	71.47	1.83	1.63	5.17	4.88
Mar.	3.60	29.64	75.40	424.38	45.94	50.90	56.23	1.53	2.07	6.57	6.21
I	3.62	27.96	90.14	477.71	43.34	60.84	63.30	1.67	1.95	6.19	5.85
Apr.	3.69	31.31	66.63	443.13	48.53	44.98	58.71	1.52	2.17	6.88	6.50
May	3.98	37.23	68.25	564.38	57.71	46.07	74.78	1.79	2.19	6.97	6.58
June	3.97	39.57	78.70	630.00	61.33	53.12	83.48	1.98	1.99	6.32	5.97
II	3.88	36.04	71.19	545.84	55.86	48.06	72.32	1.76	2.12	6.72	6.35
July	3.22	36.30	62.63	532.50	56.27	42.28	70.56	1.69	1.53	4.85	4.59
Aug.	3.21	35.23	61.13	495.00	54.61	41.26	65.59	1.61	1.60	5.06	4.79

NQ = no quote.

Sources: USDA, ERS, Sugar and Sweeteners Team ;USDA, byproduct credits and net cost calculations.

Note: To calculate the net cost of corn, it is assumed that the average bushel of corn wet-milled in the United States contains 31.5 pounds of recoverable starch, dry weight, as well as 1.55 pounds of corn oil (crude weight), 13.5 pounds of com gluten feed (commercial weight), and 2.65 pounds of com gluten meal, (commercial weight). Also, 31.5 pounds of starch, dry weight, produces about 33.33 pounds of corn sweetener (dry weight) because of the chemical gain converting starch to sweetener.

Table 19—U.S. high fructose corn syrup (HFCS) deliveries, quarterly, by fiscal and calendar year 1/

Quarter and Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Quarter										
I	2,129	2,165	2,114	2,122	2,185	2,128	2,195	2,087	2,003	1,946
II	2,482	2,370	2,527	2,469	2,438	2,408	2,431	2,363	2,277	2,183
III	2,400	2,433	2,491	2,408	2,361	2,392	2,345	2,266	2,175	
IV	2,103	2,181	2,161	2,136	2,076	2,130	2,073	2,049	1,907	
Year										
Fiscal	9,200	9,072	9,313	9,160	9,119	9,004	9,102	8,789	8,504	
Calendar	9,114	9,149	9,294	9,135	9,060	9,058	9,045	8,765	8,361	

1/ Includes Puerto Rico. HFCS = High Fructose Corn Syrup.

Source: Estimates by USDA, ERS, Sugar and Sweetener Team.

Table 20--U.S. raw sugar tariff-late quota (TRQ) World Trade Organization (WTO) allocations and entries by month, fiscal year 2009

	Entries by month												FY 2009 TRQ allocation	Entries as Share of allocation percent	
	Oct-08	Nov-08	Dec-08	Jan-09	Feb-09	Mar-09	Apr-09	May-09	Jun-09	Jul-09	Aug-09	Sep-09			Entries to date
	<i>Metric tons, raw value</i>														
Argentina		63	448	0	-511	7,462	13,495	0	-57	0	0	24,295	45,195	45,281	99.8
Australia	31,350	31,350	161	0	110	272	0	24,159	0	0	0	0	87,402	87,402	100.0
Barbados	0	0	0	0	0	0	0	0	0	0	0	0	0	7,371	0.0
Belize	0	0	0	0	0	0	0	0	0	0	0	0	0	11,583	0.0
Bolivia	0	0	8,424	0	0	0	0	0	0	0	0	0	8,424	8,424	100.0
Brazil	0	12,540	22,258	66,904	0	0	16,524	171	22,570	0	146	141,113	152,691	152,691	92.4
Colombia	2,316	563	540	744	694	142	482	322	15,773	252	343	22,171	25,273	25,273	87.7
Congo	0	0	0	0	0	0	0	0	0	0	0	0	0	7,258	0.0
Costa Rica	0	0	0	0	0	2	3,546	12,232	0	0	0	0	15,780	15,796	99.9
Cote d'Ivoire	0	0	0	0	0	0	0	0	0	0	0	0	0	7,258	0.0
Dominican Republic	6,535	166	356	24,174	553	20,919	41,441	439	26,957	48,112	6,512	176,164	185,335	185,335	95.1
Ecuador	0	0	0	0	0	67	0	0	0	0	7,629	7,696	11,583	11,583	66.4
El Salvador	0	0	27,098	0	-10,340	10,621	0	0	0	0	0	27,379	27,379	27,379	100.0
Fiji	0	0	0	0	0	154	0	0	0	0	0	154	9,477	9,477	1.6
Gabon	0	0	0	0	0	0	0	0	0	0	0	0	0	7,258	0.0
Guatemala	20,824	0	0	13,824	259	5,768	0	0	0	0	9,872	50,547	50,546	100.0	
Guyana	0	19	19	18	0	0	0	0	0	0	0	56	12,636	12,636	0.4
Haiti	0	0	0	0	0	0	0	0	0	0	0	0	7,258	7,258	0.0
Honduras	10,529	0	0	0	1	0	0	0	0	0	0	10,530	10,530	100.0	
India	0	0	0	0	0	0	0	0	0	0	0	0	8,424	8,424	0.0
Jamaica	0	0	0	0	0	0	0	0	0	0	0	0	11,583	11,583	0.0
Madagascar	0	0	0	0	0	0	0	0	0	0	0	0	7,258	7,258	0.0
Malawi	1,940	1,402	1,358	877	466	251	1,043	917	24	212	449	8,939	10,530	10,530	84.9
Mauritius	0	0	10	12	0	7	0	11	0	20	8	68	12,636	12,636	0.5
Mexico 1/	0	0	0	0	0	0	0	0	0	0	0	0	7,258	7,258	0.0
Mozambique	0	0	63	0	0	0	0	0	0	0	0	63	13,690	13,690	0.5
Nicaragua	0	0	0	0	0	0	0	10,339	0	11,775	0	22,114	22,114	100.0	
Panama	7,629	14,474	0	0	-23	111	-128	0	8,473	-12	-39	30,485	30,538	30,538	99.8
Papua New Guinea	0	0	0	0	0	0	0	0	0	0	0	0	7,258	7,258	0.0
Paraguay	0	0	0	0	0	0	0	0	0	167	104	271	7,258	7,258	3.7
Peru	21,945	0	0	0	0	21,230	0	0	0	0	0	43,175	43,175	43,175	100.0
Philippines	28,372	25,735	-230	27,634	28,735	0	31,242	0	-142	-448	0	140,898	142,160	142,160	99.1
South Africa	0	0	0	0	0	559	23,661	0	0	0	0	24,220	24,220	24,220	100.0
St. Kitts and Nevis	0	0	0	0	0	0	0	0	0	0	0	0	7,258	7,258	0.0
Swaziland	0	0	0	0	16,849	0	0	0	0	0	0	16,849	16,849	16,849	100.0
Taiwan	0	0	0	0	0	0	0	0	0	0	0	0	12,636	12,636	0.0
Thailand	0	0	0	0	0	403	14,340	0	0	0	0	14,743	14,743	14,743	100.0
Trinidad-Tobago	0	0	0	0	0	0	0	0	0	0	0	0	7,371	7,371	0.0
Uruguay	0	0	0	0	0	0	0	0	0	0	0	0	7,258	7,258	0.0
Zimbabwe	0	0	0	0	0	149	0	0	0	0	0	149	12,636	12,636	1.2
Total	131,503	86,697	60,057	133,676	44,766	74,150	132,151	48,533	73,655	60,078	49,319	0	894,585	1,117,195	80.1

1/ This amount is also included in Table 60, U.S. Imports of Sugar from Mexico.

Source: United States Customs and Border Protection, *Weekly Commodity Status Report*.http://www.fas.usda.gov/smi_arc.asp

Table 21--U.S. imports of sugar and certain sugar-containing products from Mexico, fiscal years (FYs) 2008 and 2009 1/

	Entries by month												Entries to date
	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	
	<i>Metric tons, raw value</i>												
FY 2008													
Sugar for further processing 2/	9,234	0	23,638	16,960	39,220	16,960	40,174	30,210	13,250	0	41,764	8,056	239,466
Sugar not for further processing 2/	8,328	16,180	10,788	9,301	12,677	30,059	33,758	40,227	47,507	50,142	61,965	69,128	390,060
Total sugar	17,562	16,180	34,426	26,261	51,897	47,019	73,932	70,437	60,757	50,142	103,729	77,184	629,526
FY 2009													
Imported in bulk by ocean vessel 2/	16,816	46,158	53,256	0	5,902	71,227	63,898	106,630	8,971	46,526	0		419,384
Imported in containers, railcars, or trucks	73,145	68,207	63,554	55,935	74,109	85,967	91,379	96,123	82,855	61,786	58,065		811,125
Total sugar	89,961	114,365	116,810	55,935	80,011	157,194	155,277	202,753	91,826	108,312	58,065		1,230,509

1/ Beginning 1/1/08, no duty or quota applies to sugar from Mexico. From 10/1/07 - 12/31/07, Mexico had duty-free access of 2,954 metric tons allocated under the refined TRQ and 175,000 metric tons (which included WTO raw sugar allocation to Mexico) established by Presidential Proclamation 8180 issued on September 28, 2007.

2/ Includes imports under Mexico's WTO TRQ allocation for raw sugar. May include entries under U.S. Harmonized Tariff Schedule (HTS) 1701.11.10.00, 1701.11.50.00, 1701.91.10.00, 1701.91.30.00, 1701.99.10.90, and 1701.99.50.90. Raw value is commercial weight multiplied by a factor of 1.06.

3/ Includes entries by ocean and over land.

Source: United States Customs and Border Protection.

http://www.fas.usda.gov/smi_arc.asp.

Table 22--Bulk sugar prices in Mexico, estandar (standard) sugar

	Nominal pesos per 50 kg 1/													
	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	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
2006	280.40	275.60	273.00	292.50	334.40	353.69	333.00	401.40	440.75	395.85	386.25	374.35	345.10	319.57
2007	361.40	344.95	347.10	341.00	332.30	323.00	321.00	306.50	288.12	280.40	272.12	292.00	317.49	317.96
2008	276.20	260.16	260.97	273.50	255.12	248.87	267.20	261.67	262.60	264.50	264.25	280.60	264.64	267.57
2009	272.75	272.88	289.20	329.63	337.17	371.20	424.17	465.25	658.50					
	Real 2005 pesos per 50 kg													
	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Calendar	Fiscal
1994	393.27	392.18	390.71	388.64	386.59	384.13	381.76	379.50	377.09	375.46	373.94	373.17	383.04	379.31
1995	352.32	365.45	369.45	340.41	340.94	350.10	343.64	345.42	378.46	388.73	390.25	387.95	362.76	359.06
1996	372.82	374.76	383.47	375.22	372.80	379.32	377.81	381.06	386.93	374.02	343.10	322.42	370.31	380.93
1997	352.10	394.57	371.64	352.97	338.57	348.32	339.19	331.98	334.91	318.87	300.56	298.15	340.15	350.31
1998	317.59	308.24	269.92	281.00	308.71	321.26	313.50	348.96	345.92	339.44	347.94	348.41	320.91	311.06
1999	333.18	318.68	288.79	272.26	271.91	327.10	320.90	300.58	305.02	321.41	345.17	322.81	310.65	314.52
2000	307.50	287.68	285.92	274.83	298.09	292.06	312.68	311.68	308.76	298.35	321.13	346.30	303.75	305.72
2001	322.92	303.91	268.55	243.62	239.01	281.70	286.98	282.09	319.18	318.07	306.40	298.83	289.27	292.81
2002	313.63	311.77	305.66	301.16	296.75	292.43	297.86	299.95	303.74	314.63	317.15	315.62	305.86	303.85
2003	311.54	304.78	302.30	311.62	316.53	320.01	326.65	328.12	334.84	339.68	338.37	351.56	323.83	316.98
2004	339.81	320.08	309.87	312.67	309.65	315.35	329.52	335.55	338.59	334.95	330.49	336.39	326.08	328.39
2005	328.00	314.89	306.89	305.39	306.31	306.19	297.55	299.73	287.26	281.78	281.05	278.71	299.48	312.84
2006	273.74	268.32	263.44	277.63	313.41	327.97	308.09	369.14	405.49	364.98	356.54	344.18	322.74	304.06
2007	332.52	315.25	314.66	308.14	302.11	292.45	288.60	278.26	259.55	252.30	243.99	261.82	287.47	313.10
2008	245.57	228.78	227.14	236.31	219.48	212.82	226.44	221.60	221.20	217.22	215.17	227.73	224.96	233.12
2009	220.63	218.67	230.38	265.27	272.68	299.94								
	U.S. cents per pound													
	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	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
2006	24.13	23.85	23.04	24.02	27.35	28.16	27.51	33.49	36.39	32.99	32.11	31.29	28.69	26.66
2007	29.93	28.46	28.33	28.17	27.86	27.05	26.93	25.18	23.69	23.51	22.69	24.42	26.35	28.50
2008	22.98	21.92	22.06	23.60	22.17	21.86	23.73	23.47	22.34	18.95	18.27	18.97	21.69	22.90
2009	17.82	16.95	17.91	22.33	23.19	25.24	28.80	32.45	44.56					

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

Source: Servicio Nacional de Informacion de Mercados SNIIM-ECONOMICA

Table 23--Bulk sugar prices in Mexico, refinado (refined) sugar

	Nominal pesos per 50 kg 1/													
	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	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	330.75	330.00	335.60	335.10	335.74	337.22
2006	332.80	332.75	350.00	355.00	375.60	412.00	415.25	459.70	532.63	486.20	435.75	424.75	409.37	380.54
2007	412.55	403.50	400.25	398.80	389.94	384.16	383.13	380.84	366.40	351.73	331.99	333.16	378.04	405.52
2008	323.53	313.24	309.41	324.99	316.33	307.83	322.66	329.17	332.43	331.75	330.42	334.94	323.06	324.71
2009	329.50	329.33	339.07	357.34	395.00	429.23	451.67	484.58	688.00					
	Real 2005 pesos per 50 kg													
	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Calendar	Fiscal
1994	440.81	439.58	437.93	435.61	433.31	430.55	427.89	425.36	422.67	420.84	418.81	415.09	429.04	425.05
1995	391.89	406.40	410.77	378.34	377.62	386.08	378.95	381.03	436.65	428.76	430.44	427.91	402.90	400.21
1996	405.04	409.85	424.70	417.47	410.97	412.13	411.76	413.20	413.48	406.87	397.55	387.57	409.22	417.14
1997	396.34	434.06	428.63	424.91	413.74	410.48	410.74	404.86	399.13	387.41	382.06	373.86	405.52	409.57
1998	372.83	362.94	350.78	341.72	352.28	355.86	356.40	380.99	370.19	385.75	389.14	377.81	366.39	365.61
1999	374.54	373.41	358.03	353.20	343.83	355.31	366.88	353.49	345.61	388.09	379.87	370.79	363.59	364.75
2000	361.04	349.41	344.22	339.16	333.92	319.99	329.29	330.99	329.26	325.61	342.73	356.42	338.50	348.00
2001	359.36	356.21	343.02	329.22	322.53	331.37	337.21	337.21	353.49	356.82	353.91	350.86	344.27	341.20
2002	368.04	361.64	356.63	348.94	343.22	341.57	347.76	353.73	357.82	363.54	365.60	363.96	356.04	353.41
2003	360.63	355.41	351.49	361.43	365.34	368.11	383.02	387.66	412.16	404.38	406.60	396.62	379.40	369.86
2004	386.77	367.34	358.76	356.44	351.58	354.54	357.66	347.07	347.29	344.76	342.81	347.76	355.23	369.59
2005	345.59	342.64	336.58	338.33	339.98	338.05	336.09	332.70	328.75	327.30	332.70	330.60	335.78	339.50
2006	324.90	323.96	337.74	336.96	352.02	382.04	384.18	422.75	489.99	448.28	402.24	390.51	382.96	362.10
2007	379.58	368.76	362.84	360.37	354.51	347.82	344.46	345.76	330.06	316.49	297.68	298.73	342.25	369.60
2008	287.66	275.46	269.30	280.80	272.14	263.24	273.44	278.77	280.02	272.45	269.05	271.83	274.51	282.81
2009	266.53	263.91	270.11	287.57	319.45	346.82								
	U.S. cents per pound													
	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	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	27.82	27.63	28.53	28.61	27.96	27.70
2006	28.64	28.79	29.54	29.15	30.72	32.81	34.30	38.36	43.97	40.52	36.22	35.50	34.04	31.75
2007	34.16	33.29	32.67	32.95	32.69	32.17	32.14	31.28	30.13	29.49	27.68	27.87	31.38	33.64
2008	26.91	26.39	26.15	28.04	27.49	27.04	28.65	29.52	28.28	23.77	22.85	22.65	26.48	27.79
2009	21.53	20.45	21.00	24.20	27.17	29.19	30.66	33.80	46.56					

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

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

Table 24--Maple syrup: U.S. production and yield

State	2001	2002	2003	2004	2005	2006	2007	2008	2009	Change
Number of taps (1,000 taps)										
Connecticut	57	62	62	62	63	72	73	75	71	-5.3%
Maine	1,280	1,280	1,295	1,290	1,300	1,490	1,485	1,440	1,470	2.1%
Massachusetts	215	230	220	235	240	255	250	250	230	-8.0%
Michigan	350	365	360	370	390	375	390	405	450	11.1%
New Hampshire	350	380	350	360	365	375	400	395	385	-2.5%
New York	1,326	1,414	1,340	1,345	1,420	1,460	1,440	1,445	1,508	4.4%
Ohio	432	376	387	405	355	325	325	350	375	7.1%
Pennsylvania	360	355	383	404	428	449	445	475	464	-2.3%
Vermont	2,100	2,180	2,030	2,100	2,140	2,770	2,770	2,870	3,030	5.6%
Wisconsin	436	440	400	385	400	500	600	620	670	8.1%
United States	6,906	7,082	6,827	6,956	7,101	8,071	8,178	8,325	8,653	3.9%
New England	4,002	4,132	3,957	4,047	4,108	4,962	4,978	5,030	5,186	3.1%
New York + PA	1,686	1,769	1,723	1,749	1,848	1,909	1,885	1,920	1,972	2.7%
Midwest	1,218	1,181	1,147	1,160	1,145	1,200	1,315	1,375	1,495	8.7%
Yield per tap (gallons)										
Connecticut	0.175	0.161	0.161	0.169	0.162	0.153	0.151	0.253	0.183	-27.7%
Maine	0.181	0.215	0.22	0.225	0.191	0.232	0.168	0.167	0.269	61.1%
Massachusetts	0.172	0.209	0.168	0.213	0.167	0.157	0.160	0.260	0.200	-23.1%
Michigan	0.186	0.205	0.164	0.216	0.149	0.208	0.167	0.259	0.256	-1.2%
New Hampshire	0.143	0.218	0.171	0.231	0.156	0.171	0.175	0.241	0.244	1.2%
New York	0.166	0.184	0.157	0.19	0.156	0.173	0.158	0.227	0.240	5.7%
Ohio	0.222	0.199	0.132	0.193	0.194	0.218	0.194	0.286	0.240	-16.1%
Pennsylvania	0.192	0.169	0.136	0.149	0.143	0.147	0.124	0.211	0.198	-6.2%
Vermont	0.138	0.234	0.217	0.239	0.201	0.235	0.231	0.247	0.304	23.1%
Wisconsin	0.156	0.180	0.181	0.238	0.111	0.200	0.158	0.242	0.299	23.6%
United States	0.165	0.208	0.185	0.217	0.175	0.208	0.185	0.230	0.269	17.0%
New England	0.155	0.224	0.215	0.243	0.215	0.224	0.203	0.224	0.283	26.1%
New York + PA	0.171	0.181	0.152	0.180	0.153	0.167	0.150	0.223	0.230	3.3%
Midwest	0.188	0.194	0.162	0.222	0.149	0.208	0.170	0.258	0.271	4.9%
Production (1,000 gallons):										
Connecticut	10	10	10	11	11	11	11	19	13	-31.6%
Maine	232	275	285	290	265	345	250	240	395	64.6%
Massachusetts	37	48	37	50	40	40	40	65	46	-29.2%
Michigan	65	75	59	80	58	78	65	105	115	9.5%
New Hampshire	50	83	60	83	57	64	70	95	94	-1.1%
New York	220	260	210	255	222	253	228	328	362	10.4%
Ohio	96	75	51	78	63	71	63	100	90	-10.0%
Pennsylvania	69	60	52	60	61	66	55	100	92	-8.0%
Vermont	290	510	460	550	510	650	640	710	920	29.6%
Wisconsin	68	79	76	100	50	100	95	150	200	33.3%
United States 1/	1,137	1,475	1,260	1,507	1,242	1,678	1,517	1,912	2,327	21.7%
New England	619	926	852	984	883	1,110	1,011	1,129	1,468	30.0%
New York + PA	289	320	262	315	283	319	283	428	454	6.1%
Midwest	229	229	186	258	171	249	223	355	405	14.1%

1/ Includes 12,000 gallons from Minnesota in 1992.

Source: USDA, NASS, *Crop Production*.