

Sugar and Sweeteners Outlook

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U.S. Sugar January 2013

On January 11, 2013, the U.S. Department of Agriculture (USDA) published in the *World Agricultural Supply and Demand Estimates* (WASDE) its latest sugar supply and use estimates/projections for the United States and Mexico for fiscal years (FYs) 2012 and 2013.

Besides very minor changes made in USDA's *Sweetener Market Data* (SMD) for FY 2012 due to revised processor/refiner reporting, the only significant change was in the forecast of FY 2013 cane sugar production in Louisiana. The production forecast was raised by 150,000 short tons, raw value (STRV) to 1.650 million STRV. Sugar production in other regions is projected the same as last month. The sum of total cane sugar production at 3.870 million STRV and beet sugar production at 5.200 million STRV is 9.070 million STRV. Large beginning stocks of 1.985 million STRV and imports projected at 2.913 million STRV (minimum level tariff-rate quota imports with high shortfall countered by large imports from Mexico) imply record U.S. total sugar supply at 13.967 million STRV.

The USDA projects FY 2013 total sugar use at 11.765 million STRV. Ending stocks for FY 2013 are projected as the difference between projected total supply and total use at 2.203 million STRV. The implied stocks-to-use projection is 18.7 percent.

There were no WASDE changes for Mexico supply and use. Production is forecast at 5.668 million metric tons (mt); deliveries for human consumption at 4.200 million mt; and exports at 1.198 million mt—all except 10,000 mt expected to go to the United States. Ending stocks are projected at 1.0 million mt, implying an ending stocks-to-consumption ratio of 23.8 percent.

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The next release is
February 14, 2013

Approved by the World

Sugar and Sweeteners in the North American Free Trade Area

On January 11, 2013, the U.S. Department of Agriculture (USDA) published in the *World Agricultural Supply and Demand Estimates* (WASDE) its latest sugar supply and use estimates/projections for the United States and Mexico for fiscal years (FYs) 2012 and 2013.

U.S. Sugar Supply and Use

Along with very minor changes made in USDA's Sweetener Market Data (SMD) for FY 2012 due to revised processor/refiner reporting, the only significant change was in the forecast of FY 2013 cane sugar production in Louisiana. The production forecast was raised by 150,000 short tons, raw value (STRV) to 1.650 million STRV. Immediately before publication of the WASDE, sources in Louisiana had placed crop year (September 2012-January 2013) sugar production at slightly above 1.650 million STRV. Because Louisiana sugar production in September typically averages less than the total in September 2012, the USDA set the forecast for this fiscal year at the 1.650 million STRV level. Subsequent to the publication of the WASDE, the same local sources reported crop year production at 1.707 million STRV. The implied sugar yield is a record 4.27 STRV per acre.

The National Agricultural Statistics Service (NASS) estimates the 2012/13 Louisiana sugarcane for sugar crop at 13.2 million tons. Although this total is not a record (14.225 million tons was produced in 1999/2000), the sugarcane yield at 33.0 tons per acre is a record high. According to sources at the American Sugar Cane League, the 2012/13 season was close to ideal. There was large planting in the fall of 2011, implying a greater proportion of the crop from plant cane with higher yields. The 2011/12 winter was mild (no winter freezes killing back the crop) and there were timely rains during the 2012 summer growing season. There were no hurricanes or overly severe weather phenomena that could have damaged the crop. Additionally, there were no early, severe freezes.

Sugar production in other regions is projected the same as last month. The sum of total cane sugar production at 3.870 million STRV and beet sugar production at 5.200 million STRV is 9.070 million STRV. If realized, sugar production this fiscal year would be a record, surpassing the 9.050 million STRV in 1999/2000. Large beginning stocks of 1.985 million STRV and imports projected at 2.913 million STRV (minimum level tariff-rate quota imports with high shortfall countered by large imports from Mexico) imply a record U.S. total sugar supply at 13.967 million STRV.

The USDA projects total sugar use at 11.765 million STRV. (This level, if realized, would also be a record.) Compared with last year, exports are projected 94,400 STRV lower, but deliveries are projected to be 251,400 STRV higher. The largest delivery component is for human consumption, projected at 11.380 million STRV. Deliveries for human consumption in the SMD for the first 2 months of FY 2013 at 2.086 million STRV are 11.0 percent higher than in the same period last year and 5.8 percent higher than in FY 2011. However, deliveries from direct consumption imports at 215,378 STRV, constituting 10.3 percent of the total, can be volatile throughout the entire fiscal year.

Ending Sugar Stocks

Ending stocks for FY 2012 are estimated in the SMD at 1.985 million STRV, implying a stocks-to-use ratio of 17.2 percent. Ending stocks for FY 2013 are projected as the difference between projected total supply and total use at 2.203 million STRV. The implied stocks-to-use projection is 18.7 percent. Both of these stocks-to-use ratios are much higher than the average 13.1 percent level for the first 3 years of the 2008 Farm Act—FY 2009 through FY 2011.

Some observers have attributed higher than average stocks to the April 2012 increase and quota-country allotment reassignment in the raw sugar tariff-rate quota (TRQ). This increase called for an additional 419,999 STRV to be

added to FY 2012 supply. Of this amount, the Sugar and Sweetener Outlook estimates that only 281,524 STRV actually entered into the United States, implying a high shortfall of 138,476 STRV associated with the increase. The margin between the U.S. raw sugar price (Intercontinental Exchange (ICE) nearby Contract no. 16) and world raw sugar price (ICE nearby Contract no. 11) fell from the January-May average of 10.17 cents per pound to 7.34 cents per pound in June-September. The decrease made the United States a less attractive destination for quota-holders' exports.

In spite of the high shortfall, some observers have argued that the TRQ increase/quota-reassignment was too high because the USDA was underestimating FY 2012 beet sugar production. In April 2012, the WASDE FY 2012 beet sugar was projected at 4.655 million STRV, an increase of 130,000 STRV over the previous month. An early start to planting indicated a harvest starting earlier than usual. At the same time, beet processors were predicting production at 4.917 million STRV in the April SMD. Their forecast relied on a projection of record production in September of 647,000 STRV, far exceeding the previous record of 461,350 STRV in FY 2010. Although the beet processors' FY 2012 projection was close to the final estimate of 4.900 million STRV, only the year before the processors had missed FY 2011 production by 485,725 STRV: the April 2011 projection was 5.061 million STRV, while the realized final level was 4.575 million STRV. An argument for such far-outside-the-norm levels of production needs a strong rationale to be convincing.

Table 1 details a possible explanation for the increase in sugar stocks, much of it attributable to beet sugar growers/processors expanding area planted to sugarbeets beyond the previous 4-year average. (These 4 years correspond to the first 4 years of sugar policy under the 2008 Farm Act.)

Beet growers planted 1.230 million acres for the 2012/13 crop. Area planted in 2008/09 was 1.091 million acres, in 2009/10, 1.186 million acres, and in 2010/11, 1.172 million acres. Area planted in 2011/12 was higher at 1.233 million acres, but all the expansion beyond prospective plantings of 1.187 million acres was induced by poor weather threats to expected yields. Area planted intentions (actual area planted for first 3 years plus prospective plantings for the fourth year) averaged 1.159 million STRV. Area planted for 2012/13 exceeded this level by 6.02 percent.

Although much of the decrease in area was countered by increased yields from adoption of new disease-resistant and genetically-modified seeds, beet sugar production as a percentage of deliveries for human consumption averaged 42.0 percent, down from the 46.8 percent for the 5-year period before the 2008 Farm Act. The percentage for 2012/13 is projected at 45.7 percent, closer to the pre-2008 Farm Act norm and close to the 54.35 percent share of the minimum 85-percent marketing allotment for beet sugar.

Based on SMD-reported production, the *Sugar and Sweetener Outlook* estimates that early-season beet slicing in August and September contributed about 648,000 STRV to FY 2012 beet sugar production. All else constant, the 6.02 percent area expansion translates into an additional 39,000 STRV of production in FY 2012 that adds that same amount to estimated ending stocks. The corresponding contribution to production for FY 2013 is estimated at 270,149 million STRV. This calculation assumes sugar from desugared molasses at 385,000 STRV and sugar from beet slicing from the 2013/14 sugarbeet crop at 325,000 STRV—the same as for the period 2008/09-2011/12.

These estimates are illustrated graphically in figure 1. The increase in FY 2012 ending stocks of 320,500 STRV is carried-over as additional beginning stocks in FY 2013. Additional beet sugar production adds in the 270,150 STRV to FY 2013 ending stocks. Therefore, ignoring any second-round effects of these adjustments implies base FY 2012 ending stocks of 1.664 million STRV—14.5 percent ending stocks-to-use—and base FY 2013 ending stocks of 1.612 million STRV—13.7 percent ending stocks-to-use.

Table 1-- Increase in U.S. sugar ending stocks in 2012/13 attributable to beet sugar area expansion and 2011/12 tariff-rate quota increase

<u>Increase in U.S. sugar stocks attributable to sugarbeet area expansion</u>		<u>Calculation items</u>	<u>Stock estimates</u>	
Area planted 2012/13 (acres)		1,230,100 a		
Adjusted previous 4-year area planted average (acres) 1/		1,158,875 b		
Percent attributable to area expansion 2/		6.02 c		
Beet sugar production attributable to slicing of new crop in August and September 2012 in short tons, raw value (STRV) Source: Sweetener Market Data (SMD)		647,767 d		
Production attributable to area expansion in 2011/12 (STRV)		c*d	38,972	A
Forecast of beet sugar production attributable to area expansion in 2012/13:				
Total October/September forecast in WASDE		5,200,000 e		
Less forecast amount attributable to desugaring of molasses		4,815,000 f		
Less previous 4-year average of early (Aug.-Sept.) beet sugar from slicing 3/		4,490,229 g		
Amount attributable to 2012/13 area expansion (STRV)		c*g	270,149	B
<u>Increase in U.S. sugar stocks attributable to April 2012 tariff-rate quota (TRQ) increase.</u>				
		TRQ increase (STRV)	Shortfall attributable to increase (STRV) 4/	Net increase
TRQ increase based on forecast deliveries for human consumption (STRV)		419,999	138,476	281,524
Total additional forecast ending stocks (STRV)				281,524
			590,644	A+B+C

1/	Fiscal year	Area planted (acres)
	2008/09	1,090,700
	2009/10	1,185,800
	2010/11	1,171,900
	2011/12 *	1,187,100

* Area planted for 2011/12 has been adjusted to equal intended planting because of extensive re-planting due to cold and wet weather conditions after initial plantings

2/ = $(1,230,100 - 1,158,875) / 1,158,875 * 0.9789$ (forecast harvest-to-plant ratio for 2012/13)

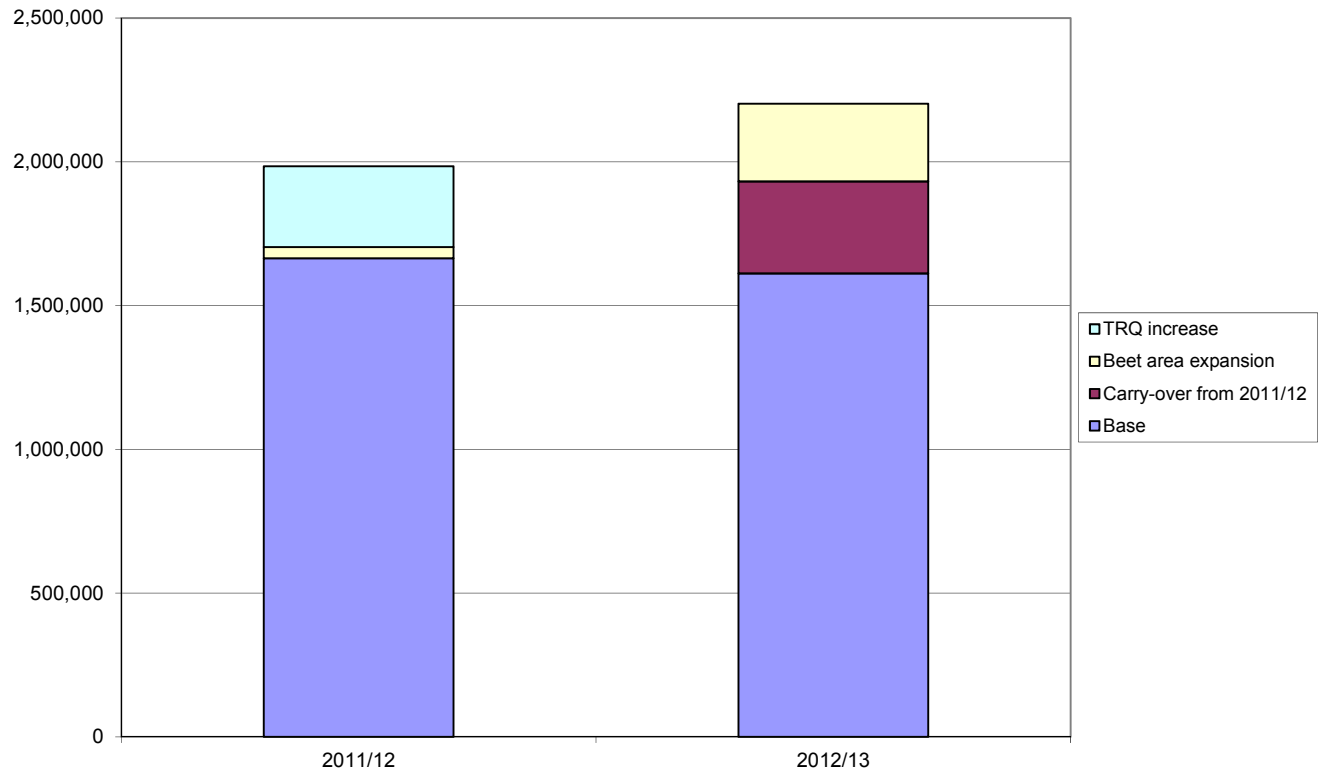
3/ Beet sugar from slicing in Aug-Sept. of 2013 is assumed to come from 2013/14 sugarbeet crop, here forecast to equal 4 preceeding year average

4/ Shortfall calculation is sum of individual quota-holder shortfall calculation = $\min(\text{additional quota allocation, total entries less total allocated TRQ})$
Adjusted quota holder allocation forecast specifies same allocation percentage of total as actual in April 2012

Source: Economic Research Service, *Sugar and Sweetener Outlook*.

Figure 1
Components behind large ending sugar stocks, 2011/12 and 2012/13

Short tons, raw value



Source: Economic Research Service, *Sugar and Sweetener Outlook*.

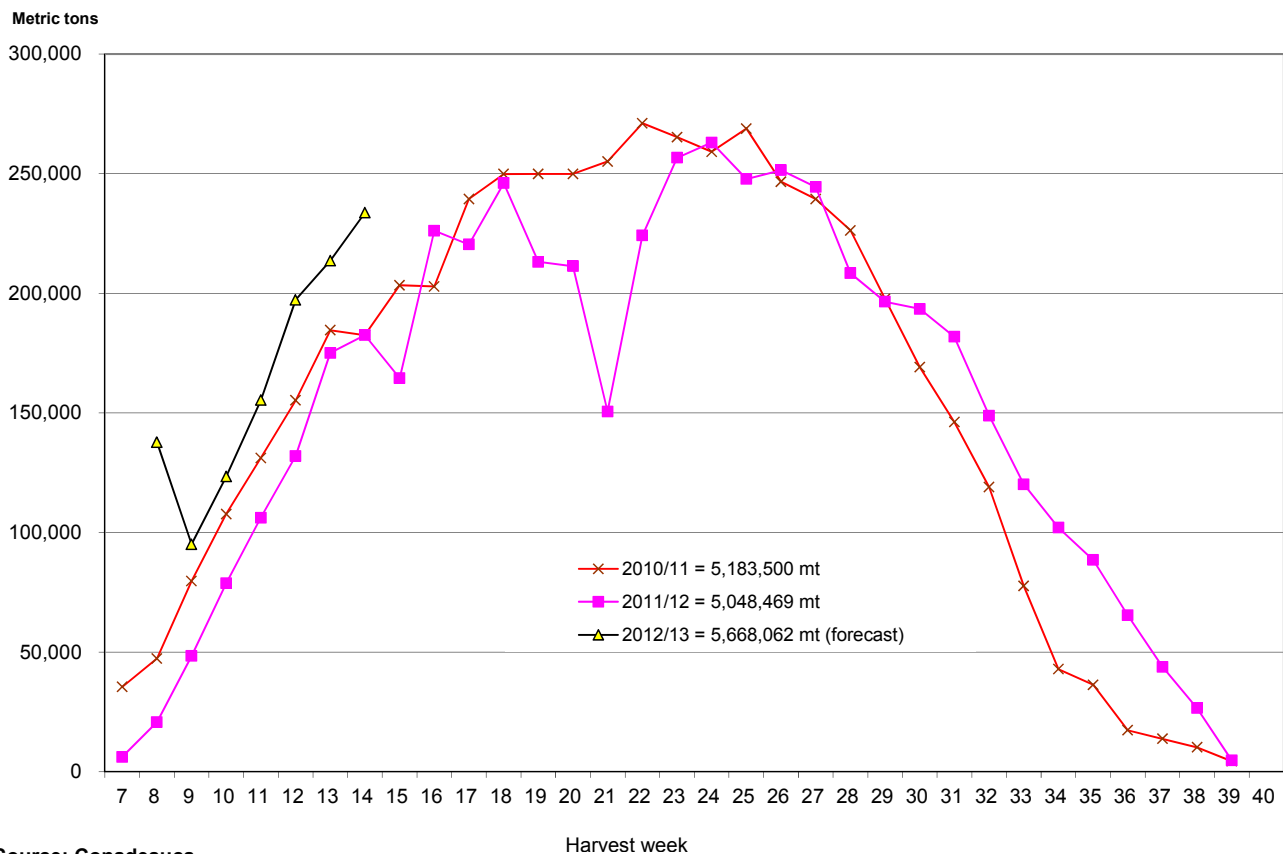
Sugar and Sweeteners in Mexico

There were no WASDE changes for the Mexico supply and use. Production is forecast at 5.668 million metric tons (mt), deliveries for human consumption at 4.200 million mt, and exports at 1.198 million mt—all except 10,000 mt expected to go to the United States. Ending stocks are projected at 1.0 million mt, implying an ending stocks-to-consumption ratio of 23.8 percent. This ratio is 1.8 percent above the optimum level, indicating that Mexico, like the United States, is in a “sugar-surplus” situation.

The sugarcane harvest in Mexico is off to a good start. Through January 5, 2013, 146,537 hectares (20.4 percent of the total forecast of 719,601 hectares) has been harvested. This has produced 12.998 million mt of sugarcane and 1.347 million mt of sugar. Sugar production is about 36 percent higher than the average for previous 5 years. Figure 2 shows weekly sugar production levels compared with corresponding period estimates for 2010/11 and 2011/12. Figure 3 shows cumulative sucrose recovery rates for 2012/13 and the two previous harvest seasons. Figure 4 shows a regional production breakout for what has been produced thus far and for the entire season, compared with the corresponding averages for the past 5 years. Early production in the eastern Gulf area and in the Northeast has been particularly strong.

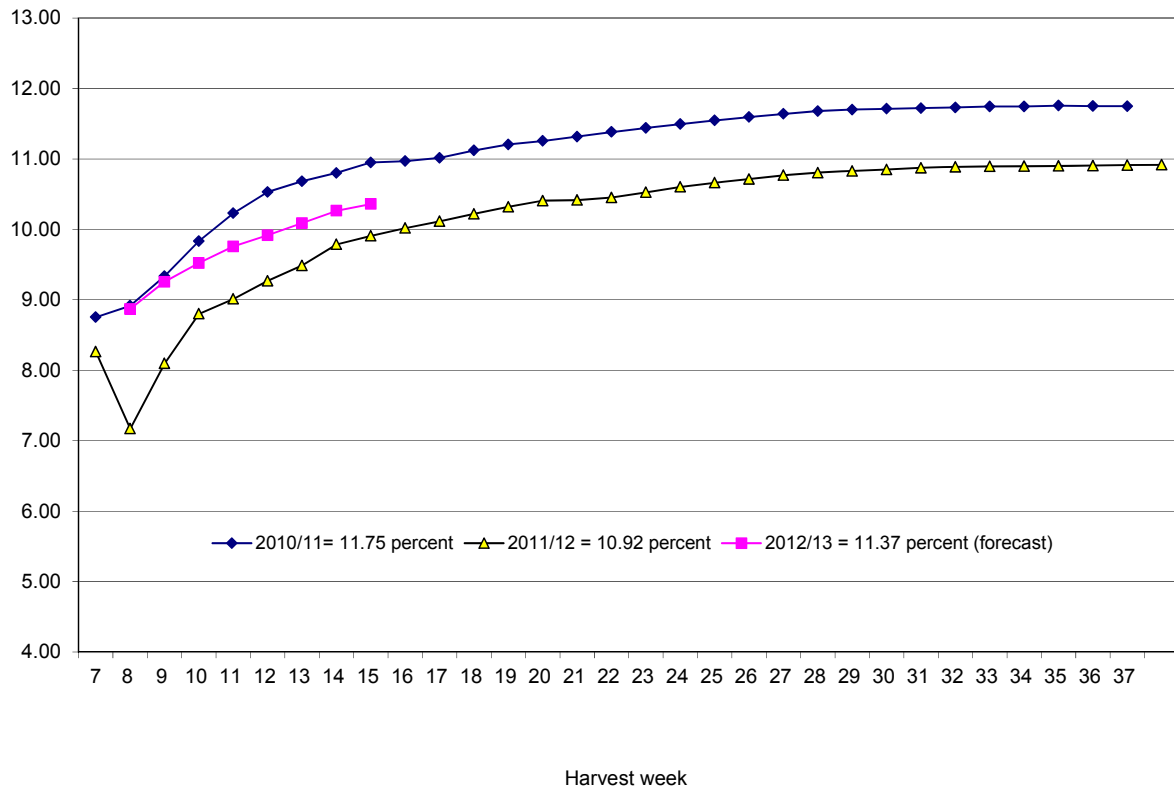
Figure 5 shows sugar deliveries up over the previous 2 years and high fructose consumption at slightly less than last year. Overall sweetener consumption, at 875,638 mt, is running at 2.9 percent above last year for the first 2 months of the year.

Figure 2
Sugar production, by week of harvest, 2010/11-2012/13



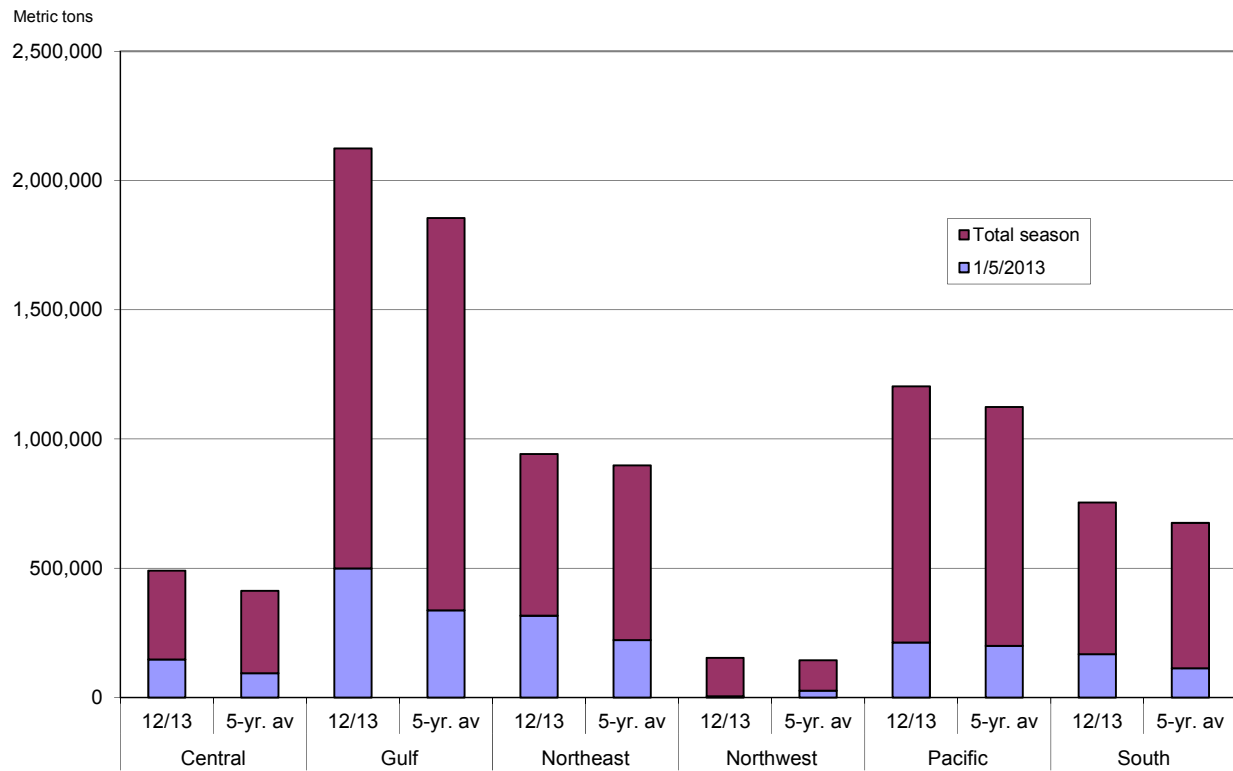
Source: Conadesuca.

Figure 3
Intra-seasonal, cumulative sugar recovery rates in Mexico, recent crop years
 Percentage



Source: Conadesuca.

Figure 4
Mexico: sugar produced through 1/5/2013 and season total estimate, by region, 2012/13 and previous 5-year average

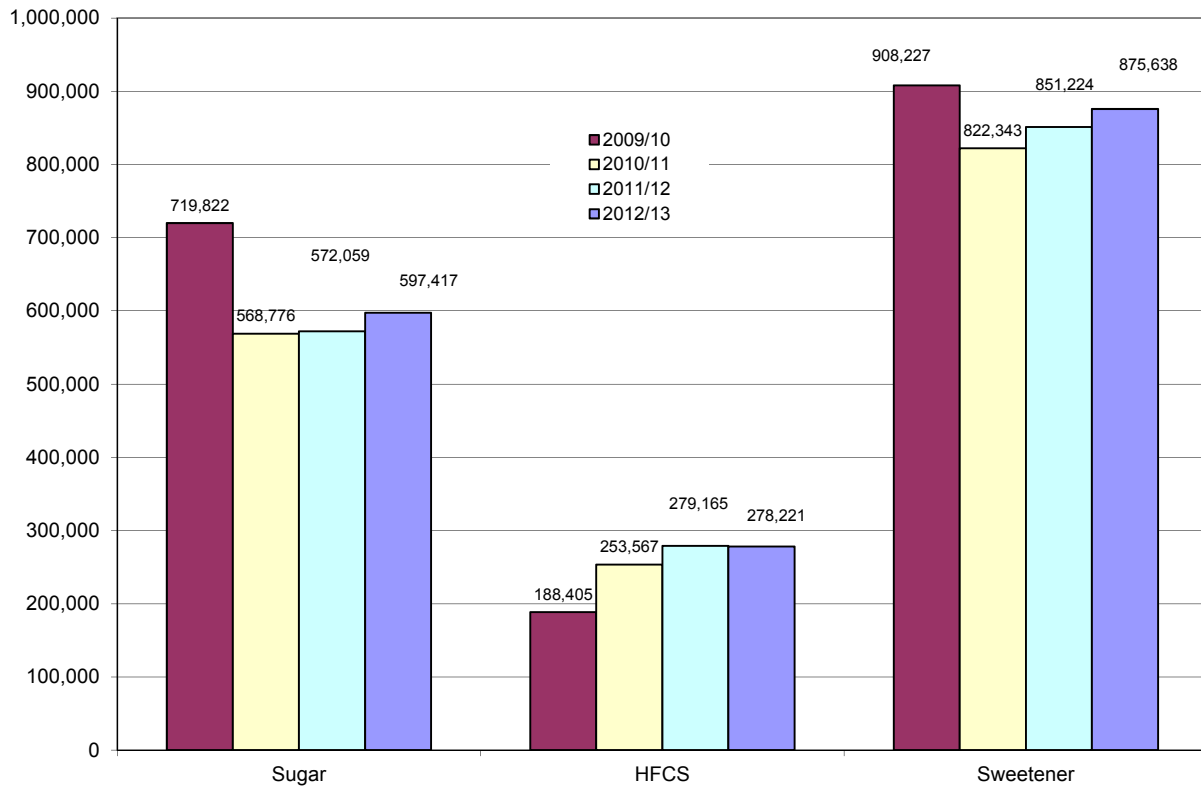


Source: Conadesuca.

Figure 5

Sweetener consumption in Mexico, 2 months into marketing year, 2009/10 -- 2012/13

Metric tons

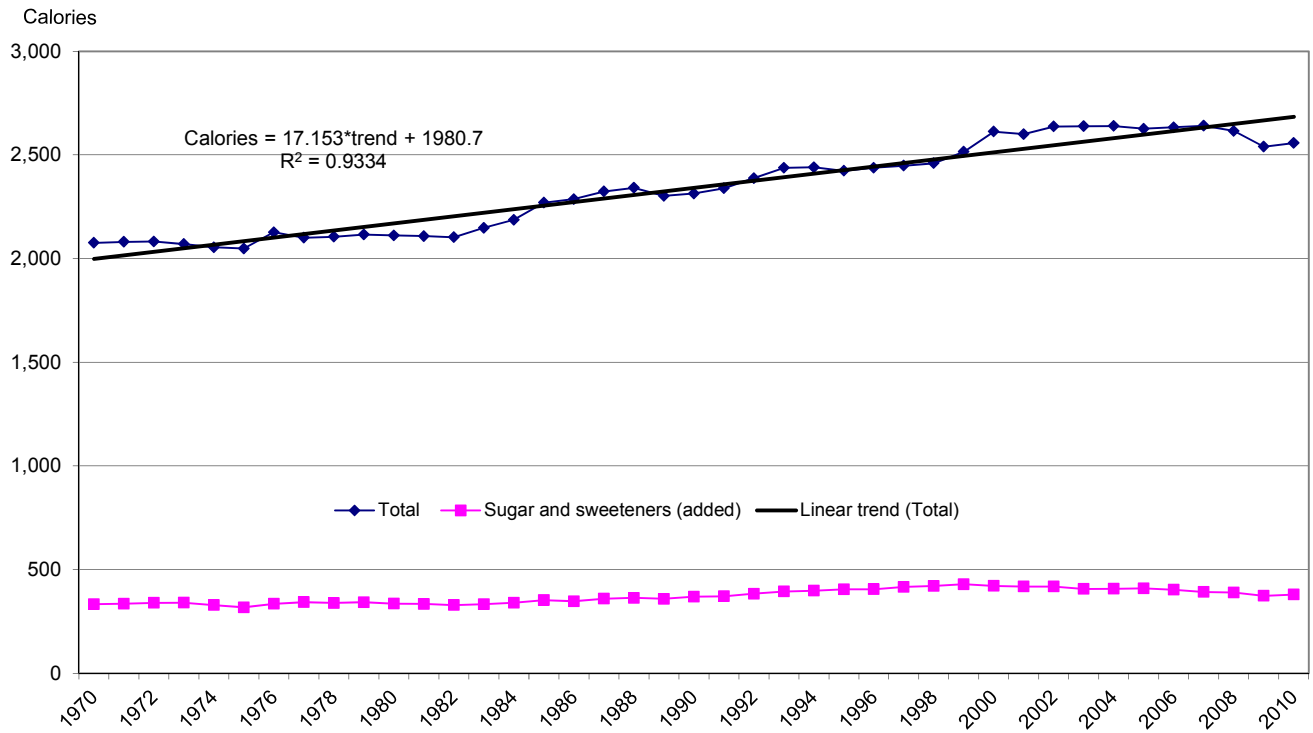


Source: Conadesuca.

Daily Average Caloric Consumption At-A-Glance

Figure A

Average daily per capita calories from the U.S. food availability, adjusted for spoilage and other waste, 1970-2010.



Source: USDA, ERS, Food Availability Data System.

Figure B
Average daily per capita calories from the U.S. food availability, by type of food product, adjusted for spoilage and other waste, 1985-2010.

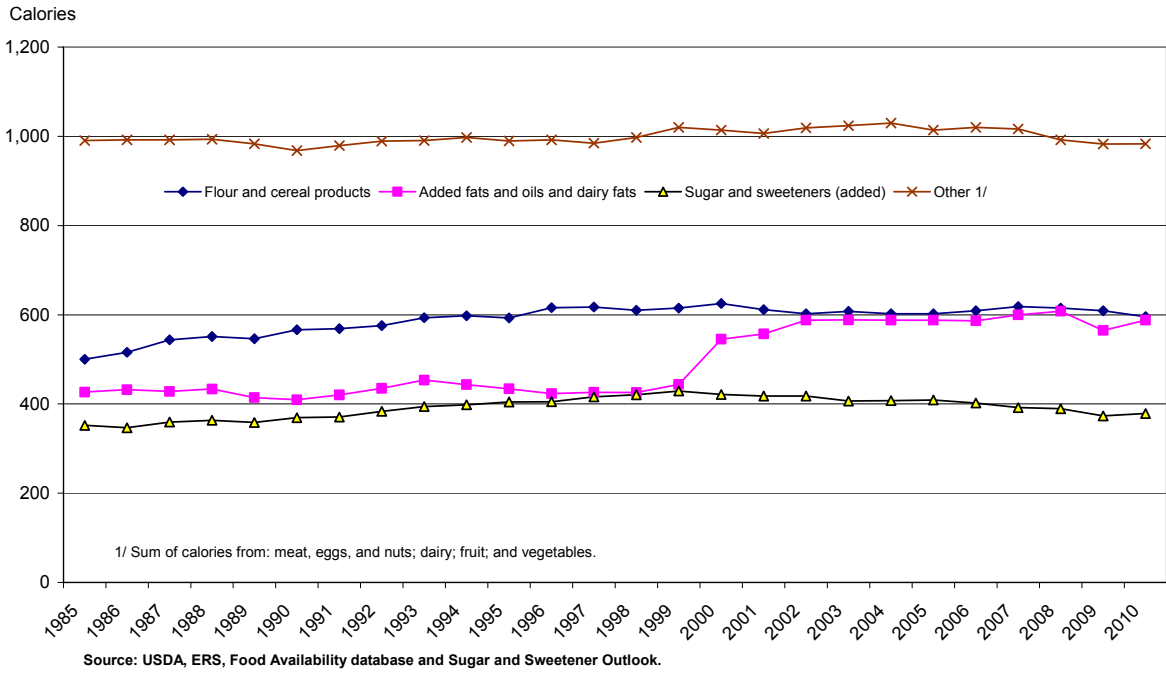


Figure C
Average daily per capita calories from the U.S. food availability, adjusted for spoilage and other waste, 1985

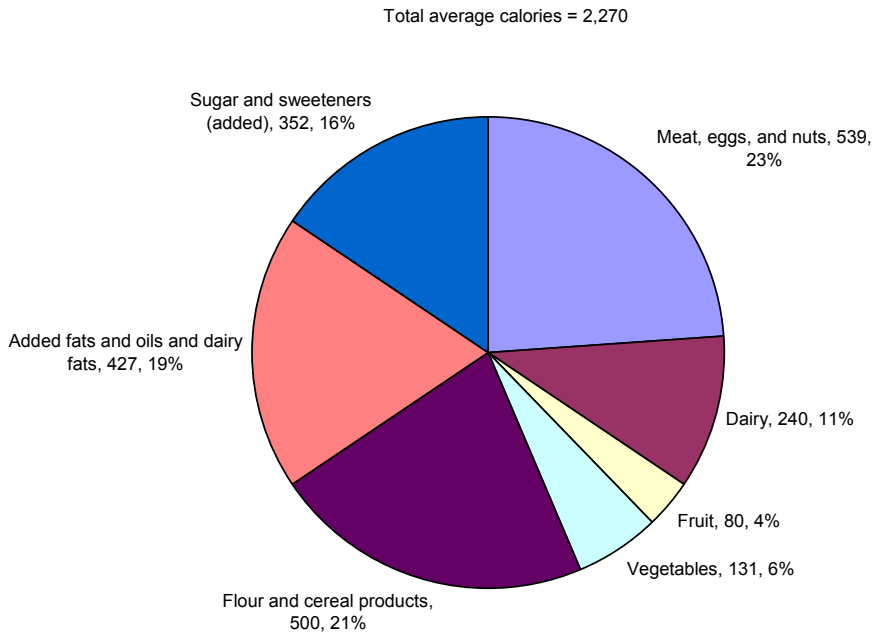
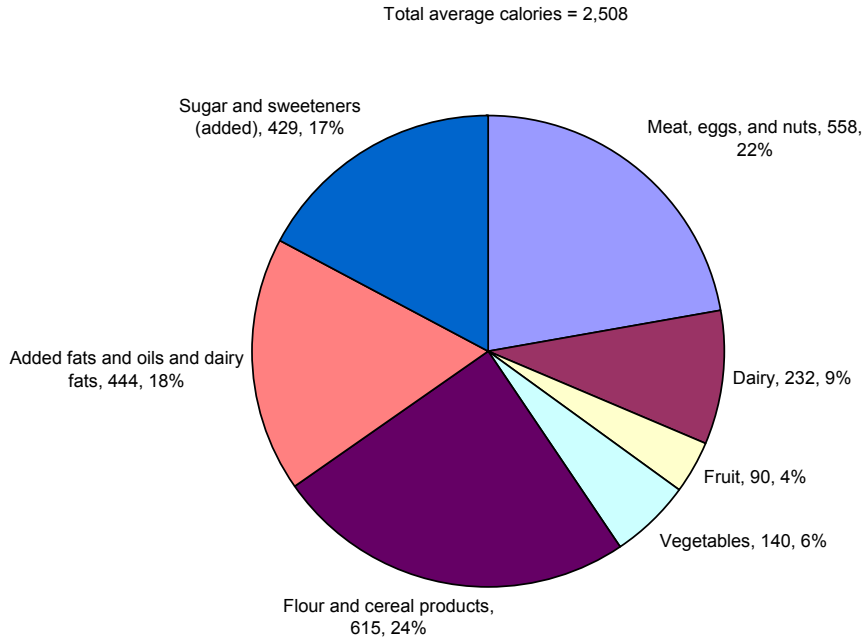
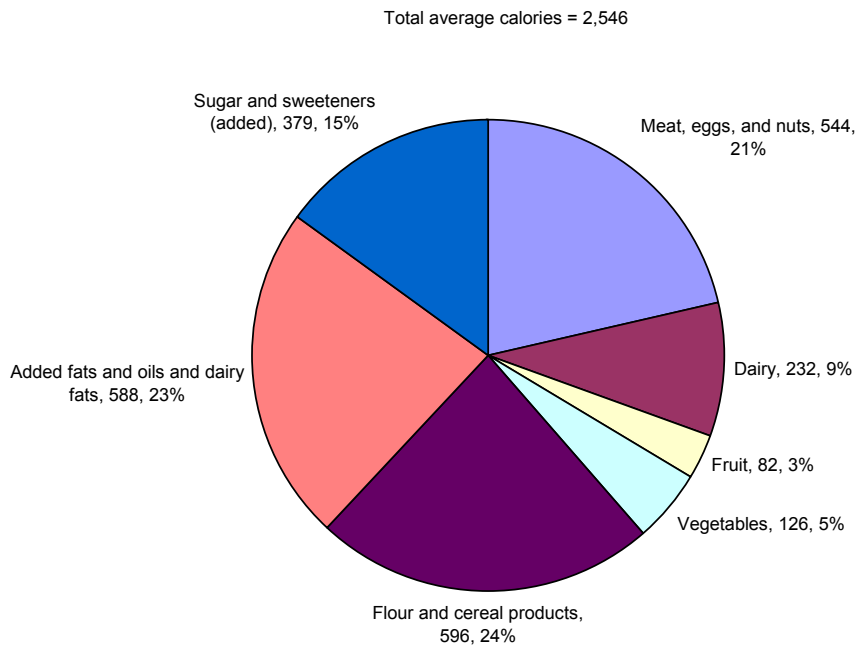


Figure D
Average daily per capita calories from the U.S. food availability, adjusted for spoilage and other waste, 1999



Source: USDA, ERS, Food Availability Data System and *Sugar and Sweetener Outlook*.

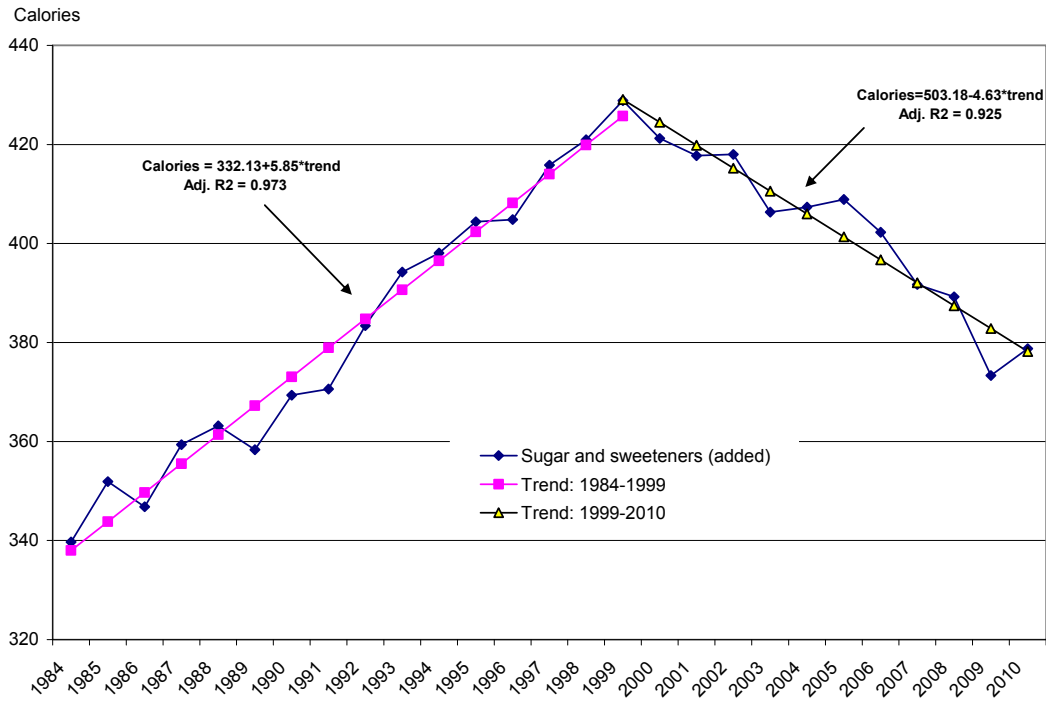
Figure E
Average daily per capita calories from the U.S. food availability, adjusted for spoilage and other waste, 2010



Source: USDA, ERS, Food Availability Data System and *Sugar and Sweetener Outlook*.

Figure F

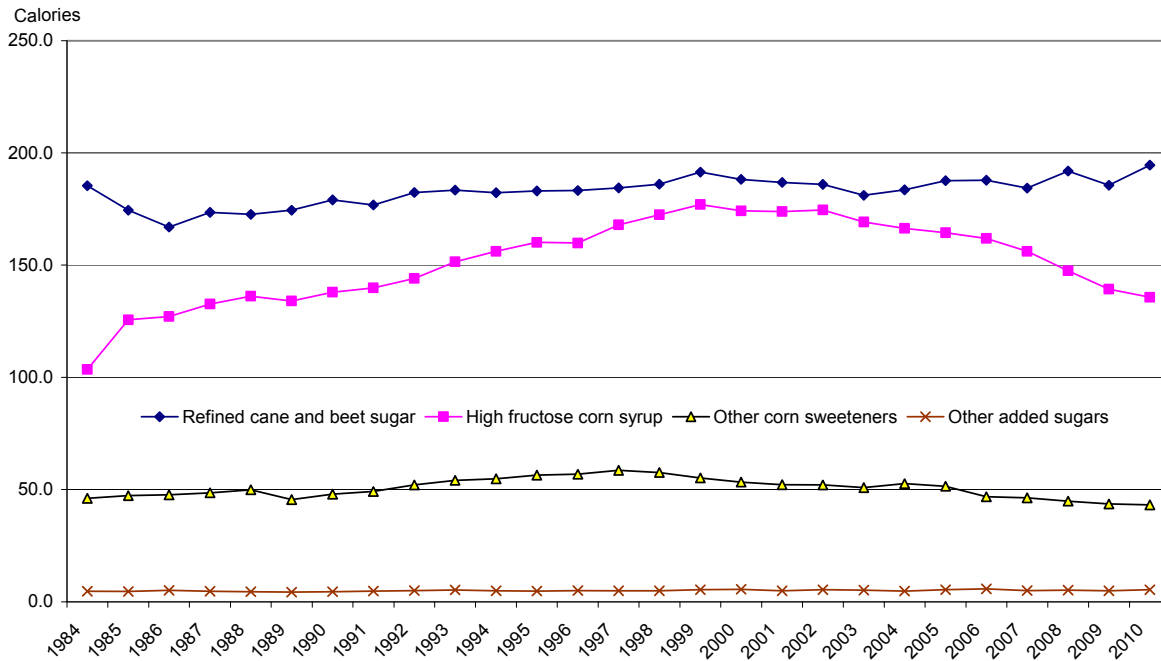
Average daily per capita calories from added sugar and sweeteners availability, adjusted for spoilage and other waste.



Source: USDA, ERS, Food Availability Data System and *Sugar and Sweetener Outlook*.

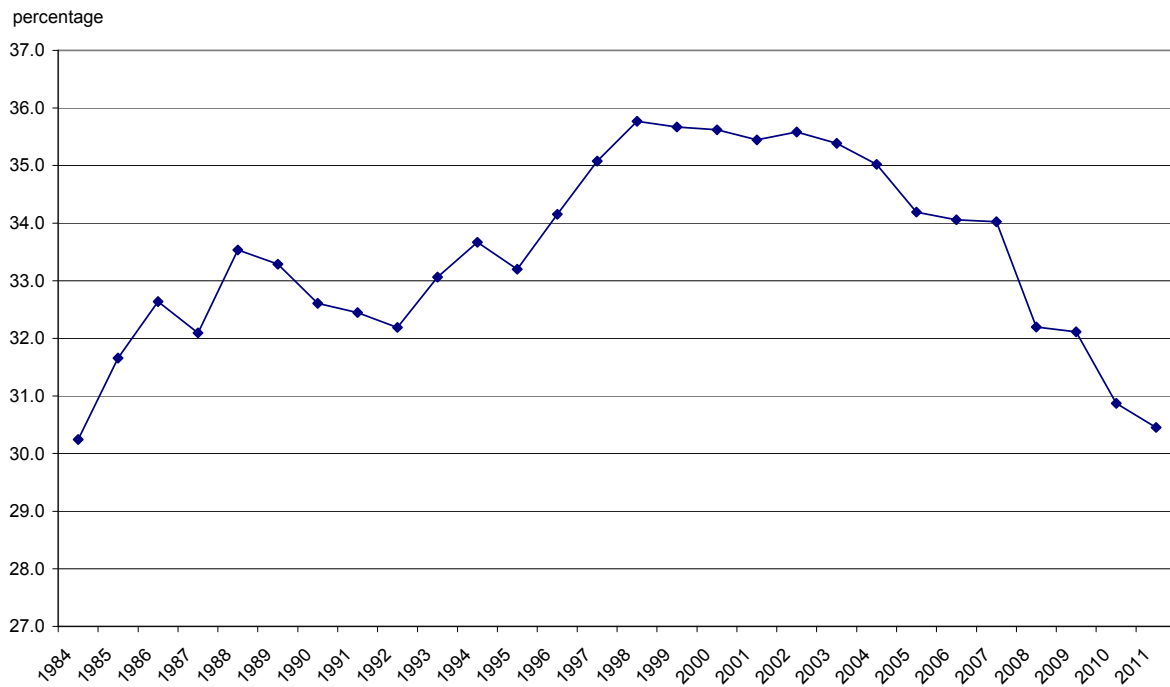
Figure G

Added sugar and sweeteners: average daily per capita calories from the U.S. food availability, adjusted for spoilage and other waste



Source: USDA, ERS, Food Availability database and *Sugar and Sweetener Outlook*.

Figure H
Sweetener deliveries to U.S. beverage industry as a percentage of total sweetener deliveries



Source: USDA, ERS, *Sugar and Sweetener Outlook*.

Appendix Table 1 – U.S. sugar: supply and use, by fiscal year (Oct./Sept.)

Items	2010/11	2011/12	2012/13	2010/11	2011/12	2012/13
	1,000 short tons, raw value			1,000 metric tons, raw value		
Beginning stocks	1,498	1,378	1,985	1,359	1,250	1,800
Total production	7,831	8,488	9,070	7,104	7,700	8,228
Beet sugar	4,659	4,900	5,200	4,227	4,446	4,717
Cane sugar	3,172	3,588	3,870	2,877	3,255	3,511
Florida	1,433	1,828	1,890	1,300	1,658	1,715
Louisiana	1,411	1,438	1,650	1,280	1,305	1,497
Texas	146	150	150	132	136	136
Hawaii	182	172	180	165	156	163
Puerto Rico						
Total imports	3,738	3,632	2,913	3,391	3,295	2,642
Tariff-rate quota imports	1,721	1,883	1,289	1,561	1,709	1,170
Other program Imports	291	664	225	264	602	204
Non-program imports	1,726	1,085	1,398	1,566	984	1,269
Mexico	1,708	1,071	1,388	1,549	972	1,260
Total supply	13,067	13,498	13,967	11,854	12,245	12,671
Total exports	248	269	175	225	244	159
Miscellaneous	19	-69	0	17	-63	0
Deliveries for domestic use	11,422	11,313	11,590	10,362	10,263	10,514
Transfer to sugar-containing products for exports under reexport program	196	140	180	178	127	163
Transfer to polyhydric alcohol, feed	33	33	30	30	30	27
Deliveries for domestic food and beverage use 1/	11,193	11,141	11,380	10,154	10,107	10,324
Total Use	11,689	11,513	11,765	10,604	10,445	10,673
Ending stocks	1,378	1,985	2,202	1,250	1,800	1,998
Stocks-to-use ratio	11.79	17.238	18.72	11.79	17.238	18.72

Source: USDA, WASDE, and ERS, *Sugar and Sweetener Outlook*.

NOTE: Numbers may not add due to rounding.

Appendix Table 2 – Mexico: sugar production and supply, and sugar and High Fructose Corn Syrup (HFCS) utilization

Fiscal Year (Oct/Sept)	2010/11	2011/12	2012/13 1/
	1,000 metric tons, actual weight		
Beginning Stocks	918	760	958
Production	5,184	5,048	5,668
Imports	289	476	112
Imports for consumption	107	237	23
Imports for sugar-containing product exports (IMMEX) 2/	182	240	90
Total Supply	6,391	6,285	6,738
Disappearance			
Human consumption	3,950	4,135	4,200
For sugar-containing product exports (IMMEX)	293	344	340
Miscellaneous	-81	-82	
Total	4,161	4,398	4,540
Exports	1,469	929	1,198
Exports to the United States & Puerto Rico	1,432	919	1,188
Exports to other countries	38	10	10
Total Use	5,631	5,317	5,738
Ending Stocks	760	958	1,000
	1,000 metric tons, raw value		
Beginning Stocks	973	806	1,015
Production	5,495	5,351	6,008
Imports	307	505	210
Imports for consumption	114	251	24
Imports for sugar-containing product exports (IMMEX)	193	254	95
Total Supply	6,774	6,662	7,233
Disappearance			
Human consumption	4,187	4,384	4,452
For sugar-containing product exports (IMMEX)	310	365	360
Miscellaneous	-86	-86	
Total	4,411	4,662	4,812
Exports	1,558	985	1,270
Exports to the United States & Puerto Rico	1,518	974	1,260
Exports to other countries	40	11	11
Total use	5,969	5,647	6,083
Ending stocks	806	1,015	1,060
Stocks-to-Human Consumption (percent)	19.2	23.2	23.8
Stocks-to-Use (percent)	13.5	18.0	17.4
High Fructose Corn Syrup (HFCS) Consumption (dry weight)	1,635	1,721	1,635

1/ Forecast.

2/ IMMEX = *Industria Manufacturera, Maquiladora y de Servicios de Exportación*.

Source: USDA, WASDE and ERS, *Sugar and Sweeteners Outlook*.



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Contacts and Links

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Data

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

Related Websites

Sugar and Sweeteners Outlook <http://www.ers.usda.gov/Publications/SSS/WASDE> <http://usda.mannlib.cornell.edu/MannUsda/viewDocumentInfo.do?documented=1194>
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