

Economic Research Service

Situation and Outlook

SSS-M-332

April 18, 2016

The next release is May 16, 2016

Approved by the World Agricultural Outlook Board.

Sugar and Sweeteners Outlook

Michael McConnell, coordinator michael.mcconnell@ers.usda.gov

U.S. Sugar Production Projections Reduced for 2015/16 due to Lower Recovery Rates for Both Beet and Cane Sugar

U.S. sugar production is projected to be 8.792 million short tons, raw value (STRV) in 2015/16, a 35,000-STRV reduction from the March report. Projected beet sugar production is reduced 18,000 STRV to 4.998 million STRV due to reduced expected extraction rates from sliced sugarbeets. Projected cane sugar production is reduced 18,000 STRV to 3.794 million STRV due to lower expected recovery rates in Florida. Sugar imports are projected to be 3.209 million STRV, a 9,000-STRV increase from the previous month due to additional imports under free-trade agreement quotas entering during 2015/16, very slightly offset by a reduction of fewer than 500 STRV from Mexico, corresponding to the official volume set by the U.S. Department of Commerce (USDOC) per the terms of the suspension agreements signed between USDOC and the Government of Mexico.

Total sugar use is unchanged from the previous month's projection at 12.190 million STRV. Deliveries to domestic users are projected to be 12.090 million STRV, including 11.955 million STRV for food and beverage use. Projected ending stocks for 2015/16 are 1.619 million STRV, 27,000-STRV lower than the previous projection due to lower projected supply. The stocks-to-use ratio is projected to be 13.3 percent, compared with the 13.5 percent rate projected in March.

Sugar production in Mexico in 2015/16 is projected to total 6.056 million metric tons, actual weight (MT), unchanged from the previous month. Projected imports are also unchanged at 70,000 MT, with 60,000 MT of imports for the IMMEX program and the remainder for human consumption. Sugar exports are projected at 1.121 million MT, including 1.111 million MT projected to be shipped to the United States. Both of these projections are reduced by less than 500 MT to match the Export Limit officially announced by the USDOC. Domestic deliveries for consumption are projected to be 4.319 million MT, a 26,000-MT reduction from the previous month, matching the change made by Mexico's *Comité Nacional para el Desarrollo Sustentable de la Caña de Azúcar* (Conadesuca). Projected deliveries to IMMEX are unchanged at 337,000 MT. Ending stocks are projected to be 1.160 million MT, a 26,000-MT increase from the previous month. The stocks-to-consumption rate is projected to be 26.8 percent, up from the previous month's projection of 26.1 percent.

Lower Recovery Rates Reduce Projected Domestic Production

U.S. sugar production for 2015/16 is projected at 8.792 million short tons, raw value (STRV) in the April *World Agricultural Supply and Demand Estimates* (WASDE). This quantity is a 35,000-STRV decline from the previous month's projection.

Table 1 -- U.S. sugar: supply and use, by fiscal year (Oct./Sept.), March 2016.

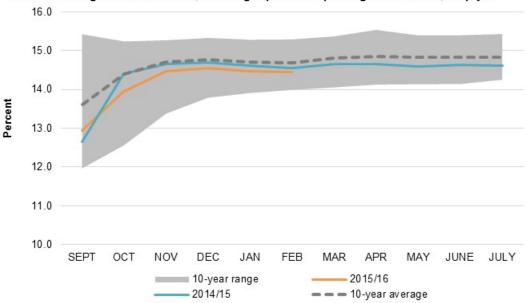
Items	2014/15		2015/16		2014/15	2015/16
	2013/14	(estimate)	(forecast)	2013/14	(estimate)	(forecast)
	1,000 Short tons, raw value		1,000 Metric tons, raw value			
Beginning stocks	2,158	1,810	1,809	1,958	1,642	1,64
Total production	8,462	8,649	8,792	7,676	7,847	7,976
Beet sugar	4,794	4,893	4,998	4,349	4,439	4,534
Cane sugar	3,667	3,756	3,794	3,327	3,408	3,441
Florida	1,763	1,975	2,091	1,599	1,791	1,896
Louisiana	1,591	1,513	1,423	1,444	1,372	1,291
Texas	145	123	115	132	112	104
Hawaii	168	146	165	153	132	150
Total imports	3,742	3,553	3,209	3,394	3,223	2,911
Tariff-rate quota imports	1,302	1,536	1,595	1,181	1,393	1,447
Other program imports	305	471	300	277	427	272
Non-program imports	2,135	1,546	1,314	1,937	1,403	1,192
Mexico	2,130	1,532	1,299	1,932	1,389	1,179
Total supply	14,362	14,012	13,809	13,029	12,712	12,528
Total exports	306	185	100	278	168	91
Miscellaneous	0	0	0	0	0	(
Deliveries for domestic use Transfer to sugar-containing products	12,246	12,019	12,090	11,109	10,903	10,968
for exports under re-export program	82	103	100	74	93	91
Transfer to polyhydric alcohol, feed, other alcohol	29	28	35	27	25	32
Commodity Credit Corporation (CCC) sale for ethanol, other	316	0	0	287	0	(
Deliveries for domestic food and beverage use				10,722		-
Deliveries for domestic food and beverage use	11,819	11,888	11,955	10,722	10,785	10,845
Total Use	12,552	12,204	12,190	11,387	11,071	11,059
Ending stocks	1,810	1,809	1,619	1,642	1,641	1,469
Private	1,810	1,809	1,619	1,642	1,641	1,469
Commodity Credit Corporation (CCC)	0	0	0	0	0	(
Stocks-to-use ratio	14.42	14.82	13.28	14.42	14.82	13.28

Source: U.S. Dept. of Agriculture, Economic Research Service, Sugar and Sweetener Outlook.

Beet sugar production is projected at 4.998 million STRV in 2015/16, an 18,000-STRV decline from the previous month's projection of 5.016 million STRV. The reduction is primarily due to a lower projected extraction rate for sugarbeets sliced, as well as a larger projected sugarbeet shrink and partially offsetting increase in sugar production from molasses. Through February, sugarbeet processors have reported a cumulative extraction rate of 14.45 percent from the crop harvested in the summer and fall of 2015. The rate for the 2015/16 crop is slightly behind the previous year's mark of 14.54 percent, as well as the 10-year average and 10-year high. Historically, cumulative extraction rates by February are slightly lower than final extraction rates for the year. The current projected extraction rate for the 2015/16 production projection reflects the current rate adjusted based on historical relationships between February versus final extraction rates. Changes to projected shrink and molasses production reflect changes to processor expectations, as reported in the *Sweetener Market Data*.

Figure 1

Cumulative sugar extraction rate, beet sugar produced per sugarbeet sliced, crop year



Source: Economic Research Service, USDA; Farm Service Agency, USDA.

Table 2: Beet sugar production projection calculation, 2015/16

	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2015/16
_						Estimate	March	April
Sugarbeet production (1,000 short tons) 1/	29,783	32,034	28,896	35,224	32,789	31,285	35,278	35,278
Sugarbeet shrink 2/	5.7%	5.9%	5.9%	4.8%	6.8%	5.4%	7.2%	7.6%
Sugarbeets sliced (1,000 short tons)	28,097	30,137	27,184	33,532	30,545	29,595	32,738	32,597
Sugar extraction rate from slice	14.3%	15.4%	15.0%	15.3%	14.3%	14.6%	14.7%	14.7%
Sugar from beets slice (1,000 STRV)	4,023	4,631	4,086	5,142	4,325	4,325	4,818	4,786
Sugar from molassees (1,000 STRV) 2/	325	357	401	327	324	341	374	388
Crop year sugar production (1,000 STRV) 3/	4,348	4,987	4,487	5,469	4,648	4,667	5,192	5,173
August-September sugar production (1,000 STRV)	396	623	294	708	315	461	688	688
August-September sugar production forecast (1,000 STRV) 4/							473	473
Sugar from imported beets (1,000 STRV) 5/							40	40
Fiscal year sugar production (1,000 STRV)	4,575	4,659	4,900	5,076	4,794	4,893	5,016	4,998

Notes: 1/ NASS, USDA. 2/Projections based on processor forecasts published by FSA. 3/ August-July basis. 4/ 2016/17 production for 2015/16 projections based on historical average. 5/ Sugar from imported beets split out for projections only. They are incorporated into total production in historical data.

Source: Economic Research Service, USDA; World Agricultural Outlook Board, USDA.

Cane sugar production for 2015/16 is projected at 3.794 million STRV, an 18,000-STRV reduction from the previous month's projection. Projected cane sugar production remained unchanged compared with the March projections for Louisiana (1.423 million STRV), Hawaii (165,000 STRV), and Texas (115,000 STRV). Production in Florida is projected to total 2.091 million STRV, accounting for the entirety of the 18,000-STRV reduction. The reduction in Florida is due to reduced expectations for the recovery rate for the current crop. Florida is forecast to produce 16.974 short tons of sugarcane in 2015/16, which is 12.8 percent higher than the previous year and the largest crop since 1998/99. While February's monthly sugar production in the State improved from January's low mark, the large crop, combined with poor harvesting conditions in recent months, is expected to result in the harvest continuing later into the year likely through May, lowering the amount of sugar recovered from the cane.

400 350 ,000 short tons, raw value 300 250 200 150 100 50 0 Oct. Nov. Dec Jan. Feb. Mar. Apr. May Average 2015/16 2014/15

Figure 2
Monthly Florida sugar production, October to May, 2005/06 to 2015/16

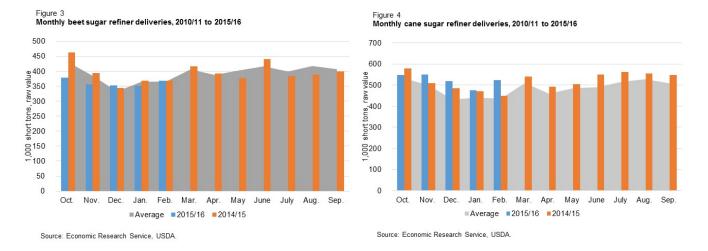
Source: Economic Research Service, USDA.

U.S. sugar imports in 2015/16 are projected to total 3.209 million STRV, a 9,000-STRV increase from the March projection. Nearly all of the increase in total imports is attributed to a 9,000-STRV increase in imports under quota programs, which is now projected to total 1.595 million STRV. More imports under CAFTA/DR, which operates under a calendar-year quota, are expected to enter between January and September rather than in the final quarter of the calendar year, raising imports during 2015/16. This increase is marginally offset by fewer imports expected under the Panama trade agreement. Imports under the WTO raw sugar tariff-rate quota (TRQ) remain unchanged from the previous month at 1.121 million STRV, indicating a projected shortfall of 27,588 STRV.

Imports from Mexico in 2015/16 are projected to total 1.299 million STRV, which is adjusted less than 500 STRV due to the official setting of the Export Limit by the U.S. Department of Commerce (USDOC). The limit was set using the rounded parameters set from the March WASDE, as specified by the agreement to suspend the countervailing duty investigation signed by the USDOC and the Government of Mexico in December 2014.

Projected Domestic Deliveries Unchanged, Cane Sugar Deliveries Remain Strong, in 2015/16

U.S. domestic sugar deliveries are projected to total 12.090 million STRV for 2015/16, unchanged from the previous month's projection. Projected food and beverage deliveries for the year are 11.955 million STRV, also unchanged from the March projection. Through February, sugar deliveries for 2015/16 have totaled 4.707 million STRV, which is 2.5 percent larger than the same period in 2014/15. Cane sugar deliveries through February have remained relatively large at 2.616 million STRV, representing a 5.0-percent increase from 2014/15. This has more than offset the 6.8 percent decline in cumulative beet sugar deliveries over the same period. Deliveries for beet sugar began the fiscal year at a slow pace and have since returned to totals in line with average deliveries, but are still lagging on a cumulative basis. Monthly cane deliveries, in contrast, have been above the 5-year average in every month and larger than the previous year's monthly total in every month except one in 2015/16.



Non-food deliveries are projected to total 135,000 STRV, unchanged from the previous month's projections. Exports are also unchanged from the previous month's projections of 100,000 STRV. Subsequently, projected total use in 2015/16 is unchanged from the March projection, at 12.190 million STRV.

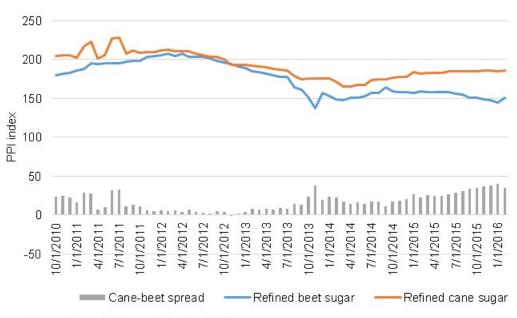
Projected ending stocks for 2015/16 are 1.619 million STRV, a 27,000-STRV decline from the March report, as projected supplies are reduced and use unchanged. The resulting stocks-to-use ratio is 13.28 percent, slightly less than the March projection of 13.5 percent.

Differences in Beet and Cane Sugar Supplies Impact U.S. Sugar Market Prices

Distinctions between the cane and beet sugar markets continue to be an important feature of the 2015/16 U.S. sugar market, as described in the January 2016 *Sugar and Sweeteners Outlook* report. The trend of higher annual cane sugar deliveries has resulted in tight supplies for raw and refined cane sugar supplies and higher raw sugar prices. Through the first 6 months of 2015/16, the average U.S. raw sugar price is 3.8 percent higher than the previous year, despite refined sugar prices published by *Milling and Baking News* falling 11.4 percent over the same period. Conversely, beet sugar inventories have been relatively large, which has kept downward pressure on both beet and cane refined sugar prices.

The Producer Price Index (PPI) series published by the U.S. Department of Labor's Bureau of Labor Statistics includes a series for both refined cane sugar and refined beet sugar, which provides useful insights for trends between the two industry segments. Differences between the two indices have fluctuated in the past due to various market and policy factors. The spread between the two has grown consistently for the past several years, however, potentially reflecting a growing premium for cane sugar. The February beet sugar price index did register its largest monthly increase since December 2013, which may be in response to the market imbalances, although a single month's increase is not sufficient for declaring a reversal in trends. Large beet sugar supplies, a tight raw sugar market, narrow margins for cane refiners, as well as changing procurement strategies and preferences by end users will continue to be the factors driving U.S. sugar market prices.

Figure 5
Producer Price Index for refined beet and cane sugar, 2010/11 to 2015/16



Source: Economic Research Service, USDA.

Forecast Planted Area for Sugarbeets in 2016/17 Nearly Equal to 2015/16

On March 31, the USDA's National Agricultural Statistics Service (NASS) published its *Prospective Plantings* report, which includes the first forecast of planted area for the 2016/17 sugarbeet crop. Total U.S. sugarbeet plantings are projected to be 1.159 million acres, which is just 200 fewer acres than the current projection for the 2015/16 crop. The three largest sugarbeet-producing States—Minnesota, North Dakota, and Idaho—are all forecast to increase planted acres. Michigan, the fourth largest sugarbeet-producing State, is projected to decrease planted area by 1,000 acres compared with 2015/16 plantings. The largest State decrease is Nebraska, which is forecast to plant 6,700 fewer acres than in 2015/16. The 2015/16 crop benefited from dry spring weather in all regions, allowing for early planting, as well as from favorable temperatures and precipitation throughout the growing season. It was these factors that led to a record sugarbeet crop, despite fewer planted acres compared with the prior year. Planting has begun in some sugarbeet regions, but the impact of planting progress on sugarbeet yields will likely not be determined until May. Weather conditions during the summer and ultimately yields at harvest will be key variables in determining beet sugar production in 2016/17.

Table 3: U.S. sugarbeet area planted, 2014/15 to 2016/17

	2014/15	2015/16	2016/17 1/	Annual Change	
	1,000 acres				
Great Lakes:					
Michigan	151.0	152.0	151.0	-1.0	
Total	151.0	152.0	151.0	-1.0	
Upper Midwest					
Minnesota	440.0	443.0	444.0	1.0	
North Dakota	215.0	208.0	210.0	2.0	
Total	655.0	651.0	654.0	3.0	
Great Plains:					
Colorado	29.6	27.5	32.8	5.3	
Montana	45.1	44.1	42.0	-2.1	
Nebraska	49.1	47.5	40.8	-6.7	
Wyoming	30.9	31.5	30.0	-1.5	
Total	154.7	150.6	145.6	-5.0	
Far West:					
California	24.3	25.0	25.0	0.0	
Idaho	170.0	171.0	174.0	3.0	
Oregon	7.5	9.2	7.0	-2.2	
Washington	NA	NA	2.0		
Total	201.8	205.2	208.0	2.8	
U.S. total	1,162.5	1,158.8	1,158.6	-0.2	

^{1/} Forecast.

Source: National Agricultural Statistics Service, USDA.

Projected Production, Supplies in Mexico Unchanged

Projected total sugar supplies in Mexico are 6.937 million metric tons, actual weight (MT) in 2015/16, unchanged from the March projection. Beginning stocks remain unchanged at 811,000 MT. Imports are projected to total 70,000 MT, with 60,000 MT imported for the IMMEX program and the remainder imported for human consumption; all unchanged from the previous month. Production in 2015/16 is projected at 6.056 million MT, matching the current projection of *Comité Nacional para el Desarrollo Sustentable de la Caña de Azúcar* (Conadesuca).

Table 4 -- Mexico sugar supply and use, 2013/14 - 2014/15 and projected 2015/16, March 2016

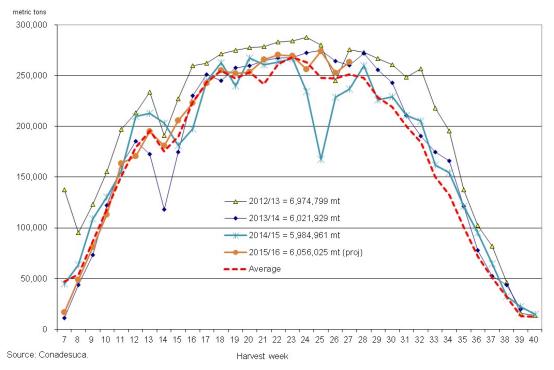
Items	2013/14	2014/15 (estimate)	2015/16 (forecast)
	1		
Beginning stocks	1,460	831	811
Production	6,021	5,985	6,056
Imports	131	128	70
Imports for consumption	9	8	10
Imports for sugar-containing product exports (IMMEX) 1/	123	121	60
Total supply	7,613	6,944	6,937
Disappearance			
Human consumption	4,098	4,408	4,319
For sugar-containing product exports (IMMEX)	324	337	337
Statistical adjustment	-151	-54	
Total	4,271	4,691	4,656
Exports	2,511	1,442	1,121
Exports to the United States & Puerto Rico	1,823	1,311	1,111
Exports to other countries	689	131	10
Total use	6,782	6,134	5,777
Ending stocks	831	811	1,160
		1,000 metric tons, raw value	
Beginning stocks	1,548	881	859
Production	6,383	6,344	6,419
Imports	139	136	74
Imports for consumption	9	8	11
Imports for sugar-containing product exports (IMMEX)	130	128	64
Total supply	8,069	7,361	7,353
Disappearance			
Human consumption	4,344	4,673	4,578
For sugar-containing product exports (IMMEX)	343	357	357
Statistical adjustment	-160	-57	0
Total	4,527	4,973	4,935
Exports	2,662	1,529	1,189
Exports to the United States & Puerto Rico	1,932	1,389	1,178
Exports to other countries	730	139	11
Total use	7,189	6,502	6,124
Ending stocks	881	859	1,229
Stocks-to-human consumption (percent)	20.3	18.4	26.8
Stocks-to-use (percent)	12.3	13.2	20.1
High fructose corn syrup (HFCS) consumption (dry weight)	1,372	1,444	1,474

^{1/} IMMEX = Industria Manufacturera, Maguiladora y de Servicios de Exportación.

Source: USDA, World Agricultural Supply and Demand Estimates and Economic Research Service, Sugar and Sweeteners Outlook; Conadesuca.

Through April 2, Mexico has produced 4.261 million MT of sugar from the 2015/16 sugarcane crop, representing 70.4 percent of total projected production and running 2.0 percent ahead of last year's production during the same period. During the main part of the harvest period after the New Year, conditions have been generally favorable for the harvest in sugarcane-growing regions in Mexico, allowing for uninterrupted progress in the campaign, demonstrated by few weeks showing sharp declines in production. Relative to Conadesuca's first crop estimate published in the fall, the pace of cumulative sugar production is only 1.6 percent behind. While the pace of area harvested still lags from the committee's initial estimate, it has nearly been offset by substantially higher sugarcane yields.

Figure 6
Sugar production, by week of harvest, 2010/11-2015/16



Projected Mexican Domestic Deliveries for 2015/16 Reduced

Mexico's deliveries for domestic users for 2015/16 are projected to total 4.656 million MT, a 25,000-MT reduction from the previous month. Deliveries for human consumption are projected to total 4.319 million MT, accounting for the decline in domestic deliveries. The reduction matches the updated projections published by Conadesuca and would be a 2.0-percent decline from 2014/15. Similarly, deliveries of high-fructose corn syrup (HFCS) are projected to total 1.474 million MT, a 9,000-MT reduction from the previous projection but still a 2.0 percent increase over 2014/15. Projected deliveries for the IMMEX program remain unchanged at 337,000 MT.

Through February, sugar deliveries have totaled 1.769 million MT, which is 7.9 percent lower than the same period in 2014/15. Deliveries in 2014/15, however, were relatively large after a strong rebound from lower deliveries in 2013/14. While lower than the previous year, 2015/16 deliveries continue the increasing trend of sugar deliveries in Mexico. HFCS deliveries have totaled 543,000 MT through February, which is a 3.4-percent decline from the previous year and continues the trend of relatively less HFCS use compared with the years shortly after the integration of U.S. and Mexican sweetener markets in 2008. In total, caloric sweetener deliveries were 6.9 percent lower than 2014/15 through February, but remain in line with levels over the last 5 years.

Figure 7
Mexican sweetener consumption October to February



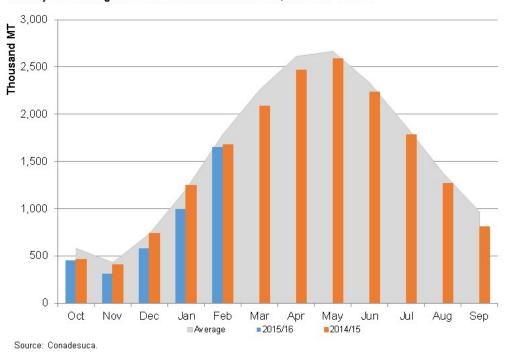
Source: Conadesuca.

Projected Mexican exports for 2015/16 are 1.121 million MT, of which 1.111 million are projected to be shipped to the United States.

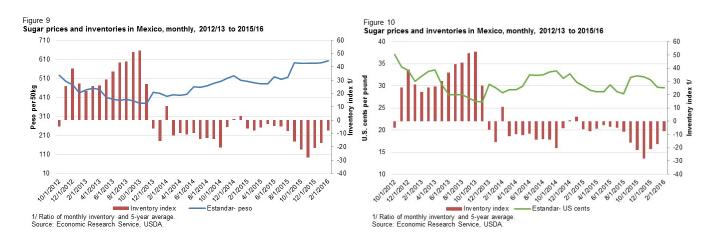
Ending stocks for 2015/16 are projected to be 1.160 million MT, 26,000 MT larger than the March projections due to the reduction in projected domestic deliveries for human consumption. The stocks-to-consumption ratio is currently projected to be 26.9 percent, up from the previous month's projected rate of 26.1 percent and substantially larger than the 2014/15 rate of 18.4 percent.

Conadesuca reported February deliveries for domestic human consumption at 327,000 MT, which was 31.2 percent below the previous year and 9.5 percent less than the 5-year average. While the pace of deliveries slowed during the month, Mexico's inventories for the month witnessed a strong recovery. Mexican inventories in November, which are typically the lowest of the year as, were very tight in 2015/16—the lowest since 2011/12—accounting for less than a month's worth of domestic deliveries. Inventories continued to lag behind the previous year and averages in subsequent months. In February, however, inventories were 7.8 percent below average, compared with inventories 17.2 percent below the average in January.

Figure 8
Monthly Mexican sugar inventories October to December, 2010/11 to 2015/16



The price for estandar sugar in Mexico has stabilized in recent months, after witnessing a sharp increase in late 2014/15. Factors driving Mexican sugar prices have included a combination of strong demand, inventory levels, a weakening of the Mexican peso in foreign exchange markets, and the terms of the suspension agreements with the United States. While not the only factor, the improving inventory levels over the past few months have likely contributed to the corresponding price movements. For the remainder of 2015/16, inventories and available exportable supplies in Mexico, as well as prices and the terms of the suspension agreements, will be important factors in determining trade flows between the United States and Mexico.



7 cbHUWfg'UbX'@jb_g'

Contact Information

Michael McConnell, (202) 694-5184, michael.mcconnell@ers.usda.gov (coordinator) Verna Daniels, (202) 694-5301, vblake@ers.usda.gov (web publishing)

Subscription Information

Subscribe to ERS' e-mail notification service at http://www.ers.usda.gov/updates/ to receive timely notification of newsletter availability.

Fcw"

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.

Tgrc vgf 'Y gdulvgu''

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

G/o chilP qvlllecvlqp''

Readers of ERS outlook reports have two ways they can receive an e-mail notice about release of reports and associated data.

- Receive timely notification (soon after the report is posted on the web) via USDA's Economics, Statistics and Market Information System (which is housed at Cornell University's Mann Library). Go to http://usda.mannlib.cornell.edu/MannUsda/aboutEmailService.do and follow the instructions to receive e-mail notices about ERS, Agricultural Marketing Service, National Agricultural Statistics Service, and World Agricultural Outlook Board products.
- Receive weekly notification (on Friday afternoon) via the ERS website. Go to http://www.ers.usda.gov/Updates/ and follow the instructions to receive notices about ERS outlook reports, *Amber Waves* magazine, and other reports and data products on specific topics. ERS also offers RSS (really simple syndication) feeds for all ERS products. Go to http://www.ers.usda.gov/rss/ to get started.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and, where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, et c.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.