Economic Research Service

Situation and Outlook

SSS-M-303

Nov. 15, 2013

Sugar and Sweeteners Outlook

Stephen Haley, coordinator shaley@ers.usda.gov

U.S. Sugar November 2013

The next release is Dec. 16, 2013

Approved by the World Agricultural Outlook Board.

The U.S. Department of Agriculture (USDA) estimates 2012/13 sugar production at 8.977 million short tons, raw value (STRV), comprised of 5.078 million STRV of beet sugar and 3.899 million STRV of raw cane sugar. Production for 2012/13 represented a 5.8-percent increase over the 2011/12 production total. The 2012/13 year is notable for the high quantity of sugar imported from Mexico, a total of 2.124 million STRV. This total is 87 percent higher than the average import level of 1.136 million STRV since the full implementation of the North American Free Trade Agreement (NAFTA) sweetener provisions in 2007/08. As an offset to high imports from Mexico, the other notable import component is the low level of tariff-rate quota (TRQ) imports whose access into the U.S. market are guaranteed under the World Trade Organization (WTO) and several free trade agreements (FTAs). These imports amounted to 0.957 million STRV, only 58 percent of the 1.637 million STRV average for the same NAFTA period.

Sugar deliveries for human consumption are estimated at 11.485 million STRV for 2012/13, a 3.1 percent increase over last year. Sugar deliveries for other uses totaled a high 264,735 STRV. Included in this total are sales of 153,165 STRV by the Commodity Credit Corporation (CCC) from sugar purchased from sugar processors to ethanol producers under the Feedstock Flexibility Program (FFP).

Ending 2012/13 stocks are estimated at 2.183 million STRV. This total includes sugar forfeited by processors to the CCC on September 30 but whose ownership title did not technically transfer until October 1. Under the 2008 Farm Act, the CCC is obliged to dispose of its sugar for nonhuman uses, except in the case of dire domestic need.

The USDA projects 2013/14 sugar production at 8.878 million STRV, only 99,000 STRV (1.1 percent) lower than 2012/13. The USDA forecast 2013/14 sugar imports at 3.372 million STRV. Slightly less sugar is expected from Mexico than was forecast in September, but the expected amount is still sizable at 1.920 million STRV. The USDA did not change its forecast of 2013/14 sugar deliveries--deliveries for human consumption are forecast at 11.600 million STRV. Ending stocks for 2013/14 are projected at 2.398 million STRV. Any CCC disposals during 2013/14 will cause this forecast to be lowered correspondingly, all else constant.

The USDA forecast 2013/14 Mexico sugar production at 6.500 million metric tons (mt) based on an expected expansion of area harvested of 4.15 percent. Given uncertainties on sugar and sweetener demand, the USDA made no changes to Mexico sugar consumption (4.475 million mt) or to high fructose corn syrup consumption (1.410 million mt, dry weight). The USDA believes that by the end of 2013/14, the United States and Mexico will be in relative equilibrium. For that reason, the USDA lowered its assumption of ending stocks as a proportion human consumption from 26 to 22 percent. The resulting ending stocks forecast is 985,000 mt.

Exports are forecast residually—that is, the amount needed to balance total use with total supply. This amount is 2.344 million mt. Based on very reliable data, the USDA believes that about 700,000 mt will be exported to non-U.S. destinations.

U.S. Sugar

On November 8, 2013, the U.S. Department of Agriculture (USDA) published in the *World Agricultural Supply and Demand Estimates* (WASDE) its latest sugar supply and use projections for the United States and Mexico for fiscal year (FY) 2013 (2012/13) and projections for FY 2014 (2013/14). On that same date, the USDA's National Agricultural Statistics Service (NASS) published new crop 2013/14 production forecasts for sugarbeets and sugarcane, and the Farm Service Agency (FSA) released *Sweetener Market Data* (SMD), containing FY 2013 processors' and refiners' data through the end of the fiscal year, September 30, 2013.

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

Items	2011/12	2012/13	2013/14	2011/12	2012/13	2013/14
	1,000 sh	ort tons, raw v	alue	1,000 m	etric tons, raw	value
Beginning stocks	1,378	1,979	2,183	1,250	1,796	1,980
Total production	8,488	8,977	8,878	7,700	8,143	8,054
Beet sugar	4,900	5,078	5,025	4,446	4,606	4,559
Cane sugar	3,588	3,899	3,853	3,255	3,537	3,495
Florida	1,828	1,866	1,833	1,658	1,693	1,663
Louisiana	1,438	1,685	1,700	1,305	1,528	1,542
Texas	150	169	140	136	153	127
Hawaii	172	179	180	156	163	163
Total imports	3,632	3,224	3,372	3,295	2,925	3,059
Tariff-rate quota imports	1,883	957	1,332	1,709	868	1,208
Other Program Imports	664	136	110	602	124	100
Non-program imports	1,085	2,131	1,930	984	1,933	1,751
Mexico	1,071	2,124	1,920	972	1,927	1,742
Total supply	13,498	14,180	14,433	12,245	12,864	13,093
Total exports	269	274	250	244	249	227
Miscellaneous	-64	-26	0	-58	-24	0
Deliveries for domestic use	11,313	11,750	11,785	10,263	10,659	10,691
Transfer to sugar-containing products						
for exports under reexport program	140	80	150	127	73	136
Transfer to polyhydric alcohol, feed, other alcohol	33	32	35	30	29	32
Commodity Credit Corporation (CCC) sale for ethanol	0	153		0	139	
Deliveries for domestic food and beverage use	11,141	11,485	11,600	10,107	10,419	10,523
Total use	11,519	11,997	12,035	10,450	10,884	10,918
Ending stocks	1,979	2,183	2,398	1,796	1,980	2,175
Private	1,979	1,867		1,796	1,694	
Commodity Credit Corporation (CCC)	0	316		0	287	
Stocks-to-use ratio	17.18	18.20	19.92	17.18	18.20	19.92

Source: United States Department of Agriculture, World Agricultural Supply and Demand Estimates, and Economics Research Service, Sugar and Sweetener Outlook.

U.S. Sugar Balance for 2012/13

Table 1 shows the WASDE-based U.S. supply and use balances for FY 2012-14. There were no revisions to FY 2012 estimates. Revisions to the FY 2013 balance came from complete-year survey data in SMD and complete fiscal year trade data from the Foreign Agricultural Service (FAS). 2012/13 sugar production is estimated at 8.977 million short tons, raw value (STRV), comprised of 5.078 million STRV of beet sugar and 3.899 million STRV of raw cane

sugar. New crop year processing in September is in line with expectations added to the old year 2012/13 total (2013/14 sugar accounting does not start until October 1). 2012/13 production represented a 5.8-percent increase over the 2011/12 production total.

Table 2 shows FAS's November accounting of 2012/13 sugar import components, along with the small changes from September's estimates. There were no surprises from September. The 2012/13 year is notable for the high quantity of sugar imported from Mexico at 2.124 million STRV. This total is 87 percent higher than the average import level of 1.136 million STRV since the full implementation of the North American Free Trade Agreement (NAFTA) sweetener provisions in 2007/08. As an offset to high imports from Mexico, the other notable import component is the low level of tariff-rate quota (TRQ) imports whose access into the U.S. market are guaranteed under the World Trade Organization (WTO) and several free trade agreements (FTAs). These imports amounted to 0.957 million STRV, only 58 percent of the 1.637 million STRV average for the same NAFTA period as described above. The 2012/13 raw sugar TRQ shortfall was 568,176 STRV, or a very high 46.1 percent of the established allocation of 1.231 million STRV.

Table 2 -- USDA estimate of sugar imports in FY 2013

	November		Change		•	nber 2013
	Metric tons, raw value	Short tons, raw value	Metric tons, raw value	Short tons, raw value	Metric tons, raw value	Short tons, raw value
Raw sugar TRQ	1,117,195	1,231,497	0	0	1,117,195	1,231,497
Less shortfall attributable to Mexico 1/						
Less other shortfall	-515,441	-568,176	-1,954	-2,154	-513,487	-566,022
Additional Quota						
Total raw sugar TRQ	601,754	663,320	-1,954	-2,154	603,708	665,474
Refined sugar TRQ						
Allocation to Canada	12,014	13,243	-36	-40	12,050	13,28
Allocation to Mexico Less Mexican shortfall 1/						
Global	8,294	9,143	0	0	8,294	9,143
Specialty						
Base Additional	1,656 95,254	1,825 105,000	0	0	1,656 95,254	1,829 105,000
Total refined sugar TRQ	117,218	129,211	-36	-40	117,254	129,250
Free Trade Agreements						
CAFTA/DR CY 2012, entered in FY 2013	24,702	27,229	0	0	24,702	27,229
CAFTA/DR CY 2013, forecast to enter in FY 2013	96,820	106,726	-3,180	-3,505	100,000	110,23
Peru CY 2012, entered in FY 2013	0	0	0	0	0	
Peru CY 2013, forecast to enter in FY 2013	0	0	0	0	0	
Colombia CY 2012, entered in FY 2013 Colombia CY 2013, forecast to enter in FY 2013	14,514 7,642	15,999 8,424	0 -2,106	0 -2,321	14,514 9,748	15,99 10,74
Panama CY 2012, entered in FY 2013	0	0			0	
Panama CY 2013, forecast to enter in FY 2013	5,566	6,135	-554	-611	6,120	6,74
Total Free Trade Agreements	149,244	164,513	-5,840	-6,437	155,084	170,95
Total estimate TRQ entries	868,216	957,044	-7,830	-8,631	876,046	965,67
Mexico	1,927,201	2,124,375	3,062	3,375	1,924,139	2,121,00
Re-export program imports	123,611	136,258	6,176	6,808	117,435	129,450
Sugar syrups, high-tier	6,027	6,644	-3,045	-3,356	9,072	10,000
Total projected imports	2,925,055	3,224,321	-1,637	-1,804	2,926,692	3,226,12

^{1/} Total entries from Mexico, quota and non-quota, reflected below.

Source: United States Department of Agriculture, Foreign Agricultural Service, Sugar Monthly Import and Re-Export Data Report, November 2013

Sugar deliveries for human consumption are estimated at 11.485 million STRV for 2012/13, a 3.1 percent increase over last year. Consumption growth for domestically produced beet sugar was up 5.7 percent, and cane sugar consumption from U.S. refining facilities was up 3.1 percent. Direct consumption sugar imported by entities that do not report to the USDA in the SMD was down 8.8 percent. The lower level of direct consumption imports reflects that a higher proportion of sugar from Mexico was imported by U.S. refiners this year—estimated by the *Sugar and Sweetener Outlook* at over 65 percent, much more than the 42 percent average for the NAFTA period excluding 2012/13.

Sugar deliveries for other uses totaled a high 264,735 STRV. This aggregate component includes deliveries to livestock producers (18,253 STRV), manufacturers of polyhydric and other alcohol (13,359 STRV), and domestic food and beverage manufacturers who are obliged to export the product into which the delivered sugar serves as a sweetener input (79,957 STRV). The new component this year is comprised of deliveries made by the Commodity Credit Corporation (CCC) of sugar purchased from sugar processors to ethanol producers under the Feedstock Flexibility Program (FFP). This amounted to 153,165 STRV for sales made before September 30.

Ending 2012/13 stocks are estimated at 2.183 million STRV. This total includes sugar forfeited by processors to the CCC on September 30 but whose ownership title did not technically transfer until October 1. (As an aside, the forfeiture counts against the processor's 2012/13 marketing allotment even though not received by the CCC until 2013/14.) FSA estimates the quantity held by the CCC on October 1 at 316,145 STRV. This would imply privately held stocks at 1.867 million STRV, representing a stocks-to-use ratio of 15.6 percent. Under the 2008 Farm Act, the CCC is obliged to dispose of its sugar to nonhuman uses, except in the case of dire domestic need.

U.S. Sugar Balance Projected for 2013/14

The USDA projects 2013/14 sugar production at 8.878 million STRV, only 99,000 STRV (1.1 percent) lower than 2012/13. Table 3 shows regional detail of NASS data published this month. According to NASS, sugarbeet production is expected at 32.832 million tons. This is 2.404 million tons lower than 2012/13 but 1.919 million tons higher than the 2013/14 projection made in September. NASS increased its 2013/14 national yield to 27.75 tons per acre, up from September's 26.11 tons per acre. The largest regional increases were in the Red River Valley (Minnesota and North Dakota), 22.84 to 25.00 tons, and in the Northwest (Idaho and Oregon), 33.87 to 36.09 tons.

Table 3 -- Sugar and sugar crop production data and projections for 2012/13 and 2013/14.

Sugarcrop/region	Area harvested	d for sugar (1,0	000 acres)	Sugar crop vie	ld (ton per acr	re)	Sugar crop pro	duction (1,000) tons)	Sugar product	ion (1,000 tons	s, raw value)
0 1 0	2012/13	2013/14	2013/14	2012/13	2013/14	2013/14	2012/13	2013/14	2013/14	2012/13	2013/14	2013/14
		Sept	Nov		Sept	Nov		Sept	Nov		Sept	Nov
Sugarbeets												
Great Lakes 1/	153.0	150.0	150.0	29.00	25.00	25.00	4,437	3,750	3,750			
Red River Valley 2/	678.0	683.0	683.0	26.98	22.84	25.00	18,290	15,598	17,075			
Great Plains 3/	155.7	143.0	142.4	29.47	29.74	30.12	4,588	4,253	4,289			
Northwest 4/	193.0	183.3	183.3	35.46	33.87	36.09	6,843	6,209	6,615	-		
Southwest 5/	24.5	24.5	24.5	44.00	45.02	45.02	1,078	1,103	1,103	-	-	
Total	1,204.2	1,183.8	1,183.2	29.26	26.11	27.75	35,236	30,913	32,832	5,078	4,950	5,025
Sugarcane												
Florida	396.0	396.0	396.0	36.60	36.90	36.90	14,494	14,612	14,612	1,866	1,833	1,833
Louisiana	411.2	411.2	411.2	32.10	30.00	32.00	13,200	12,336	13,159	1,685	1,600	1,700
Texas	43.0	38.7	33.4	35.91	34.40	38.10	1,544	1,331	1,273	169	140	140
Hawaii 6/	15.9	15.9	15.9	80.80	80.80	80.80	1,285	1,285	1,285	179	180	180
Total	866.1	861.8	856.5	35.24	34.30	35.41	30,523	29,564	30,328	3,899	3,753	3,853

^{1/} Michigan.

Source: United States Department of Agriculture, National Agricultural Statistics Service, Crop Production; World Agricultural Supply and Demand Estimates, Interagency Commodity Estimates Committee for sugar.

^{2/} Minnesota, North Dakota.

^{3/} Colorado, Montana, Nebraska, Wyoming.

^{4/} Idaho, Oregon.

^{5/} Imperial valley, California.

^{6/} Hawaii crop data on calendar year: 2012 and 2013.

^{-- =} not available

The USDA increased its projection of 2013/14 beet sugar production to 5.025 million STRV, up from September's 4.950 million STRV. A slow start to sugarbeet harvest in September indicates that a larger proportion of the harvested sugarbeets will be processed in the sugar 2013/14 October-September marketing year. Recent reports of freeze damage to the crop in southern Minnesota suggest caution in fixing the 2013/14 beet sugar production forecast.

NASS increased its projection of sugarcane yield in Louisiana to 32.0 tons per acre, up 2.0 tons from the September forecast and close to the excellent 32.1 tons per acre realized in 2012/13. The USDA projects 2013/14 Louisiana cane sugar production at 1.700 million STRV, about the same as realized in 2012/13. NASS increased its yield forecast of Texas sugarcane but lowered the area expected for harvest, leaving the sugarcane production forecast somewhat lower than in 2012/13. The USDA kept its Texas cane sugar production forecast at 140,000 STRV. No changes were made for the crop in Florida or Hawaii. National cane sugar production is forecast at 3.853 million STRV, only slightly lower than the previous year.

The USDA forecast 2013/14 sugar imports at 3.372 million STRV. Table 4 shows how FAS expects 2013/14 imports to line up. Slightly less sugar is expected from Mexico than in September, but the expected amount is still

Table 4 USDA	actimate of	cugar importe	in EV 2014
Table 4 USDA	estimate of	Sugar imports	IN F Y 2014

	November		Change		•	mber 2013
	Metric tons, raw value	Short tons, raw value			Metric tons, raw value	Short tons, raw value
Raw sugar TRQ	1,117,195	1,231,497	0	0	1,117,195	1,231,497
Less other shortfall	-226,796	-250,000	0	0	-226,796	-250,000
Additional Quota						
Total raw sugar TRQ	890,399	981,497	0	0	890,399	981,497
Refined sugar TRQ						
Allocation to Canada	12,050	13,283			12,050	13,283
Allocation to Mexico	NA	NA			NA	NA
Global	8,294	9,143			8,294	9,143
Specialty Base Additional	1,656 100,000	1,825 110,231	0	0	1,656 100,000	1,825 110,231
Total refined sugar TRQ	122,000	134,482	0	0	122,000	134,482
Free Trade Agreements						
CAFTA/DR CY 2013, entered in FY 2014 CAFTA/DR CY 2014, forecast to enter in FY 2014	27,986 107,634	30,849 118,646	360 -360	397 -397	27,626 107,994	30,452 119,043
Peru CY 2013, entered in FY 2014 Peru CY 2014, forecast to enter in FY 2014	0 2,000	0 2,205	0 0	0	0 2,000	0 2,205
Colombia CY 2013, entered in FY 2014 Colombia CY 2014, forecast to enter in FY 2014	8,660 42,840	9,546 47,223	2,231 -2,231	2,459 -2,459	6,429 45,071	7,087 49,682
Panama CY 2013, entered in FY 2014 Panama CY 2014, forecast to enter in FY 2014	1,054 5,626	1,162 6,202	-566 566	-624 624	1,620 5,060	1,786 5,578
Total Free Trade Agreements	195,800	215,833	0	0	195,800	215,833
Total estimate TRQ entries	1,208,199	1,331,811	0	0	1,208,199	1,331,811
Mexico	1,741,795	1,920,000	-25,401	-28,000	1,767,196	1,948,000
Re-export program imports	99,790	110,000	0	0	99,790	110,000
Sugar syrups, high-tier	9,072	10,000	0	0	9,072	10,000
Total projected imports	3,058,856	3,371,812	-25,401	-28,000	3,084,257	3,399,811

 Total projected imports
 3,058,856
 3,371,812
 -25,401

 Source: United StatesDepartment of Agriculture, Foreign Agricultural Service, Sugar Monthly Import and Re-Export Data Report, November 2013.

sizable at 1.920 million STRV. Other changes from September reflect adjustments made to the timing of entries of imports from FTA calendar year TRQs (either before 2012/13 or after September 30, 2013/14). The USDA did not change its projection of the raw sugar TRQ shortfall from 250,000 STRV. This shortfall is historically large but much reduced from the 568,176 STRV in 2012/13. The current shortfall amount would imply 2013/14 U.S.-world raw sugar price margins above the 3-cent level largely evidenced so far for calendar 2013.

The USDA did not change its forecast of 2013/14 sugar deliveries. Deliveries for human consumption are forecast at 11.600 million STRV. Developments to watch are how much sugar from Mexico enters as direct consumption as opposed to raw sugar for refining and how competitive high fructose corn syrup (HFCS) may become with expected lower corn prices. Although the CCC is mandated to dispose of its sugar inventory, it was not known as of November 8 (WASDE publication date) how the CCC will accomplish the disposal.

Ending stocks for 2013/14 are projected at 2.398 million STRV. Any CCC disposals during 2013/14 will cause this forecast to be lowered correspondingly, all else constant.

CCC Sugar Actions and Forfeitures

During the course of 2012/13, the USDA recognized the high probability of sugar loan forfeitures and, as required by law, recognized the imperative to minimize sugar program expenditures to the maximum extent possible. The 2008 Farm Act introduced the Feedstock Flexibility Program (FFP) requiring the CCC to purchase sugar from processors and sell that sugar to domestic ethanol producers. The USDA published regulations in the Federal Register only at the end of July 2013 but in time for use.

Another method employed to mitigate excess sugar supply involved the exchange of sugar acquired by the CCC for export credits accumulated by sugar refiners who have re-export import license accounts with FAS. A variant of this program substituted certificates for quota eligibility (CQEs) issued under the Colombia and Panama FTAs for the export credits. The logic behind reducing sugar supply is to exchange a unit of CCC sugar for some multiple amount of sugar to be imported. With the narrow margin between U.S. and world prices, potential participants in the exchange would be willing to exchange larger quantities of the licenses or CQEs for the physical sugar.

As detailed in the July and August *Sugar and Sweetener Outlook*, the CCC exercised two sets of sugar exchanges for the licenses and CQEs. Table 5 reproduces the results shown in the earlier report. The results announced on July 10 showed that 91,237 metric tons (mt) of CCC-purchased sugar, or 100,572 tons, were exchanged for export credits amounting to 264,705 mt and CQEs amounting to 34,448. The computed ratio of credit/CQE to sugar is 3.28. In the July WASDE, the projection for re-export imports was reduced by 275,000 STRV to 125,000 STRV. Results of the second set were announced on July 31. The amounts were much lower: 15,504 mt of sugar exchanged for re-export credits representing 46,559 mt. The USDA reduced 2013/14 projected re-export imports by 15,000 STRV in the August WASDE.

Table 5 -- Purchase and exchange of Commodity Credit Corporation (CCC)-owned sugar for re-export credits and certificates of quota eligibility (CQE), July 2013.

Beet sugar: announced July 10	Sugar storage location		CCC-purchase price CCC-		CCC total cost Exchange partner	Re-export credits CQE	•	
SIDNEY, MT		(metric tons)	(Dollars/metric ton) (Cent	s/pound)	(Dollars)	exchanged	to sug	gar quantity
SIDNEY, MT	Beet sugar: annou	inced July 10						
SIDNEY_MT	SIDNEY, MT	1,605	544.84	24.71	874,474 United Sugars Corporation	8,025	0	5.000
SIDNEY MT	SIDNEY, MT	160	544.84	24.71		790	0	4.940
CROSWELL, MI	SIDNEY, MT	1,363	544.84	24.71	742,365 United Sugars Corporation	6,145	0	4.510
LONGMONT, CO 6,804 551.16 25.00 3,750,003 CSC Sugar LLC 0 27,220 4.001 TORRINGTON, WY 2,729 551.16 25.00 1,504,212 CSC Sugar LLC 10,919 0 4.001 STERLING, CO 2,268 551.16 25.00 1,249,999 CSC Sugar LLC 9,073 0 4.001 MITCHELL, NE 4,536 551.16 25.00 2,499,999 CSC Sugar LLC 18,147 0 4.001 TORRINGTON, WY 1,807 551.16 25.00 2,499,999 CSC Sugar LLC 0, 7,228 4.001 SAGNAW, MI 1,448 581,66 26.38 842,244 Michigan Sugar Company 5,806 0 4.010 LOVELL, WY 2,268 546,75 24.80 1,239,999 CSC Sugar LLC 9,073 0 4.001 SLILINGS, MT 2,268 546,75 24.80 1,239,999 CSC Sugar LLC 9,073 0 4.001 CROSWELL, MI 1,123 581,66 26.38 633,788 CSC Sugar LLC 9,073 0 4.001 CROSWELL, MI 1,123 581,66 26.38 633,788 CSC Sugar LLC 4,222 0 4.001 CARROLLTON, MI 1,123 581,66 26.38 653,787 CSC Sugar LLC 4,222 0 4.001 CROSWELL, MI 6,550 581,66 26.38 653,787 CSC Sugar LLC 4,222 0 4.001 SIDNEY, MT 632 544,84 24.71 344,581 United Sugars Corporation 2,244 0 3.500 SIDNEY, MT 7,44 544,84 24.71 405,581 United Sugars Corporation 2,247 0 3.260 SIDNEY, MT 1,408 544,84 24.71 405,581 United Sugars Corporation 2,427 0 3.260 SIDNEY, MT 3,217 544,84 24.71 1,752,752 United Sugars Corporation 4,590 0 3.260 SIDNEY, MT 3,217 544,84 24.71 1,752,752 United Sugars Corporation 10,455 0 3.260 SIDNEY, MT 3,217 544,84 24.71 1,752,752 United Sugars Corporation 4,590 0 3.260 SIDNEY, MT 3,217 544,84 24.71 1,752,752 United Sugars Corporation 4,590 0 3.260 SIDNEY, MT 1,408 544,84 24.71 1,752,752 United Sugars Corporation 4,590 0 3.260 SIDNEY, MT 3,217 544,84 24.71 1,752,752 United Sugars Corporation 4,590 0 3.260 SIDNEY, MT 3,217 544,84 24.71 1,752,752 United Sugars Corporation 4,590 0 2.800 SIDNEY, MT 3,217 544,84 24.71 1,752,752 United Sugars Corporation 4,590 0 2.800 SIDNEY, MT 1,408	SIDNEY, MT	564	544.84	24.71	307,487 United Sugars Corporation	2,427	0	4.300
TORRINGTON, WY	CROSWELL, MI	292	581.66	26.38	169,708 AmCane Sugar LLC	1,240	0	4.250
STERLING, CO	LONGMONT, CO	6,804	551.16	25.00	3,750,003 CSC Sugar LLC	0	27,220	4.001
MITCHELL, NE	TORRINGTON, WY	2,729	551.16	25.00	1,504,212 CSC Sugar LLC	10,919	0	4.001
TORRINGTON, WY 1,807 551.16 25.00 995,787 CSC Sugar LLC 0 7,228 4.001 SAGINAW, MI 1,448 581.66 26.38 842,244 Michigan Sugar Company 5,806 0 4.010 LOYELL, WY 2,268 546.75 24.80 1,239,99 CSC Sugar LLC 9,073 0 4.001 BILLINGS, MT 2,268 546.75 24.80 1,239,999 CSC Sugar LLC 9,073 0 4.001 CROSWELL, MI 1,055 581.66 26.38 613,788 CSC Sugar LLC 4,222 0 4.001 CROSWELL, MI 1,123 581.66 26.38 63,187 CSC Sugar LLC 4,4222 0 4.001 SIDNEY, MT 632 544.84 24.71 344.581 United Sugars Corporation 2,214 0 3.500 SIDNEY, MT 744 544.84 24.71 344.581 United Sugars Corporation 2,214 0 3.500 SIDNEY, MT 1,408 544.84 24.71 767.198 United Sugars Corporation 4,590 0 3.260 SIDNEY, MT 3,217 544.84 24.71 1,752,752 United Sugars Corporation 10,455 0 3.250 SUD-total 36,291 552.21 25.05 20,040,493 109,119 34,448 3.956 Cane sugar: announced July 10 WHITE CASTLE, LA 5,000 432.98 19.64 2,164,888 Imperial-Savannah LP 15,586 0 3.117 NEW IBERIA, LA 12,000 432.98 19.64 7,360,620 American Sugar Refining, Inc. 33,750 0 2.813 WHITE CASTLE, LA 17,000 432.98 19.64 7,360,620 American Sugar Refining, Inc. 47,600 0 2.800 BRUSLY, LA 19,178 433.42 19.66 766,421 American Sugar Refining, Inc. 53,699 0 2.800 LAKELAND, LA 1,768 433.42 19.66 766,421 American Sugar Refining, Inc. 4,951 0 2.800 Sub-total 54,946 433.05 19.64 23,794,540 155,586 0 3.832 Cane sugar: announced July 31 PAINCOURTVILLE, LA 15,04 443.20 20.10 6,871,428 American Sugar Refining, Inc. 46,559 0 3.003	STERLING, CO	2,268	551.16	25.00	1,249,999 CSC Sugar LLC	9,073	0	4.001
SAGINAW, MI 1,448 581.66 26.38 842,244 Michigan Sugar Company 5,806 0 4,010 LOVELL, WY 2,268 546.75 24.80 1,239,999 CS Sugar LLC 9,073 0 4,001 BILLINGS, MT 2,268 546.75 24.80 1,239,999 CSC Sugar LLC 9,073 0 4,001 CROSWELL, MI 1,055 581.66 26.38 613,788 CSC Sugar LLC 4,222 0 4,001 CARROLLTON, MI 1,123 581.66 26.38 653,187 CSC Sugar LLC 4,493 0 4,001 SIDNEY, MT 632 544.84 24.71 344.551 United Sugars Corporation 2,214 0 3,500 SIDNEY, MT 1,408 544.84 24.71 405,581 United Sugars Corporation 2,427 0 3,260 SIDNEY, MT 3,217 544.84 24.71 1,752,752 United Sugars Corporation 10,455 0 3,250 Sub-total 36,291 552.21 25.05 20,040,493 109,119 34,448 3,956	MITCHELL, NE	4,536	551.16	25.00		18,147	0	4.001
LOVELL, WY 2,268 546.75 24.80 1,239,999 CSC Sugar LLC 9,073 0 4.001 BILLINGS, MT 2,268 546.75 24.80 1,239,999 CSC Sugar LLC 9,073 0 4.001 BILLINGS, MT 2,268 546.75 24.80 1,239,999 CSC Sugar LLC 9,073 0 4.001 CROSWELL, MI 1,055 581.66 26.38 613,788 CSC Sugar LLC 4,222 0 4.001 CARROLLTON, MI 1,123 581.66 26.38 653,187 CSC Sugar LLC 4,493 0 4.001 SIDNEY, MT 632 544.84 24.71 34.551 United Sugars Corporation 2,214 0 3.500 SIDNEY, MT 744 544.84 24.71 34.551 United Sugars Corporation 2,427 0 3.260 SIDNEY, MT 1,408 544.84 24.71 767,198 United Sugars Corporation 4,590 0 3.260 SIDNEY, MT 3,217 544.84 24.71 1,752,752 United Sugars Corporation 10,455 0 3.250 Sub-total 36,291 552.21 25.05 20,040,493 109,119 34,448 3.956 Cane sugar: announced July 10 WHITE CASTLE, LA 5,000 432.98 19.64 2,164,888 Imperial-Savannah LP 15,586 0 3.117 NEW IBERIA, LA 12,000 432.53 19.62 5,190,413 American Sugar Refining, Inc. 33,750 0 2.813 WHITE CASTLE, LA 17,000 432.98 19.64 7,360,620 American Sugar Refining, Inc. 47,600 0 2.800 BRUSLY, LA 19,178 433.42 19.66 766,421 American Sugar Refining, Inc. 53,699 0 2.800 BRUSLY, LA 19,178 433.42 19.66 766,421 American Sugar Refining, Inc. 4,951 0 2.800 Sub-total 54,946 433.05 19.64 23,794,540 155,586 0 3.803 Cane sugar: announced July 31 PAINCOURTVILLE, LA 15,504 443.20 20.10 6,871,428 American Sugar Refining, Inc. 46,559 0 3.003	TORRINGTON, WY	1,807	551.16	25.00	995,787 CSC Sugar LLC	0	7,228	4.001
BILLINGS, MT	SAGINAW, MI	1,448	581.66	26.38	842,244 Michigan Sugar Company	5,806	0	4.010
CROSWELL, MI 1,055 581.66 26.38 613,788 CSC Sugar LLC 4,222 0 4.001 CARROLLTON, MI 1,123 581.66 26.38 653,187 CSC Sugar LLC 4,493 0 4.001 SIDNEY, MT 632 544.84 24.71 40.581 United Sugars Corporation 2,214 0 3.5500 SIDNEY, MT 744 544.84 24.71 405,581 United Sugars Corporation 2,427 0 3.260 SIDNEY, MT 1,408 544.84 24.71 767,198 United Sugars Corporation 4,590 0 3.260 SIDNEY, MT 3,217 544.84 24.71 1,752,752 United Sugars Corporation 10,455 0 3.250 SIDNEY, MT 3,217 544.84 24.71 1,752,752 United Sugars Corporation 10,455 0 3.260 SIDNEY, MT 3,217 544.84 24.71 1,752,752 United Sugars Corporation 10,455 0 3.260 SIDNEY, MT 3,217 544.84 24.71 1,752,752 United Sugars Corporation 10,455 0 3.260 SIDNEY, MT 3,217 542.84 24.71 1,752,752 United Sugars Corporation 10,455 0 3.260 SIDNEY, MT 3,217 542.84 24.71 1,752,752 United Sugars Corporation 10,455 0 3.260 SIDNEY, MT 3,217 542.84 24.71 1,752,752 United Sugars Corporation 10,455 0 3.260 SIDNEY, MT 3,217 542.84 24.71 1,752,752 United Sugars Corporation 10,455 0 3.260 SIDNEY, MT 3,217 542.84 24.71 1,752,752 United Sugars Corporation 10,455 0 3.260 SIDNEY, MT 3,217 542.84 24.71 1,752,752 United Sugars Corporation 10,455 0 3.260 SIDNEY, MT 3,217 542.84 SIDN	LOVELL, WY	2,268	546.75	24.80	1,239,999 CSC Sugar LLC	9,073	0	4.001
CARROLLTON, MI 1,123 581.66 26.38 653,187 CSC Sugar LLC 4,493 0 4.001 SIDNEY, MT 632 544.84 24.71 344,581 United Sugars Corporation 2,214 0 3.500 3.500 SIDNEY, MT 744 544.84 24.71 405,581 United Sugars Corporation 2,247 0 3.260 SIDNEY, MT 1,408 544.84 24.71 767,198 United Sugars Corporation 4,590 0 3.260 SIDNEY, MT 3,217 544.84 24.71 1,752,752 United Sugars Corporation 4,590 0 3.260 SIDNEY, MT 3,217 544.84 24.71 1,752,752 United Sugars Corporation 10,455 0 3.250 Sub-total 36,291 552.21 25.05 20,040,493 109,119 34,448 3.956 Cane sugar: announced July 10 WHITE CASTLE, LA 5,000 432.98 19.64 2,164,888 Imperial-Savannah LP 15,586 0 3.117 NEW IBERIA, LA 12,000 432.53 19.62 5,190,413 American Sugar Refining, Inc. 33,750 0 2.813 WHITE CASTLE, LA 17,000 432.98 19.64 7,360,620 American Sugar Refining, Inc. 47,600 0 2.800 ERUSLY, LA 19,178 433.42 19.66 8,312,198 American Sugar Refining, Inc. 53,699 0 2.800 LAKELAND, LA 1,768 433.42 19.66 766,421 American Sugar Refining, Inc. 4,951 0 2.800 Sub-total 54,946 433.05 19.64 23,794,540 155,586 0 2.832 Cane sugar: announced July 31 PAINCOURTVILLE, LA 15,504 443.20 20.10 6,871,428 American Sugar Refining, Inc. 46,559 0 3.003	BILLINGS, MT	2,268	546.75	24.80	1,239,999 CSC Sugar LLC	9,073	0	4.001
SIDNEY, MT 632 544.84 24.71 344,581 United Sugars Corporation 2,214 0 3.500 SIDNEY, MT 744 544.84 24.71 405,581 United Sugars Corporation 2,427 0 3.260 SIDNEY, MT 1,408 544.84 24.71 767,198 United Sugars Corporation 4,590 0 3.260 SIDNEY, MT 3,217 544.84 24.71 1,752,752 United Sugars Corporation 4,590 0 3.260 Sub-total 36,291 552.21 25.05 20,040,493 109,119 34,448 3.956 Cane sugar: announced July 10 WHITE CASTLE, LA 5,000 432.98 19.64 2,164,888 Imperial-Savannah LP 15,586 0 3.117 NEW BIERIA, LA 12,000 432.98 19.64 2,164,888 Imperial-Savannah LP 15,586 0 3.117 WHITE CASTLE, LA 17,000 432.98 19.64 7,360,620 American Sugar Refining, Inc. 33,750 0 2.813 WHITE CASTLE, LA	CROSWELL, MI	1,055	581.66	26.38	613,788 CSC Sugar LLC	4,222	0	4.001
SIDNEY, MT 744 544.84 24.71 405,581 United Sugars Corporation 2,427 0 3.260 SIDNEY, MT 1,408 544.84 24.71 767,198 United Sugars Corporation 4,590 0 3.260 SIDNEY, MT 3,217 544.84 24.71 1,752,752 United Sugars Corporation 10,455 0 3.260 Sub-total 36,291 552.21 25.05 20,040,493 109,119 34,448 3.956 Cane sugar: announced July 10 WHITE CASTLE, LA 5,000 432.98 19.64 2,164,888 Imperial-Savannah LP 15,586 0 3.117 NEW IBERIA, LA 12,000 432.93 19.62 5,190,413 American Sugar Refining, Inc. 33,750 0 2.813 WHITE CASTLE, LA 17,000 432.98 19.64 7,360,620 American Sugar Refining, Inc. 47,600 0 2.800 BRUSLY, LA 19,178 433.42 19.66 8,312,198 American Sugar Refining, Inc. 53,699 0 2.800 Sub-total 54,946<	CARROLLTON, MI	1,123	581.66	26.38	653,187 CSC Sugar LLC	4,493	0	4.001
SIDNEY, MT 1,408 544.84 24.71 767,198 United Sugars Corporation 4,590 0 3.260 SIDNEY, MT 3,217 544.84 24.71 1,752,752 United Sugars Corporation 4,590 0 3.250 Sub-total 36,291 552.21 25.05 20,040,493 109,119 34,448 3.956 Cane sugar: announced July 10 WHITE CASTLE, LA 5,000 432.98 19.64 2,164,888 Imperial-Savannah LP 15,586 0 3.117 NEW IBERIA, LA 12,000 432.93 19.62 5,190,413 American Sugar Refining, Inc. 33,750 0 2.813 WHITE CASTLE, LA 17,000 432.98 19.64 7,360,620 American Sugar Refining, Inc. 47,600 0 2.800 BRUSLY, LA 19,178 433.42 19.66 8,312,198 American Sugar Refining, Inc. 53,699 0 2.800 LAKELAND, LA 1,768 433.05 19.64 23,794,540 155,586 0 2.832 Cane sugar: announced July 31 <	SIDNEY, MT	632	544.84	24.71	344,581 United Sugars Corporation	2,214	0	3.500
SIDNEY, MT 3,217 544.84 24.71 1,752,752 United Sugars Corporation 10,455 0 3.250 Sub-total 36,291 552.21 25.05 20,040,493 109,119 34,448 3.956 Cane sugar: announced July 10 WHITE CASTLE, LA 5,000 432.98 19.64 2,164,888 Imperial-Savannah LP 15,586 0 3.117 NEW IBERIA, LA 12,000 432.53 19.62 5,190,413 American Sugar Refining, Inc. 33,750 0 2.813 WHITE CASTLE, LA 17,000 432.98 19.64 7,360,620 American Sugar Refining, Inc. 47,600 0 2.800 BRUSLY, LA 19,178 433.42 19.66 8,312,198 American Sugar Refining, Inc. 53,699 0 2.800 LAKELAND, LA 1,768 433.42 19.66 766,421 American Sugar Refining, Inc. 4,951 0 2.832 Cane sugar: announced July 31 PAINCOURTVILLE, LA 15,504 443.20 20.10 6,871,428 American Sugar Refining, Inc. 46,55	SIDNEY, MT	744	544.84	24.71		2,427	0	3.260
Sub-total 36,291 552.21 25.05 20,040,493 109,119 34,448 3,956 Cane sugar: announced July 10 WHITE CASTLE, LA 5,000 432.98 19.64 2,164,888 Imperial-Savannah LP 15,586 0 3,117 NEW IBERIA, LA 12,000 432.53 19.62 5,190,413 American Sugar Refining, Inc. 33,750 0 2,813 WHITE CASTLE, LA 17,000 432.98 19.64 7,360,620 American Sugar Refining, Inc. 47,600 0 2,800 BRUSLY, LA 19,178 433.42 19.66 8,312,198 American Sugar Refining, Inc. 53,699 0 2,800 LAKELAND, LA 1,768 433.42 19.66 766,421 American Sugar Refining, Inc. 4,951 0 2,800 Sub-total 54,946 433.05 19.64 23,794,540 155,586 0 2,832 Cane sugar: announced July 31 PAINCOURTVILLE, LA 15,504 443.20 20.10 6,871,428 American Sugar Refining, Inc. 46,559 0 3.003	SIDNEY, MT	1,408	544.84	24.71	767,198 United Sugars Corporation	4,590	0	3.260
Cane sugar: announced July 10 WHITE CASTLE, LA 5,000 432.98 19.64 2,164,888 Imperial-Savannah LP 15,586 0 3.117 NEW IBERIA, LA 12,000 432.53 19.62 5,190,413 American Sugar Refining, Inc. 33,750 0 2.813 WHITE CASTLE, LA 17,000 432.98 19.64 7,360,620 American Sugar Refining, Inc. 47,600 0 2.800 BRUSLY, LA 19,178 433.42 19.66 8,312,198 American Sugar Refining, Inc. 53,699 0 2.800 LAKELAND, LA 1,768 433.42 19.66 766,421 American Sugar Refining, Inc. 4,951 0 2.800 Sub-total 54,946 433.05 19.64 23,794,540 155,586 0 2.832 Cane sugar: announced July 31 PAINCOURTVILLE, LA 15,504 443.20 20.10 6,871,428 American Sugar Refining, Inc. 46,559 0 3.003	SIDNEY, MT	3,217	544.84	24.71	1,752,752 United Sugars Corporation	10,455	0	3.250
WHITE CASTLE, LA 5,000 432.98 19.64 2,164,888 Imperial-Savannah LP 15,586 0 3.117 NEW IBERIA, LA 12,000 432.53 19.62 5,190,413 American Sugar Refining, Inc. 33,750 0 2.813 WHITE CASTLE, LA 17,000 432.98 19.64 7,360,620 American Sugar Refining, Inc. 47,600 0 2.800 BRUSLY, LA 19,178 433.42 19.66 8,312,198 American Sugar Refining, Inc. 53,699 0 2.800 LAKELAND, LA 1,768 433.42 19.66 766,421 American Sugar Refining, Inc. 4,951 0 2.800 Sub-total 54,946 433.05 19.64 23,794,540 155,586 0 2.832 Cane sugar: announced July 31 PAINCOURTVILLE, LA 15,504 443.20 20.10 6,871,428 American Sugar Refining, Inc. 46,559 0 3.003	Sub-total	36,291	552.21	25.05	20,040,493	109,119	34,448	3.956
NEW IBERIA, LA 12,000 432.53 19.62 5,190,413 American Sugar Refining, Inc. 33,750 0 2.813 WHITE CASTLE, LA 17,000 432.98 19.64 7,360,620 American Sugar Refining, Inc. 47,600 0 2.800 BRUSLY, LA 19,178 433.42 19.66 8,312,198 American Sugar Refining, Inc. 53,699 0 2.800 LAKELAND, LA 1,768 433.42 19.66 766,421 American Sugar Refining, Inc. 4,951 0 2.800 Sub-total 54,946 433.05 19.64 23,794,540 155,586 0 2.832 Cane sugar: announced July 31 PAINCOURTVILLE, LA 15,504 443.20 20.10 6,871,428 American Sugar Refining, Inc. 46,559 0 3.003	Cane sugar: anno	unced July 10						
WHITE CASTLE, LA 17,000 432.98 19.64 7,360,620 American Sugar Refining, Inc. 47,600 0 2.800 BRUSLY, LA 19,178 433.42 19.66 8,312,198 American Sugar Refining, Inc. 53,699 0 2.800 LAKELAND, LA 1,768 433.42 19.66 766,421 American Sugar Refining, Inc. 4,951 0 2.800 Sub-total 54,946 433.05 19.64 23,794,540 155,586 0 2.832 Cane sugar: announced July 31 PAINCOURTVILLE, LA 15,504 443.20 20.10 6,871,428 American Sugar Refining, Inc. 46,559 0 3.003	WHITE CASTLE, LA	5,000	432.98	19.64	2,164,888 Imperial-Savannah LP	15,586	0	3.117
BRUSLY, LA 19,178 433.42 19.66 8,312,198 American Sugar Refining, Inc. 53,699 0 2.800 LAKELAND, LA 1,768 433.42 19.66 766,421 American Sugar Refining, Inc. 4,951 0 2.800 Sub-total 54,946 433.05 19.64 23,794,540 155,586 0 2.832 Cane sugar: announced July 31 PAINCOURTVILLE, LA 15,504 443.20 20.10 6,871,428 American Sugar Refining, Inc. 46,559 0 3.003	NEW IBERIA, LA	12,000	432.53	19.62			0	2.813
LAKELAND, LA 1,768 433.42 19.66 766,421 American Sugar Refining, Inc. 4,951 0 2.800 Sub-total 54,946 433.05 19.64 23,794,540 155,586 0 2.832 Cane sugar: announced July 31 PAINCOURTVILLE, LA 15,504 443.20 20.10 6,871,428 American Sugar Refining, Inc. 46,559 0 3.003	WHITE CASTLE, LA	17,000	432.98	19.64	7,360,620 American Sugar Refining, Inc.	. 47,600	0	2.800
Sub-total 54,946 433.05 19.64 23,794,540 155,586 0 2.832 Cane sugar: announced July 31 PAINCOURTVILLE, LA 15,504 443.20 20.10 6,871,428 American Sugar Refining, Inc. 46,559 0 3.003	BRUSLY, LA	19,178	433.42	19.66	8,312,198 American Sugar Refining, Inc.	. 53,699	0	2.800
<u>Cane sugar: announced July 31</u> PAINCOURTVILLE, LA 15,504 443.20 20.10 6,871,428 American Sugar Refining, Inc. 46,559 0 3.003	LAKELAND, LA	1,768	433.42	19.66	766,421 American Sugar Refining, Inc	. 4,951	0	2.800
PAINCOURTVILLE, LA 15,504 443.20 20.10 6,871,428 American Sugar Refining, Inc. 46,559 0 3.003	Sub-total	54,946	433.05	19.64	23,794,540	155,586	0	2.832
	Cane sugar: anno	unced July 31						
Total 406.742 475.04 24.55 50.706.464 244.964 24.449 2.220	PAINCOURTVILLE, LA	15,504	443.20	20.10	6,871,428 American Sugar Refining, Inc	46,559	0	3.003
Total 100,742 475.04 21.55 50,706,461 311,264 34,446 3.239 Source: United States Department of Agriculture, Foreign Service Agency, Commodity Credit Corporation.	Total	106,742	475.04	21.55	50,706,461	311,264	34,448	3.239

Source: United States Department of Agriculture, Foreign Service Agency, Commodity Credit Corporation.

In spite of the USDA effort, the CCC acquired 85,375 tons (170,749,961 pounds) through forfeitures at the end of July, with titles transferring on August 1 (table 6–top panel). During September, the CCC put out offers of exchange of its sugar for export credits. Table 7 shows the results—all of its inventory was exchanged. However, during August and September, the margin between U.S. and world raw sugar prices increased to around 4 cents per pound, up from under 3 cents earlier. This increase made export credits correspondingly more valuable, so that the credit-to-sugar ratio was only 2.656 compared with the earlier 3.239 ratio.

Table 6 -- Commodity Credit Corporation (CCC) forfeiture data: 2012/13

Sugar storage location	Type of sugar	Forfeiture quantity (pounds)	Forfeiture quantity (short tons)	Forfeiture quantity (metric tons)	Forfeiture unit value price (Cents/pound)	CCC cost (Dollars)
Forfeitures - August	_					
Richland Co., ND	Refined beet	30,000,000	15,000	13,608	23.93	7,179,000
Assumption Parish, LA	Raw cane	72,000,000	36,000	32,659	19.46	14,011,200
Lafourage, LA	Raw cane	38,750,000	19,375	17,577	19.46	7,540,750
Pt. Coupee, LA	Raw cane	30,000,000	15,000	13,608	19.46	5,838,000
Sub-total		170,750,000	85,375	77,451	20.25	34,568,950
Forfeitures - October						
Iberville, LA	Raw cane	60,000,000	30,000	27,216	19.46	11,676,000
Pt. Coupee, LA	Raw cane	30,000,000	15,000	13,608	19.46	5,838,000
Adams Co., CO	Refined beet	135,000,000	67,500	61,235	24.41	32,951,000
Ada Co., ID	Refined beet	73,000,000	36,500	33,112	23.30	17,009,000
Ada Co., ID	In-process beet	40,000,000	20,000	18,144	18.64	7,456,000
Bay Co., MI	Refined beet	60,000,000	30,000	27,216	25.57	15,342,000
Clay Co., MN	Refined beet	195,000,000	97,500	88,451	23.93	46,663,500
Sub-total		593,000,000	296,500	268,980	23.09	136,935,500
Forfeiture sub-total	Raw cane	230,750,000	115,375	104,666	19.46	44,903,950
Forfeiture sub-total	Refined beet	493,000,000	246,500	223,621		119,144,500
Forfeiture sub-total	In-process beet	40,000,000	20,000	18,144	18.64	7,456,000
Total		763,750,000	381,875	346,431	22.46	171,504,450

Source: United States Department of Agriculture, Foreign Service Agency, Commodity Credit Corporation.

Table 7 -- Exchange of Commodity Credit Corporation (CCC)-owned sugar (August forfeitures) for re-export credits, September 2013.

Sugar storage location	Forfeiture quantity Forfeit (pounds)		CCC-purchase quantity (metric tons - actual weight)	Forfeiture unit value price (Dollars/metric ton)	CCC total cost Exchange partner (Dollars)	Re-export credits exchanged	Ratio: credit/CQE to sugar quantity
Beet sugar: announce	ed September 19, 2013						
WAHPETON, ND	15,000,000	23.93	6,804	527.57	3,589,500 AmCane Sugar	22,453	3.300
WAHPETON, ND	15,000,000	23.93	6,804	527.57	3,589,500 AmCane Sugar	22,453	3.300
Sub-total	30,000,000	23.93	13,608	527.57	7,179,000	44,906	3.300
Cane sugar: announce	ed September 19, 2013						
PAINCOURTVILLE, LA	44,999,983	19.46	20,412	429.02	8,756,997 AmCane Sugar	51,335	2.515
PAINCOURTVILLE, LA	8,999,997	19.46	4,082	429.02	1,751,399 Imperial-Savannah	10,247	2.510
PAINCOURTVILLE, LA	17,999,993	19.46	8,165	429.02	3,502,799 American Sugar Refining, Inc.	. 20,432	2.502
THIBODAUX, LA	11,423,604	19.46	5,182	429.02	2,223,033 American Sugar Refining, Inc.	. 12,962	2.502
Sub-total	83,423,577	19.46	37,840	429.02	16,234,228	94,976	2.510
Cane sugar: annound	ed September 26, 2013						
THIBODAUX, LA	27,326,386	19.46	12,395	429.02	5,317,715 Imperial-Savannah	31,620	2.551
LAKELAND, LA	20,649,032	19.46	9,366	429.02	4,018,302 Imperial-Savannah	23,612	2.521
LAKELAND, LA	9,350,966	19.46	4,242	429.02	1,819,698 American Sugar Refining, Inc.	. 10,604	2.500
Sub-total	57,326,384	19.46	26,003	429.02	11,155,714	65,836	2.532
Total	170,749,961	20.25	77,451	446.33	34,568,942	205,717	2.656

Source: United States Department of Agriculture, Foreign Service Agency, Commodity Credit Corporation.

Table 8 -- Commodity Credit Corporation (CCC) purchase and sale of sugar under the Feedstock Flexibilty Program (FFP)

Sugar storage location	Type of sugar	Purchase/forfeiture quantity (pounds)	CCC-purchase price (Cents/pound)	CCC-expenditure (dollars)	FFP purchaser	FFP bid price (Cents/pound)	CCC cost (Dollars)
Sales: announced Aug	ust 30, 2013						
Gering, NE	Beet	14,235,000	25.20	3,587,220	Front Range Energy	6.00	2,733,120
Sub-total		14,235,000	25.20	3,587,220		6.00	2,733,120
Purchase/Sales: annou	ınced Septembe	r 30, 2013					
Hopkins, MN	Beet	45,000,000	24.50	11,025,000	Buffalo Lake Advanced Biofuels	7.50	7,650,000
Bay City, MI	Beet	100,000	25.57	25,570	Central Indiana Ethanol	5.50	20,070
Ovid, CO	Beet	21,000,000	24.05	5,050,500	Pacific Ethanol Holding Co.	4.50	4,105,500
Eaton, CO	Beet	14,000,000	24.05	3,367,000	Pacific Ethanol Holding Co.	4.50	2,737,000
Loveland, CO	Beet	23,775,000	24.05	5,717,888	Pacific Ethanol Holding Co.	4.50	4,648,013
Brighton, CO	Beet	11,000,000	24.05	2,645,500	Pacific Ethanol Holding Co.	4.50	2,150,500
Nyssa, OR	Beet	35,600,000	24.05	8,561,800	Pacific Ethanol Holding Co.	4.50	6,959,800
E Grand Forks, MN	Beet	20,000,000	24.50	4,900,000	Aventine Renewable Energy, Inc.	4.22	4,056,000
Moorhead, MN	Beet	20,000,000	24.50	4,900,000	Aventine Renewable Energy, Inc.	3.81	4,138,000
Crookston, MN	Beet	20,000,000	24.50	4,900,000	Aventine Renewable Energy, Inc.	3.62	4,176,000
Ovid, CO	Beet	10,000,000	24.05	2,405,000	Pacific Ethanol Holding Co.	3.50	2,055,000
Windsor, CO	Beet	19,000,000	24.05	4,569,500	Pacific Ethanol Holding Co.	3.50	3,904,500
Eaton, CO	Beet	10,000,000	24.05	2,405,000	Pacific Ethanol Holding Co.	3.50	2,055,000
Loveland, CO	Beet	14,225,000	24.05	3,421,113	Pacific Ethanol Holding Co.	3.50	2,923,238
Brighton, CO	Beet	8,351,214	24.05	2,008,467	Pacific Ethanol Holding Co.	3.50	1,716,174
Sub-total		272,051,214 F	24.22	65,902,337		4.63	53,294,794
Total		286,286,214	24.27	69,489,557		4.70	56,027,914

Source: United States Department of Agriculture, Foreign Service Agency, Commodity Credit Corporation.

The CCC put the FFP into action in two sets of purchasing and resale (table 8). The first was described in the September Sugar and Sweetener Outlook. Results were modest, with only 7,118 tons (14,235,000 pounds) purchased and subsequently sold to an ethanol producer. The CCC paid 25.2 cents per pound for the sugar and received 6.0 cents per pound for its sale. The second purchase and resale was much larger, with 136,026 tons (272,051,214 pounds) purchased at an average of 24.22 cents per pound, but the received price averaged only 4.63 cents per pound. For the combined transactions, the total CCC cost was \$56,027,914. Although sizable, the loss amount would have been higher if the same sugar had been forfeited with no resale. It is also likely that if corn prices decline further due to an expected plentiful harvest, the amount that ethanol producers would be willing to pay in the future could be even lower.

Processors forfeited 296,500 tons (593,000,000 pounds) of sugar at the end of the September (table 6–lower panel). This sugar cost the CCC \$136,935,500. Table 9 shows total expenditure in all actions through November 1, 2013 at about \$278 million. This total may end up lower if there are additional CCC resales to ethanol producers.

Table 9 -- Summary of 2012/13 Commodity Credit Corporation (CCC) sugar activity costs, as of Nov.1, 2013

Activity	Date of announcement		CCC cost - dollars
Sugar purchase for exchange	July 10	Purchase cost	43,835,033
of re-export credits and certificates for quota eligibility (CQEs)	July 31	Purchase cost	6,871,428
	Sub-total	Purchase cost	50,706,461
Sugar purchase and re-sale for the	August 30	Purchase cost	3,587,220
Feedstock Flexibility Program (FFP)		Less re-sale receipt	-854,100
		Net cost	2,733,120
	September 30	Purchase cost	65,902,337
		Less re-sale receipt	-12,607,542
		Net cost	53,291,794
	Sub-total	Purchase cost	69,489,557
		Less re-sale receipt	-13,461,642
		Net cost	56,024,914
Forfeitures	August 1	CCC loan loss	34,568,950
	October 1	CCC loan loss	136,935,500
	Sub-total	CCC loan loss	171,504,450
Total			278,235,825

Source: United States Department of Agriculture, Farm Service Agency.

The Road to Forfeitures

Sugar loan forfeitures were the result of excess domestic sugar production, large imports of sugar from Mexico contributing to narrow U.S.-world raw sugar price margins, and world prices falling below U.S. price support levels for the first time in several years. Not directly important were the overall level of sugar imports, any loss of domestic market share by domestic sugar processors or refiners, or large carryover stocks from the previous year. The marketing allotment program had no role in reducing the risk of forfeiture.

Sugar crop production during the 2012/13 sugar crop harvesting season, along with corresponding sugar production, was the largest on record. NASS reported sugarbeets harvested during the 2012/13 harvest at 35.236 million tons, a record and 21.9 percent higher than the previous harvest season. NASS reported sugarcane for sugar at 30.500 million tons, far from a record but 10 percent higher than the previous year. Sugarcane production growth was almost solely attributable to growth in Louisiana.

This sugar crop growth is not immediately evident in the sugar supply and use balance in the WASDE--2012/13 production is 8.977 million STRV, a large amount but only 5.8 percent more than the previous year. What accounts for the mismatch between sugar crop growth and discernible sugar production growth is the large amount of sugar production occurring in August and September and therefore accounted for in 2011/12 (the previous year) in the WASDE.

Table 10 (along with figure 1) shows SMD sugar supply and use data aggregated into an August/July crop year, syncing the sugar year with the crop production cycle for 2012/13. 2012/13 beet sugar production is recorded at 5.440 million STRV, 21.2 percent higher than the previous year. Overall sugar production at 9.373 million STRV is 1.330 million STRV higher, or 16.5 percent higher, than in 2011/12.

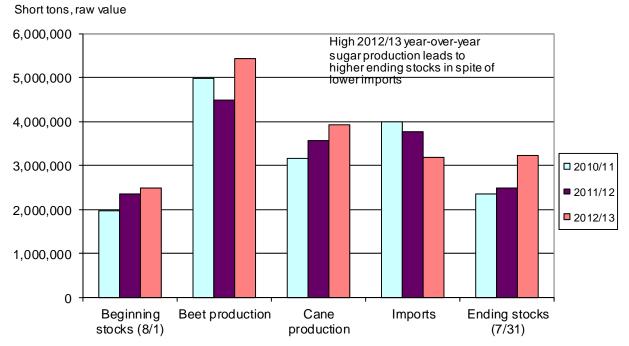
Table 10 also reveals that 2012/13 beginning stocks (that is, stocks on August 1, 2012) were unexceptional in size, meaning that prior-year sugar balance phenomena did not play a predominant role in excessive stock accumulation in 2012/13. Also, 2012/13 sugar imports were 588,300 STRV lower in 2012/13 than in 2011/12, thereby removing large imports as an explanatory factor in the stock accumulation. Also, deliveries for human use were 213,024 STRV higher in 2012/13 than the previous year. As mentioned earlier, domestic processors/refiners saw good demand growth for their sugar while sugar directly imported for consumption, especially from Mexico, was markedly lower. All in all, the growth in 2012/13 ending stocks was the result of sugar production growth.

Table 10 -- Sweetener Market Data for the August/July crop year, 2007/08-2012/13

			, , ,			
	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
Beginning stocks (8/1)	2,802,051	2,693,460	2,712,069	1,976,878	2,361,893	2,491,489
Beet production	4,879,809	4,107,050	4,348,044	4,987,474	4,486,746	5,440,045
Cane production	3,472,022	3,315,631	3,372,720	3,163,890	3,556,376	3,932,668
Total production	8,351,831	7,422,681	7,720,764	8,151,364	8,043,122	9,372,713
Imports	2,408,984	3,366,234	2,562,113	3,987,934	3,768,884	3,180,588
Deliveries for human use	10,341,894	10,564,827	10,696,594	11,169,501	11,239,867	11,452,891
Ending stocks (7/31)	2,693,460	2,712,069	1,976,878	2,361,893	2,491,489	3,234,106

Source: United States Department of Agriculture, Foreign Service Agency, Dairy and Sweeteners Analysis branch.

Figure 1 U.S. sugar balance components for August/July crop year, 2010/11-2012/13

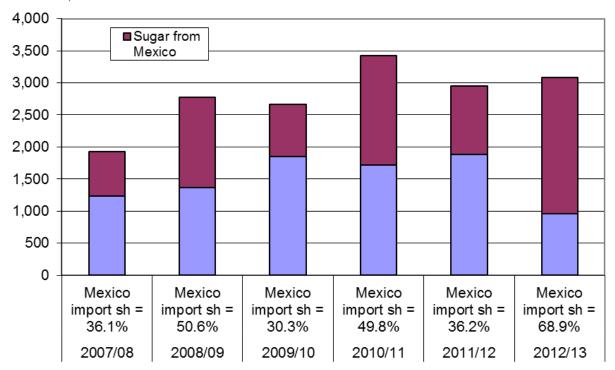


Source: United States Department of Agriculture, Foreign Service Agency, Sweetener Market Data.

Much has been made of record sugar imports from Mexico. Figure 2 shows fiscal year sugar TRQ imports combined with imports from Mexico. The most noticeable feature is not the quantity of imports but the share contributed by Mexico. The share is close to 70 percent, much higher than any preceding year, and as observed earlier, 2012/13 TRQ shortfall was extremely large. Figure 3 shows a relationship discerned during the NAFTA period between TRQ imports and imports from Mexico. The charting suggests that Mexico imports resulting in less than 1.3 million STRV are complementary with TRQ imports but that imports greater than 1.3 million STRV are competitive.

Figure 2 U.S. sugar imports from combined tariff-rate quotas and Mexico. 2007/08-2012/13

Short tons, raw value



Source: United States Department of Agriculture, Foreign Agricultural Service.

Figure 3
Relationship between tariff-rate quota (TRQ) imports and imported sugar from Mexico, 2007/08-2012/13

Total TRQ imported sugar (1,000 short tons, raw value)

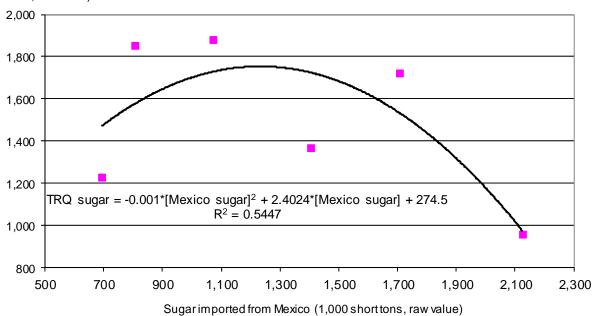


Table 11 -- U.S. and world raw sugar price, July-September averages

	U.S. raw price 1/	No.11 nearby futures 2/	Margin	Margin proportion 3/
2008	23.34	13.06	10.28	0.440
2009	26.04	20.60	5.44	0.209
2010	35.36	20.19	15.17	0.429
2011	39.41	29.03	10.38	0.263
2012	27.93	20.92	7.01	0.251
2013	20.41	16.72	3.70	0.181

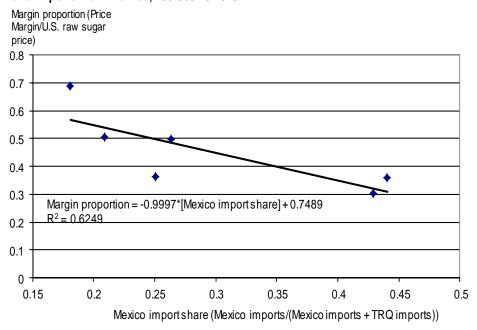
^{1/} Intercontinental (ICE) no. 16 contract, average of nearby quotes.

The mechanism behind generalized lower TRQ imports (or greater TRQ shortfall) is a low margin between U.S. and world raw sugar prices. Depending on transport and other marketing costs, lower margins make exports from TRQ countries to other countries correspondingly more profitable than shipment to the U.S. market. Table 11 shows average July-September (third-quarter) U.S. and world raw sugar prices, the margin between them, and that margin as a proportion of the U.S. raw sugar price. The margin for 2013 is the lowest in the NAFTA period. It is here hypothesized that the narrow margin is largely attributable to the availability of a large Mexico-imported supply. Figure 4 shows that over the NAFTA period the price

^{2/} ICE no. 11 contract, average of nearby quotes.

^{3/} Margin/U.S. raw price.

Figure 4
Relationship between July-September U.S. and world raw sugar price margin and Mexico import share of combined sugar tariff-rate quota imports and imports from Mexico, 2007/08-2012/13



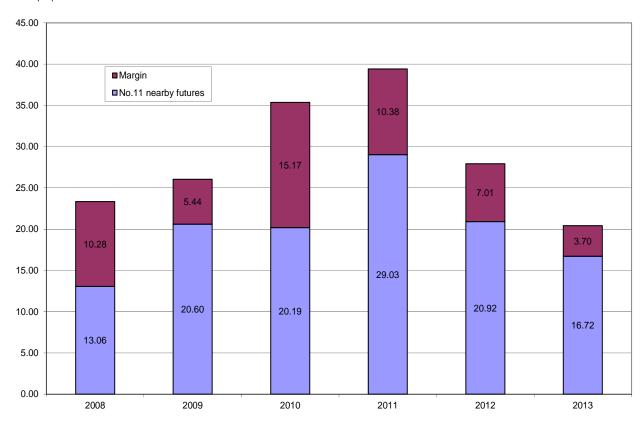
Source: Intercontinental Exchange; United States Department of Agricultural, Foreign Agriculture Service.

margin as a proportion of the U.S. raw sugar price is an inverse function of the Mexico import share. Explained variance in the margin ratio is 62 percent.

Figure 5 fits the table 11 data together. The U.S. raw sugar price in the 2013's third quarter at 20.41 cents per pound is below the FSA-calculated minimum price to avoid forfeiture of 20.94 cents per pound. Along with the narrow margin is the contribution of a world price lower than previous years at 16.72 cents per pound.

Figure 5
U.S. raw sugar price, July-Sept. average: relationship to world price

Cents per pound



Source: Intercontinental Exchange (ICE), No. 11 and 16 contract nearby.

Summing up, strong imports from Mexico, especially of raw sugar with low marketing costs, reduced the demand for TRQ raw sugar, driving down its scarcity value in the U.S, market--that is, the raw sugar price margin. That margin, combined with a low world price, made it more than likely that large quantities of U.S. sugar under loan resulting from record U.S. sugar production would be forfeited, in the absence of other CCC-implemented supply reduction measures (e.g., the FFP).

Mexico Sugar and High Fructose Corn Syrup

The *Comite Nacional Para El Desarrollo Sustentable de la Caña de Azucar* (Conadesuca) released its September 2013 supply and use balance for sugar and sweeteners that covers the complete 2012/13 sugar marketing year. As of the WASDE release date, the Conadesuca has made no forecasts for 2013/14, although it has released some partial survey data regarding sugarcane area for 2013/14 for some 40 sugarcane mills.¹

The USDA made revisions in the WASDE based on the Conadesuca data. Table 12 compares the USDA and Conadesuca supply and use balances. Conadesuca revised 2012/13 sugar production to 6,974,799 mt, up only slightly from its previous estimate. Conadesuca reports sugar deliveries for human consumption at 4.287 million mt and high fructose corn syrup (HFCS) deliveries at 1.567 million mt, dry weight. Conadesuca estimates ending stocks at 1.460 million mt. The USDA assumed the same changes in the WASDE accounting.

Conadesuca reports sugar imports only at 9,376 mt. Conadesuca excludes sugar imported for delivery to food and beverage manufacturers who participate in the sugar-containing product re-export program (IMMEX) because this sugar has no corresponding use disposal in Mexico—it is all meant for export. The USDA, on the hand, treats the sugar imported for IMMEX in the same way it does sugar for the U.S. re-export import program: as an import for supply and as an "other delivery" for use, that is, as a delivery to IMMEX manufacturers. The USDA expects deliveries to IMMEX to amount to 375,000 mt. Because Conadesuca has recorded IMMEX deliveries from domestic production of 167,708 mt as an export, the USDA subtracts that amount from the 375,000 mt to estimate full-year 2012/13 imports for IMMEX at 207,292 mt. That sum plus imports for consumption is 216,668 mt for total imports. The projection for 2013/14 is derived by rounding this sum up to 218,000 mt, with 10,000 mt assumed for consumption.

The USDA stipulates that Mexico sugar exports to the United States be equal to sugar imports from Mexico as recorded by the U.S. Census/Customs Service. That amount is not necessarily the same as the amount Mexico may show as exported to the United States, although it would be expected to be close. The U.S. import quantity in Mexico measuring units (metric tons, actual weight) is 1.818 million mt. That amount plus Conadesuca-reported exports to other countries (154,698 mt) brings exports reported in the WASDE to 1.973 million mt. In order to achieve a supply-use balance, a miscellaneous statistical adjustment of 62,038 mt is incorporated into the WASDE as an adjustment to total deliveries.

Conadesuca released its first estimate of 2013/14 production on November 12, 2013. It estimates harvested area at 819,064 hectares, sugarcane production at 58.038 million mt, and sugar production at 6.695 million mt. The chief difference with the USDA forecast described below is a somewhat higher sucrose recovery of 11.536 percent compared with USDA's 11.263 percent.

Table 12 -- Comparison of USDA and Conadesuca supply and use estimates for 2012/13 Mexico sugar

2012/13 Market year (Oct/Sept)

November 2013 WASDE Current Conadesuca (11/2013)

6,697

1,000 metric tons, actual weight

6,489

Beginning stocks	966	966
Production	6,975	6,975
Imports	217	9
Imports for consumption	9	9
Imports for sugar-containing product exports (IMMEX) 2/	207	-
Total supply	8,157	7,950
Disappearance	4,724	4,287
Human consumption	4,287	4,287
For sugar-containing product exports (IMMEX) 3/	375	-
Statistical adjustment	62	-

Exports	1,973	2,203
Exports to the United States & Puerto Rico	1,818	1,880
Exports to other countries	155	155
Domestic production for IMMEX 3/	-	168

Ending stocks	1,460	1,460

Stocks-to-Human Consumption (percent)	34.1	34.1
Stocks-to-Use (percent)	21.8	22.5
High Fructose Corn Syrup (HFCS) Consumption (dry weight)	1,567	1,567

Source: United States Department of Agriculture, World Agricultural Supply and Demand Estimates and Economics Research Service, Sugar and Sweeteners Outlook; Conadesuca.

Total use

^{1/} Forecast.

^{2/} IMMEX = Industria Manufacturera, Maquiladora y de Servicios de Exportación; Conadesuca does not incorporate IMMEX sugar supply-use balance in its national sugar supply-use balance.

^{3/} Conadesuca classifies IMMEX deliveries from domestic production as an export. In the table, the Sugar and Sweetener Outlook classifies total IMMEX deliveries, domestic and imported, under disappearance, following the USDA practice.

Forecast for 2013/14

On November 1, the *Conadesuca released a Boletin de la Corrida de Campo* containing a survey of 40 sugar mills on area intended for harvest in 2013/14. These mills comprised about 78 percent of all area harvested in 2012/13. According to the survey results, area is expected to increase by 4.15 percent. Table 13 shows the effect of applying this growth factor to total area in Mexico, along with some other assumptions. The USDA assumed that national sugarcane and sugar yields would follow the average for 10 preceding years. These assumptions imply sugarcane production of 57.711 million mt and sugar production of 6.500 million mt. The sucrose recovery rate is calculated at 11.26 percent. The table also shows the types of sugar produced, assuming the same share distribution as in the 4 preceding years.

Given uncertainties on sugar and sweetener demand, the USDA made no changes from the September WASDE. New legislation taxing beverages and food containing sweeteners has not, as of the WASDE publication date, been adopted as law. Observers disagree about the magnitude of the proposed taxes on consumer behavior. Because a large corn harvest in the United States is expected to lower 2013/14 corn prices and thus reduce net corn costs of HFCS production, HFCS imports to Mexico may be more competitive than in 2012/13. On the other hand, it is believed that Mexican beverage manufacturers and bottlers are under pressure to absorb more of the plentiful domestic sugar supply heading into 2013/14.

The USDA believes that by the end of 2013/14, the United States and Mexico will be in relative equilibrium. For that reason, the USDA lowered its assumption of ending stocks as a proportion human consumption from 26 to 22 percent. The resulting ending stocks forecast is, therefore, 985,000 mt.

Exports are forecast residually—that is, the amount needed to balance total use with total supply. This amount is 2.344 million mt. Based on very reliable data, the USDA believes that about 700,000 mt will be exported to non-U.S. destinations. Most of these exports will be sourced from sugar mills owned by the *Fideicomiso Fondo de Empresas Expropiadas del Sector Azucarero* (FEESA). These are the 10 mills owned by the Government of Mexico. Reliable sources indicate about 70 percent of these exports will be raw sugar and the rest will be refined. Exports to the United States are forecast as the difference, or 1.644 million mt.

Table 13 -- Mexico sugar production, 2012/13 estimated and 2013/14 projected

Statistical components	units	2012/13	2013/14	Basis for 2013/14 projection
Area harvested	Hectares (ha)	782,414	814,869	4.15 % increase in area, source: Conadesuca
Cane yield	Tons per ha	78.52	70.82	10 yr average
Cane harvested	Tons	61,438,537	57,711,009	[Area harvested]*[Cane yield]
Sugar yield	Tons per hectare	8.91	7.98	10 yr average
Sugar production	Tons	6,974,799	6,499,744	[Area Harvested]*[Sugar yield]
Refinado	Tons	2,084,484	1,998,688	(4-yr weighted percentage average)
Estandar	Tons	4,482,722	4,152,946	(4-yr weighted percentage average)
Other	Tons	407,593	348,112	(4-yr weighted percentage average)
Sucrose recovery	Percent	11.35	11.26	100*[Sugar production]/[Cane harvested]

Source: Conadesuca (estimate); United States Department of Agriculture, Economics Research Service, *Sugar and Sweetener Outlook* (projection).

Contacts and Links

Contact Information

Stephen Haley, (202) 694-5247, shaley@ers.usda.gov (coordinator) Erma J. McCray, (202) 694-5306, ejmccray@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. Printed copies can be purchased from the USDA Order Desk by calling 1-800-363-2068 (specify the issue number).

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 Sugar Topics http://www.ers.usda.gov/topics/Sugar/

E-mail Notification

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.